

Towards Successful Entrepreneurial Outcomes Amidst Extreme
Fragility:
A Human Capital Perspective

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Towards Successful Entrepreneurial Outcomes Amidst Extreme Fragility

A Human Capital Perspective

Doctoral Thesis

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To Lamyaa Alazzawi and Mustafa Rashid.

Thanks for the infinite love, endless disagreements and little victories. You nurture me.

To Greg Gibson, Zaidoun Alzoubi and Jan Kratzer.

Thanks for taking a chance on me. You humble me.

To Clemens Möckel.

Thanks for being a beacon of joy, hope and acceptance. You inspire me.

Executive Summary

Purpose

With an alarmingly high percentage of the human population living in countries impacted by violent conflict and social, environmental and economic fragility exacerbated by major global challenges, entrepreneurship is considered key to sustainable development and human prosperity. Entrepreneurs operating in fragile contexts contribute to peace building, poverty reduction and the advancement of institutional structures. However, little is known about who those entrepreneurs are and what makes them thrive amidst and despite fragility. This thesis aims to understand the human capital assets of fragile-country entrepreneurs that enable their success at various stages of the entrepreneurial process as well as the status quo of human capital investment efforts pertaining to entrepreneurship and their contribution to sustainable outcomes in fragile contexts.

Literature Analysis

Entrepreneurship research has been criticized for lacking focus on diversity and the shortage of scholarly works combining theoretical rigor with social relevance. Research on entrepreneurship outside of stable economies is quite limited with existing literature lacking empirical and theoretical robustness. As a result, much remains unknown about the characteristics and success enablers of fragile-country entrepreneurs. For instance, studies on the drivers behind individuals' decision to found new companies largely classify fragile-country entrepreneurship motivation into a necessity/opportunity dichotomy, thereby ignoring the complex interplay of personal and environmental factors that feed into this decision. As for studies during early business start-up and growth stages, they primarily view entrepreneurial success in terms of economic gain rather than human capital assets and outcomes. Accordingly, little is known about the entrepreneurial and managerial behaviors of fragile-country entrepreneurs or personality predictors of their success. At later stages along the entrepreneurial path, the constructs of entrepreneurial orientation and global mindset, although frequently assessed in studies of entrepreneurial internationalization, have been little analyzed with respect to the globalization of fragile-county startups. In response to those gaps in entrepreneurship literature, the first three papers in this thesis specifically

address human capital assets pertaining to the motivation, personality, behavior, orientation and mindset needed for entrepreneurial success in the pre-startup, initiation and early growth and internationalization stages respectively. This is complimented by an analysis of entrepreneurship education and training's contribution to sustainable development in fragile contexts, in recognition of education's role as prime investment in human capital.

Research Design

Human capital assets, specifically drivers behind entrepreneurship motivation in the pre-startup stage (paper 1), personality characteristics and entrepreneurial and managerial behaviors in the initiation and early growth stage (paper 2) and entrepreneurship orientation and global mindset in the startup internationalization stage (paper 3), are analyzed quantitatively through the use of questionnaires. Quantitative approaches have been chosen to complement existing qualitative findings and are preferred due to their use of standardized, validated scales and large sample sizes that allow for the generalization and replication of findings. The first paper concerns Syrian entrepreneurs and employs an exploratory factor analysis to identify key motivational factors behind their decision to pursue entrepreneurship, then proceeds to comparatively assess differences in entrepreneurship motivation between Syrian entrepreneurs in Damascus and Berlin using MANCOVA and non-parametric methods. The second paper employs linear regression to analyze the personality-behavior relationship in a sample of sub Saharan African entrepreneurs across 22 countries while moderating for country fragility, while a student t-test was used to confirm behavioral differences between highly successful and less successful entrepreneurs. The third paper compares various facets of entrepreneurial orientation and global mindset between Pakistani and German entrepreneurs using MANOVA and non-parametric methods. Finally, a systematic literature review guided the analysis of entrepreneurship education and training programs' contribution to sustainable development, zooming in on the role they play and challenges they face in fragile contexts.

Results

The first study identified self-realization and the perceptions of institutional support, cultural influence and the economic milieu as key aspects of Syrians' entrepreneurship motivation with no notable differences between local entrepreneurs in Damascus and newcomers in

Berlin. As for the second study, positive relationships have been confirmed between managerial and entrepreneurial behaviors and entrepreneurial success. Additionally, agreeableness and conscientiousness have been identified as the strongest personality predictors of entrepreneurial and managerial behaviors among sub Saharan African entrepreneurs, partially moderated by country fragility. The third study reveals that Pakistani entrepreneurs have lower risk-taking tendencies, international cognition and international knowledge compared with German ones yet higher levels of international behavior. The final study uncovers shortcomings of current entrepreneurship education and training initiatives in their contribution to positive social and environmental outcomes.

Implications

This thesis extends multiple theories to fragile contexts (e.g. the eclectic theory of entrepreneurship, the trait activation theory and the mindset theory) while combining primary, micro-level data with country-level comparisons. The first study reveals motivations beyond necessity and opportunity, combining individual and environmental perspectives. The second study challenges existing literature by uncovering agreeableness, rather than extraversion, as key predictor of desired behaviors alongside conscientiousness, providing evidence for the conditional expression of personality depending on context. The third study contributes to the growing literature stream of comparative entrepreneurial internationalization and affirms differences in internationalization tendencies between entrepreneurs in stable and fragile economies. Combined with the identification of several gaps in the entrepreneurship education and training literature with respect to fragile context development, those findings set the stage for future explanatory analyses. On a practical level, this research provides tools to assess the success of investments in entrepreneurship from a human capital perspective while supporting the customization of educational and financial support programs based on context-relevant knowledge. For instance, it may be wise to financially invest in entrepreneurs with higher levels of intrinsic motivation, agreeableness, conscientiousness as well as entrepreneurial and managerial behaviors while supporting entrepreneurs who lack those assets to develop them through education and training. Practitioners are also encouraged to invest in socially underrepresented groups, outside of university settings and using experiential and technology-powered educational approaches.

Preface

Being born in a country marred by conflict and raised in a neighbouring one where violence, protests and death tolls are the daily norm on national television newscasts, I was initially relieved to get out of it all and find refuge in a western world power. I managed to freeze my anger and exasperation with the unfairness in the world for a few years while pursuing higher education and building a corporate career for myself. Those were good years; ignorance is bliss indeed.

Ultimately, the ice melted. And it melted waterfalls. I abandoned my fancy comfortable life in an attempt to contribute to reducing the suffering of those who were not as privileged as I was. Rather than feeling worthy of a pat on the shoulder, however, I mostly felt frustrated and helpless. There was (and still is) too much to change. Coming face to face again with so much unfairness was simply too overwhelming. What shattered me the most was the degree of inefficiency and corruption I observed in humanitarian aid systems, which made my naïve dreams of changing the world seem even more farfetched. I would dare say that most of these systems are even designed to keep the poor poor and drive struggling regions into eternal dependencies on those systems. There are exceptions, of course. There had to be longer term solutions. I just needed to find them.

At the time I met Jan Kratzer in Berlin for the first time, emotionally and physically exhausted after having just finished a volunteer journey along the Balkan route in support of refugees during the cold fall of 2015, I was oblivious to the fact that this meeting would forever change the trajectory of my life. It opened my eyes to the possibility of being a true contributor to making the world a bit less gloomy for future generations. Instead of mourning the dearth of sustainable solutions to world betterment, I would get the chance to research and uncover some of those solutions myself. I would be a catalyst to the generation of needed knowledge with direct applications to the reduction of suffering. I couldn't have asked for more.

One year later, I embarked on this inspiring journey to research entrepreneurship's role in advancing regions like the one I came from. I am still far away from calling myself an idealist or optimist. I can, however, safely call myself a scientist; and if science has no potential to save the world, I don't know what does...

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I. Overviews

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Abbreviations

AI	Artificial Intelligence
ANOVA	Analysis of Variance
BOS	Behavioral Observation Scale
CAI	Conflict-Affected Entrepreneur(s)
CAST	Conflict Assessment System Tool
EFA	Exploratory Factor Analysis
EIT	Entrepreneurial Internationalization Tendencies
EO	Entrepreneurial Orientation
FCE	Fragile-Country Entrepreneur
FFM	Five Factor Model
FFP	Fund for Peace
FSI	Fragile States Index
GEM	Global Entrepreneurship Monitor
GM	Global Mindset
HCA	Human Capital Asset
HCT	Human Capital Theory
IDP	Internally Displaced Person
IE	International Entrepreneurship
IEO	International Entrepreneurship Orientation
ITS	Intelligent Tutoring Systems
KMO	Kaiser–Meyer–Olkin
KSAOs	Knowledge, Skills, Abilities, and other Characteristics
ML	Maximum Likelihood
MANCOVA	Multivariate Analysis of Covariance
MANOVA	Multivariate Analysis of Variance
MLR	Multiple Linear Regression
MOOCs	Massive Open Online Courses
OECD	Organization for Economic Cooperation and Development
PAF	Principal Axis Factoring
R&D	Research and Development

SDG	Sustainable Development Goal
SDT	Self-Determination Theory
SLR	Systematic Literature Review
TEA	Total Early-Stage Entrepreneurial Activity
TIPI	Ten Item Personality Measure
UN	United Nations
UNHCR	United Nations Higher Commissioner for Refugees
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
WoS	Web of Science

II. Key Concepts and Definitions

II.I. Fragility

According to the Organization for Economic Cooperation and Development (OECD), fragility is “the combination of exposure to risk and insufficient coping capacity of the state, system and/or communities to manage, absorb or mitigate those risks. Fragility can lead to negative outcomes including violence, the breakdown of institutions, displacement, humanitarian crises or other emergencies” (OECD, 2016b, p. 2). Fragile states are also “failing to provide basic services to poor people because they are unwilling or unable to do so” (OECD, 2006, p. 142[2]). Similarly, the World Bank deems a state fragile based on its Country Policy and Institutional Assessment score and the need for having regional/UN peace-keeping missions in the country (World Bank, 2018a); indicators for conflict and violence susceptibility.

Fragility is hence essentially the opposite of stability, and a fragile country is one that suffers from frail systems at the political, economic, security, social and/or environmental level (Fund for Peace, 2019b; OECD, 2016b, 2018), making it (highly) prone to violent conflict and humanitarian disasters. The classification of a country as fragile is performed according to a variety of indicators. For instance, the Country Indicators for Foreign Policy fragility index takes state authority, state legitimacy, state capacity, governance, economics, security and crime, human development, demographics, gender and environment into consideration with data last published in 2012 (CIFP, 2019). Meanwhile, the Index of State Weakness in the Developing World by the Brookings Institute considers 20 indicators in the security, political, social and economic domains with data last published in 2008 (Rice & Patrick, 2008).

More recent measures of fragility include the Fragile State Index (FSI) and the OECD classification. The FSI takes 12 different indicators into consideration (Fund for Peace, 2019b, 2019a); cohesion indicators include security apparatus (security threats to state), factionalized elites (social fragmentation of institutions) and group grievance (division between social groups in society). Economic indicators include economic decline, economic inequality and human flight and brain drain. Political indicators include state legitimacy (representativeness of government and its relationship with citizens), public services and human rights. Social indicators include demographic pressures (unmet population demands from the state) and refugees (pressure of refugee presence on state), while the last indicator, external intervention

(influence of external actors), cuts across multiple categories. The OECD (2016b, 2018) takes a risk approach to fragility assessment and considers the state's capacity to cope with and mitigate risks at the economic, environmental, political, security and social levels on a total of 42 indicators. Throughout this thesis, countries labeled as fragile rank as such on both FSI and OECD measures.

II.II. Entrepreneurship

What exactly is entrepreneurship? Well, it depends on whom you ask. William Baumol describes an entrepreneur as a leader and innovator whose job is to "locate new ideas and to put them into effect" (Baumol, 1968, p. 65), while others regard entrepreneurship as the process in which an opportunity, or market need, is identified, evaluated and exploited (Bhave, 1994; Shane & Venkataraman, 2000). Similarly, entrepreneurship has also been defined as "an economic function that is carried out by individuals, entrepreneurs, acting independently or within organizations, to perceive and create new opportunities and to introduce their ideas into the market, under uncertainty, by making decisions about location, product design, resource use, institutions, and reward systems" (Carlsson et al., 2013, p. 914). An entrepreneur is also viewed as the facilitator of new knowledge spillover, therefore translating knowledge-creating investments into commercializable innovative output (Z. J. Acs et al., 2009; Agarwal et al., 2010).

Those definitions share the common concept of innovativeness, presuming that an entrepreneur discovers or recognizes something novel or previously unknown to the market – an idea and/or an opportunity – and commercializes it under potentially ambiguous circumstances. Meanwhile, Low and MacMillan (1988) view entrepreneurship simply as the creation of new enterprise and Hart (2003, p. 5) defines it as "the process of starting and continuing to expand new businesses". A similar expanded definition is provided by the Global Entrepreneurship Monitor (GEM), where "any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business" (Global Entrepreneurship Research Association, 2019), is considered entrepreneurship.

Accordingly, someone who has recently opened another clothing store in the mall and a tech innovator may both be considered entrepreneurs. The newness pertains to the business itself,

not necessarily to the idea or opportunity behind it. Indeed, many scholars have attempted to further distinguish types of entrepreneurs based on the type of newness they exhibit. The innovative/replicative divide defines an innovative entrepreneur as one who introduces a new product or process to the market, while a replicative one starts a new business regardless of whether similar ones already exist (Baumol, 2010; Griffiths et al., 2012). Along similar lines, Minniti & Levesque (2010) classify entrepreneurs as research-based versus imitative, regarding investment in research and development per unit of output as a main distinguishing factor between the two types of entrepreneurs.

Evidence shows that all those different types of entrepreneurs have the potential to positively contribute to economic growth (Minniti & Levesque, 2010; Naudé, 2011), albeit they play different roles: replicative/imitative entrepreneurs help in fighting poverty, fostering efficiency and increasing competition and the supply of products and services (Griffiths et al., 2012; Minniti & Levesque, 2010). This might certainly be crucial in fragile contexts, where poverty levels are high and unemployed youth might join combat or terrorist groups in pursuit of income (Aubrey et al., 2016). In those environments, such entrepreneurs could even contribute to peace-building through opening new possibilities for economic collaboration across conflicting groups beyond political and social disagreements (Tobias et al., 2013). On the other hand, innovative or research-based entrepreneurs are ones who diversify markets, create learning environments, stimulate change in market structures, find novel solutions to fundamental social problems and potentially contribute to reforming institutions and disrupting the status quo of fragility and insecurity (Griffiths et al., 2012; Koveos & Yimin, 2012; Naudé, 2007, 2011).

Interestingly, one might also classify the inventor of a new addictive drug or the creator of a new terrorist organization as an entrepreneur. Entrepreneurship is therefore not inherently positive and it is crucial to distinguish between entrepreneurship that is actually productive from other unproductive or even destructive forms (Baumol, 1990). This distinction becomes increasingly important in fragile and conflict-prone settings, where “unproductive and destructive entrepreneurship may inhibit the resurgence of the private sector and might even cause a relapse into conflict” (Naudé, 2007, p. 1).

In this thesis, I therefore include all those who have recently started new businesses in fragile countries, regardless of innovativeness level, in my definition of entrepreneurship as long as they steer away from unproductive or destructive business activities. In other words, any new business creator from a fragile country who has the potential of contributing positively to social wellbeing and economic development may be included in this research.

II.III. Sustainability

Broadly defined, sustainability is the ability to sustain existence. It generally refers to the long-term harmonious co-existence of human societies and their natural environment. As such, the term sustainable development was first used by the United Nations in 1972 and later popularized in 1987, referring to “development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs” (WCED, 1987, p. 43). At the core of sustainability and sustainable development “is the notion that all natural systems have limits, and that human wellbeing requires living within those limits, [...] [affirming the necessity] to place social and environmental objectives on equal footing with economic objectives” (J. J. Hall et al., 2010, p. 440).

Several studies confirm entrepreneurship’s potential contribution to sustainable development (J. J. Hall et al., 2010; Horne et al., 2020; Muñoz & Dimov, 2015; York & Venkataraman, 2010). For entrepreneurship to foster sustainability, however, it should focus “on the preservation of nature, life support, and community in the pursuit of perceived opportunities to bring into existence future products, processes, and services for gain, where gain is broadly construed to include economic and non-economic gains to individuals, the economy, and society” (Shepherd & Patzelt, 2011, p. 137). Considering numerous potential economic and non-economic gains offered by productive entrepreneurship in fragile contexts (see section II.II above), entrepreneurial activity under extreme fragility could therefore foster (some aspects of) sustainable development.

II.IV. Micro and Macro Levels of Analysis

I follow Aldrich & Wiedenmayer (1993) in distinguishing between two levels of analysis. Accordingly, a micro-level analysis focuses on the individual characteristics of founders, which they also refer to as a “traits” approach, while a macro level of analysis, or a “rates”

approach, focuses on (social, political and economic) environmental conditions. This is in alignment with Davidsson and Wiklund (2001), who classify levels of entrepreneurship research primarily as micro and aggregate, where analysis at the micro level occurs at the entrepreneur, team or company level while aggregate-level analyses occur at the region or country level. An example of research studies combining both levels of analysis are those where data collected at the entrepreneur/team/firm level from multiple locations is used to conduct comparative analyses at the country/region level. The terms macro and aggregate are used interchangeably throughout this thesis when referring to analysis levels.

II.V. Venture, Enterprise, Business, Firm, Company and Other Related Terms

All these terms are used interchangeably throughout this thesis.

II.VI. Male and Female

Gender distinctions are based on self-reported preferences and encompass all individuals who identify with a particular gender. In all performed empirical studies, individuals were given the option to not disclose their gender or provide “other” as a response.

II.VII. Refugee and Newcomer

For the majority of this thesis, the term newcomer is used as a substitute for refugee in acknowledgement of the negative social stigma associated with the term refugee and its potential implicit indication of neediness, weakness and helplessness.

PART ONE: BACKGROUND

1. Introduction

“The last few decades have been the most peaceful era in human history. Whereas in early agricultural societies human violence caused up to 15% of all human deaths [...] today it is responsible for only 1%. Yet since the global financial crisis of 2008, the international situation is rapidly deteriorating, warmongering is back in vogue, and military expenditure is ballooning.”

- Yuval Noah Harari (2018, p. 171).

Much evidence supports that violence levels have dramatically decreased around the globe over the past centuries, including homicide rates, capital punishment, wars between great powers and autocracies (Harari, 2018; Pinker, 2011a, 2011b, 2015). However, humans managed to reverse this positive trend between 2010-2014, with over a 600% increase in political violence largely due to conflicts in Syria, Nigeria, Afghanistan and Iraq (Mack, 2016; Themnér & Melander, 2016). Although the trend might have slightly started to revert back over the few years that followed (Pettersson & Eck, 2018), a myriad of challenges, many of which being quite unique to our century (Harari, 2018), may draw a somewhat bleak image for humanity's (near) future.

Indeed, challenges from environmental destruction (e.g. climate change and mass deforestation) to potent technologies (e.g. artificial intelligence (AI) and bioengineering) might already be reshaping the world at a speed significantly higher than the pace at which action is being taken to prepare for these changes. Such challenges are likely to take a harder toll on countries already suffering from high institutional fragility, where state legitimacy is jeopardized and collapsing governments reign. Consequently, social inequality is expected to rise, potentially exacerbating issues such as societal disintegration, violent conflict and forced displacement.

1.1. Entrepreneurship in Fragile Contexts: The What and the Why

It is perhaps not surprising that by 2050, the number of individuals living in fragile countries could reach 3.3 billion (OECD, 2018). Meanwhile, global humanitarian aid and international development efforts have been criticized as being designed to keep poor countries poor with

little or no impact on economic growth (Collier, 2007; Doucouliagos & Paldam, 2011; Moyo, 2009; Rajan & Subramanian, 2007), largely due to their top-down nature which places (corrupt) governments as key recipients of aid money and overlooks the importance of gradual and evolutionary rather than revolutionary approaches to institutional and social change (Collier, 2007; Easterly, 2008; Jeffrey S. McMullen, 2011; Schramm & Ulin, 2010).

Indeed, the world, perhaps now more than ever, is in dire need for effective, bottom-up, market-based development strategies (Ansted & Dent, 2015; Collier, 2007; Easterly, 2008; Jeffrey S. McMullen, 2011; Moyo, 2009; Schramm, 2010; Schramm & Ulin, 2010), where development projects are viewed as “experiments that are initiated by entrepreneurs and retained only when positive feedback is received from the poor” in the specific case of poverty alleviation (Jeffrey S. McMullen, 2011, p. 186), or when positive feedback is received from individuals suffering the consequences of fragility in the more general context of this thesis.

Entrepreneurs therefore have the potential to tackle complex challenges in the face of failing systems and limited resources, contributing to social change, economic development in addition to actively changing and reforming institutions (Ansted & Dent, 2015; J. Hall et al., 2012; Jeffrey S. McMullen, 2011; Minniti & Levesque, 2010; Naudé, 2011). In fact, entrepreneurs could support sustainable development even in situations of (post) violent conflict and deteriorating security conditions that are common in fragile states. It has been shown that under those circumstances, entrepreneurs provide important (new) products and services, serve population segments that are difficult to reach through the public sector, provide opportunities for collaboration between (previously) conflicting social groups, diversify markets, reduce socioeconomic inequality, provide much-needed jobs, take over roles that are typically filled by governments and larger institutions, support the creation of learning environments, stimulate competition, effectively channel scant resources into new purposes and potentially (innovatively) disrupt the status quo of fragility and conflict (Bozzoli et al., 2011; Cheung & Kwong, 2017; Desai, 2011; Gunther, 2013; Killick et al., 2005; Naudé, 2007, 2009; Tobias & Boudreaux, 2011; Tobias et al., 2013).

However, to understand how fragility-affected entrepreneurs could thrive regardless of dysfunctional institutions and limited resources, it is important to know who those entrepreneurs are at a deeper level. This is particularly important given that the institutional

environment largely creates and shapes an entrepreneur's personal characteristics, behaviors, cognitions and decision-making processes which ultimately determine subsequent entrepreneurship quality (F. Chowdhury et al., 2019; Douhan & Henrekson, 2010; Sobel, 2008). Personal attributes of entrepreneurs are vital for their success in turbulent environments (Ahmad et al., 2010; Kirzner, 1984; Welter & Smallbone, 2011; Yasir et al., 2017), yet analyses on how they influence and correlate with desired entrepreneurial outcomes, such as starting up, maintaining, growing and internationalizing a business, remain quite limited in fragile contexts (Brück et al., 2013). Even when performed, such research largely emphasizes wealth creation as desired outcome of entrepreneurship rather than other aspects of sustainable development that are crucial in fragile conditions (see for example Welter, Baker, Audretsch, & Gartner, 2017). Additionally, most entrepreneurship studies conducted in highly instable countries lack solid theoretical grounding and are mostly descriptive in nature, while relying mainly on secondary data sources or qualitative approaches with small sample sizes, potentially jeopardizing the reliability, relevance and/or generalizability of findings. This clearly indicates that research gaps persist in literature combining both social relevance with theoretical rigor in the face of major global challenges (Wiklund et al., 2019).

1.2. The Goal: Research Questions

This doctoral thesis addresses these gaps through conducting quantitative studies using primary data collected from entrepreneurs operating in fragile contexts complimented by extensive systematic literature reviews. Drawing on theories rooted in economics, psychology and sociology, various aspects of an entrepreneur's personal characteristics, such as motivation, personality, behavior and mindset, are analyzed with respect to key desired outcomes in various stages of the start-up process. Those findings are complimented by literature analyses of some of the external support systems available to fragile-country entrepreneurs (FCEs), particularly entrepreneurship education and training (EET), uncovering further recommendations for future research and paving the way for the development of rigorous practical solutions.

Clearly, an all-encompassing analysis of the success-enabling personal characteristics of FCEs would require addressing a variety of questions, only a few of which could be chosen for this doctoral thesis. To inform the choice of research questions, some of the key person-related

factors associated with achieving optimal entrepreneurial outcomes in fragile contexts at various stages in the entrepreneurial process, namely pre-startup, starting up and early growth and business expansion, have been considered.

With regards to the pre-startup stage, the desired outcome would generally be the successful establishment of a new firm. In fragile contexts, however, small businesses of a survivalist nature with low growth potential predominate (see Z. Acs, 2006; Z. J. Acs et al., 2008; Gelb et al., 2009; Gomez, 2008; Naude, 2007). Although the establishment of such businesses may support poverty reduction and individual empowerment, those small businesses may have limited potential to contribute to sustainable development. An increase in the quality of fragile-country entrepreneurship, rather than mere quantity, is therefore key to achieving development outcomes (Wennekers et al., 2005).

Entrepreneurship literature has attributed much of the tendency to establish low-growth businesses (in developing countries, though not explicitly in fragile states) to the prevalence of extrinsic motivation to pursue entrepreneurship. In other words, the lack of a supportive institutional environment and economic opportunities form an extrinsic pressure on individuals to start their own (micro)businesses given the lack of better alternatives (Z. Acs, 2006; Brewer & Gibson, 2014; Margolis, 2014; Naude, 2007; Nikolaev et al., 2018). Behaviors and decisions that are motivated by intrinsic factors, on the other hand, are largely associated with improved business performance and positive workplace outcomes (Deci et al., 2017; Ncube & Zondo, 2018; Rani & Desiana, 2019). In entrepreneurship literature, this has been associated with opportunity recognition and high-growth, innovative startups.

The inherent assumption that entrepreneurs fall into one of two categories of motivation, thereby producing either desirable or undesirable entrepreneurial outcomes, is highly flawed. First of all, human motivation is composed of a complex interplay of both intrinsic and extrinsic drivers and reducing it to a binary distinction is a deceptive oversimplification (Naffziger et al., 1994; Stephan et al., 2015; Wagner & Sternberg, 2004; Welter et al., 2017). Additionally, extrinsic drivers may be internalized and integrated into an individual's motivational structure, hence resulting in similar outcomes as entirely intrinsic motivation (Deci & Ryan, 2015, 1985; Ryan & Deci, 2000). In other words, even entrepreneurs driven by necessity may integrate those extrinsic motivational drivers into their value systems and

achieve desirable entrepreneurial outcomes. Finally, entrepreneurship literature seldom sheds light on the fact that, even in the most challenging of circumstances, opportunity-seeking, innovative and autonomously driven entrepreneurs do indeed exist (Betts et al., 2015; Langevang et al., 2012; Wierenga, 2020). For those reasons, the combination of intrinsic and extrinsic motivational factors influencing FCE startup decisions and their variation with the surrounding environment are chosen as centerpiece of the pre-startup phase FCE analyses.

After the decision has been made to engage in entrepreneurship, the role of an FCE's behavior becomes crucial for achieving entrepreneurial success. In fact, an entrepreneur's behavior has generally been described as "the proximal individual-centric cause of venture outcomes (e.g., existence, sales, products, survival, and growth)" (Bird et al., 2012, p. 890). Accordingly, several studies sought to identify and validate the key behaviors needed for an entrepreneur's success (e.g. Bird & Schjoedt, 2009; Brown & Hanlon, 2004, 2016; Chandler & Jansen, 1992; Katre & Salipante, 2012; Man & Chan, 2002).

The importance of apt behavior exhibition becomes more pronounced in fragile contexts given its potential to mitigate the impacts of institutional fragility on entrepreneurial outcomes (Ahmad et al., 2010; Carsrud & Krueger, 1995). However, behavioral analyses of entrepreneurs remain highly lacking in fragile contexts. Given the environment's role in shaping behavior (Romero & Martinez-Roman, 2012; Welter & Smallbone, 2011; Yasir et al., 2017) and the variation of biological and psychological determinants of behavior across geographies (Belsky et al., 2019; Bendesky & Bargmann, 2011; McCrae & Terracciano, 2005; Walmsley & Lewis, 1993), such analyses are vital to identify desirable behaviors and their consequences in fragile contexts.

Additionally, an understanding of the antecedents of those behaviors is lacking in entrepreneurship research. Personality, which is known to predispose individuals to specific actions and predict long-term patterns of behavior (Cervone & Pervin, 2012; McCrae & Costa, 2003), is largely missing from analyses of the determinants of behavior in entrepreneurship. Given that personality characteristics depend in their expression on specific environmental cues (Judge & Zapata, 2014; Tett & Guterman, 2000), thereby resulting in varying behaviors with differing workplace settings, an understanding of personality's relationship to behavior in fragile contexts further contributes to a deeper understanding of entrepreneurial success in

the early startup (growth) stages. The interplay of personality, behavior and country fragility therefore forms the core of the analyses conducted at the initiation and early growth stages of the entrepreneurial process.

With respect to expanding a business, much research has indeed been conducted on the entrepreneurs' personal attributes which relate to internationalizing their businesses (Acedo & Florin, 2006; Acedo & Jones, 2007; Freeman & Cavusgil, 2007; Jones et al., 2011). Entrepreneurial orientation (Jantunen et al., 2005; Javalgi & Todd, 2011; McDougall & Oviatt, 2000) and a global mindset (e.g. Felício et al., 2016; Kyvik, 2018) have been found to largely correlate with international entrepreneurship. However, with the lack of application and validation of those constructs in fragile contexts, particularly given the impact of the institutional and cultural environment on developing and expressing the desired orientation and mindset (Child et al., 2017; Felício et al., 2016; Oparaocha, 2015), this thesis was motivated to focus on a comparison of those constructs between a fragile and a stable environment.

Finally, this thesis extends beyond the identification and validation of FCE characteristics needed for the achievement of desired entrepreneurial outcomes to an assessment of the key catalyst for the development of (most of) those characteristics; namely education and training (Martin et al., 2013; Marvel et al., 2016, more in section 1.3). Despite the growth of EET literature and the increasing prevalence of EET programs globally, an understanding of the contribution of EET research and practices to achieving sustainable entrepreneurial outcomes, particularly in fragile institutional environments, remains missing. Realizing that fragility dictates the need for distinctive characteristics, types and impacts of entrepreneurs and entrepreneurial activity, this analysis has been deemed necessary to come full circle with respect to informing much-needed recommendations for research and practice.

Accordingly, the core of this thesis consists of four academic papers, each of which corresponds to one or more research questions as follows:

Before starting up (paper #1):

Q1 What extrinsic and intrinsic factors constitute the motivation of FCEs to found new businesses? How do these factors differ between entrepreneurs who remained in and those who have left their fragility-affected home country?

While starting up / early growth (paper #2):

Q2 How do entrepreneurial and managerial behaviors correlate to start-up success in a fragile context? How does personality predict success-related entrepreneurial and managerial behaviors of FCEs? And How does country fragility impact the personality-behavior relationship?

While expanding business (paper #3):

Q3 How do FCEs differ from their peers in stable environments in their Entrepreneurial Internationalization Tendencies (i.e. Entrepreneurship Orientation and Global Mindset)?

At all stages (paper #4):

Q4 How do current EET initiatives support sustainable development in fragile contexts?

1.3. A Few Steps Back: A Background Framed within the Human Capital Theory

This thesis constitutes a direct response to two recent calls for shifts in the trajectory of modern entrepreneurship scholarship. The first is Wiklund et al.'s (2019) appeal to establish a balance between rigor and relevance in entrepreneurship research. According to the authors, entrepreneurship research, unlike other areas in management and economics, had largely been phenomenon-driven and flexible in terms of the theories and definitions employed. However, recent shifts towards theoretical rigor have been correlated with reduced focus on relevance. The authors call for research that addresses entrepreneurship's potential in tackling grand socioeconomic challenges, particularly with respect to disadvantaged populations, without compromising theoretical robustness and methodological quality. Specifically, research that is theoretically grounded, socially impactful, interesting to the public,

communicable to non-scientific audiences and involves engagement with actual entrepreneurs. This thesis is positioned to tick all these boxes.

Additionally, this research addresses Welter et al.'s (2017) call for entrepreneurship research that embraces diversity and considers multiple facets of entrepreneurship rather than "theoretically privileging any one narrow special case of entrepreneurship as the distinctive domain of entrepreneurship scholarship" (Welter et al. 2017, p. 317). Particularly, the authors argue that entrepreneurship research is largely based on dichotomous distinctions - opportunity vs. necessity, formal vs. informal and men-led vs. women-led being a few - which excludes the majority of entrepreneurial activity by implying its lack of interest or importance. This thesis strives to eschew from binary labels and follows the authors in placing key accepted entrepreneurial outcomes (i.e. wealth and job creation) "within a broader context of reasons, purposes and values for why and how entrepreneurship emerges" (Welter et al., 2017, p. 311).

Those perspectives have been carefully considered throughout the design and implementation of studies on the enablers of entrepreneurial success in various stages of the startup process. Those enablers are viewed primarily through the lens of the human capital theory (HCT), building upon the over-three-century-old concept of human capital. Making its first known written appearance in the works of early classical economist Sir William Petty as he recognized "the value of the people" for national wealth (Petty, 1664), the concept was later further formalized by the philosopher and economist Adam Smith as he acknowledged the costs of acquisition of talent by laborers, through education and training, which ultimately contributes to the laborer's own fortune as well as society's (Smith, 1776). Early sociologists such as Karl Marx, terming it 'labor power', defined human capital as the collection of mental and physical capabilities present in a human being, which they utilize whenever they produce a usable value (Marx, 1867).

The concept of human capital has been formally incorporated in modern economics in the mid-20th century (Becker, 1964; Mincer, 1958; Schultz, 1961). In the words of Nobel prize winner Gary Becker: "To most of you, capital means a bank account, one hundred shares of IBM, assembly lines, [...]. These are all forms of capital in the sense that they yield income and other useful outputs over long periods of time. But I am going to talk about a different kind

of capital. Schooling, a computer training course, [...] and lectures on the virtues of punctuality and honesty are capital too in the sense that they improve health, raise earnings, or add to a person's appreciation of literature over much of his or her lifetime. Consequently, it is fully in keeping with the capital concept as traditionally denned to say that expenditures on education, training, [...] etc., are investments in capital. However, these produce human, not physical or financial, capital because you cannot separate a person from his or her knowledge, skills, health, or values the way it is possible to move financial and physical assets while the owner stays put" (Becker, 1994, pp. 15–16).

Essentially, human capital comprises a variety of personal characteristics that contribute to an individual's capacity to produce economic and social value. Though research on human capital in the 1960s and 1970s primarily focused on the monetary returns to human capital due to the difficulty in identifying and quantifying social benefits (see reviews and analyses by Blaug, 1972, 1976; Teixeira, 2014), more recent human capital scholarly works sought to identify and analyze relevant social outcomes. Accordingly, human capital has been linked to lifestyle habits, healthcare, child welfare, workplace satisfaction, philanthropic behavior, spending and saving choices, access to technology and innovation, social cohesion and equality, crime reduction and institutional stability (e.g. Bart et al., 2009; Haveman & Wolfe, 1984; Nafukho et al., 2004; Vila, 2000).

In other words, human capital is an individual's stock of unique attributes that are relevant for achieving desired socioeconomic outcomes. What those attributes encompass has evolved over time, with modern scholars including "knowledge, skills, abilities, and other characteristics (KSAOs); [or more specifically] beliefs; feelings; psychological states and traits; and physical characteristics" that reside inside the individual (Ployhart et al., 2013, p. 394; and Acemoglu et al., 2014; Becker, 2002; Guion, 2011; Murphy, 2012). Within entrepreneurship literature, human capital has been analyzed in terms of human capital investments, assets and outcomes (Hitt et al., 2017; Lepak & Snell, 1999; Martin et al., 2013). This thesis follows Martin et al's (2013, p. 212) views, where "human capital investments [...] are inputs, such as the time and money spent taking a course in entrepreneurship; human capital assets [...] represent the capability that may be garnered from the investments, such as knowledge and skills; and entrepreneurship outcomes [are eventual consequences] such as starting or growing a new business."

Several assets, or KSAOs, have been identified in entrepreneurship literature. In a recent meta-analysis of 109 scholarly articles in highly ranked peer-reviewed journals on the topic of human capital and entrepreneurship (Marvel et al., 2016), individual-level decisions/actions and psychological attributes have been recognized as important dependent variables in empirical analyses. The meta-analysis also identified five categories of human capital assets (HCAs) relevant to entrepreneurship; work experience, entrepreneurship experience, education, demographic attributes and cognition/psychological attributes. The latter category, however, appeared to be the least studied category within the analyzed literature, with only 4.9% of the reviewed papers giving explicit attention to cognitive or psychological capabilities (and possibly subsequent entrepreneur behaviors).

Within the framework of this thesis, papers 1-3 analyze various HCAs of FCEs in relation to desired entrepreneurial outcomes at various startup stages. The shortage of research on psychological human capital further motivated this thesis to focus on the traits, decision-making processes and behaviors of entrepreneurs before starting up (section 1.3.1, chapter 2), during startup establishment and early growth (section 1.3.2, chapter 3) and throughout global company expansion (section 1.3.3, chapter 4). Combined with the needs to diversify entrepreneurship research and effectively blend theoretical and socially relevant perspectives (Welter et al., 2017; Wiklund et al., 2019), those analyses integrate several additional theories, refrain from dichotomous and simplified classifications and focus on the empirical analysis of various facets of psychological human capital using primary data. Additionally, realizing the vital role played by the institutional environment in complimenting human capital's contribution to positive entrepreneurial outcomes (see for example Boudreaux & Nikolaev, 2019; Eesley, 2016), country fragility is regarded as the centerpiece of those analyses.

Meanwhile, paper 4 (section 1.3.4, chapter 5) assesses the educational investment relevant to the development of those assets and corresponding outcomes. Education has long been regarded the key catalyst of HCA development (Baumol et al., 2011; Becker, 1994; Goldin, 2019; Griliches, 1996; Lutz & Samir, 2011). With regards to EET, several studies have proven EET's contribution to the enhancement of entrepreneurial outcomes through the development of the KSAOs that are most relevant for entrepreneurial success, including psychological HCAs such as motivations (Daniel, 2016; Romero & Martinez-Roman, 2012), behaviors (Brown & Hanlon, 2016; Rauch & Hulsink, 2015) and mindsets (Robinson et al., 2016; Secundo

et al., 2016; Zupan et al., 2018). With respect to fragile contexts, however, research on the availability and effectiveness of EET remains inadequate.

The HCT has been chosen for this thesis for several more reasons. This theoretical approach places the entrepreneur under the limelight, which is vital given their tremendous role in shaping a company's structure, culture, outputs and growth dynamics (see Frese, 2009; Sarasvathy, 2004). This is particularly important as the world is faced with unprecedented complex challenges of unclear consequences (e.g. Ferraro et al., 2015; Harari, 2016, 2018; Wiklund et al., 2019), necessitating deeper understanding of the human potential needed to tackle those obstacles. With the majority of management studies assessing a firm's relationship to grand societal challenges from the institutional theory perspective (Ferraro et al., 2015), a human-centered approach is all the more needed (see Colquitt & George, 2011).

Additionally, understanding the personal assets that help entrepreneurs thrive in turbulent environments aids the design and implementation of educational and financial investment strategies by development organizations and grassroots initiatives. With the majority of theoretical constructs in entrepreneurship having been primarily tested in stable environments, extending the assessment of HCAs to fragile settings is important to enhance the understanding and formation of desired entrepreneurial outcomes in largely ambiguous environments, and subsequently the design of appropriate interventions (see Bango et al., 2018; Berner et al., 2012). A focus on psychological HCAs has particularly important yet often overlooked and under-researched implications for actionable interventions to enhance entrepreneurship in alleviation of fragile conditions (e.g. Frese et al., 2016; Luthans et al., 2000; Wu et al., 2019).

Figure 1-1 illustrates the theoretical framework for this doctoral thesis. Sections 1.3.1, 1.3.2 and 1.3.3 review existing literature regarding some of the HCAs that enable FCEs to achieve successful outcomes throughout the pre-startup, initiation/early growth and internationalization stages respectively, while section 1.3.4 provides a literature background on EET as a key human capital investment in entrepreneurship.

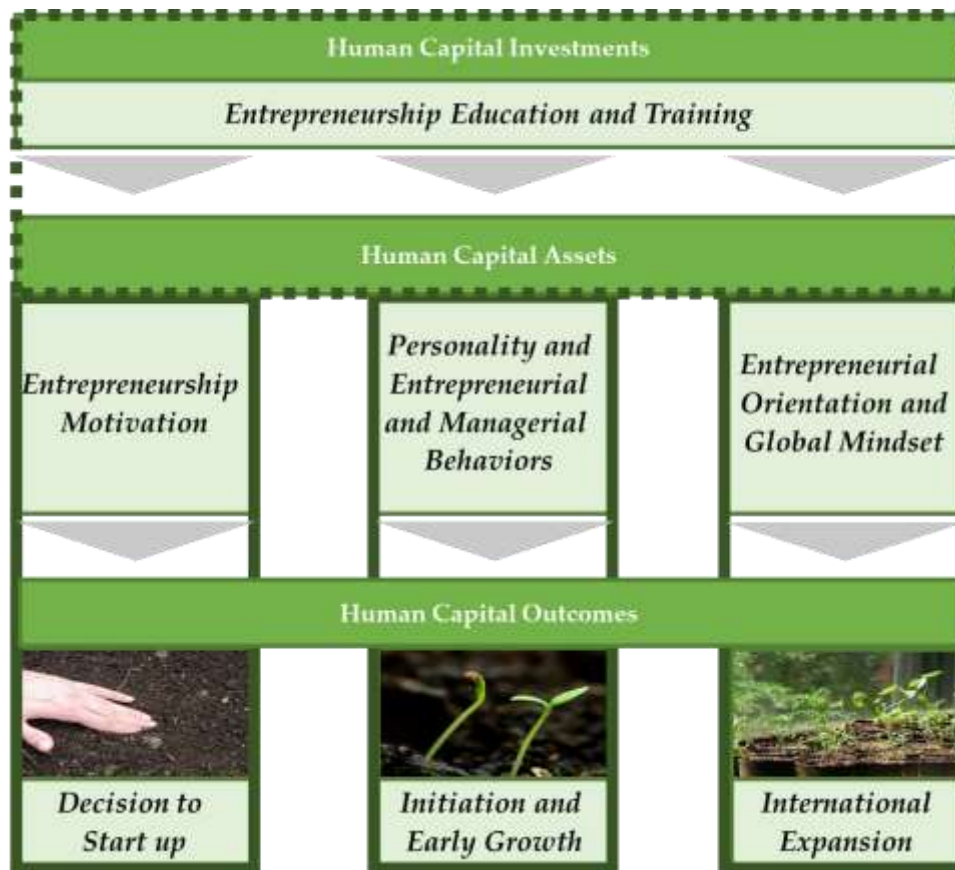


Figure 1-1: Thesis theoretical framework. Dashed borders indicate presumed relationships (paper 4) whereas solid borders indicate relationships empirically tested in the thesis (papers 1-3, left to right).

1.3.1. Before Starting up: Motivation as an Asset

Research on the antecedents of entrepreneurship falls primarily in the areas of entrepreneurial intention and entrepreneurship motivation. Entrepreneurial intention is a state of mind pertaining to the degree to which an individual considers starting a business as a career choice (Fayolle & Liñán, 2014; Giacomini et al., 2011; Liñán & Chen, 2009; Potishuk & Kratzer, 2017), a concept that rapidly prevailed in entrepreneurship studies since its introduction in the 1980's (Fayolle & Liñán, 2014; Shapero, 1984; Shapero & Sokol, 1982). Although intention is considered a predictor of action and behavior, having high levels of entrepreneurial intention does not automatically transform into entrepreneurial activity, particularly where institutional hurdles and environmental constraints are rampant (see Dana & Ratten, 2017). Therefore, analyzing entrepreneurial intention does not necessarily involve analyzing (future) entrepreneurs, and certainly does not provide sufficient insights on the conditions under

which intention translates into action (Bagozzi, 1992; Bird & Schjoedt, 2009; Brännback et al., 2007; Carsrud & Brännback, 2011).

Entrepreneurship motivation research, on the other hand, focuses on identifying the reasons and drivers to pursue the goal of starting a firm (Carsrud & Brännback, 2011; Edelman et al., 2010; Fayolle et al., 2014), therefore enabling insights on the intention-behavior or intention-action links. Despite the potential of entrepreneurship motivation research to uncover significant determinants of the startup decision-making process and improve understanding of how and why new firms are formed, entrepreneurial intentions studies remain to dominate and little attention is paid to the important area of entrepreneurship motivation (see Carsrud & Brännback, 2011; Fayolle et al., 2014).

This trend is also evident in studies conducted outside of western and stable countries, where most research on potential entrepreneurs has also been mainly concerned with entrepreneurial intention (e.g. Ashourizadeh et al., 2014; Nga & Shamuganathan, 2010; Zhang et al., 2014). Though significantly less common, such research has also been performed in contexts of fragility and violence (e.g. Bullough et al., 2014; Mouselli & Khalifa, 2017). On the other hand, research specifically evaluating drivers behind an individual's decision to pursue entrepreneurship is much less prevalent in the FCE context. Such research deserves more attention in countries with fragile institutional environments given the impact of the environmental context on shaping entrepreneurship motivation (Carsrud et al., 2009; Edelman et al., 2010; Nuttin, 1984) and its ability to explain entrepreneurial phenomena under such circumstances.

Conducting this research in fragile contexts could be made difficult by the fact that it involves engagement with and assessment of those who have already decided or even (recently) started to engage in entrepreneurial activity, rather than those who might or might not someday pursue entrepreneurship. This translates into smaller target population sizes and more limited access to potential study participants, especially given the lack of documentation and prevalence of informal entrepreneurship in those contexts. This could explain why many studies attempt to explain entry into entrepreneurship from a macro level, thereby evaluating environmental factors that correlate with country-wide rates of entrepreneurial activity (e.g.

Lecuna et al., 2017; Naudé et al., 2008) rather than analyzing entrepreneurial motivation and decision-making at the individual level.

Though no entrepreneurship motivation studies at the individual level explicitly considering contexts of violent conflict or extreme institutional fragility have been found, a handful of studies do however exist in some developing and fragile settings. The majority of those studies follow the classical dichotomous classification of entrepreneurship motivation into pull/opportunity and push/necessity (e.g. Hilson et al., 2018; Mehtap et al., 2019). In this sense, an entrepreneur is seen as either being attracted to entrepreneurship to realize an opportunity that they had identified in the market or pursues entrepreneurship out of necessity when faced with little or no other options to achieve financial stability (Z. Acs, 2006; Mota et al., 2019; Stoner & Fry, 1982).

Following this binary model largely limits the perception and understanding of entrepreneurship motivation. The necessity/opportunity dichotomy inherently presumes that entrepreneurs starting up due to so-called “push” factors are unlikely to grow and succeed. Evidence shows, however, that some entrepreneurs who were initially motivated by necessity have growth aspirations (Langevang et al., 2012), though the mechanisms in which they grow and innovate are still largely understudied (Welter et al., 2017). Additionally, this divide is not clear-cut in many cases. Entrepreneurship motivation may change over time, and opportunity may indeed lie amidst necessity (see Monllor & Altay, 2016). This classification also ignores the complexity of human decision-making processes and the multitude of factors that impact the decision to pursue a particular career path. Particularly in challenged environments where such processes might be of higher intricacy and are less understood, a more holistic, multifaceted, multi-level analysis of motivation is worthwhile.

Indeed, several scholars have attempted to create and validate more complex and robust models of entrepreneurship motivation. Greenberger and Sexton (1988) focus on the various personal characteristics of individuals which lead them to initiate entrepreneurial activity, while Naffziger et al.’s (1994) model of entrepreneurship motivation considers personal characteristics, the personal environment, personal goals, the business environment and the business idea. Stephan et al. (2015), on the other hand, identify a combination of personal desires, push factors and community and social drivers as aspects of entrepreneurship

motivation. Wagner and Sternberg (2002, 2004) view the decision behind starting a new business to be the result of personal attributes and environmental characteristics as perceived by the individual. To my knowledge, however, none of those models has been implemented or validated in fragile contexts.

Of all those complex constructs that are yet to be tested in fragile settings, the eclectic theory of entrepreneurship has been chosen for this thesis (Verheul et al., 2001). The theory postulates that an individual becomes and remains self-employed based on the interplay between opportunities (i.e. environmental conditions) as perceived by the individual and personal characteristics such as personality, resources, capabilities and preferences. The theory also builds on and incorporates many of the aspects identified by other (aforementioned) entrepreneurship motivation models (such as Greenberger & Sexton, 1988; Naffziger et al., 1994; Stephan et al., 2015; Wagner & Sternberg, 2002, 2004).

According to the theory, the interaction between personal abilities, traits, preferences and resources with population characteristics such as demographic features and culture in addition to market opportunities, as determined by factors such as policy intervention, education, economic development and technology adoption, collectively drive the entrepreneur to compare the potential risks and rewards of engaging in entrepreneurial activity. The individual therefore engages in entrepreneurial activity when they ascertain the presence of net rewards associated with this occupational choice. The robustness, flexibility and complexity of this model, in addition to its interdisciplinary nature which encompasses psychological, sociological and economic perspectives, made it an ideal candidate for this research.

To understand the contribution of HCAs to the success and sustainability of fragile-country entrepreneurship, an enhanced understanding of motivation is crucial. From a psychological standpoint, the type of motivation behind a certain behavior largely influences subsequent behavioral outcomes and task performance (see for example Deci & Ryan, 2015, 1985; Ryan & Deci, 2000). For instance, motivation consisting largely of intrinsic drivers has been found to correlate with better outcomes, proven superiority in performance, satisfaction and wellbeing in various work settings (Deci et al., 2017; Kuvaas & Dysvik, 2009; Rani & Desiana, 2019). Prosocial motivation has also been found to enhance creativity (Bai et al., 2016; Grant & Berry,

2011), an important aspect of innovative entrepreneurship. Additionally, understanding the various factors that motivate an individual to engage in entrepreneurship aids practitioners and policy makers to identify specific areas of improvement and support for FCEs-to-be, facilitating the transition of entrepreneurial intention to action.

1.3.2. During Initiation and Early Growth: Personality and Behavior as Assets

Entrepreneurship literature largely focuses on firm behavior and performance as key indicators of startup success (e.g. Kakati, 2003; Karakaya & Kobu, 1994; Kolstad & Wiig, 2015; L. Z. Song et al., 2010; M. Song et al., 2008; C. L. Wang et al., 2015; Zhu & Allee, 2008). In the words of Saras Sarasvathy (2004, p. 520), “almost all prevalent economic theories of entrepreneurship are theories of the firm. Either they try to explain entrepreneurship as the existence and survival of firms, or as firm performance in one way or another.”

Sarasvathy (2004) continues to explain that the heterogeneity in the goals of entrepreneurs and the fact that a company’s failure might enhance an entrepreneur’s chances of success on the long haul could render firm-level measures of an entrepreneur’s success imprecise. Additionally, evaluating an entrepreneur’s success through measuring startup performance is unrealistic at early stages of firm development (see for instance Devece et al., 2016).

Alternatively, a founder’s HCAs more realistically and aptly predict long-term entrepreneurial outcomes at early startup stages. As an entrepreneur transforms their entrepreneurial motivation to action, the significance of those actions for the success of the new venture and the fulfillment of the entrepreneur’s goals is not to be underestimated. Those actions primarily encompass the entrepreneurial and managerial behaviors needed to execute key tasks pertaining to the initiation and management of a new venture, including opportunity identification, strategy development, problem solving, people and resource management, marketing and customer management, among many others (Bird et al., 2012; Brown & Hanlon, 2004, 2016; Chandler & Hanks, 1994; Chandler & Jansen, 1992; Rathna & Vijaya, 2009; Sadler-Smith et al., 2003).

The exhibition and effective execution of such behaviors has not only been strongly linked to the new firm’s economic performance (Bird & Schjoedt, 2009; Bird et al., 2012; Brown & Hanlon, 2004, 2016; Chandler & Jansen, 1992; Man & Chan, 2002), but also to social and environmental sustainability (Dean & McMullen, 2007; Koe et al., 2014; Pacheco et al., 2010)

and innovation and creativity (Block et al., 2017; Dyer et al., 2008; Guan et al., 2019). Therefore, an entrepreneur's behavior while birthing and nurturing a new company is a key indicator of long-term startup performance and impact and a more relevant and reliable one in comparison with firm-level indicators.

The significance of an entrepreneur's behavior becomes more pronounced in fragile contexts. Firstly, appropriate founder behaviors possibly mitigate the negative impacts of the surrounding environment on company development (Ahmad et al., 2010; Yasir et al., 2017) and enable value creation from scarcely available resources (Kirzner, 1984). Additionally, the entrepreneur's behavior contributes to the development and advancement of institutions in turbulent environments (see Welter & Smallbone, 2011). Furthermore, the level of entrepreneurship productivity and positive socioeconomic impact in highly fragile environments where rent-seeking and socially destructive market opportunities, such as arms trade, terrorist organizations and child labor, are prevalent (Baumol, 1990; Naudé, 2007, 2009) could be highly contingent on the entrepreneur's behaviors. Understanding founder behaviors in fragile contexts could therefore enable fostering productive entrepreneurship and sustainable (institutional) development in such regions. Alas, empirical studies evaluating an entrepreneurs' behavior in fragile contexts remain limited.

Human behavior is generally determined by a variety of intrinsic and extrinsic factors, of which personality is an especially significant predictor of long-term behavior (Cervone & Pervin, 2012; McCrae & Costa, 2003). Although the personality-behavior relationship has been examined and validated across a wide variety of workplace behaviors and settings (Bourdage et al., 2018; Church & Waclawski, 1998; Kong & Li, 2018; Marcus & Roy, 2019; Penner et al., 1997; Penney, David, et al., 2011; Penney, Hunter, et al., 2011), it has surprisingly received very little attention from entrepreneurship scholars to date (with the exception of Rauch & Frese, 2000, 2007) and certainly no examination in fragile entrepreneurial contexts. In addition to predicting behavior, an entrepreneur's personality also directly influences the perception of entrepreneurs by investors and development organizations, hence impacting the choice of support recipients.

The lack of studies on personality (in relation to behavior) in FCE contexts is particularly problematic given that the prevalence and expression of specific personality characteristics

largely varies with national culture and environmental influences (Hofstede & McCrae, 2004; McCrae, 2002; McCrae & Terracciano, 2005). This is perhaps best explained by the trait activation theory (Judge & Zapata, 2014; Tett & Burnett, 2003; Tett & Guterman, 2000) which postulates that the expression of particular personality traits is conditional upon environmental stimuli. In other words, a specific workplace behavior would only result from a personality trait if the latter has been activated by strong-enough stimuli in the workplace environment. This implies that personality-behavior relationships validated in western/stable countries might not be applicable in other country settings.

Therefore, not only do we know little about founders' entrepreneurial and managerial behaviors in fragile settings, we almost have no knowledge of the personality characteristics that predict the (effective) expression of those needed behaviors. This thesis therefore contributes to advancing scholarly knowledge on success enablers of FCEs during the initiation and early growth startup stages by confirming the correlation of specific entrepreneurial and managerial behaviors to long-term firm performance and subjectively evaluated success from the founder's perspective, in addition to enlightening the relationship between personality characteristics and those behaviors. In other words, personality and behavior are viewed as predictive assets of positive entrepreneurial outcomes at early startup stages. Specific entrepreneurial and managerial behaviors identified and validated by Brown and Hanlon (2004, 2016) have been favored as they closely relate to the entrepreneurial and managerial capabilities regarded by Israel Kirzner (1984) as vital in low-resource environments. Personality characteristics are viewed from the Five Factor Model (FFM) perspective, which is considered the most valid, consistent and reliable of all taxonomies and measures of personality (Cervone & Pervin, 2012; Goldberg, 1993).

1.3.3. During Expansion: Orientation and Mindset as Assets

After achieving an advanced understanding of some of the key HCAs before and during FCE early startup stages (i.e. the founder's motivation to start up and personality characteristics/behaviors during venture launch and early growth, respectively), this doctoral thesis moves on to evaluate drivers of cross-country growth and expansion of fragile-country startups. With internationalization being a key business success indicator in an increasingly globalized world (Cavusgil & Knight, 2015; Joensuu-Salo et al., 2018), this research focuses on

evaluating facets of the entrepreneur's HCAs that correlate with their decision to internationalize their business, collectively referred to as Entrepreneurial Internationalization Tendencies (EIT).

Two assets were found to be particularly predictive of international entrepreneurship (IE). The first is Entrepreneurial Orientation (EO), a combination of innovativeness, proactiveness and risk-taking tendencies and behaviors (Joardar & Wu, 2011; Ripollés-Meliá et al., 2007). Entrepreneurial Orientation is expected to vary according to institutional conditions (Covin & Miller, 2014; Ervits & Zmuda, 2018), as specific environmental factors could promote or hinder the expression of the various EO facets. This is best explained by the institutional theory, which is chiefly "concerned with regulatory, social and cultural influences that promote survival and legitimacy of an organization (Bruton et al., 2010, p. 422)".

The second is a cognitive capability characterized by the interest in and understanding of activities involved in global entrepreneurial opportunity identification; in other words, a Global Mindset (GM) (Felício et al., 2013; Kyvik, 2018). This appears to be in concord with the mindset theory (Dweck, 2007), which postulates that an individual with a growth mindset possesses goal-orientation and the determination to develop regardless of existing capabilities. In this sense, a GM could be deemed an aspect or extension of an entrepreneur's growth mindset.

Thus far, IE research largely focuses on advanced economies, overlooking even the largest of emerging and developing countries (Kiss et al., 2012; Yamakawa et al., 2008). The share of IE research attention received by fragile countries is naturally even less, even though regions like the Middle East and Africa (Bosma & Kelley, 2018), which contain many fragile countries, exhibit some of the world's highest IE activity levels. Consequently, IE constructs and theories developed and validated in stable countries are yet to be tested in fragile ones, and the extent to which the EIT of FCEs compare to those of stable-country ones is yet to be investigated.

Addressing those research gaps is vital, given that benefits of entrepreneurial internationalization of fragile-country startups extend even beyond the opportunities for additional profit often presented by international trade. The higher the rate of international business operations, the higher the likelihood that global perceptions of a fragile country change from "violent" or "poor" to thriving economic player, potentially attracting foreign

investment, tourism and talent. Additionally, and in realization that extreme fragility and conflict result in significant losses of human capital (Chamarbagwala & Morán, 2011; Weldeegzie, 2017), IE could provide new learning opportunities for FCEs through international and cross-cultural exchanges.

The extension of entrepreneurial activity across various social groups also provides cooperation opportunities that unite groups based on common (socio)economic goals despite inter-group rivalries and conflicting political standpoints (see the Rwandan example: Tobias & Boudreaux, 2011; Tobias et al., 2013). In the case of extremely fragile countries, many are currently or have been recently engaged in conflicts with bordering countries (e.g. Yemen and Saudi Arabia, Syria and Turkey, Sudan and South Sudan, Iraq and Iran, Pakistan and India). This means that IE opportunities traversing borders of (previously) conflicting regions could even facilitate peace-building and social cohesion.

Given those benefits and the vital role played by individual-level characteristics in overcoming institutional hurdles (as discussed in section 1.3.2, e.g. Ahmad et al., 2010; Yasir et al., 2017), investigating mindset and behavioral enablers of fragile-country entrepreneurial internationalization is worthwhile, bearing in mind that FCEs face additional systematic challenges in business internationalization (e.g. due to visa barriers and political restrictions) in comparison with their counterparts in stable countries.

1.3.4. Through it all: Education and Training as an Investment

Although some HCAs (e.g. personality traits) cannot be easily fostered through external investment and support, several may and do indeed flourish through education and training. Certainly, EET has been shown to positively correlate to the development of a variety of KSAOs including business, strategy and financial management skills (Clydesdale, 2017; Eskola et al., 2017; Mayer et al., 2014; McCarver & Jessup, 2010), entrepreneurial and managerial behaviors (Brown & Hanlon, 2016; Rauch & Hulsink, 2015), critical thinking and problem-solving skills (Arpiainen & Tynjala, 2017; Janssen & Bacq, 2010; Morris et al., 2013), resource management and effectuation (Hoppe, 2016; Morris et al., 2013; Redford et al., 2014), opportunity recognition capabilities (Asvoll & Jacobsen, 2012; Hayes & Richmond, 2017; Lefebvre & Collot, 2012), innovative and entrepreneurial mindsets (Ghina et al., 2017;

Robinson et al., 2016; Secundo et al., 2016; Zupan et al., 2018) and entrepreneurship motivation (Daniel, 2016; Romero & Martinez-Roman, 2012).

Higher human capital levels have been generally shown to enhance entrepreneurs' contribution to economic wealth and development (Wennekers et al., 2005). Large-scale studies and meta-analyses have confirmed such outcomes of EET in both developed (Martin et al., 2013; Walter & Block, 2016) and developing countries (Lecuna et al., 2017; Valerio et al., 2014). However, none of those analyses explicitly account for the specific entrepreneurial outcomes needed to achieve non-economic aspects of sustainable development. Therefore, although several studies confirm the human capital investment-asset relationship with respect to EET, assets and outcomes pertaining to social and environmental development remain largely unknown.

Socioenvironmental development is crucial for enhancing the stability of fragile states, necessitating the promotion of related entrepreneurial assets and outcomes. The higher the fragility of a country, the higher the rates of gender-based violence and inequality (Gould & Agnich, 2016; Hudson et al., 2009), social disintegration (Fund for Peace, 2019b; OECD, 2016b, 2018) and poverty (Ault & Spicer, 2014; McKay & Thorbecke, 2019; Penh, 2009). Fragile countries also generally suffer from high rates of environmental damage which further contributes to state fragility and failure (Diamond, 2005; Jiao, 2019; OECD, 2016b, 2018).

This suggests the need for EET that targets the development of HCAs that contribute to social equality and cohesion, poverty reduction and ecological restoration. Additionally, means of EET delivery largely contribute to their outcomes. For instance, the employment of experiential learning methods (Leon, 2017; McGuigan, 2016; Piperopoulos & Dimov, 2015) and educational technology (Nye, 2015; Woolf et al., 2013) is generally found to enhance learning outcomes. A comprehensive analysis of the desired outcomes, target assets and methodologies employed by EET programs with respect to fragility and sustainable development is still lacking, and the core of this thesis concludes by addressing these research gaps.

1.4. The How: Research Process and Methods

This research is designed following primarily a positivistic philosophy. Positivism is an epistemology that dates back to Auguste Comte (1853), who argued that society operates according to general laws and that all true knowledge could be measured and validated scientifically; in other words, only scientific knowledge is positive. Positivism is a prevalent research mode in entrepreneurship research (McDonald et al., 2015; van Burg & Romme, 2014), using theory as a starting point in an attempt to evaluate entrepreneurial phenomena in an objective manner through the formulation and statistical testing of hypotheses (see Coviello & Jones, 2004; Davidsson, 2008; Hoskisson et al., 2011; van Burg & Romme, 2014).

This research design also incorporates micro and macro levels of analysis. The micro level directly concerns the measurement of HCAs at the entrepreneur level using questionnaires. Findings from those micro-level analyses are aggregated to enable comparisons and insights at the institutional/country level. Therefore, this thesis agrees with Davidsson and Wiklund (2001, p. 245) as they follow Low and Macmillan (1988) in recommending that “researchers must acknowledge that entrepreneurship studies could and should be carried out at multiple levels of analysis and that these analyses complement each other [...] [as] entrepreneurship takes place and has effects on different societal levels simultaneously”.

Research questions handling HCAs (Q1-3) are addressed through quantitative questionnaires using validated scales. Quantitative methods have been preferred as the application of validated measurement tools and the involvement of large sample sizes (in comparison to qualitative methods) potentially enables higher generalizability and objectivity of research findings. Additionally, given that research on entrepreneurship amidst fragility is dominated by qualitative studies, quantitative research designs are vital for the advancement and diversification of this research field in terms of theory, methods and implications.

Analysis at the pre-startup stage address Q1 through evaluating entrepreneurship motivation using a self-constructed and validated questionnaire primarily based on the eclectic theory of entrepreneurship (Verheul et al., 2001) and Wagner and Sternberg’s (2002, 2004) views of entrepreneurship motivation as a blend of person-related attributes influenced by the individual’s perception of the environment. Analyses at the initiation/early growth and international expansion stages are alternatively carried out using pre-existing, validated

quantitative constructs. During initiation/early growth (Q2), personality characteristics and entrepreneurial and managerial behaviors have been measured using questionnaire items adopted from Gosling et al. (2003)'s Ten Item Personality Measure (TIPI) and Brown and Hanlon's (2004, 2016) Behavioral Observation Scales (BOS) respectively, accounting for perspectives from the trait activation theory (Judge & Zapata, 2014; Tett & Burnett, 2003; Tett & Guterman, 2000). As for Q3, analyses of assets pertaining to EIT were measured using EO and GM constructs developed and validated by Goktan and Gupta (2015) and Felicio et al. (2016) respectively, employing the lenses of the institutional theory (Bruton et al., 2010; Lim et al., 2010) and the mindset theory (Dweck, 2007; Gollwitzer, 1990).

Target populations include Syrian (Q1), sub-Saharan African (Q2) and Pakistani (Q3) entrepreneurs. These specific countries/regions were chosen as they are ranked as fragile according to both OECD and FSI criteria (see Table 1-1), therefore ranking similarly on various country fragility indicators (Fund for Peace, 2019a; OECD, 2018). The main countries of analysis also rank poorly on entrepreneurial framework conditions such as physical and services infrastructure and government support and policies according to latest GEM data (GEM, 2019b). Additionally, Syria, Pakistan and Nigeria (the main sub Saharan African country of analysis) rank in the top five countries globally in the impact of terrorism according to the Global Terrorism Index (Institute for Economics & Peace, 2019).

Data was mainly collected through establishing connections with incubator/accelerator managers in the respective countries, who in turn distributed the questionnaires in paper and online forms to startups in their networks. Syrian entrepreneurs were analyzed in the cities of Damascus and Berlin, aggregating individual-level responses to compare entrepreneurship motivation of FCEs who operate in their home countries compared to those who sought refuge in an environment with high institutional stability. Sub Saharan African entrepreneurs were analyzed across 22 African countries, with state fragility incorporated in the analysis as a moderating variable at the country level. Data on Pakistani entrepreneurs was obtained from the cities of Karachi and Lahore, and equivalent data was also gathered from German entrepreneurs in Berlin to enable a cross-country comparative analysis that accounts for differences in the institutional environment.

<i>Country</i>	<i>Security Apparatus</i>	<i>Factionalized Elites</i>	<i>Group Grievance</i>	<i>Economic Decline</i>	<i>Economic Inequality</i>	<i>Human Flight and Brain Drain</i>	<i>State Legitimacy</i>	<i>Public Services</i>	<i>Human Rights</i>	<i>Demographic Pressures</i>	<i>Refugees and IDPs</i>	<i>External Intervention</i>
Syria	9.8	9.9	10	8.8	7.5	8.4	9.9	9.4	10	7.9	10	10
Nigeria	9.0	9.9	9.4	7.8	8.1	6.9	8.0	8.9	8.3	9.2	7.2	5.9
Pakistan	8.5	9.3	9.4	6.3	5.9	6.8	7.9	8.0	7.4	7.8	8.1	8.8

Table 1-1: A summary of average scores (out of 10) on various country fragility indicators of the key countries included in the thesis empirical analyses based on latest FSI data (Fund for Peace, 2019a). The higher the score, the higher the fragility level.

The entrepreneurship motivation study (chapter 2) employs exploratory factor analyses (EFA) to identify key motivational drivers behind the decision to start a business for a sample of 139 Syrian entrepreneurs. The identified drivers informed the formulation of hypotheses to compare those motivations between the two cities (Damascus and Berlin) using Multivariate Analysis of Covariance (MANCOVA) and non-parametric methods (the Mann-Whitney *U* test). Meanwhile, the personality and behavior study (chapter 3) assesses a sample of 232 entrepreneurs in 22 countries primarily in Nigeria, Kenya, Uganda, Tanzania and Ghana. The study tests a hypothesis on the difference in the expression of entrepreneurial and managerial behaviors in startups of varying success using an independent sample t-test then proceeds to multiple linear regression (MLR) to test the relationships between personality characteristics and desired behaviors while moderating for country fragility. As for the analysis of EIT (chapter 4), Analysis of Variance (ANOVA), Multiple Analysis of Variance (MANOVA) and the Mann-Whitney *U* test were used to compare Pakistani (n=53) and German (n=59) entrepreneurs.

Finally, Q4 was addressed through an EET analysis (chapter 5) based on an extensive systematic literature review (SLR) of recent scholarly works using Web of Science (WoS) and EBSCO Business Complete databases. The resulting set of 146 peer-reviewed journal articles

was analyzed following the PRISMA guidelines (Moher et al., 2009) to delineate if and how recent EET initiatives target Sustainable Development Goals (SDGs), particularly those related to poverty reduction, employment generation, innovation, sustainable production and consumption and social equality. A conceptual framework was therefore constructed based on expected EET-SDG relationships. A deeper analysis was performed on case studies targeting fragile contexts to highlight particular challenges and potential technologically empowered mitigations.

The thesis research designs and methods are summarized in Table 1-2. The following chapters (2-5) feature the full text of the aforementioned papers which constitute the core of this doctoral thesis.

	<i>Paper #1</i>	<i>Paper #2</i>	<i>Paper #3</i>	<i>Paper #4</i>
Analysis Type	Quantitative	Quantitative	Quantitative	Review
Methods	EFA, MANCOVA, Mann-Whitney <i>U</i> Test	Student's T-Test, MLR	ANOVA, MANOVA, Mann-Whitney <i>U</i> Test	SLR (PRISMA Guidelines)
Study Sample(s)	Syrian Entrepreneurs in Home and Host Countries	Sub Saharan African Entrepreneurs in Home Countries	Pakistani and German Entrepreneurs in Home Countries	EET Articles in Highly Ranked Entrepreneurship Journals
Sample Size	Syria n=74, Germany n=65	n=232	Pakistan n=53, Germany n=59	146 Journal Articles
Study Locations	Syria (Damascus) and Germany (Berlin)	Sub Saharan Africa (22 Countries)	Pakistan (Lahore, Karachi) and Germany (Berlin)	-
Micro Analysis Level	Individual Entrepreneurs	Individual Entrepreneurs	Individual Entrepreneurs	Individual Papers
Type of Macro Analysis	Cross-Country Comparison	Moderating for State Fragility	Cross-Country Comparison	Synthesis of Literature Findings
Startup Stage	Pre-Startup	Initiation and Early Growth	International Expansion	General
Theoretical Constructs	Eclectic Theory of Entrepreneurship, Wagner and Sternberg's Model of Entrepreneurial Decision-Making (2004)	Trait Activation Theory, the Five Factor Model of Personality, Entrepreneurial and Managerial Behaviors	Institutional Theory, Mindset Theory, Entrepreneurship Orientation, Global Mindset	Sustainable Development Goals
Measurement Tools	Self-Constructed Questionnaire	Brown and Hanlon's Questionnaire on Entrepreneurial and Managerial Behaviors (2004; 2016), Gosling et al.'s (2003) TIPI Scale	Goktan and Gupta's (2015) Questionnaire on Entrepreneurship Orientation, Felicio et al.'s (2016) Questionnaire on Global Mindset	-

Table 1-2: A summary of research design and methods employed across the thesis.

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**PART TWO: A HUMAN CAPITAL
ASSET ANALYSIS IN THE PRE-
STARTUP STAGE**

2. An Eclectic Analysis of Entrepreneurship Motivation in Conflict and Refuge: The Syrian Context

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This article applies the eclectic theory of entrepreneurship to the study of entrepreneurship motivation under the extreme contexts of violent conflict and subsequent displacement, where the decision to pursue entrepreneurship is modelled as an interplay of the opportunities and external resources in the entrepreneur's environment as well as individual characteristics. The study also adapts Wagner and Sternberg's view of entrepreneurial decision-making in addition to the self-determination theory to discuss the study implications. Findings suggest that conflict-affected entrepreneurs are intrinsically motivated to start new businesses as well as being driven by opportunities and resources in their institutional, economic, cultural, and social environment with no notable difference in motivational drivers between conflict-affected founders in an active conflict versus refugee context. This emphasizes the positive potential outcomes of entrepreneurship in conflict and refuge and the need to comprehensively analyze entrepreneurship motivation outside of dichotomies and simple categorizations to allow for actionable recommendations.

Keywords

Entrepreneurship Motivation, Eclectic Theory of Entrepreneurship, Refugee Entrepreneurship, Entrepreneurship in Conflict, Self-Determination Theory, Syria, Germany

2.1. Introduction

Entrepreneurship is a vital facilitator for socioeconomic development, peace building, and refugee integration (Betts, Bloom, et al., 2017; Desai, 2011; Jeffrey S. McMullen, 2011; Naudé, 2007; Tobias et al., 2013). However, research on entrepreneurship in contexts of political instability, organized violence and displacement is still in its infancy. Antecedents of entrepreneurship motivation amidst fragility are highly understudied, resulting not only in research gaps but also missed opportunities to implement effective entrepreneurship promotion measures and sustainable development strategies.

This paper focuses on understanding why conflict-affected individuals (CAIs) start new businesses, stemming from the importance of motivation as a determinant factor of business success and behavior (Carsrud & Brännback, 2011; Deci et al., 2017; Shane et al., 2003) and the necessity to understand supply and demand enablers of CAI entrepreneurial entry to best foster productive entrepreneurship in extreme contexts. With a spotlight on Syrians in Damascus and Berlin, the eclectic theory of entrepreneurship (Verheul et al., 2001) is applied to analyze entrepreneurship motivation among conflict- and asylum-country dwellers. This paper therefore proposes a novel theoretical approach to analyzing CAI entrepreneurship motivation, combining macro and microsocial environmental factors (entrepreneurial opportunities and external resources) as well as internal entrepreneurial characteristics that shape the decision to engage in entrepreneurial activity (Naffziger et al., 1994; Wagner & Sternberg, 2004).

This serves as a response to Welter et al.'s call (2017) to diversify entrepreneurship research beyond simplified, dichotomous categorizations and idealized silicon-valley-like entrepreneurial models and Trehan, Higgins, and Jones' (2018, p. 364) call to utilize "innovative research approaches which address social science questions that make a difference to practitioner communities" and "marry the divergent world of academics, policy makers and small firms".

2.2. Entrepreneurship, Development and Humanitarian Crises

While entrepreneurs' role as catalysts of creative destruction (Schumpeter, 1942) and translators of innovation and new knowledge investments into commercialized outputs (Z. J.

Acs et al., 2009; Agarwal et al., 2010) largely contributes to economic growth, productivity, and social change in developed economies (Baumol & Strom, 2007), this role diminishes in less-developed or stable settings in comparison to its potential contribution to enhancing institutional structures (Naudé, 2011). Entrepreneurship is therefore a key facilitator for bottom-up development (Easterly, 2008; Schramm, 2010), where institutions gradually evolve and endogenously reform, achieving more sustainable outcomes through social, institutional and business entrepreneurial efforts (Jeffrey S. McMullen, 2011).

Those diverse roles of entrepreneurship are fulfilled by different types of entrepreneurs. Innovative entrepreneurs generate and commercialize new ideas, while replicative entrepreneurs launch new businesses regardless of whether similar ones exist in the market (Baumol, 2010). A similar typology is made by Minniti and Lévesque (2010, p. 308), differentiating “research-based entrepreneurs who are involved in commercializing original technological discoveries” from “imitative entrepreneurs who mobilize resources to expand existing markets”. Although entrepreneurship studies tend to hail the entrepreneur’s image as innovator, the role of the replicator is not to be underestimated. For instance, in cases where “returns to R&D expenditure are low, such as in many emerging economies, the presence of a high number of imitative entrepreneurs who increase competition and product supply is sufficient to generate economic growth” (Minniti & Levesque, 2010, p. 305). Accordingly, any individual who is in the process of establishing or has recently established a new business, regardless of the degree of innovativeness, is considered an entrepreneur throughout this paper.

With regards to the specific context of violent conflict, perhaps unexpectedly, business activity does not stop or even necessarily slow down. In fact, it appears that entrepreneurs in a conflict environment are capable of continuing their pre-conflict entrepreneurial journeys and even renew and create new entrepreneurial pathways through entering new (previously known or unknown) market sectors (Cheung & Kwong, 2017). While reduction in security, unwillingness of customers and suppliers to travel, inability to obtain licenses and market information, reduced levels of trust, increased difficulty to obtain bank loans, and risk of clashing with the government can hinder entrepreneurial activity (Gunther, 2013), conflict can present new business opportunities due to, among other reasons, reduction in regulatory supervision, establishing new transport routes, need for private sector involvement in security

maintenance, and that business sectors initially dominated by a certain group become open to others. The ability of entrepreneurs to recognize business opportunities and their desire and ability to bear the risk of seizing them facilitates the resilience of the private sector under such circumstances (Desai, 2011).

Though literature in the area is very limited, a few case studies provide additional insights. Research in Iraq illustrates that the post-conflict environment, marked by tremendous change, provides various business opportunities arising from large-scale reconstruction and access to new markets, emphasizing the importance of entrepreneurs' ability to innovate under unfavorable conditions and limited resource availability (Desai, 2011). Another study in Colombia shows an increase in entrepreneurial activity during conflict in regions hosting higher numbers of internally displaced persons (IDPs) due to the increase in demand for certain goods and services, while the proportion of self-employed decreases in areas with higher homicide and displacement rates (Bozzoli et al., 2011). Two studies from Bangladesh shows that regions where levels of terrorism are high yet are on the decline exhibit higher returns to business activities (Branzei & Abdelnour, 2010) while the share of business owners is lower in the more conflict-ridden region compared to the rest of the country (M. J. A. Chowdhury, 2011).

Conflict entrepreneurship indeed presents several benefits, including the reduction of socioeconomic inequality between social groups and providing new cooperation opportunities in pursuit of common economic benefit, enabling individuals to "redefine identities based on economics, not politics" (Tobias et al., 2013, p. 737), thus facilitating reconciliation, mutual dependency, as well as creating much-needed jobs (Killick et al., 2005). Some of the most prominent research in the field has been done by Wim Naudé (2007; 2009), who also mentions supplying (public) goods and services, facilitating the creation of a learning environment for future entrepreneurs, stimulating competition, diversifying economies, and enabling status-quo-disrupting endogenous change as key potential benefits of entrepreneurship in conflict and fragile states. However, Naudé follows Baumol (1990) in emphasizing the ubiquity of entrepreneurship in such circumstances, and that it can also be unproductive (e.g. rent-seeking) or even destructive and conflict-enhancing (e.g. organized crime) rather than peace-enabling. Accordingly, Naudé calls for efforts to shift entrepreneurship to productive forms through institutional reforms, improving market access

and logistical networks, investing in financial and human capital, and fortifying government support for the private sector, rather than simply working to increase general entrepreneurship rates in the conflict context.

As for CAIs attempting to start over elsewhere, entrepreneurship has received a modest share of scholarly attention compared to other migrants or ethnic minorities. Though migrants general appear to exhibit a higher probability of self-employment compared to locals (Rath & Swagerman, 2016; Xavier et al., 2013), the tendency to start a new business varies greatly in refugee case, perhaps contingent on the individual's ability to harness whatever (limited) resources the host environment provides after having been forced to leave abruptly, losing previously available resources and being unaware of available opportunities (see for example Kwong et al.'s (2018) work on Bricolage) . For instance, a study in the Ugandan capital shows that 94.8% of Congolese, 78.2% of Rwandan and 25.9% of Somali refugee study participants are self-employed (Betts et al., 2015) while another in Austria, the United Kingdom and the Netherlands shows that only 1.5% of Syrian refugees start their own businesses though 32% of the studied sample had experience with entrepreneurship back home (Betts, Sterck, et al., 2017).

Indeed, several challenges face aspiring refugee entrepreneurs. Recent research on Syrians in Jordan concludes that even refugees with entrepreneurial skills struggle to achieve recognition for their capabilities due to legal and financial constraints as well as a lack of social cohesion within the refugee community itself (Refai et al., 2018). Research in Belgium identified key barriers to refugee entrepreneurship to be market opportunities, access to entrepreneurship, human capital, social networks and the societal environments (Wauters & Lambrecht, 2008). Further research expands those barriers to include poor choice of market, lack of innovation, bureaucratic complexity, lack of accreditation of foreign credentials, difficulty in evaluating entrepreneurship policies, legal status restrictions, poor access to finance through formal and informal channels, lack of skills and knowledge, inadequacy of support initiatives, weak social connections and discrimination in the society and labor market (Rashid, 2018).

Nevertheless, in situations where those challenges are mitigated enough for new businesses to be founded by refugees, several benefits are reported. Those include boosting refugees'

psychological and emotional well-being and sense of belonging in their host community, enhancing independence from social welfare and foreign aid, empowering refugees through allowing them to make own decisions and take charge of shaping own lives, enabling refugees to provide employment opportunities to other refugees, finding and implementing innovative solutions to challenges stemming from refuge, enabling refugees to pursue political activism and engagement through their new businesses, and stimulating entrepreneurship in the host country itself (Betts et al., 2015; Brandt, 2010; de la Chaux & Haugh, 2017; S. K. Lee, 2018; Wauters & Lambrecht, 2008).

2.3. Motivation Behind Entrepreneurship

Several scholars attempted to investigate entrepreneurship motivation. A literature review identified achievement, challenge and learning, independence and autonomy, income security and financial success, recognition and status, family and roles, dissatisfaction, and community and social drivers as key motivations behind entrepreneurship (Stephan et al., 2015). Other studies view factors influencing the business start-up process from a macro lens, focusing on country-level determinants (such as culture, education, policy, institutions, and/or economic factors) of entrepreneurial activity rates (Arin et al., 2015; García, 2014; Thai & Turkina, 2014; Velilla & Ortega, 2017).

Nevertheless, a large number of studies classify entrepreneurship motivation as a dichotomy of opportunity versus necessity or pull versus push. Stoner and Fry (1982) were among the first to make such a distinction, explaining that individuals are either driven to found businesses to challenge themselves and seize opportunities or do so out of dissatisfaction with their current employment situation. The GEM similarly distinguishes “necessity entrepreneurship”, which is having to become an entrepreneur because you have no better option, from “opportunity entrepreneurship,” which is an active choice to start a new enterprise based on the perception that an unexploited or underexploited business opportunity exists” (Z. Acs, 2006, p. 97). Given that several large-scale studies on entrepreneurship are based on GEM data, the opportunity/necessity classification is quite prevalent, examples including Wong, Ho, and Autio (2005), McMullen, Bagby, and Palich (2008), Valliere and Peterson (2009) and Cheragi (2017).

This binary classification, however, is an arguably dangerous over-simplification of the complex processes behind entrepreneurship motivation which also dismisses that it could be a result of both necessity and opportunity drivers that vary over time (Stephan et al., 2015). In addition, the classification can be ambiguous and difficult to interpret by participants in entrepreneurship research studies, which could make its accurate measurement challenging (Dawson & Henley, 2012). Welter et al. (2017, p. 314) further criticize this binary classification approach, saying that “indeed, while easing the theoretical and empirical challenges of studying entrepreneurship, these distinctions do so at the cost of excluding most of the phenomenon by implicitly labelling it as uninteresting for scholarly study and theory building”.

This could be particularly alarming in challenged or low-resource contexts, where entrepreneurship is primarily labelled as necessity-driven with a key implication being that “the relationship between necessity entrepreneurship and economic development is most likely negative in low-income countries” (Z. J. Acs et al., 2008, p. 222), overlooking that those who might have initially sought entrepreneurship due to lack of other options can have growth aspirations (Langevang et al., 2012). This has led to a widespread trivialization of necessity entrepreneurs in literature, and in the words of Welter et al. (2017, p. 315), “we spend too little time worrying about what has caused the apparent lack of “opportunities” they face, and even less time wondering about what they may have done earlier or may do later in their work lives. We also typically fail to understand pathways through which ventures started from necessity might sometimes even innovate and grow.”

Entrepreneurship motivation studies in the CAI context appear to be limited. Examples include studies on Somali entrepreneurs in South Africa using ethnographic research methods (Thompson, 2016) and a single-case analysis of one Syrian refugee business owner in Lebanon (Bizri, 2017). On the other hand, studies employing larger datasets and statistical analyses commonly rely on secondary data sources, such as studies in Bangladesh (Chowdhury, 2011) and Colombia (Bozzoli et al., 2011). This could be an affirmation of the general lack of interest or perceived value to perform in-depth analyses of entrepreneurship (motivation) in the conflict or refugee context, as well as an indication of challenges in the feasibility and capacity to perform such studies.

2.4. Theoretical Framework

To provide a more holistic, realistic, and interpretable analysis of entrepreneurship motivation, it is important to utilize micro and macro lenses, consider personal characteristics and environmental features, combine multidisciplinary perspectives, and measure motivation using more complex constructs (Naffziger et al., 1994; Wagner & Sternberg, 2004; Welter, 2017). The eclectic theory of entrepreneurship is therefore employed as key foundation for this study. Developed by Verheul et al. (2001), this contemporary theory analyzes determinants of entrepreneurial activity from an economic angle while drawing on insights from sociology and psychology. Accordingly, the individual's decision to pursue entrepreneurship as an occupational choice is a function of entrepreneurial demand and supply. At the demand side lie entrepreneurial opportunities influenced by macroenvironmental factors such as government regulation and market need. On the contrary, the supply side consists of entrepreneurs who are able to seize the available opportunities. Supply therefore depends on the environment, namely external resources such as financial capital, educational programs and social networks that support entrepreneurs in developing the skills and capacities to seize entrepreneurial opportunities, as well as internal characteristics pertaining to the individual such as personality, ability and preference for entrepreneurship.

According to this eclectic theory, entrepreneurship motivation is an outcome of the individual's process of weighing the pros and cons, or rewards and risks, of engaging in entrepreneurial activity as opposed to paid employment or unemployment, taking into consideration opportunities, external resources, and internal characteristics (Verheul et al., 2001). This appears in alignment with Wagner and Sternberg's (2004) modelling of the decision to engage in entrepreneurship, viewed as an outcome of the individual's perception of their macro and microsocial environment as shaped by person-related factors. The macroenvironment provides entrepreneurial opportunities (e.g. through policies and economic trends) and external resources that influence entrepreneurial supply (e.g. through education and provision of financial capital), while the microsocial environment (e.g. support and influence from family and community) provides the individual with complimentary external resources. Person-related factors as defined by Wagner and Sternberg (2004) correspond to Verheul et al.'s (2001) definition of internal characteristics, namely the

individual attitude, trait, and capability portion of entrepreneurial supply. This paper accordingly evaluates entrepreneurship motivation as a function of the individual perception of the opportunities in the macroenvironment and the external resources in the macro and microsocial environment as well as internal characteristics/person-related factors. Entrepreneurship motivation therefore develops when the individual perceives higher rewards than risks when evaluating various entrepreneurial demand (opportunities) and supply (external resources and internal characteristics) factors.

This theoretical framing (Figure 2-1) provides a multi-angle approach to understanding CAI entrepreneurship motivation beyond simplified dichotomies. This provides a steppingstone

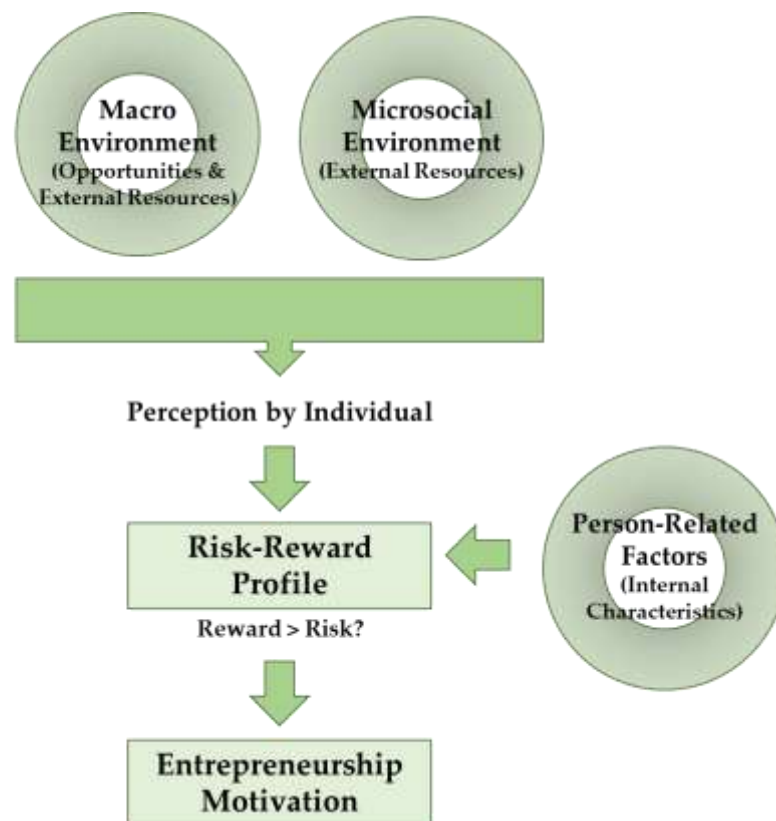


Figure 2-1: Theoretical framework rooted in the eclectic theory of entrepreneurship (Verheul et al. 2001) and inspired by Wagner and Sternberg's (2004) model of entrepreneurial decision making.

for diversifying future studies and enriching literature in the CAI entrepreneurship field. Additionally, this approach avoids labelling CAI entrepreneurs as merely “necessity-driven” with low potential for success. For instance, one can argue that the process of weighing entrepreneurial opportunities and external resources against internal characteristics is an

interplay between extrinsic and intrinsic motivational factors. Taking the lens of the self-determination theory (SDT) into perspective (Deci, 1971; Deci & Ryan, 2015, 1985; Ryan & Deci, 2000), motivation lies on a spectrum of autonomy and control, whereas an individual is autonomously motivated to perform an action when driven by their own will, which typically happens when they have the conviction, interest, and choice to do so. On the other hand, individuals can be driven by controlled motivation as a result of pressure, obligation, social expectations and lack of options. Autonomous motivation is a result of intrinsic factors or extrinsic ones that have been internalized and integrated, whereas controlled motivation is a result of purely external factors “forcing” the individual to behave in a certain manner. If our analysis reveals that CAIs are highly motivated by internal characteristics such as personality traits or entrepreneurial attitudes, one can argue that autonomy constitutes a large portion of the CAI entrepreneurship motivation, which is associated with improved success, quality, experience, psychological health, engagement with the world, and generally positive business outcomes (Deci et al., 2017; Foss et al., 2009; Preenen et al., 2016; Richer et al., 2006). Finally, understanding environmental factors that encourage CAIs to pursue entrepreneurial activity would also enable decision makers to identify where opportunities and resources need to be provided to stimulate productive CAI entrepreneurship.

2.5. Methods and Findings

This paper presents a unique analysis of the entrepreneurship motivation in the context of the Syrian crisis. Syria’s ongoing war began as a civil revolution in 2011, escalating to ultimately forcing over half of the population to be displaced and over half of the remaining individuals to be unemployed (UN OCHA, 2018). Meanwhile, the 2009 GEM report on Syria shows that (pre-conflict) Syrians demonstrate higher levels of perceived entrepreneurial capabilities and opportunities and lower fear of failure rates than the global average in addition to having an entrepreneurial intentions rate of 54% (compared to the global average of 18%) (Haddad et al., 2010). Recognizing this existing entrepreneurialism within the Syrian population combined with tremendous change in their environment within recent years, it was deemed important to analyze their entrepreneurship motivation taking both internal characteristics and environmental factors into account. The study subjects are Syrians living in Damascus

and Berlin who have decided to found new businesses after 2011, hence exemplifying conflict-affected entrepreneurs in two different environments, active conflict and refuge.

The study follows abductive reasoning, where a phenomenon is observed and the attempt is made to find the simplest probable explanations for it (Haig, 2005; Josephson & Josephson, 1994), which in this case is the realization that CAIs initiate entrepreneurial activity despite (or potentially because of) having been exposed to violent conflict. The abductive approach is not merely a mix of inductive and deductive approaches and is suitable where the researcher's goal is to discover new variables and relationships while refining and advancing existing theories (Dubois & Gadde, 2002). Essentially, "in studies relying on abduction, the original framework is successively modified, partly as a result of unanticipated empirical findings, but also of theoretical insights gained during the process. This approach creates fruitful cross-fertilization where new combinations are developed through a mixture of established theoretical models and new concepts derived from the confrontation with reality" (Dubois & Gadde, 2002, p. 559).

Accordingly, this paper seeks to explore why this phenomenon occurs by extending and refining the application of the eclectic theory of entrepreneurship to the CAI context, employing a combination of Systematic Literature Review (SLR) and Exploratory Factor Analysis (EFA) based on primary data collection. The SLR attempted to identify specific variables at the environmental and individual level that shape entrepreneurship motivation and integrating those variables into the theoretical framework. Those environmental (external supply and opportunities) and personal (internal characteristics) dimensions then formed the foundation for designing and applying a questionnaire to identify the specific motivational factors relevant to the study sample, as analyzed and extracted through EFA. The key motivational factors were then tested using Multivariate Analysis of Covariance (MANCOVA) and non-parametric methods to identify potential differences in the impact of those factors in the active conflict versus refuge sub-contexts.

To my knowledge, this is the first study in the field of entrepreneurship motivation, particularly in the CAI context, employing the eclectic theory of entrepreneurship, quantitative methods, primary data collection, as well as a comparative analysis of refugee entrepreneurs with entrepreneurs in a conflict country. This paper is therefore positioned to

highly contribute to both scholarship and practice through addressing the following research questions:

Q1: What factors shape the entrepreneurship motivation of CAIs?

Q2: Do factors behind entrepreneurship motivation have different impacts in active conflict versus refuge contexts?

2.5.1. Systematic Literature Review

A literature review was conducted to identify specific dimensions of entrepreneurship motivation. For this purpose, the SLR methodology was adopted (Tranfield et al., 2003), in which scholarly contributions were reviewed and analyzed in a structured, traceable and repeatable manner. This was based on a keyword search by title in Web of Science (WoS) and EBSCO Business Source Complete, two databases known for their comprehensive coverage of scholarly publications in the social sciences and business. Search phrases used were migrant entrepreneurship, refugee entrepreneurship, conflict entrepreneurship, migrant business, refugee business, conflict business, migrant self-employment, refugee self-employment, conflict self-employment, entrepreneurship motivation, entrepreneurship determinants, entrepreneurship factors, and entrepreneurship drivers.

The search criteria were limited to contributions in the English language and only peer-reviewed articles published in scientific journals were included in the review to maximize the validity and reliability of reviewed knowledge sources (Podsakoff et al., 2005). The review included resources published until June 2017, resulting in 280 articles that were uploaded into Citavi reference management software for organization and analysis. All article abstracts were scanned to determine relevance to the research topic at hand and a subset of 82 articles was accordingly thoroughly read and examined to identify general trends and characteristics of the research field and dimensions of entrepreneurship motivation.

A majority of those 82 articles are focused on European countries, with little research targeting countries in the Middle East or Africa where the majority of fragile states are present (OECD, 2018). With a whopping 3.3 billion individuals expected to live amidst fragility by 2050 (OECD, 2018), entrepreneurship research is currently failing to focus on several countries where understanding and supporting economic self-sufficiency is of utmost importance.

These countries additionally generate as well as host the largest portion of the over 68.5 million forcibly displaced individuals globally (OECD, 2018; UNHCR, 2018b). Interestingly, only 5 of the reviewed articles explicitly target refugee entrepreneurship, none of which is based in a fragile country setting.

The articles were then analyzed to uncover specific dimensions of entrepreneurship motivation for the purpose of developing a measuring tool to evaluate why CAIs are motivated to pursue productive entrepreneurship. Accordingly, specific motivational factors pertaining to the CAIs and their perception of environment were identified. With regards to the entrepreneur's environment, 63 reviewed articles appear to discuss political, economic, educational or cultural dimensions of the macro environment and their relationship with the rate of or motivation to start entrepreneurial activity. Those include economic stability, bureaucratic procedures, entrepreneurship education, entrepreneurial culture, and financial incentives to start a business. Another 30 articles focused specifically on the individual's social circle, such as having a role model, ability to secure funds from family or friends, and being part of an entrepreneurial community. As for person-related factors, a total of 59 articles appeared to focus on five dimensions, namely attitude, ambition, dissatisfaction, values and human capital. Specific examples include risk-taking, desire for social recognition and financial gain, inability to find suitable employment, personal value system and academic and professional experience.

2.5.2. Questionnaire Design

The SLR identified ten dimensions of entrepreneurship motivation, four pertaining to the macro environment (resources and opportunities) one pertaining to the microsocial environment (resources) and five pertaining to internal characteristics. Themes that seemed recurrent across various reviewed articles supported the formulation of specific questionnaire items within each dimension. In addition to questions on the nature of the company and founder's demographic characteristics, the end result was a 44-item questionnaire measuring why the individual is starting or has recently (in the past five years) started a new business, each on a 7-point Likert scale (Preston & Colman, 2000). The questionnaire items were formulated in a way that would be applicable in both an active conflict and a refuge context and were revised for specificity, inclusiveness and wording in consultation with four

sociology and entrepreneurship scholars in addition to two Syrian non-profit leaders. The questionnaire was then translated to Arabic by the author, a native Arabic speaker, in collaboration with a professional translator and a Syrian doctoral researcher to ensure language accuracy.

2.5.3. Data Collection

In order to access a suitable study sample, multiple collaborations were established with entrepreneurship support organizations in Damascus and Berlin. Damascus was chosen as the representative city for entrepreneurs in a conflict country, as it has relatively higher stability than the rest of the country despite its active state of conflict, which is assumed to correspond to higher levels of and potential for entrepreneurial activity (see Bozzoli et al., 2011; M. J. A. Chowdhury, 2011). Berlin was chosen as a representative city for Syrian refugee entrepreneurs being both Europe's start-up capital (Monteiro, 2018) and the capital of the European Union's largest refugee recipient (McCarthy, 2018). Berlin is also a city where about 50% of new companies were founded by migrants in 2014 (see T. Baron & Harima, 2019). The author also possesses relevant language skills and field work experience in both countries.

Collaborations in Damascus were established with two main organizations and initial meetings with their key leaders were held in Beirut, Lebanon. One organization is the Syrian Enterprise and Business Centre (SEBC), a business development support non-profit with entrepreneurship incubator services, and the other organization is a research center whose manager and employees wished to remain anonymous for security reasons. As for Berlin, the key collaborator was LOK.a.Motion GmbH, a non-profit consulting services and training center for potential refugee entrepreneurs. Data was collected between July and December 2017 from entrepreneurs affiliated with those organizations through both online and paper questionnaires.

A total of 157 completed questionnaires were collected. Questionnaires filled by non-Syrian refugees, those running their companies out of locations other than Berlin or Damascus, or those with companies older than five years were discarded. Hand-filled questionnaires that were not clearly legible or largely incomplete were removed as well. The responses from the remaining 139 questionnaires, 65 in Berlin and 74 in Damascus, were translated into English and organized into Microsoft Excel in preparation for data analysis.

2.5.4. Descriptive Statistics

The overall sample consists of Syrians who are 35 years old on average of which 21% are female entrepreneurs (10% in Berlin and 26% in Damascus). About 50% of the participants in each location have university degrees and they generally operate across a wide variety of industries. The sample consists of both innovative and replicative entrepreneurs, none of whom is engaged in destructive activities or operates a business informally (Baumol, 1990).

Although sample characteristics do not appear significantly different between the 2 locations, a few notes come to mind. First of all, though low in both locations, the number of female entrepreneurs in Syria is higher than that in Germany. This might not come as a surprise, however, as only 32.4% of first-time asylum applications from Syrians in Germany between 2012 and 2016 came from women (Worbs & Baraulina, 2017). Additionally, this difference can be attributed to the fact that more men than women generally enlist as fighters or lose their lives during wartime, hence women fill in their shoes in societies where men are traditionally the bread winners. Indeed, only 12% of Syrian civilians killed due to conflict are female (Syrian Network for Human Rights, 2019).

As for industry choice, entrepreneurs in both cities largely operate in similar sectors with differences in the education and community development, gastronomy and hardline Retail. The first category is comprised mostly of social empowerment and community building initiatives, which are arguably more important in a country undergoing social destruction than a stable one like Germany, hence the higher market need and entrepreneurial opportunities (therefore industry choice) in Syria. On the other hand, more Syrians in Germany choose to open Arabic restaurants or grocery stores, potentially seeing an opportunity to bring new ethnic products and services to the German market. Hard-line retail businesses, including trading products such as electronics, appliances and energy solutions, appear more common in Syria potentially due to higher need for such devices and services to reconstruct and rebuilt destroyed homes and areas. However, further research is needed to investigate and understand the differences in industry choice between the two locations.

2.5.5. Questionnaire Validation

To verify whether the questionnaire reliably measures what it was intended to measure, the Cronbach's Alpha (α) test was performed on the data. The test essentially calculates the

correlations between the different components of a dimension, basically “splitting data in two in every possible way and computing the correlation coefficient for each split. The average of these values is equivalent to Cronbach’s alpha” (Andy Field, 2007, p. 674). The resulting α values are reported in Table 2-1.

<i>Conceptual Model</i>	<i>Dimensions</i>	<i>α</i>
Macro Environment	Political Factors	0.73
	Educational Factors	0.78
	Cultural Factors	0.70
	Economic Factors	0.77
Microsocial Environment	Social Influence	0.72
Person-Related Factors	Attitude	0.79
	Ambition	0.74
	Dissatisfaction	0.71
	Social Values	0.51
	Human Capital	0.74

Table 2-1: Cronbach’s Alpha values measuring questionnaire reliability.

Generally speaking, scholars agree that an α value between 0.7 and 0.8 is acceptable (Andy Field, 2007). In this study, all dimensions have successfully ‘passed’ this test, indicating that they were reliably measured in the questionnaire, except for Social Values, which has a corresponding α of 0.51. This could be due to the fact that this particular dimension was measured only by two questionnaire items (Cortina, 1993), which is not enough to achieve high reliability. Therefore, items corresponding to the Social Values dimension have been eliminated from subsequent data analysis steps to ensure that only reliable questionnaire items feed into the final results. This dimension could be expanded to include additional items to enhance its reliability before the questionnaire can be re-used for future studies.

2.5.6. Factor Extraction

Statistical Package for Social Sciences (SPSS) software was used to analyze the data. In response to the first research question, what factors shape the entrepreneurship motivation of CAIs, the remaining 42 questionnaire items - corresponding to 9 dimensions - were modelled through EFA using Principal Axis Factoring (PAF). Along with Maximum Likelihood (ML), PAF is considered to give best results for factor extraction (Costello & Osborne, 2005). However, ML presumes that data is normally distributed and is more likely to produce improper solutions than PAF (Fabrigar et al., 1999), hence PAF was preferred. A decision was also made to rotate the data, a technique used to simplify and clarify the data structure (Costello & Osborne, 2005). Oblique rotation was preferred as it yields more highly reproducible and accurate results (Costello & Osborne, 2005). Promax rotation with default SPSS settings was thus conducted.

To select and refine the final factors, all questionnaire items that have absolute factor loadings of <0.4 were suppressed (Stevens, 1992). In other words, questionnaire items with weaker correlation to their respective factors were excluded from the analysis, where 0.4 is considered the minimum acceptable absolute value of the Pearson's correlation coefficient between the questionnaire item and respective factor. Additionally, both Kaiser's criteria and the scree plot method were used to decide which factors to maintain, as each method individually suffers from a few shortfalls (Costello & Osborne, 2005). Using Kaiser's criteria, ten factors were retained as each has an extracted eigenvalue > 1 . However, the scree plot displays a breaking point between the 4th and 5th factor, indicating that the top four factors are more suitable for retention. Accordingly, only the top four extracted factors were retained as the final result.

The strength of the data was evaluated as a final test of result reliability. The first step was to calculate the Kaiser–Meyer–Olkin measure of sampling adequacy (KMO) which indicates whether the sample size was enough to provide a stable factor solution (Andy Field, 2007). The test yielded a KMO value of 0.79, affirming high reliability and distinctiveness of the resulting factors. Additionally, the extracted communality values were examined - essentially measures of the amount of variance in each questionnaire item that can be explained by the extracted factors. Communality values in the range of 0.4-0.7 are typically accepted for social studies (Costello & Osborne, 2005). In the above analysis, questionnaire items associated with

the four extracted factors had communalities in the range of 0.41-0.78, except for one item, namely “I want to start a business to provide a product or service needed specifically by my community”, which was therefore removed from its associated factor. All factors are composed of several questionnaire items and no item cross-loadings were identified, which also indicates data strength. The final extracted factors are delineated in Table 2-2.

The first factor, explaining 22.7% of the variance in factor model, consists solely of person-related factors in a combination of innate individual characteristics, attitudes and desires, hence named Self-Realization. Components of this factor can be summarized as innovativeness, self-confidence, passion, talent, achievement, self-development and endurance and highly relate to personality and preferences (internal characteristics pertaining to entrepreneurial demand).

In second place, explaining 8.7% of the total model variance, is a factor comprised of aspects of the regulatory and educational environment, which emphasizes the importance of Supportive Institutions in shaping entrepreneurship motivation in conflict-affected scenarios. This factor demonstrates that a combination of quality academic and particularly entrepreneurship education (external resources) with regulatory incentives (opportunities) appears to support Syrians’ decisions to start own businesses.

To a lesser extent comes the contribution of Economic Milieu and Community Influence to CAI entrepreneurship motivation. The former includes access to financial capital and market opportunities (external demand and opportunities pertaining to financial capital), while the latter includes entrepreneurial culture and influence of the microsocial network. Together, these two factors explain 9.6% of the model variance.

<i>Questionnaire Items</i>	<i>Extracted Factors</i>			
<i>I would like to start a business...</i>	<i>Self-Realization</i>	<i>Supportive Institutions</i>	<i>Economic Milieu</i>	<i>Community Influence</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
... because I am innovative and enjoy working with original concepts	0.868			
... because I am confident in my success as an entrepreneur	0.779			
... because I am passionate about my business idea and/or field of work	0.752			
... to make the best use of my natural talent in this field	0.593			
... to feel that I have accomplished something	0.577			
... because failure does not scare me and I can handle difficult situations well	0.544			
... to improve my personal skills and knowledge	0.504			
... because I was motivated by the availability of entrepreneurship training opportunities provided specifically to my community		0.938		
...because I was motivated by the availability of general entrepreneurship training opportunities in my city/country of residence		0.717		
... because I was encouraged by benefits such as tax cuts and easy bureaucratic procedures		0.701		
... because I personally received entrepreneurship training and/or education that motivated me to do so		0.597		
... because I was encouraged by the legal and ethical work laws and structures (or lack of them)		0.547		
... because I was motivated by the general education level in my place of residence		0.461		

... because there is a growing demand for companies that provide my service/product in the country/city where I live			0.696	
... because I can secure funds from my friends, family, or acquaintances			0.484	
... because it is easy to expand my company abroad and work internationally			0.438	
... because it is easy to access funds in my country of residence (for e.g. through banks)			0.402	
... because of the economic stability (or lack of it) where I live			0.597	
... because it is common in my circle of friends, family members, or acquaintances to do so				0.941
... because entrepreneurship is so common in my culture and heritage				0.580
... because I have friends, family members, or acquaintances who can help advise and support me to start or run the business				0.552
... because of certain values and social obligations within my community				0.406

Table 2-2: Pattern matrix showing the top 4 extracted factors using PAF with Promx rotation. The numbers indicate factor loadings.

2.5.7. Comparative Analysis

Based on the EFA results, four factors were identified which support explaining the entrepreneurship motivation of Syrians both in their home country and in a refuge country. However, how Syrian locals differ from refugees in their entrepreneurship motivation has not yet been investigated. Realizing the vast environmental differences between Syria and Germany (Syria ranks as the world's 4th most fragile country while Germany is the world's 12th most stable country (Fund for Peace, 2018) based on economic, social, political and cohesion indicators), a hypothesis was formulated corresponding to each of the key factors to test whether they differ in their contribution to entrepreneurship motivation between Damascus and Berlin.

The factor Self-Realization appears in alignment with the SDT's definition of intrinsic motivation, namely "the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn" (Ryan & Deci, 2000, p. 70). I therefore assume that it does not necessarily differ between the two locations as it appears to be composed entirely of aspects that are not necessarily impacted by environmental differences. Accordingly, hypothesis one is as follows:

H1₀: Self-Realization differently impacts entrepreneurship motivation of Syrian locals in Damascus compared to Syrian refugees in Berlin.

H1₁: Self-Realization has a similar impact on entrepreneurship motivation of Syrians whether in Damascus or Berlin.

On the other hand, the factors Supportive Institutions and Economic Milieu depend on the individual's perception of their environment and are highly extrinsic in nature. Since the macro environment largely differs between Syria and Germany with respect to governance, regulatory structures, educational systems, development levels, and market needs, hence the presence of different entrepreneurial demand and supply factors, one can assume that those factors could differently impact entrepreneurs in the two countries. However, research also shows that refugees generally have limited access to education, finance, and markets compared to locals due to issues pertaining to language, credit history, and work permits, inter alia (Rashid, 2018). Moreover, refugees are often confronted with inadequacy of available entrepreneurship support initiatives, lack of targeted policy, and complicated bureaucratic

procedures (Rashid, 2018). Accordingly, one can assume that entrepreneurial opportunities in the German macroenvironment cannot be necessarily seized by Syrian refugees. Additionally, reduced regulatory supervision could support market entry in Syria (Gunther, 2013) while post-conflict reconstruction and availability of new markets could potentially provide new economic opportunities (Desai, 2011). Therefore, even if assumed that Germany has superior quality in several aspects of its macroenvironment, there is no evidence of whether this particularly influences entrepreneurship motivation for refugees it hosts. Accordingly:

H2₀: Supportive Institutions differently impact entrepreneurship motivation of Syrian locals in Damascus compared to Syrian refugees in Berlin.

H2₁: Supportive Institutions have a similar impact on entrepreneurship motivation of Syrians whether in Damascus or Berlin.

H3₀: Economic Milieu differently impact entrepreneurship motivation of Syrian locals in Damascus compared to Syrian refugees in Berlin.

H3₁: Economic Milieu have a similar impact on entrepreneurship motivation of Syrians whether in Damascus or Berlin.

With respect to the final factor, Community Influence, the impact on motivation is also expected to be equal in both cities. Although Syria is the entrepreneur's home country and is expected to be where their community and social circle are concentrated, living amidst conflict is expected to limit physical access to social networks (due to road blockages, security concerns, or displacement of community members). Additionally, use of communication technology could be restricted due to fear of being tracked, attacked and/or prosecuted. Moreover, "the increasing intensification and ethnicization of the conflict, in which power is more and more mobilized along ethnic and religious lines, is perceived as a major challenge for achieving sustainable peace in Syria" (Ragab et al., 2017, p. 38), realizing that civil conflict has caused significant fragmentations within the Syrian society. On the other hand, Germany has become the largest European recipient of Syrians since 2011 (Ragab et al., 2017), which can be presumed to have resulted in the formation of Syrian communities in Berlin within which (potential) entrepreneurs can be embedded and supported.

H4₀: Community Influence differently impacts entrepreneurship motivation of Syrian locals in Damascus compared to Syrian refugees in Berlin.

H4₁: Community Influence has a similar impact on entrepreneurship motivation of Syrians whether in Damascus or Berlin.

The factor scores associated with the four factors were calculated using the regression method for each individual questionnaire respondent (Andy Field, 2007) then tested for normality and homogeneity of variance. The Kolmogorov-Smirnov and Shapiro-Wilk test, used to measure the normal distribution of data within the groups being compared, yielded significant results for some groups but not others. This indicates that some data groups are normally distributed while others are not. Additionally, the Levene's was used to confirm whether group variances are equal. The test yielded insignificant results at significance level (p) = 0.05 for three factors and significant results for one, asserting that group variance is homogenous for all factors except Economic Milieu.

The decision was then made to use MANCOVA to test for the presence of significant differences between the two group means (Berlin vs. Damascus) on the four dependent variables. Given that group sizes are fairly equal, it is expected that MANCOVA performs robustly against violations of normality and variance homogeneity assumptions (Andy Field, 2007; Pallant, 2013). Additionally, MANCOVA allows for controlling for the effect of additional variables, or covariates, which could otherwise potentially interfere with the dependent variable. Since the percentage of female entrepreneurs largely differs between Berlin (10%) and Damascus (26%), gender was considered a covariate in the analysis. Pillai's Trace was chosen as the MANCOVA statistic to be reported due to being the most robust to violation of test assumptions (Andy Field, 2007). Pillai's Trace returned a value of 0.035 at 0.502 significance, which indicates that there is no difference between the levels of independent variables between the two countries.

Additionally, a non-parametric test, one which does not rely on normality and variance homogeneity assumptions, was used to confirm the MANCOVA findings. The Mann-Whitney U test used therefore applied. With all resulting significance levels higher than 0.05, the results indicate that indeed, all tested factors appear to have a similar degree of effect on Syrian entrepreneurs regardless of their current location. Therefore, we conclude that

hypotheses H1₁ – H4₁ are all supported, rejecting the null hypotheses. Results of MANCOVA and the Mann–Whitney U test are summarized in Table 2-3.

	<i>Significance</i>			
<i>Factor</i>	<i>MANCOVA - Pillai's Trace</i>	<i>MANCOVA - Tests of Between-Subject Effects</i>	<i>Mann-Whitney U Test</i>	<i>Interpretation</i>
<i>Self-Realization</i>	0.502	0.538	0.062	The distribution of Self-Realization Score is the same across country groups
<i>Supportive Institutions</i>		0.402	0.248	The distribution of Supportive Institutions Score is the same across country groups
<i>Economic Opportunities</i>		0.891	0.843	The distribution of Economic Opportunities Score is the same across country groups
<i>Community Influence</i>		0.082	0.211	The distribution of Cultural Influence Score is the same across country groups

Table 2-3: MANCOVA and Mann-Whitney U test results showing that the effect of all 4 factors is the same across both cities in the analysis.

2.6. Discussion and Conclusions

Entrepreneurship studies have given little focus to contexts of conflict and refuge, and even less to the motivation of CAIs to pursue entrepreneurship. This paper presents a novel approach to researching and classifying entrepreneurship motivation in extreme circumstances through a thorough quantitative analysis of Syrians in Damascus and Berlin, accounting macro and micro motivational factors pertaining to the individuals themselves and their perception of environment. The paper applies the eclectic theory of entrepreneurship's perspective (Verheul et al., 2001) combined with Wagner and Sternberg's (2004) conceptual model of entrepreneurial decision making, thus viewing entrepreneurship motivation as a result of a weighed individual analysis of opportunities, external resources,

personality characteristics, individual capabilities and preferences rather than the traditional opportunity/necessity divide. Therefore, the paper represents a response to Welter et al.'s (2017) call to embrace diversity in entrepreneurship research and investigate and foster entrepreneurship beyond Silicon Valley models and dichotomous definitions while incorporating a research and practice view in interpreting the results (Trehan et al., 2018).

Through a combination of SLR, EFA and mean comparisons, four key motivational factors for Syrian entrepreneurs were uncovered, namely Self-Realization, Supportive Institutions, Economic Milieu and Community Influence, all with similar impacts on Syrians in both Damascus and Berlin. Self-Realization is a mix of questionnaire items on innovativeness, confidence, passion, talent, accomplishment, endurance and self-improvement and explains 22.7% of variance in the factor model. Supportive Institutions combines questionnaire items on entrepreneurship education and training, regulatory incentives and legal systems, Economic Milieu combines items on access to finance, company growth and market need, while Community Influence combines items on community support, entrepreneurial culture and social obligations. Those environmental factors collectively account for 18.4% of variance in the factor model. Those key findings are illustrated in Figure 2-2.

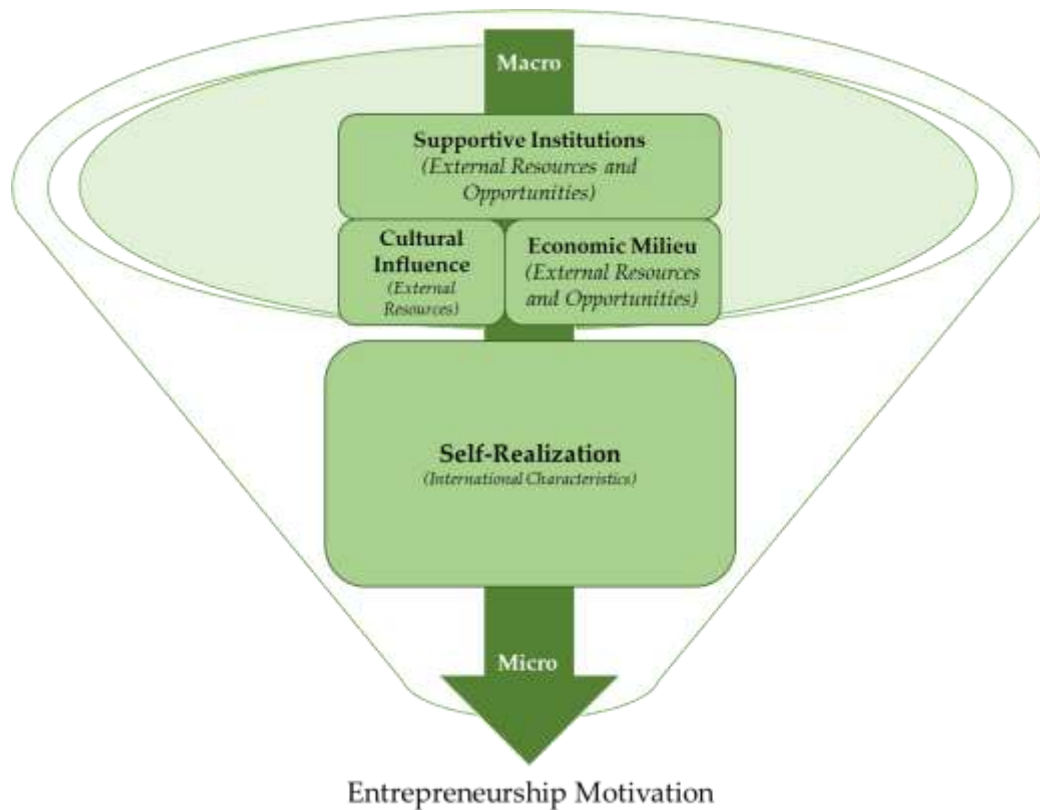


Figure 2-2: A demonstration of the key environmental and person-related factors associated with CAI entrepreneurship motivation.

At the macroenvironmental level, results show the importance of entrepreneurship education, regulatory facilitations, market opportunities and access to finance in motivating Syrians to pursue entrepreneurship. This emphasizes the importance of easing regulatory barriers to entry to growing market sectors for CAIs as well as providing them the proper education and training needed to initiate and maintain successful businesses (Rashid, 2018), indicating that entrepreneurship education alone cannot support entry into entrepreneurship without provision of adequate opportunities through regulatory and institutional support (Mayombe, 2018). This might be an easier task in stable countries as compared to active conflict zones where government and institutional structures suffer from fragility and corruption. Therefore, in the violent conflict sub-context, I suggest directly supporting civil society organizations and local citizens rather than government entities to achieve longer-term development and peace building and shifting focus towards bottom-up rather than merely top-down approaches to development (Easterly, 2008; Schramm, 2010). This does not necessarily call for increased funding to development programs, rather a reallocation of a larger portion of the billions of

aid dollars towards efforts with sustainable positive outcomes rather than temporary relief (OECD, 2018).

Despite the significant difference in institutional stability between Germany and Syria, I find no apparent difference of the impact degree of Supportive Institutions and Economic Milieu on entrepreneurship motivation of CAIs between the two countries, which could be attributed to several reasons. Firstly, although the availability of quality education, entrepreneurial funding, market opportunities, and supportive regulatory structures are expected to be higher in Berlin compared to Damascus, their access to refugees is potentially too limited (Rashid, 2018). In other words, external resources and opportunities available to the general German population do not apply to refugees. Language barriers could prevent refugees from attending professional courses and lack of credit history restricts access to bank loans (Rashid, 2018). This would substantiate the need for enhanced access to entrepreneurial support structures for refugees in stable host countries in addition to strengthening refugee integration programs - in other words, enhancing displaced CAI access to entrepreneurial opportunities and resources already existing in the general market.

At a largely microsocial level, Community Influence appears to provide entrepreneurial resources that motivate CAIs to pursue entrepreneurship. Social relationships are proven to support entrepreneurship as they provide individuals with necessary market information, support, and resources needed throughout their start-up process (Abou-Moghli & Al-Kasasbeh, 2012). Additionally, being surrounded by an entrepreneurial family and social circle provides the individual with the vision and skills to pursue entrepreneurship (Altinay, 2008). The similar degree of effect of Community Influence on Syrians' entrepreneurship motivation in Damascus and Berlin could stem from the societal disintegration in Syria and strong ethnic community networks in Berlin, which somewhat equalizes the amount of support and influence received from the community by the entrepreneurs in both cities.

At the micro level, I follow the DST's definition of intrinsic motivation as "the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn" (Ryan & Deci, 2000, p. 70), thus conclude that the factor Self-Realization is comprised solely of intrinsic and therefore autonomous motivation. The factors Supportive Institutions, Economic Milieu and Community Influence, however, all pertain to how the

entrepreneur perceives and is influenced by the environment, and are therefore considered extrinsic motivational factors, in other words rewards and punishments/risks, that may or may not be internalized to some degree. Therefore, the majority of CAI entrepreneurship motivation appears to be autonomous (given that 22.7% of motivation is explained by Self-Realization and the remaining three factors explain 18.4% of the motivation).

This key finding has important implications. Realizing that entrepreneurship motivation of Syrians appears more autonomous than controlled shatters the notion that entrepreneurs in conflict and refuge have low growth ambitions and chances of success or are inherently disempowered individuals with no true power of choice behind their business decisions. Autonomous motivation is associated with positive business outcomes such as higher knowledge sharing (Foss et al., 2009), higher employee satisfaction and lower burnout (Richer et al., 2006), higher profitability in small firms (Preenen et al., 2016) and generally enhanced work performance and commitment (Deci et al., 2017). This stresses the value of investment in researching and supporting entrepreneurship in conflict and refuge contexts. Additionally, this calls for explicitly integrating SDT motivational measures in future studies to clearly identify autonomous versus controlled motivational factors and uncover additional previously neglected facets of entrepreneurial decision-making in the CAI, a theory rarely explored in entrepreneurship studies apart from a few exceptions (see Al-Jubari et al., 2017 as an example).

2.7. Limitations

The quantitative study design enabled initial exploration and identification of key factors associated with pursuing entrepreneurship in conflict and refuge but does allow for concrete interpretation of findings. Moreover, only key motivational factors were extrapolated and considered for future investigation, which collectively explain about 50% of the entrepreneurship motivation. Hence, the study findings cannot be considered all-encompassing, rather a steppingstone on which further research can be built. Additionally, this research was precisely conducted on Syrians in Damascus and Berlin, hence findings should be only generalized to other contexts with care. It is suggested to replicate the study beyond the Syrian crisis as well as considering additional conflict-affected scenarios, such as

IDPs and refugees in neighboring and fragile countries, employing mixed-methods and robust analyses.

Furthermore, I realize that the results of hypothesis testing were all insignificant, indicating no difference between entrepreneurship motivation in the two studied sub-contexts, which could be argued is due to the small size of subsamples (i.e. hypothesis testing could have yielded significant differences had the sample size been increased). However, obtaining data access was a challenge. Security concerns led several Syrian organizations to decline collaboration with a foreign university and to low questionnaire response rates. Collecting data in Berlin was also hindered as German refugee entrepreneurship support organizations are mostly start-ups themselves and seemed overwhelmed with establishing their practical operations rather than prioritize academic research. This led to months of networking and meetings with potential study collaborators to find suitable partners and establish the trust and confidence needed for collaboration. Additionally, entrepreneurs were given the option to fill the questionnaire anonymously on paper then hand it in directly to the trusted organization with which they are affiliated rather than the researcher, which increased the participation rate. Nevertheless, a key goal of the study is to provide new variables and concepts for future testing, and researchers are encouraged to test the resulting four entrepreneurship motivation factors for CAIs on larger sample sizes and different contexts.

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**PART THREE: A HUMAN
CAPITAL ASSET ANALYSIS
DURING STARUP INITIATION
AND EARLY GROWTH**

3. Founder Personalities, Behaviors and New Venture Success in Sub Saharan Africa

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Rashid, L., Alzafari, K., & Kratzer, J. (2020). Founder Personalities, Behaviors and New Venture Success in Sub-Saharan Africa. <i>Technological Forecasting and Social Change</i> , 151, 119766. https://doi.org/10.1016/j.techfore.2019.119766 .

Facing heightened levels of political instability and institutional fragility, several sub-Saharan African countries have been responding with innovation policies and entrepreneurship support structures. With little scholarly knowledge on who those entrepreneurs are at an individual level, however, the ability to effectively support innovative new ventures in some of the world's most compromised regions would remain limited. Based on a sample of 232 entrepreneurs, this study attempts to enlighten the relationship between personality characteristics of entrepreneurs and their behaviors and subsequent success. This study thereby extends the entrepreneurship literature applying the Five-Factor Model of Personality to a new context while enriching knowledge on the personality-behavior relationship in entrepreneurship. Several findings and theoretical concepts are synthesized while evaluating new venture success from a behavioral lens among largely innovative, social-driven entrepreneurs in sub-Saharan countries, providing important implications for research, policy, and practice.

Keywords: African Entrepreneurs, Big Five, Entrepreneurial and Managerial Behaviors, Start-up Success, Fragile States

Highlights:

- This article focuses on understanding how personality characteristics relate to entrepreneurial and managerial behaviors among sub Saharan African entrepreneurs.
- The article employs linear regression modeling to assess the big five predictability of founder behavior and an independent sample t-test to assess behavior's predictability of entrepreneurial success.
- Conscientiousness and agreeableness appear to be the strongest personality predictors of entrepreneurial success.
- Country fragility plays a role in moderating the personality-entrepreneurial behavior relationship.
- Customized, context-appropriate entrepreneurial support approaches are needed.

3.1. Introduction

According to estimates by the Organization for Economic Cooperation and Development (OECD), 24% of the world population currently dwells in fragile states, the majority of whom are located in the African continent, with the number expected to increase to 3.3 billion individuals by 2050 (OECD, 2018). While this evidently calls for sustainable, bottom-up institutional development approaches beyond temporary relief (Easterly, 2008; Schramm, 2010), the lack of political stability influences business activity in Africa, with international investors directing their focus towards safer countries (Ratten & Jones, 2018). Some African countries employ a system of micro-credits (e.g. Kato & Kratzer, 2013), though this also requires moderate political stability and the satisfaction of basic physiological human needs.

Regardless of the challenges, “most of the countries in sub-Saharan Africa champion the development of small-and medium-sized enterprises (SMEs) as a conduit to the alleviation of poverty, the generation of employment, and the promotion of national economic development” (Robson et al., 2009, p. 331). However, and despite an increased research focus on entrepreneurship and innovation in Africa over the past years (e.g. Asongu, Nwachukwu, & Orim, 2018; Dana, Ratten, & Honyenuga, 2018; Fu, Mohnen, & Zanello, 2018; Grimm, Knorringa, & Lay, 2012; Naudé, 2017), scholarly knowledge of the personal characteristics of founders in Africa, and in fragile states in general, remains quite limited. Realizing the context-specificity of personal characteristics and the impact of cultural and environmental variations on their manifestation and expression (McCrae, 2002; McCrae & Terracciano, 2005; Tett & Guterman, 2000), conclusions on entrepreneurial personality and behavior from western or stable contexts cannot be simply extended to African or fragile contexts.

Meanwhile over the last two decades, personality in business research has been largely investigated through the Five Factor Model (FFM) which posits five basic dimensions of human personality commonly known as the big five, namely *Openness*, *Conscientiousness*, *Extraversion*, *Agreeableness* and *Emotional Stability* (Barrick & Mount, 1991; Costa & McCrae, 1992; Gosling et al., 2003; McCrae & Costa, 2003). With relation to entrepreneurial success, however, scholars have thus far primarily focused on the founder personality’s relationship to measures of firm performance (Ciavarella et al., 2004; Hachana et al., 2018; Matyka et al., 2012; H. Zhao et al., 2010; L. Zhao & Jung, 2018; M. Zhou et al., 2017) rather than indicators of

entrepreneurial success at the individual level. Given that long-term success of new ventures is largely the result of founder behaviors (Bird & Schjoedt, 2009; Kodithuwakkua & Rosa, 2002) and the variation of success definitions among different entrepreneurs (Ettl & Welter, 2012; Reijonen, 2008; Sarasvathy, 2004), a behavioral approach to entrepreneurial assessment is certainly needed.

This research represents one of the first studies on the personality-behavior relationship in entrepreneurship and the first study addressing this topic in this particular region, employing data gathered across several sub-Saharan countries. The study builds on a synthesis of different theories, develops eight hypotheses and tests them based on a sample of 232 entrepreneurs primarily using multiple regression modelling. The results show that entrepreneurial and managerial behaviors do indeed correlate with firm performance and that conscientiousness, extraversion and agreeableness positively relate to entrepreneurial behavior moderated by country fragility. Emotional stability appears to also predict entrepreneurial behavior, though the effect vanishes when accounting for contextual moderator variables. Managerial behaviors, on the other hand, are positively predicted by conscientiousness and agreeableness, whereas openness appears to have a statistically significant U-shaped relationship to managerial behaviors.

3.2. Theory and Hypotheses

3.2.1. Entrepreneurial Success from a Behavioral Lens

Entrepreneurial success is often measured through firm performance indicators such as wealth attainment and firm growth (Fried & Tauer, 2009; Jeffrey S. McMullen & Shepherd, 2006; Unger et al., 2011). However, using firm performance as proxy for entrepreneurial success could be misleading given that firm failure could enhance an entrepreneur's chance of success on the long-term (Sarasvathy, 2004). Research also shows that different entrepreneurs have heterogeneous goals and definitions of success (Ettl & Welter, 2012; Hayter, 2011; Reijonen, 2008; Sarasvathy, 2004), which could explain why some financially underperforming companies persist for a very long time (Sarasvathy, 2004). Additionally, it may be inappropriate to evaluate entrepreneurial success based on firm-level outcomes in cases where it is too early for such outcomes to have manifested, or in cases, as in some fragile

countries, where bookkeeping and firm performance documentation practices are underrated or underused (e.g. Maseko & Manyani, 2011).

Therefore, it appears worthwhile to evaluate entrepreneurial success from a behavioral perspective, recognizing that “human behavior involved in finding and exploiting entrepreneurial opportunity through creating and developing new venture organizations” ultimately results in enhancing innovation, stimulating competition and creating new jobs and revenue streams (Bird & Schjoedt, 2009, p. 380). Indeed, the behavior of entrepreneurs is seen as “the proximal individual-centric cause of venture outcomes (e.g., existence, sales, products, survival, and growth)” (Bird et al., 2012, p. 890) and several scholars attempted to validate behavior’s correlation with firm success. For example, Chandler and Jansen (1992) find that behaviors such as seizing opportunities in familiar domains, adapting to business demands, and obtaining the necessary education and expertise positively correlate with venture growth and profitability. Other behaviors such as those related to gathering and utilizing resources and long-term planning have also been found to predict long-term firm performance (Man & Chan, 2002) and those pertaining to seeking feedback, researching potential clients and relationship development appear more prevalent in successful ventures in comparison with struggling ones (Katre & Salipante, 2012).

The significance of an entrepreneur’s behavior becomes more pronounced in challenged environments in accordance with Carsrud and Krueger (1995), who claim that entrepreneurs’ behaviors (e.g. opportunity recognition and risk-taking) increase in importance with socioeconomic environmental instability. Ahmad et al. (2010) extend this argument and suggest that the exhibition of appropriate behavior by startup founders has the potential to reduce the negative impacts of environmental fragility and hostility on their business success. Kirzner (1984) argues that success in a limited-resource environment is determined by entrepreneurial capabilities, such as those pertaining to opportunity perception and resource mobilization, as well as managerial capabilities that optimize value creation from those scarce resources. Those capabilities are highly related with entrepreneurial and managerial behaviors respectively.

Hypothesis 1 (H1): Founder behaviors differ between highly successful and less successful African entrepreneurs.

3.2.2. Personality and Behavior in Entrepreneurship

Personality comprises psychological qualities that influence and partially explain consistent and differentiating patterns of feeling, thinking and behaving (Cervone & Pervin, 2012), therefore predisposing individuals to exhibit particular actions and, given their persistence over long periods of time, have astonishing capabilities to predict long-term behavior (McCrae & Costa, 2003). Of all taxonomies and measures of personality traits, the FFM is considered the most valid, consistent and reliable (Cervone & Pervin, 2012; Goldberg, 1993). Fathered by Tupes and Christal (1961) and heavily advanced by McCrae and Costa (1985, 1987), five key personality factors, each encompassing a larger number of specific traits, have been constructed.

Costa and McCrae's (1992) manual describes the FFM components in detail. A person high in openness is one who is creative, imaginative, untraditional, intellectually curious, has broad interests and tends to seek new experiences. A conscientious individual is reliable, diligent, organized, self-disciplined, perseverant, hard-working and has high achievement motivation. Extraversion refers to being sociable, talkative, affectionate, active, person-oriented and optimistic, while agreeableness embodies trustfulness, soft-heartedness, helpfulness, gullibility, compassion and forgivingness. Finally, an emotionally stable person is one who is calm, satisfied, secure, relaxed, and resilient.

Studies on the big five in entrepreneurship have been mainly concerned with personality and entrepreneurial intentions (Antoncic et al., 2015; H. Zhao et al., 2010), entrepreneurial opportunity identification (Ardichvili et al., 2003), venture performance (Hachana et al., 2018; H. Zhao et al., 2010; L. Zhao & Jung, 2018) and venture life cycle (Ciavarella et al., 2004), paying little explicit attention to entrepreneurial and managerial behaviors. Notable exceptions include the works of Rauch and Frese (2000, 2007), who model specific personality traits (e.g. need for achievement and locus of control) as predictors of entrepreneur's goals, strategies and actions that ultimately result in business success, though they claim that general FFM components are too unspecific to produce reliable results as predictors of entrepreneurial behavior. However, with a myriad of studies confirming the predictive abilities of FFM components to workplace behaviors in a variety of settings (see Penney, David, et al., 2011), there is no reason to believe that entrepreneurship is an exception.

The Openness dimension, for instance, positively correlates with creative behaviors as measured by tests of divergent thinking (McCrae, 1987). Openness additionally leads to higher diversity in network communication and information flows, which plays a further role in enhancing creative behaviors as studies among lead users have shown (Kratzer & Lettl, 2009; Kratzer et al., 2016). Openness has also been shown to strongly correlate with networking behaviors including creating, maintaining and using new contacts (Wolff & Kim, 2012) as well opportunity recognition behaviors (J. Zhou & George, 2001). Additionally, the management of a successful new company requires constant adaptation to its dynamic environment, which requires adaptive behaviors that are expected to be influenced by openness. In a fragile country, where the need for adaptation to constant contextual challenges and creativity in problem-solving might be even higher than in stable environments, openness could play a particularly important role. Accordingly, we expect a positive link between openness and entrepreneurial and managerial behaviors.

Hypothesis 2 (H2): Openness is positively related to entrepreneurial and managerial behaviors.

The start-up process in particular requires flexibility in combination with well-coordinated project and time management, the latter being related to conscientiousness. Many scholars indeed regard conscientiousness to be the most important personality dimension for job performance and a primary work motivation variable (Barrick & Mount, 1991; Gellatly, 1996). A meta-analysis by Hurtz and Donovan (2000) additionally revealed that with respect to task performance, job dedication and interpersonal facilitation, measured by (behavioral) indicators such as use of equipment, commitment to objectives and being a team-player respectively, conscientiousness appears to be a consistently valid indicator. This dimension has also been found to positively correlate with proactive behaviors (Bateman & Crant, 1993). The need for organization, discipline and diligence might be especially elevated in environments with vague institutional requirements and systemic hurdles, as would be expected in more fragile contexts. In short, this characteristic appears necessary to enhance entrepreneurial and managerial behaviors and subsequent successful entrepreneurial outcomes.

Hypothesis 3 (H3): Conscientiousness is positively related to entrepreneurial and managerial behaviors.

In turn, people with high extraversion scores are receptive to ideas and emotions (Costa & McCrae, 1992). Markman and Baron (2003) mention the importance of building networks with suppliers and customers in an industry as a crucial part of the start-up process, which we expect to correlate with extraversion in agreement with Wolff and Kim (2012) and Zhao et al. (2010). These networking behaviors could also involve negotiation with stakeholders, interacting with own employees and team members and receiving advice from others. The ability to build strong networks and relationships could be more pronounced in fragile environments, where dependence on social networks and community support could be instrumental in overcoming environmental challenges and achieving entrepreneurial success (e.g. Abou-Moghli & Al-Kasasbeh, 2012; Dana et al., 2019) and is even linked to enhanced resource mobilization and opportunity recognition behaviors and capabilities (see Bhagavatula et al., 2010). Extraversion has also been found to predict proactive behavior (Bateman & Crant, 1993) as well as transformational leadership behaviors (Judge & Bono, 2000). A meta-analytic study by Judge et al. (2002) shows extraversion to be the strongest personality predictor of management success, which could be an indicator of proper managerial behaviors. Because of these findings, we expect a positive correlation with the entrepreneur's entrepreneurial and managerial behaviors.

Hypothesis 4 (H4): Extraversion is positively related to entrepreneurial and managerial behaviors.

Agreeableness is also a dimension which describes interpersonal behavior, more specifically referring to the tendency to be pleasant in social situations. Individuals high on agreeableness are characterized as altruistic, empathetic, considerate, supportive and friendly (Graziano & Eisenberg, 1997), all of which are characteristics that might especially be helpful where social interactions and solid networks are needed to compensate for challenges in the surrounding environment. Agreeableness has been shown to correlate positively to transformational leadership (Judge & Bono, 2000) and the attraction of venture capital (Cable & Shane, 1997). Agreeableness is also shown to positively predict internal networking behaviors within a company (Wolff & Kim, 2012). We therefore expect a positive relationship between agreeableness and behaviors needed for entrepreneurial success.

Hypothesis 5 (H5): Agreeableness is positively related to entrepreneurial and managerial behaviors.

Emotional stability refers to the ability to have balanced feelings about common experiences and to act in a rational, reflected manner. Individuals who are less emotionally stable are more reactive to stress and have less endurance, making emotional stability particularly valuable in a highly stressful environment. Being capable to withstand emotional stress at the workplace is vital when starting a new business anywhere, and regions where institutional support is lacking might induce even higher levels of workplace stress. Meta-analytical findings indicate a positive relationship between emotional stability and job performance (Barrick et al., 2001). Additionally, running a business successfully requires a continuous learning process (Judge et al., 2002) and we expect more emotionally stable entrepreneurs to be more effective learners. With respect to behaviors pertaining to equipment use, being a team-player and dedication to work, emotional stability has also been found as an important predictor (Hurtz & Donovan, 2000). For this reason, we expect emotional stability to be a positive indicator of entrepreneurial and managerial behaviors.

***Hypothesis 6 (H6):** Emotional Stability is positively related to entrepreneurial and managerial behaviors.*

3.2.3. Context and Trait Activation

Differences in personality characteristics (McCrae, 2002; McCrae & Terracciano, 2005) and workplace behaviors (e.g. Middermann & Rashid, 2019) have been noted between countries and regions, substantiating the importance of analyzing them in the African context rather than merely drawing inferences based on studies in western countries. One prominent explanation is the trait activation theory (Judge & Zapata, 2014; Tett & Burnett, 2003; Tett & Guterman, 2000), where the expression of specific personality traits is deemed contingent upon stimuli and cues in the surrounding work environment. According to this theory, a workplace behavior would only result from a personality trait if strong and relevant task-, social- and organization-related stimuli are present.

Clearly, the nature of job responsibilities, social expectations and organizational climates could vary significantly between countries with differing levels of institutional stability. For instance, one might expect that certain aspects of a fragile-country entrepreneurial environment, such as poorer access to basic technical services (e.g. internet connection or electricity supply), higher threats of physical violence and asset theft, lack of regulatory

transparency and increased corruption as well as increased social inequality and discrimination, could trigger different expression pathways of personality characteristics compared to entrepreneurs operating in a highly stable environment. In other words, country fragility might have an impact on the personality-behavior relationship.

Hypothesis 7 (H7): *Country fragility impacts the relationships between personality dimensions and entrepreneurial and managerial behaviors.*

Differences in workplace environmental cues are also expected to differ with varying types of companies. For instance, the nature of work-related tasks and social interactions could be influenced by the age of the company as well as the nature of developed products or services (e.g. social orientation or technology-based products). Therefore, company type is also expected to impact the personality-behavior relationship.

Hypothesis 8 (H8): *Company type impacts the relationships between personality dimensions and entrepreneurial and managerial behaviors.*

All the aforementioned hypotheses and conceptual framework of this study are summarized in Figure 3-1.

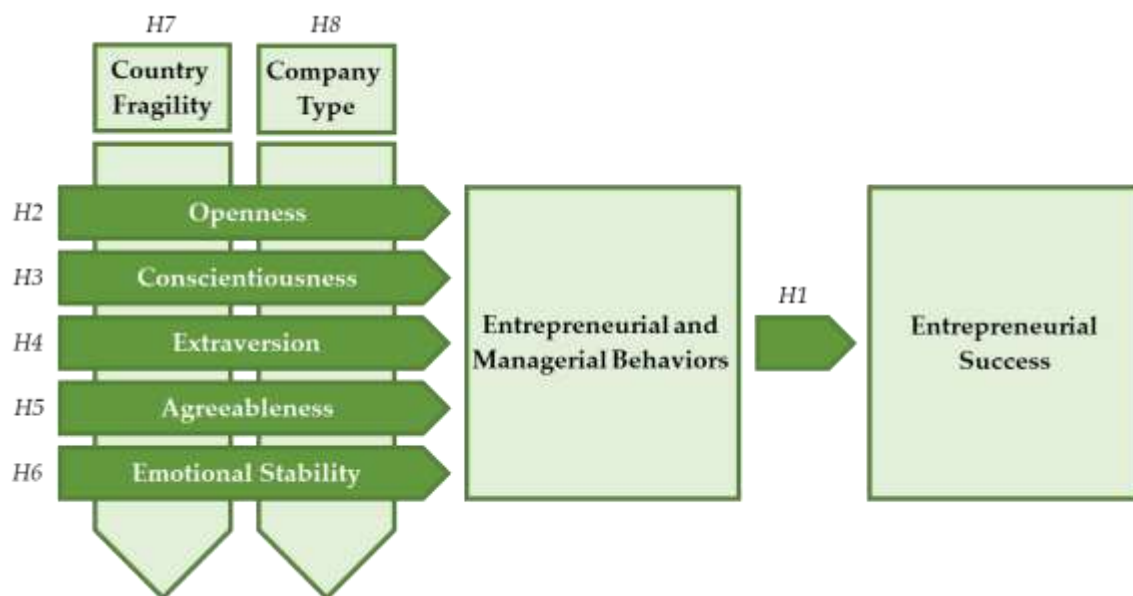


Figure 3-1 Conceptual framework delineating the expected personality-behavior-success relationship.

3.3. Data and Methods

3.3.1. Variables

3.3.1.1. Dependent Variables

A questionnaire was designed to test the aforementioned hypotheses. To measure entrepreneurial and managerial behaviors, we adopted the behavioral measures of performance created and validated by Brown and Hanlon (2004, 2016). These so-called Behavioral Observation Scales (BOS) are proven to account for task complexity, clarify subsequent necessary action and allow for proper coaching and support while generally exhibiting high levels of inter-rater consistency and correlation with non-behavioral performance measures (Brown & Hanlon, 2016; G. P. Latham et al., 2005; G. Latham & Wexley, 1994; Wiersma et al., 1995).

Brown and Hanlon's BOS has been chosen as it specifically assesses entrepreneurial and managerial behaviors which closely relate to entrepreneurial and managerial capabilities needed for new venture success in a challenged environment as identified by Israel Kirzner (1984). Brown and Hanlon (2016) classify founder behaviors into entrepreneurial ones which are primarily needed while starting up a company and managerial ones that are important for early company growth. Entrepreneurial behaviors are accordingly considered those related to the founder's acquisition of proper skills and educational background, opportunity identification, dedication to business, resource mobilization, risk-taking and negotiation, comprising a total of 23 questionnaire items. Managerial behaviors, on the other hand, are comprised of those pertaining to strategic growth, financial management, employee/team management and marketing/customer management, making up a total of 24 questionnaire items. Each questionnaire item was evaluated on a 7-point Likert scale.

Data was also collected on the annual turnover of the venture as an estimator for economic performance. Respondents were also asked to subjectively evaluate their success by answering the question "compared to other enterprises in your branch, how successful are you?" on a 7-point Likert scale. Highly successful companies could therefore be identified in two different ways: Those for which the annual turnover equals or exceeds USD 10,000 and

those for which the founder subjectively identifies him/herself as moderately or strongly more successful than peers.

3.3.1.2. Independent Variables

With regards to personality measurement, decades of research and methodological development have led to the creation of the widely used 10-item Personality Inventory Measure (TIPI) as an instrument for FFM quantification (Gosling et al., 2003), which was applied in our study. So far, dozens of studies in many disciplines have successfully applied this scale (Bias et al., 2010; Ferris et al., 2009; Grant & Ashford, 2008; Ivcevic & Mayer, 2009; Li & Chignell, 2010; Motowidlo & Peterson, 2008; Poropat & Jones, 2009). The use of the brief TIPI scale was favored against more detailed, elaborate Big Five measures (e.g. Fruyt et al., 2009; McCrae & Costa, 2004) to avoid potentially burdening study participants with a lengthy questionnaire and enhance response rates. Each personality dimension was measured using 2 questions, one of which is reverse scored. Each TIPI questionnaire item is evaluated on a 7-point Likert scale.

3.3.1.3. Control and Moderating Variables

The questionnaire also contained items measuring demographic variables such as gender and age as well as measures of the founder's surrounding environment. Company type was measured by three variables the first of which is startup stage, where we define an early-stage venture as one that is in the process of being set up over the last 12 months or less and a late-stage one as being over 1 year old and already paying wages, inspired by the Global Entrepreneurship Monitor (GEM, 2019a). Type of company was also identified by questions on whether the founder considers the company a social or a technology company.

Data on country of operation and location within the country was also collected and countries were classified as fragile or non-fragile based on the latest OECD country fragility classification (OECD, 2018). The OECD classifies a country as fragile based on dimensions of economic, environmental, political, security and societal risk (OECD, 2016b), considering the state's current exposure to negative events across those dimensions in addition to the its capacity to deal with related and resulting risks in the future.

3.3.2. Data Collection

The questionnaire was distributed online to start-up founders across sub-Saharan Africa through established connections with managers of incubator, accelerator and networking programs focused on new venture support in the region. The major collaborator was the Tony Elumelu Foundation, a non-profit organization that trains and invests in potentially high-growth African start-ups across the continent. Additional data was collected through organizations including (but not limited to) the Heartland Incubation Hub in Nigeria and Pangea Accelerator in Kenya. The data was collected between September 2018 and January 2019 through SurveyMonkey software. All questionnaire items were marked as mandatory to ensure completeness of collected data. The final dataset consists of 232 individual responses (response rate = 18.4%) from an estimated population of 1261 entrepreneurs.

3.3.3. Validity and Reliability Tests

The questionnaire reliability was examined through Cronbach's α measurement to assert that the items measuring entrepreneurial and managerial behaviors do so adequately. A Cronbach's α value of 0.85 was obtained for each dependent variable. The Kaiser-Meyer-Olkin (KMO) test results also indicate sampling adequacy for each dependent variable. Those results are summarized in Table 3-1.

There is no anticipation of non-response bias given that all questionnaire items required mandatory responses. As for common method variance (CMV), we follow Fuller et al. (2016, p. 3192) in presuming that a "relatively high level of CMV must be present to bias true relationships among substantive variables at typically reported reliability levels" and that "at levels of CMV typical of multiple item measures with typical reliabilities reporting typical effect sizes, CMV does not represent a grave threat to the validity of research findings". We also refrained from conducting a confirmatory factor analysis (Harman's one-factor test) to detect CMV in accordance with Fuller et al. (2016) and Podsakoff et al. (2003), who postulate that this test is not sensitive enough to detect CMV and that there is a lack of empirical evidence that proves its efficacy.

<i>Dependent Variables</i>	<i>Constituent Elements</i>	<i>Cronbach's α</i>	<i>KMO</i>
Entrepreneurial Behaviors	Relevant Background for Chosen Business	0.85	0.86
	Opportunity Identification		
	Dedication to Business		
	Mobilizing Support and Resources from Others		
	Negotiation and Risk-Taking		
Managerial Behaviors	Strategic Business Development and Growth	0.85	0.78
	Financial Management Skills		
	Employee Management		
	Marketing/ Customer Relations Management		

Table 3-1: Summary of analysis results pertaining to questionnaire validation.

3.3.4. Hypothesis Testing

Data analysis was performed using the Statistical Package for the Social Sciences (SPSS). After computing descriptive statistics on variable means, standard deviations, frequencies and Pearson correlation coefficients, an independent sample t-test was administered to compare mean scores on entrepreneurial and managerial behaviors between highly successful and less successful ventures to test hypothesis 1. Linear regression modeling was then performed to test the remaining hypotheses. The independent variables were also quadratically transformed and centered to test for possible non-linear effects. Regression models were established separately for each dependent variable while controlling for gender and age. Contextual variables (i.e. those pertaining to company type and country fragility) were tested for possible moderation effects (hypotheses 7 and 8).

3.4. Findings

3.4.1. Descriptive Statistics

The 232 respondents come from a total of 22 countries across sub Saharan Africa primarily from Nigeria (49.1%), Kenya (15.9%), Uganda (10.3%), Ghana (4.7%) and Tanzania (3.9%). The vast majority of respondents live in the same country in which they were born (92.3%) and in urban areas (73.0%). Female-identifying entrepreneurs constitute a quarter of the sample

(24.1%) and the majority of respondents (72.8%) are between 25 and 39 years of age. Over 80% of study participants have at least a bachelor's degree.

Analyzed founders operate across a variety of industries with almost all companies being for-profit (97.4%). Most of the founders operate social (74.1%), technology-based (78.0%) startups that are less than 12-months old (62.9%). When asked to subjectively evaluate their business success, 77.6% of respondents indicated being at least a little more successful than other enterprises in their branch while 47.0% consider themselves moderately or strongly more successful. With respect to financial metrics, 53.9% of founders indicated no or less than 5% sales growth compared to last year and 40.5% have obtained at least 1 round of investment from venture investors. The majority of businesses operate only locally (86.2%).

Respondents appear to have similar scores on entrepreneurial and managerial behaviors, with mean scores of 5.92 and 5.98 (out of 7) respectively. As for independent variables, respondents scored highest on conscientiousness (mean=6.31) and lowest on extraversion (mean=4.48). Additional detail on variable means, standard deviations (SD) and correlation coefficients are found in Table 3-2, Table 3-3 and Table 3-4.

<i>Dependent Variables</i>	<i>Mean</i>	<i>SD</i>	<i>Constituent Elements</i>	<i>Mean</i>	<i>SD</i>
Entrepreneurial Behaviors	5.92	.77	Relevant Background for Chosen Business	5.77	1.09
			Opportunity Identification	6.14	.96
			Dedication to Business	6.36	.67
			Mobilizing Support and Resources from Others	5.86	.83
			Negotiation and Risk-Taking	5.47	1.20
Managerial Behaviors	5.98	.78	Strategic Business Development and Growth	6.16	.76
			Financial Management Skills	5.65	.98
			Employee Management	6.17	1.07
			Marketing/ Customer Relations Management	5.95	.91

Table 3-2: Descriptive statistics regarding the dependent variables.

<i>Independent Variables</i>	<i>Mean</i>	<i>SD</i>
Extraversion	4.48	1.41
Agreeableness	5.55	1.13
Conscientiousness	6.31	.94
Emotional Stability	5.79	1.20
Openness	6.42	.82

Table 3-3: Descriptive statistics regarding the independent variables.

		<i>Entrepreneurial Behaviors</i>	<i>Managerial Behaviors</i>	<i>Extraversion</i>	<i>Agreeableness</i>	<i>Conscientiousness</i>	<i>Emotional Stability</i>	<i>Openness</i>
Entrepreneurial Behaviors	Pearson Correlation	1	.891**	.220**	.190**	.404**	.313**	.316**
	Sig. (2-tailed)		.000	.001	.004	.000	.000	.000
	N	232	232	224	224	224	224	224
Managerial Behaviors	Pearson Correlation	.891**	1	.174**	.172**	.388**	.317**	.246**
	Sig. (2-tailed)	.000		.009	.010	.000	.000	.000
	N	232	232	224	224	224	224	224
Extraversion	Pearson Correlation	.220**	.174**	1	-.129	.103	.088	.256**
	Sig. (2-tailed)	.001	.009		.053	.126	.189	.000
	N	224	224	224	224	224	224	224
Agreeableness	Pearson Correlation	.190**	.172**	-.129	1	.195**	.298**	.119
	Sig. (2-tailed)	.004	.010	.053		.003	.000	.076
	N	224	224	224	224	224	224	224
Conscientiousness	Pearson Correlation	.404**	.388**	.103	.195**	1	.430**	.402**
	Sig. (2-tailed)	.000	.000	.126	.003		.000	.000
	N	224	224	224	224	224	224	224
Emotional Stability	Pearson Correlation	.313**	.317**	.088	.298**	.430**	1	.313**
	Sig. (2-tailed)	.000	.000	.189	.000	.000		.000
	N	224	224	224	224	224	224	224
Openness	Pearson Correlation	.316**	.246**	.256**	.119	.402**	.313**	1
	Sig. (2-tailed)	.000	.000	.000	.076	.000	.000	
	N	224	224	224	224	224	224	224

Table 3-4: Pearson correlations between the dependent and independent variables.

3.4.2. Hypothesis Testing

An independent sample t-test was administered to compare the mean scores on entrepreneurial and managerial behaviors by grouping the overall sample based on the two aforementioned measures of entrepreneurial success. Results indicate a significant mean difference (supporting hypothesis 1), as seen in Table 3-5.

Grouping Variable	Test (Dependent) Variables	T-Test for Equality of Means				
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Self-Rated as Highly Successful	Entrepreneurial Behaviors	-4.32	230.00	0.00	-0.42	0.10
	Managerial Behaviors	-4.75	230.00	0.00	-0.47	0.10
Annual Turnover ≥\$10K	Entrepreneurial Behaviors	-3.10	229.96	0.00	-0.30	0.10
	Managerial Behaviors	-4.43	222.48	0.00	-0.41	0.09

Table 3-5: Results from independent sample t-tests evaluating mean score differences between groups of founders based on subjectively and economically evaluated firm success.

Linear regression modeling results are summarized in Table 3-6 and Table 3-7. All models have significant regression equations with no multicollinearity detected (all VIF values < 10).

The results show partial confirmation of hypotheses 2-8. Conscientiousness appears to be the independent variable with the strongest significant ($p < 0.01$) positive correlation with both entrepreneurial and managerial behaviors. Agreeableness also appears to significantly ($p < 0.05$) predict entrepreneurial and managerial behaviors, albeit to a smaller degree.

As for the remaining personality variables, emotional stability does not appear to have a significant correlation with managerial behaviors and its significant correlation with entrepreneurial behaviors diminishes when accounting for moderator variables. Extraversion appears to significantly ($p < 0.01$) predict entrepreneurial but not managerial behaviors with a small effect ($B = 0.09$), while openness appears to significantly predict managerial ($p < 0.05$) rather than entrepreneurial behaviors with evidence of a U-shaped relationship.

With regards to the control and moderating variables, gender appears to have a significant influence on entrepreneurial and managerial behaviors, with male gender positively and strongly predicting both. Country fragility also has a strong, significant positive correlation with entrepreneurial behaviors, albeit not with managerial behaviors, and appears to moderate the effect of emotional stability. Variables pertaining to founder age, start-up stage and company type (social or tech) appear insignificant in all models tested.

	Model 1		Model 2		Model 3		Model 4	
Variable	B	SE B	B	SE B	B	SE B	B	SE B
Control Variables								
Gender (DV: Male)	0.38**	0.12	0.35**	0.10	0.35**	0.10	0.31**	0.11
Age (DV: Less than 30)	-0.12	0.16	0.05	0.14	0.04	0.14	0.01	0.15
Age (DV: Between 30-39)	-0.22	0.16	-0.06	0.14	-0.06	0.14	-0.12	0.14
Independent Variables (Linear)								
Extraversion			0.08*	0.03	0.08*	0.03	0.09**	0.03
Agreeableness			0.09*	0.04	0.12*	0.05	0.12*	0.05
Conscientiousness			0.24**	0.06	0.30**	0.10	0.29**	0.10
Emotional Stability			0.08	0.04	0.12*	0.06	0.11	0.06
Openness			0.10	0.06	0.14	0.10	0.12	0.10
Independent Variables (Quadratic)								
Quadratic Extraversion					0.00	0.02	0.00	0.02
Quadratic Agreeableness					0.05	0.03	0.04	0.03
Quadratic conscientiousness					0.07	0.06	0.08	0.06
Quadratic Emotional Stability					0.02	0.03	0.02	0.03
Quadratic Openness					0.04	0.05	0.03	0.05
Moderating Variables								
Start-up Phase (DV: Early Stage)							-0.08	0.10
Company Type (DV: Tech Start-up)							0.11	0.12
Company Type (DV: Social Start-up)							0.08	0.11
Country Fragility (DV: Fragile State)							0.31*	0.15
R²	0.055		0.296		0.324		0.344	
DV: Dummy Variable								
*p <= .05, **p <= .01								

Table 3-6: Linear regression models predicting entrepreneurial behaviors

Variable	Model 1		Model 2		Model 3		Model 4	
	B	SE B	B	SE B	B	SE B	B	SE B
Control Variables								
Gender (DV: Male)	0.30*	0.12	0.27*	0.11	0.27*	0.11	0.25**	0.11
Age (DV: Less than 30)	-0.18	0.16	0.01	0.15	0.01	0.15	0.05	0.15
Age (DV: Between 30-39)	-0.21	0.16	-0.04	0.15	-0.03	0.15	-0.03	0.15
Independent Variables (Linear)								
Extraversion			0.06	0.04	0.07*	0.04	0.07	0.04
Agreeableness			0.08	0.05	0.10*	0.05	0.11*	0.05
Conscientiousness			0.25**	0.06	0.31**	0.10	0.31**	0.10
Emotional Stability			0.10*	0.05	0.10	0.06	0.09	0.06
Openness			0.04	0.07	0.21*	0.10	0.20	0.10
Independent Variables (Quadratic)								
Quadratic Extraversion					0.00	0.02	0.00	0.02
Quadratic Agreeableness					0.05	0.03	0.05	0.03
Quadratic conscientiousness					0.07	0.06	0.07	0.06
Quadratic Emotional Stability					-0.02	0.03	-0.02	0.03
Quadratic Openness					0.13*	0.05	0.12*	0.05
Moderating Variables								
Start-up Phase (DV: Early Stage)							-0.18	0.10
Company Type (DV: Tech Start-up)							-0.01	0.12
Company Type (DV: Social Start-up)							0.07	0.11
Country Fragility (DV: Fragile State)							0.20	0.16
R²	0.035		0.246		0.289		0.306	
DV: Dummy Variable								
*p <= .05, **p <= .01								

Table 3-7: Linear regression models predicting managerial behaviors.

3.5. Discussion and Implications

First of all, the findings confirm that entrepreneurial and managerial behaviors significantly correlate with entrepreneurial success. This supports overcoming the limitations and challenges of concrete economic measures such as turnover, size, market share and profit, which though potentially more objectively measured, fail when comparing entrepreneurial endeavors across different industries, company stages and country contexts.

The results with respect to entrepreneurial behaviors show statistically significant and positive effects of the independent variables extraversion, conscientiousness and agreeableness. The variable emotional stability is moderated by country fragility as suggested earlier in the paper. Therefore, it appears that the more fragile a country is, the more emotional stability is needed to be successful as an entrepreneur.

Those overall results demonstrate that individuals exhibiting high levels of entrepreneurial behavior are generally reliable, well-organized, trustful and helpful and to a lower extent talkative and optimistic together with some ego-centered orientation. Thus, entrepreneurs actively exercising entrepreneurial behaviors are champions to only some extent while carrying additional characteristics (Gemuenden, 1985; Howell et al., 2005; Kratzer et al., 2010; Rost et al., 2007).

The findings concerning managerial behaviors also demonstrate the positive and statistically significant predictive capabilities of agreeableness and conscientiousness. Translated into reality, this indicates that the reliable, diligent, well-organized, trustful and helpful entrepreneurs, rather than the ego-centered champions, are most successful. Indeed, although entrepreneurs are often described as champions and extroverts, the reality appears to be different, at least in the sub Saharan context.

Perhaps unexpectedly, the variable openness has a U-shaped statistically significant relationship with managerial behaviors. A possible explanation is that some successful African enterprises might have a strictly local focus hence very low degrees of openness, while others reach out to larger regions or even internationally where openness is a pre-condition for successful. This could also signal the mixed innovative versus replicative nature of studied

entrepreneurs (Baumol, 2010). This finding warrants further investigation into the role of openness in African and fragile-country entrepreneurial success.

Theoretically, the paper reaffirms the importance of personality traits for start-up performance. However, this paper extends the empirical body of research with unique data from Africa. The results strongly indicate that exhibiting needed behaviors and achieving success as an entrepreneur requires a blend of various personality characteristics which cannot be generalized from one country context to another. The paper extends the application of the trait activation theory to the sub-Saharan African context and confirms the influence of country fragility on personality expression and subsequent entrepreneurial behavior, a unique contribution to entrepreneurship literature combining theoretical rigor with social relevance (see Wiklund et al., 2019).

Primarily agreeableness and conscientiousness appear to determine the behavior of entrepreneurs. Recognizing behavior's connection to entrepreneurial success, results support earlier findings that consider agreeableness the most important predictive personality dimension with respect to attracting financial means and conscientiousness as the most important one for intrinsic motivation and job performance (Barrick et al., 2001; Cable & Shane, 1997). The results cannot confirm earlier findings on the value of extraversion (e.g. Shane, 2003) while negating previous findings on the negative correlation of agreeableness with new venture success, presumably due to agreeableness's negative relationship with autonomy and acting independently of social expectations which had generally been associated with successful entrepreneurship (Brandstätter, 2011).

These results could be attributed to the general collectivistic nature of most sub-Saharan African cultures, where collectivism is associated with lower levels of extraversion (Hofstede & McCrae, 2004). Additionally, the expression of empathy and compassion, which highly relates to agreeableness (Chopik et al., 2017), is generally found to positively correlate with low income and poverty (Kraus et al., 2012; Stellar et al., 2012) – common issues in highly fragile countries. Additionally, helpfulness, trustworthiness and altruism might prove vital to successfully act in social networks and work as a community to develop endogenously amidst fragile conditions. Moreover, being well-organized while embedded in administrative and

business conditions that are deficient in organization might be particularly vital in fragile countries.

From a practical point of view, understanding the relationship between personality dimensions, entrepreneurs' behavior and subsequent new business success in Africa is positioned to nurture entrepreneurs and start-up teams without relying on potentially irrelevant knowledge gathered in western, institutionally stable countries. The results might assist in selecting the more-fitting entrepreneurs for acceleration/incubation support and/or customizing support and coaching programs to best fit regional needs.

Entrepreneurship activities in sub-Saharan Africa might therefore require the fostering of alternative sets of soft skills, thus different training and education approaches, compared with stable, western countries (see Rashid, 2019). Entrepreneurial team composition might also need be differently done to maximize success. This emphasizes that supporters, non-profit organizations and public and private institutions ought not simply transfer educational efforts and support strategies but have to adapt all initiatives to local conditions (Ojala & Heikkilä, 2011).

Results also help in selecting receivers of financial means from public sources and venture capitalists. Particularly, many believe that the most successful entrepreneurs are ego-centered individualists while the results indicate something else. This also includes foreign investment efforts, where investors need to realize that the loudest entrepreneurs are not necessarily the most promising. In other words, a typical Silicon-Valley mentality probably fails to achieve entrepreneurial success and secure local financial investments in the African context.

The results might even warrant the need for different coaching and financing strategies for African and fragile-country migrant or refugee entrepreneurs attempting to start businesses in western and stable countries (Rashid, 2018), recognizing differences in their personal characteristics. Additionally, realizing that male gender is significantly correlated to entrepreneurial and managerial behaviors calls for more specialized efforts to understand and foster female entrepreneurship in the region.

3.6. Conclusions

With the sub-Saharan region being home to most of the world's low income, highly fragile countries (Fund for Peace, 2019a; World Bank, 2018a), it is necessary to focus on empowering bottom-up developmental approaches emphasizing high-growth business development. This study attempts to reveal some of the individual-level determinants of the recent economic revival in the region resulting from entrepreneurial activity (Naudé, 2017). Personality has long been considered of major importance in predicting business outcomes and entrepreneurial intention and success, but its relationship to the entrepreneur's behavior has been largely understudied. In addition, although manifestations of personality traits in entrepreneurship are expected to differ significantly with country context, studies thus far have primarily focused on western and stable environments.

This study offers new insights on those matters based on quantitative analysis of a dataset of 232 African entrepreneurs. The FFM has been employed to assess personality dimensions, while entrepreneurial success has been viewed from a behavioral lens with a focus on individual entrepreneurial and managerial behaviors. Results indicate that indeed, entrepreneurial and managerial behaviors correlate with new venture success and that conscientiousness and agreeableness, moderated by country fragility, are the strongest personality predictors of those behaviors.

The study responds to recent calls to diversify entrepreneurship research (Welter et al., 2017) and conduct research that is both high in theoretical rigor and social relevance (Wiklund et al., 2019). This research particularly addresses entrepreneurship literature gaps regarding the personality-behavior relationship and personality research outside of stable, western countries. Findings additionally support education, team building and financing efforts for African entrepreneurs and call for specialized and context-appropriate development initiatives.

As with all studies, some limitations are identified. One limitation is in the data itself; gathering data around start-up support organizations (Tony Elumelu Foundation, Heartland Incubation Hub and Pangea Accelerator among others) certainly biases the resulting sample. Only entrepreneurs who are part of these entities were reached, therefore limiting the sample to formal entrepreneurship endeavors as well as those with regular internet access due to the

use of a digital questionnaire. The magnitude and impact of informal entrepreneurs particularly in African countries is however not to be underestimated. Although it could be quite challenging to collect reliable data about informal entrepreneurship activities in fragile countries, it is important to do so particularly given the positive role that the informal sector plays in entrepreneurial development (e.g. Naudé, 2010).

Additionally, collecting data using self-reported questionnaires occasionally results in some degree of response subjectivity. For instance, social desirability bias is not uncommon, where “respondents may systematically alter questionnaire responses in the direction they perceive to be desired by the investigator” (Choi & Pak, 2005, p. 8). This might explain the relatively high mean scores obtained on both entrepreneurial and managerial behaviors. However, measures have been taken to reduce such biases such as allowing all respondents to submit their questionnaires with full anonymity in addition to asking them to rate themselves from the perspective of a trusted advisor rather than their personal perspective; the latter being a technique specifically proven to reduce social desirability bias (Brown & Hanlon, 2016; Schoorman & Mayer, 2007).

Finally, Africa is a large continent within which exist many societal, economic, political and cultural differences. Though we attempted to partially offset this intra-variability by including country fragility measures, future research should concentrate on individual countries and explore the nature of personal traits and resulting entrepreneurial and managerial behaviors in-depth within specific contexts. Future research should moreover include additional variables concerning the institutional conditions and support systems on the country level. This could also be done across several countries using hierarchical modelling or in comparison to highly stable countries.

Additional possible moderating and also mediating variables could be explored in future research in order to further refine the results and practical recommendations. Personality characteristics of founders could be supplemented by and compared with other independent variables such as social networks, cultural capital or family background. All in all, research that links personal traits, entrepreneurial activities and success should pay more attention to changing global dynamics and major sustainability and social challenges, determinants of

entrepreneurship beyond pure profit orientations, modifications in and extensions of institutional support mechanisms and changing labor markets due to effects of digitalization.

3.7. Supplementary Information

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**PART FOUR: A HUMAN
CAPITAL ASSET ANALYSIS
DURING STARTUP
INTERNATIONALIZATION**

4. Cross-Country Differences in Entrepreneurial Internationalization Tendencies: Evidence from Germany and Pakistan

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Abstract: Previous research has emphasized the importance of entrepreneurial characteristics for international entrepreneurship, hence the application of concepts such as entrepreneurial orientation and global mindset to the study of entrepreneurial internationalization tendencies (EIT). However, literature does not adequately address how EIT differ between countries or manifest in fragile country settings. We address this gap through a quantitative study to investigate EIT in two national settings that largely differ in terms of development, institutional stability, and culture. Through the lens of the institutional theory and the mindset theory, we therefore piloted the study on 112 high-growth startups in Germany and Pakistan. Our findings show, that while entrepreneurs in Germany and Pakistan show comparable levels of innovativeness and proactiveness, they significantly differ in other EIT measures. German entrepreneurs appear to have higher levels of risk-taking, which when explained through the institutional theory lens can be attributed to the higher institutional stability and support as well as social security in Germany. This potentially makes engagement in risky activities, such as business internationalization, more appealing than in Pakistan. However, despite having lower international cognition and international knowledge compared to Germany, Pakistani entrepreneurs appear to exhibit higher degrees of international behavior.

Keywords: international entrepreneurship; emerging markets; cross-country; entrepreneurial orientation; global mindset; institutional theory; mindset theory; entrepreneurial cognition

4.1. Introduction

International entrepreneurship (IE), defined as “the discovery, enactment, evaluation, and exploitation of opportunities—across national borders—to create future goods and services” (Oviatt & McDougall, 2005, p. 7), has been found to be important for entrepreneurial success, growth, and national economic development particularly in an increasingly globalized and digitalized world (Cavusgil & Knight, 2015; Joensuu-Salo et al., 2018), with potentially higher outcomes the earlier an entrepreneurial firm engages in and commits to international activity.

Many studies have shown that personal characteristics of the entrepreneur are crucial drivers of firm internationalization (Acedo & Florin, 2006; Acedo & Jones, 2007; Freeman & Cavusgil, 2007; Jones et al., 2011), particularly as the founder or founding team is the key maker of strategic decisions (R. A. Baron, 2007; Miller, 1983) such as internationalization (Cavusgil & Knight, 2015; Manolova et al., 2002). Thus, IE studies have uncovered several attitudinal elements that play an important role in shaping IE behavior (Freeman & Cavusgil, 2007; Jie & Harms, 2017; Nummela et al., 2004; Sommer, 2010). For example, a considerable number of studies have been published on the relationship between entrepreneurial orientation (EO), namely the combination of key behaviors (innovativeness, proactiveness, and risk-taking) that drive entrepreneurial activity, and IE indicating that high levels of EO lead to international activity (Jantunen et al., 2005; Joardar & Wu, 2011; Ripollés-Meliá et al., 2007). Additionally, in recent years, several authors have focused on the concept of a global mindset (GM), seen as a cognitive capability represented by the curiosity for and understanding of actions that support the identification of entrepreneurial opportunities in a global setting, to explain international entrepreneurial behavior (Felício et al., 2013; Kyvik et al., 2013). This paper investigates the combination of these two concepts as an indicator for EIT in different contexts. Thus, this paper understands EIT as the combination of EO with a GM that favors IE behavior.

Previous research attempted to address how EO and GM concepts differ across different cultures (Covin & Miller, 2014; Felício et al., 2016). However, little is known to date about how these concepts differ within the contradictory entrepreneurial environments of fragile and stable markets (Kiss et al., 2012). Specifically, institutions have been found as a crucial driver of (Oparaocha, 2015) or burden on IE activity (Clercq et al., 2010), but have mainly been investigated in a single, mainly developed country setting (Bruton et al., 2010).

We expect that entrepreneurs based in contrary entrepreneurial environments also differ in their EIT. Thus, our research questions are:

1. *Are EIT affected by the national context?*
2. *In which EIT dimensions do entrepreneurs based in contradictory contexts differ?*

As institutional conditions are found to be the main argument why emerging and developed markets differ (Tiwari & Korneliussen, 2018), we address these questions by focusing on an advanced, stable market, namely Germany, and an emerging, fragile market, namely Pakistan—two locations differing significantly in terms of economic development, stability, and institutional environment (BMZ, 2019; Fund for Peace, 2018, 2019a). Furthermore, entrepreneurial behavior is influenced by the predominant institutional environment (Tiwari & Korneliussen, 2018). To shed light on the cross-country differences in EIT, a quantitative study of 59 entrepreneurs from Germany and 53 from Pakistan is employed.

The study is based on quantitative research involving an online questionnaire based on EO and GM as two key EIT measures. EO refers to the behavioral elements of global orientation and captures the founder's propensity for risk-taking, innovativeness, and proactiveness, while GM evaluates how an entrepreneur views the world and the internationalization of markets and companies.

Our findings contribute to the IE literature stream of comparative entrepreneurial internationalization (CEI) (Jones et al., 2011), which *“enables comparison and replication and reduces the risk of nation-specific results that are not generalizable to other countries”* (Terjesen et al., 2016, p. 300). However, the CEI stream is still at early stages with only few studies investigating IE behavior in a cross-national setting (Jones et al., 2011). Furthermore, Terjesen et al. (2016) criticize that CIE is mostly conducted by aggregated data on the country-macro level rather than on the individual level, which does not allow explanations of individual entrepreneurial behavior. Additionally, we realize that most IE literature generally covers advanced and stable markets with little attention paid to emerging and fragile settings (Kiss et al., 2012). Herewith, we contribute to recent calls for more comparative studies on the individual level to investigate national differences in international entrepreneurial behavior (Terjesen et al., 2016) with particular attention to emerging contexts (Kiss et al., 2012).

Our findings also have important implications for practice. In Germany, policy makers are encouraged to incentivize entrepreneurs to engage in international activity, particularly as they appear to cognitively have much of what it takes to do so. On the other hand, Pakistani decision-makers are encouraged to invest in developing the international cognition and international knowledge of local entrepreneurs to ultimately support their international behavior, while amending institutional structures to provide entrepreneurs with the safety needed to engage in risk-bearing business activities

4.2. Literature Overview

4.2.1. Entrepreneurial Orientation (EO)

Since Miller (1983) proposed that innovativeness, proactiveness, and risk-taking are driving forces of entrepreneurial activity (C. L. Wang, 2008), the concept of EO has been widely used to explain entrepreneurship drivers (Covin & Miller, 2014). Although Lumpkin & Dess (1996) have additionally proposed autonomy and competitive aggressiveness as factors of EO, the three-factor-conceptualization of Miller/Covin & Slevin (1989) is by far the most widely used scale in literature (Anderson et al., 2015; Covin & Wales, 2012; Rauch et al., 2009). The three elements of EO were originally developed to explain entrepreneurial behavior on a firm level (Covin & Miller, 2014; Covin & Wales, 2012), shaped by the managements' attitude towards risk, innovativeness, and proactiveness (Anderson et al., 2015; Joardar & Wu, 2011). *Risk-taking* propensity refers to the willingness to take actions with uncertain outcomes such as entering new markets (Lumpkin & Dess, 2001). *Innovativeness* reflects the support of creative thinking, which leads to new processes in the development of products and services (Lumpkin & Dess, 1996) and has been shown to enhance both the speed and mode of entry to international markets (Ripolles Meliá et al., 2010). *Proactiveness* determines the search for market opportunities and the willingness to respond and take advantage of them (Lumpkin & Dess, 2001). High levels of EO dimensions are associated with firm performance and new market entry (Boso et al., 2013; Lumpkin & Dess, 1996; C. L. Wang, 2008; Wiklund & Shepherd, 2005), which is why the relevance of these dimensions for the IE field has been appreciated since its earliest years (Covin & Miller, 2014).

Notably, the EO dimensions are implicit in the well-cited definition of IE by McDougall & Oviatt (2000) who state that "*International entrepreneurship is a combination of innovative,*

proactive, and risk-seeking behavior that crosses national borders and is intended to create value in organizations” (McDougall & Oviatt, 2000, p. 903). Previous studies have used the EO dimensions to investigate the performance of entrepreneurial firms in the international context (Jantunen et al., 2005; Javalgi & Todd, 2011; Kuivalainen et al., 2007; Swoboda & Olejnik, 2016). For example Javalgi & Todd (2011) and Ripollés-Meliá et al. (2007) applied the unaltered EO dimensions to examine IE activity. Covin & Miller (2014) concluded from their literature review that EO research is mainly conducted by employing the items of the Miller/Covin & Slevin (1989) EO scale in an international setting. On contrary, other previous studies explicitly call EO on the international level *“international entrepreneurial orientation”* (IEO) and adapt existing EO scales to the international level (Kuivalainen et al., 2007; Swoboda & Olejnik, 2016).

Taking into account that the founding entrepreneur or founding team is a key reason why an entrepreneurial firm acts internationally (Joardar & Wu, 2011; G. A. Knight & Liesch, 2016), much IEO research is drawn up on the individual level of the entrepreneur (Covin & Miller, 2014). Joardar & Wu (2011) argue that the firm is merely the entity encompassing the EO shaped by the reflection of the founding entrepreneurs’ attitudinal composition. As such, EO is treated as an individual-level construct in this study.

4.2.2. Global Mindset (GM)

Numerous scholars have harnessed the importance of a GM as a determinant of IE (Felício et al., 2015, 2012, 2016; Kyvik, 2018; Kyvik et al., 2013; Nummela et al., 2004). Several attempts have been made to distinguish a corporate GM and an individual GM (Felício et al., 2015, 2016) which could be seen as contradictory to literature stating GM as a state of mind related to an individual (Felício et al., 2013; Jie & Harms, 2017; Kyvik, 2011; Kyvik et al., 2013). Kyvik (2011) for example describes a GM as *“one key superior managerial orientation in the internationalisation process and as conceptually closely related to international entrepreneurship”* (Kyvik, 2011, p. 315). An individual GM is furthermore described as a behavioral or cognitive structure characterized by openness to and understanding of different cultures (Kyvik, 2018) and enabling the entrepreneur to be aware of and identify international opportunities (Felício et al., 2016).

Various definitions of a GM exist. As our working definition we choose the definition offered by Levy, Beechler, Tylor & Boyacigiller (2007) who define GM as “*a highly complex cognitive structure characterized by an openness to and articulation of multiple cultural and strategic realities on both global and local levels, and the cognitive ability to mediate and integrate across this multiplicity*” (Levy et al., 2007, p. 244). It has been suggested that the individual GM can be furthermore described as a resource or capability that influences entrepreneurial behavior and decisions related to international activity (Kyvik, 2018). An individual GM can be characterized by three factors, namely international cognition, knowledge, and behavior (Felício et al., 2016). *International cognition* refers to an information processing capability that allows one to pay attention to diverse cultural settings and to interpret them for strategic decisions (Levy et al., 2007). *International knowledge* is derived from international experience like work or travel abroad, which shapes an awareness of challenges and opportunities of foreign market activities (Stucki, 2016). Lastly, an *international behavior* refers to the strong interest in participating in international activity and the willingness to respond to international opportunities (Felício et al., 2012).

4.3. Theoretical Background and Hypothesis Development

4.3.1. Institutional Environment and EO

The relevance of environmental conditions for understanding entrepreneurial processes has been frequently studied from the lens of the institutional theory, which is primarily “*concerned with regulatory, social, and cultural influences that promote survival and legitimacy of an organization*” (Bruton et al., 2010, p. 422). The institutional context of the home and host country influences entrepreneurial decisions like the participation in IE activity (Lim et al., 2010). Thus, institutional theory has played a key role in explaining institutional factors behind entrepreneurial success particularly with respect to international topics (Bruton et al., 2010; Jones et al., 2011; Lim et al., 2010). Indeed, the relationship between institutional conditions and entrepreneurial internationalization has been studied extensively (Child et al., 2017; Ervits & Zmuda, 2018; Oparaocha, 2015; Torkkeli et al., 2019). Favorable institutional conditions are related to international performance of entrepreneurial firms (Torkkeli et al., 2019) and account to global innovation (Ervits & Zmuda, 2018). Institutions such as

government agencies, business incubators, research institutes or agencies for international development help to overcome resource barriers and support IE activity (Oparaocha, 2015).

Covin & Miller (2014) argue that cross-national differences in EO can be best investigated by the use of institutional theory. It can be suggested that the extent to which institutions offer support to entrepreneurial firms is a major reason for differences in EO between developed and emerging markets (Abdesselam et al., 2018; Tiwari & Korneliussen, 2018). Entrepreneurial firms located in emerging or fragile markets often suffer from institutional burdens due to underdeveloped or non-existent external support (Clercq et al., 2010). A lack of and fragility of institutions constrains innovativeness in emerging companies (Ervits & Zmuda, 2018; Pinho, 2017). Child et al. (2017) also found that the international business models of emerging countries are less focused on innovation compared to their developed market peers and that the level of development of the national economy affects the international business model of entrepreneurial firms. Furthermore, Schneider, Fehrenbacher & Weber (2017) found that the willingness to take financial risks differs across countries due to the level of institutional support. Covin & Miller (2014) concluded from their review that EO can be influenced by national economic development. They characterize entrepreneurs from emerging countries as proactive but less willing to take risks compared to their peers from developed markets who are described by a greater proclivity for innovative activity and the acceptance of related risks.

4.3.2. How a Growth Mindset Translates into a GM

A GM is characterized by behavioral and cognitive factors that relate to global openness and foreign opportunity identification (Kyvik, 2018) and can be explained by the mindset theory (Felício et al., 2015). Thus, a global orientation towards IE activity is determined by “*mind-set*” —that is, a phase-typical cognitive orientation that promotes task completion” (Gollwitzer, 1990, p. 63). According to the theory, an “*actional mind-set*” is characterized by a strong will to reach a certain goal—like in our context IE—regardless of the existing capabilities to achieve the goal (Gollwitzer, 1990). This cognitive programming may also be described by the term “*growth mindset*” proposed by Dweck (2016).

Business leaders or founders with an actional or a growth mindset hence believe that basic attributes can be cultivated through own efforts and strategies (Dweck, 2007). They therefore trust in human potential, the ability to develop and using the company as “*an engine of*

growth—for themselves, the employees, and the company as a whole” (Dweck, 2007, p. 125), which ultimately correlates with business growth and success. We adopt the view that the GM is a facet of a growth mindset.

Differences in the institutional and cultural environment are assumed to impact the GM of entrepreneurs in alignment with many scholars who have confirmed the relationship between mindset and contextual factors. Claro, Paunesku & Dweck (2016) for example found that the growth mindset of students is negatively influenced by economic disadvantage. Wicks (2001) found that institutional and economic pressures influence mindset regarding the perception of risks. Additionally, previous studies focusing on IE activity provide evidence that the GMs differ between countries (Felício et al., 2013, 2016). Felício et al. (2016) for example found differences of GM within Norwegian, Lithuanian, and Portuguese managers. They found that Norwegian managers are mainly driven by planned and strategic behaviors compared to their fellows, who are more driven by social relationships and international contacts.

4.3.3. Factors of Variation in EIT

It could be assumed that entrepreneurial environments differ between countries. Previous research has shown that differences on the national level exist due to economic (Child et al., 2017), cultural (Kreiser et al., 2010; Mitchell et al., 2002; Tajeddini & Mueller, 2009), political (Noor Muhammad et al., 2016), regulatory (Kreiser et al., 2010; Lim et al., 2016), and social factors (Stephan & Uhlaner, 2010). Consequently, EIT, as impacted by the national entrepreneurial context, are assumed to differ between countries. We chose to therefore conduct the study between two countries, namely Pakistan and Germany, that significantly differ both in culture and the institutional environment to investigate EIT differences.

Pakistan is situated in South Asia and is characterized by having lower levels of economic development (GDP = 1.580 US-\$ in 2017), while Germany, as a member of the European Union and the Eurozone, is characterized by high levels of economic development (GDP = 43.490 US-\$ in 2017) (BMZ, 2019). Moreover, Pakistan is regarded a highly fragile state on measures of the political, economic, cohesion, and social environment, which indicates low institutional stability in areas such as security, state legitimacy, public services, and human rights (Fund for Peace, 2018; Noor Muhammad et al., 2016; Williams & Shahid, 2016), as opposed to Germany, which is characterized by low institutional fragility and ranks as the world’s 11th

most stable country (Fund for Peace, 2018). As for measuring culture specifically, several cross-country entrepreneurship studies have employed Hofstede's cross-cultural dimensions (Hayton et al., 2002). In our case, Hofstede's dimensions present Germany as having less power distance, being more individualistic, more masculine, less uncertainty avoidant and more long-term oriented than Pakistan (Hofstede & McCrae, 2004).

Combining the above-mentioned arguments, we suggest that the national environment influences the internationalization tendencies of entrepreneurial decision-makers. Thus:

Hypothesis 1: *EIT are affected by country.*

Additionally, it could be hypothesized that the two countries differ in their dimensions of EO due to the vast differences between their institutional environments. We therefore propose:

Hypothesis 2: *Entrepreneurs in Germany differ from entrepreneurs in Pakistan regarding their level of risk-taking.*

Hypothesis 3: *Entrepreneurs in Germany differ from entrepreneurs in Pakistan regarding their level of innovativeness.*

Hypothesis 4: *Entrepreneurs in Germany differ from entrepreneurs in Pakistan regarding their level of proactiveness.*

Finally, and as rooted in the mindset theory, cultural differences between the two countries could lead to differences in the GM measures. Therefore:

Hypothesis 5: *Entrepreneurs in Germany differ from entrepreneurs in Pakistan regarding their level of international cognition.*

Hypothesis 6: *Entrepreneurs in Germany differ from entrepreneurs in Pakistan regarding their level of international knowledge.*

Hypothesis 7: *Entrepreneurs in Germany differ from entrepreneurs in Pakistan regarding their level of international behavior.*

4.4. Methods

4.4.1. Data

The study is based on quantitative research involving an online survey, which was shared with founders in Germany and Pakistan through incubators and entrepreneurial networks from September to December 2018. Therefore, relationships have been established with the Centre for Entrepreneurship at the Technical University of Berlin, the AMAN Center for Entrepreneurial Development at the Institute of Business Administration in Karachi and the Arfa Software Technology Park in Lahore through the Pakistan MIT Enterprise Forum. The questionnaire was sent to a total of 76 entrepreneurs in Karachi, 40 entrepreneurs in Lahore, and 177 entrepreneurs in Berlin.

The data consists of self-responses of the founding entrepreneurs involved in *Total Early-Stage Entrepreneurial Activity* (TEA), which according to the definition of the Global Entrepreneurship Monitor (GEM) consists of nascent entrepreneurs who are actively setting up a business and those who own a newly established business that is less than 3.5 years old (GEM, 2019a). Following the argumentation of Felício et al. (2016, p. 4931) that “*older companies probably have a more stable organizational culture, while younger companies probably have a higher dependence on the individual’s culture*”, we assume that in the early stages of conception and firm birth the cognitive characteristics are an especially important resource leading to IE (Cavusgil & Knight, 2015). Therefore, we focus on TEA entrepreneurs only. After excluding 19 entrepreneurs, which were already in the persistence stage, we base our analysis on a global sample of 112 responses consisting of 59 entrepreneurs from Germany and 53 from Pakistan.

4.4.2. Measures

Since we measure EO at the individual rather than the company level, we adopted scales proposed by Goktan & Gupta (2015) rather than the frequently used EO scale from Miller/Covin and Slevin (1989). *Risk-taking* covers the participants’ attitude towards risk-taking behaviors and was measured by four items ($\alpha = 0.72$). *Innovativeness* assesses the individual’s tendency for innovativeness and was measured by four items ($\alpha = 0.86$). *Proactiveness* comprises the individual’s willingness to act and was measured with four items ($\alpha = 0.70$). For individual GM, we applied the measurements proposed by Felício et al. (2016).

International cognition covers the individual's cognitive capability to identify international opportunities and was measured by four items ($\alpha = 0.69$). *International knowledge* refers to an individual's international experience and was measured using three items ($\alpha = 0.40$). Although the Cronbach's Alpha of the knowledge measure is relatively low, we follow the recommendation of Schmitt (1996) who argues that a measure with a low reliability should be used if it covers essential content of the study¹. *International behavior* covers the individual's propensity to act internationally and was measured by five items ($\alpha = 0.76$), which were adapted from the firm level to the individual level. Respondents indicated their level of agreement on a seven-point Likert scale ranging from *totally disagree* (=1) to *totally agree* (=7).

As demographics and human capital have the potential to affect international entrepreneurial decisions (Stucki, 2016), we additionally collected information on gender, age, education, language skills, and international study background of the entrepreneur for better interpretation of our results.

All measures are shown in Appendix A (Table 4-4).

4.4.3. Analysis

Descriptive statistics and Fisher's exact tests² were conducted to get an overview of the sample and to determine whether entrepreneurs from both countries differed on any demographic variables. Multivariate analysis of variance (MANOVA) was applied to determine whether EIT measures differ amongst German and Pakistani entrepreneurs. MANOVA results are followed by analysis of variance (ANOVA), a univariate test statistic to obtain evidence on the nature of the effect (Andy Field, 2013). As MANOVA allows one to determine if entrepreneurs from both countries differ due to their EIT, separate ANOVAs on the dimensions on EIT help to detect the nature of the outcome (Andy Field, 2013). The results were followed up by the non-parametric Mann-Whitney-U test to enhance confidence in the

¹ A Cronbach's Alpha of 0.7 is recommended for our purpose (A. Field, 2009; Kline, 1999). However, Schmitt (1996) states that even lower scales e.g., below 0.5 are acceptable and do not strongly violate scale validity. Cronbach's Alpha furthermore depends on the number of items forming the factor (Cortina, 1993; A. Field, 2009), which may explain the low Cronbach's Alpha in our study.

² Due to the small sample size and that 20% of the cells have expected frequencies lower than five, the Fisher's exact test is considered a superior test compared to other similar approximation methods like the chi-square test (A. Field, 2009).

statistical results of (M)ANOVA as the assumption of interval level is slightly violated by using a Likert scale (Finch, 2016). All other assumptions of conducting a (M)ANOVA are met.

4.4.4. Results

Means, standard deviations, and correlations are provided in Table 4-1. Pearson correlations show that all dimensions correlate below the point of 0.5; thus, there should not be a problem with multicollinearity (A. Field, 2009).

Descriptive statistics and Fisher's exact test show that entrepreneurs from Germany are significantly older ($Mean = 31.31$, $SD = 5.18$, $p < 0.001$) than their counterparts from Pakistan ($Mean = 28.06$, $SD = 6.04$, $p < 0.001$) and possess significantly higher levels of education ($Mean = 3$, $SD = 0.62$, $p < 0.001$ vs. $Mean = 2.25$, $SD = 0.62$, $p < 0.001$), international study background ($Mean = 0.68$, $SD = 0.47$, $p < 0.001$ vs. $Mean = 0.21$, $SD = 0.41$, $p < 0.001$), and language skills ($Mean = 6.27$, $SD = 0.83$, $p < 0.001$ vs. $Mean = 5.04$, $SD = 1.48$, $p < 0.001$). Only gender is equally distributed between both groups and does not show significant differences between both countries (Table 4-2).

Results from MANOVA, ANOVA, and the Mann-Whitney-*U* test are displayed in Table 4-3. MANOVA results show that EO ($F(3, 108) = 5.36$, Wilks' Lambda= 0.871, $p < 0.01$) and GM ($F(3, 108) = 12.35$, Wilks' Lambda= 0.745, $p < 0.001$) significantly differ across both countries³, concluding that EIT is affected by the country. Therefore, Hypothesis 1 is confirmed.

Separate ANOVAs on the dimensions show significant country effects on risk-taking ($F(1, 110) = 12.70$, $p < 0.001$), international cognition ($F(1, 110) = 6.95$, $p < 0.01$), international knowledge ($F(1, 110) = 12.14$, $p < 0.001$), and international behavior ($F(1, 110) = 3.95$, $p < 0.05$). However, ANOVA results do not show significant values for the dimensions of innovativeness and proactiveness.

³ We use a two-tailed test because no specific assumptions have been made about which country has higher scores on the dimensions.

<i>Variables</i>	<i>Mean</i>	<i>SD</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) Risk-taking	5.40	0.95	1.000											
(2) Innovativeness	5.49	1.07	0.193 *	1.000										
(3) Proactiveness	5.69	0.82	0.405 ***	0.390 ***	1.000									
(4) Int. Cognition	5.86	0.71	0.307 ***	0.182	0.482 ***	1.000								
(5) Int. Knowledge	5.37	1.02	0.176	0.090	0.261 **	0.376 ***	1.000							
(6) Int. Behavior	5.31	0.93	0.129	0.247 **	0.346 ***	0.406 ***	0.331 ***	1.000						
(7) Age	29.77	5.81	0.237 *	-0.112	-0.055	0.160	0.283 **	0.033	1.000					
(8) Gender (female = 1)	0.14	0.34	-0.046	-0.134	-0.018	-0.004	-0.029	0.116	0.043	1.000				
(9) Education	3.63	0.75	0.130	-0.119	-0.078	0.222 *	0.242 *	-0.010	0.430 ***	0.090	1.000			
(10) Int. studies (yes = 1)	0.46	0.50	0.226 *	-0.177	0.074	0.165	0.339 ***	0.047	0.346 ***	0.066	0.329 ***	1.000		
(11) Language skills	5.69	1.33	0.264 **	-0.027	0.196 *	0.394 ***	0.447 ***	0.139	0.140	-0.023	0.346 ***	0.365 ***	1.000	
(12) Country (Pakistan = 1)	0.47	0.50	-0.322 ***	0.096	-0.073	-0.244 **	-0.315 ***	0.186 *	-0.280 **	0.044	-0.519 ***	-0.472 ***	-0.465 ***	1.000

Notes: Germany n = 59/Pakistan n = 53; ***: $p < 0.001$, **: $p < 0.01$, *: $p < 0.05$, $p > 0.05$ 'n.s.' (two-tailed test).

Table 4-1: Correlations and descriptive statistics of measurement variables.

	<i>Germany</i>		<i>Pakistan</i>		
<i>Variables</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Fisher's Exact Test</i>
Age	31.31	5.18	28.06	6.04	***
Gender	0.12	0.33	0.15	0.36	n.s.
Education	3.00	0.62	2.25	0.62	***
Int. Studies	0.68	0.47	0.21	0.41	***
Language skills	6.27	0.83	5.04	1.48	***

Table 4-2: Means, Standard Deviations, and Fisher's exact test.

Notes: Germany n = 59/Pakistan n = 53; ***: $p < 0.001$, **: $p < 0.01$, *: $p < 0.05$, $p > 0.05$ 'n.s.' (two-tailed test).

The statistical results of the Mann-Whitney-*U* test and the effect size⁴ estimate r , show that German entrepreneurs possess significantly higher levels of risk-taking ($Mdn = 5.50$; $r = 0.29$, $p < 0.01$), international cognition ($Mdn = 6.00$; $r = 0.24$, $p < 0.01$), and international knowledge ($Mdn = 5.67$; $r = 0.33$, $p < 0.001$) than their fellows from Pakistan ($Mdn = 5.25/5.75/5.00$). Interestingly, we found that levels of international behavior are significantly higher in Pakistan ($Mdn = 5.60$; $r = 0.18$, $p < 0.01$) than in Germany ($Mdn = 5.00$). This indicates that Pakistani entrepreneurs act more internationally than German entrepreneurs. Furthermore, the results do not show significant values for the dimensions of innovativeness and proactiveness. According to this result, entrepreneurs from both countries have comparable levels of innovativeness ($Mdn = 5.50$ Germany/5.75 Pakistan) and proactiveness ($Mdn = 5.75$ both).

The Mann-Whitney-*U* results show complete agreement with the ANOVA results. Consequently, we accept Hypotheses 2, 5, 6, and 7 and reject Hypotheses 3 and 4.

⁴ Based on the fact that the statistical results do not provide information about the nature or size of the effect, we estimated the effect size r by converting the z-score (Andy Field, 2013; Rosenthal, 1991).

		<i>MANOVA</i>	<i>ANOVA</i>
<i>Construct</i>	<i>Variables</i>	<i>Wilks' Lambda</i>	<i>F</i>
EO	Risk-taking	0.871 **	12.70 ***
	Innovativeness		1.02
	Proactiveness		0.58
GM	International Cognition	0.750 ***	6.95 **
	International Knowledge		12.14 ***
	International Behavior		3.96 *
df/Error df		3/108	1/110

Table 4-3: Results of MANOVA, ANOVA, and Mann-Whitney-U test.

Notes: Germany n = 59/Pakistan n = 53; ***: $p < 0.001$, **: $p < 0.01$, *: $p < 0.05$, $p > 0.05$ 'n.s.' (two-tailed test).

4.5. Discussion

The purpose of this study was to examine how entrepreneurs from Germany and Pakistan differ in their EIT based on assessment of EO and GM at the individual level. Our findings show that the distribution of EIT is affected by the country, and; therefore, presumably by institutional environment and national culture, indicating support for using the institutional theory and mindset theory in the study context.

In case of risk-taking we found that entrepreneurs based in Germany show higher levels than their fellows in Pakistan. This may be related to the stable institutional environment that Germany offers for entrepreneurial ventures (T. Baron & Harima, 2019; Sternberg et al., 2018). The higher levels of institutional support and social security German entrepreneurs enjoy could mean that they can afford to take more risks. Pakistan on the contrary is characterized by political instability and business burdens, which impact the trust in formal institutions and restrict aspects of entrepreneurial behavior (Nishat & Nadeem, 2016; Williams & Shahid, 2016). Existence of uncertainty is found to cause high level of risk avoidance (Stewart et al.,

2008). Thus, it is evident that the uncertain and volatile environment of Pakistan amplifies perceived risks due to, for example, turnover fluctuations, inflation and resource scarcity, and challenging entrepreneurial firm growth (Noor Muhammad et al., 2016). It may be expected that even a venturesome entrepreneur may act more risk-averse in an unstable environment with low institutional and social support due to fear of failure and existential loss (Noor Muhammad et al., 2016).

Against our expectation, we found that entrepreneurs in advanced markets and entrepreneurs in developed markets show comparable levels of innovativeness and proactiveness for which we give two possible explanations. First, entrepreneurial individuals like our respondents—who are based in incubators and innovation spaces—are innovative and proactive by nature. This would indicate that innovativeness and proactiveness are essential cognitive factors of every individual engaged in high-growth entrepreneurship and; therefore, related to a universal entrepreneurial mindset (Mitchell et al., 2002; Stewart et al., 2008). Second, our finding is consistent with GEM data, which shows almost equal and above-average innovation rates in both countries (GEM, 2018b). Pakistani entrepreneurs therefore appear able to catch up with the innovation levels of an innovation-driven economy like Germany. Additionally, conflict-affected environments such as Pakistan's provide business opportunities arising from reconstruction and constant change (Desai, 2011), which innovative individuals proactively exploit to fill market gaps (Noor Muhammad et al., 2016). We argue that founders of high-growth entrepreneurial firms in Pakistan have thus managed to successfully exploit business ideas and innovate in an unfavorable institutional environment, which could not have taken place without high levels of proactiveness and innovativeness.

Our analysis reveals cross-national differences in international cognition, consistent with prior findings (Felićio et al., 2013, 2016). Felićio et al. (2016) assume that entrepreneurs from Norway with a highly individualistic culture exploit stronger rational behaviors to meet their firms' growth objectives compared to more collectivistic countries like Lithuania and Portugal, which mainly focus on social relationships, cross-disciplinary collaboration, and teamwork to achieve entrepreneurial growth. Contrary to their findings; however, we show that Germany, where individualistic culture highly prevails, has higher levels of international

cognitive factors in areas such as cross-disciplinary collaboration and teamwork compared to Pakistan.

Despite having lower international knowledge through travel and contact with people abroad, Pakistani entrepreneurs exhibit higher levels of international behavior. While Germans enjoy being part of the eurozone and the privileges of visa-free travel and frequent contact to neighboring countries, Berlin's entrepreneurial ecosystem is additionally shaped by an international environment due to a high number of migrants (T. Baron & Harima, 2019). However, German entrepreneurs mainly focus on the national market and perform poorly in the cross-country comparison of their internationalization tendencies (Sternberg et al., 2018). Our study is consistent with this finding and found Pakistani entrepreneurs to have higher levels of international behavior. We explain this finding by assuming that German entrepreneurs being involved in TEA potentially do not feel the need to focus on foreign markets as the national entrepreneurial ecosystem provides favorable conditions in terms of the market opportunities, customers, and networks that entrepreneurial firms need to grow. We assume that German entrepreneurs within their TEA stage first tend to grow locally and might venture abroad in later stages after having had exploited local opportunities. However, the fact that Pakistan is a developing and politically fragile state impacts entrepreneurial growth opportunities within the country (Nabeel Muhammad et al., 2017; Nishat & Nadeem, 2016), pushing Pakistani entrepreneurs to seek knowledge and markets abroad due to the limited opportunities and resources their own country provides (Noor Muhammad et al., 2016). Along with Gaffney, Cooper, Kedia & Clampit (2014) we conclude, that Pakistani entrepreneurs have a higher need for a GM, in particular international behavior, to be competitive.

4.6. Conclusions and Implication

Our study contributes to IE literature by applying the concepts of EO and GM through the lens of the institutional theory and mindset theory comparatively between a fragile and a stable context. Thus, we developed a framework to investigate how entrepreneurs based in Germany and Pakistan differ in their internationalization tendencies. Results from the study raise three important implications for IE theory and practice.

First, we contribute to theory as we have expanded the use of the institutional theory to a new context and respond to the literature gap mentioned by Bruton et al. (2010) that entrepreneurship studies mainly use the institutional theory in a single-country setting. Furthermore, our study is one of very few studies that applies the mindset theory to capture EIT and investigate GM in a cross-national setting. Thus, we provide empirical evidence on the impact of macrolevel factors, such as institutions and economic development, on microlevel cognitive and behavioral entrepreneurial characteristics, advancing previous research that has been mainly conducted on the macro-country level (Kiss et al., 2012; Terjesen et al., 2016). Thus, our study represents a response to calls for research into how entrepreneurs based in developed and emerging markets differ in cognitive factors associated with entrepreneurial growth (Kiss et al., 2012). Our findings show that EIT are affected by the national context as well as significant cross-country differences in four of six EIT aspects.

Second, our study compares internationalization tendencies across two countries, which combines the fields of entrepreneurial internationalization and international comparisons of entrepreneurship (Jones et al., 2011). Therefore, we contribute to the development of IE literature by addressing the young stream of CEI (Jones et al., 2011) and respond to recent calls for more comparative studies to explore cross-country similarities and differences in entrepreneurial internationalization (Kiss et al., 2012; Terjesen et al., 2016). This provides evidence of similarities and variations in EIT and reduces the risk stemming from the generalization of nation-specific results (Stewart et al., 2008; Terjesen et al., 2016). Our findings could support future scholars in theory development with respect to CEI.

Finally, our study has practical relevance in two ways. First, the findings could aid public policy makers from both countries to identify institutional support and programs that best foster entrepreneurial growth and internationalization. For instance, enhancing international knowledge of Pakistani entrepreneurs through higher exposure to international markets via cultural exchanges, events and pedagogical approaches, such as those involving direct interaction with counterparts in other geographic locations (Musteen et al., 2018), could prove beneficial. Additionally, strengthening institutional structures and providing regulatory support to Pakistani entrepreneurs, such as funding, tax cuts and innovation incentives, could encourage them to take higher risk and venture into new markets. The German government could also incentivize local entrepreneurs to engage with international markets, particularly

given their international cognition and international knowledge, while raising awareness within the startup ecosystem on the importance of internationalization for sustained growth and competitiveness.

4.7. Limitation and Future Research

This study has taken a step in the direction of proving significant variations in modes and patterns of national EIT. However, our research may have its limitations.

First, our data is self-reported, and results show a tendency for positive responses as the *Mdn* of the EIT dimension is above five for both countries (Table 3). This indicates that our respondents might have over-estimated their cognitive characteristics related to EIT. However, we are assured that our results are not biased as the bias is rather related to the collection of sensitive data (Carr & Sequeira, 2007).

Second, we draw our analysis by focusing on Germany and Pakistan—two contrary countries. Furthermore, we collected data from two cities in Pakistan—Karachi and Lahore—and from one city in Germany—Berlin. It might be that there are also variations on the regional level within a country (Kriz et al., 2016). Furthermore, Berlin is known for its developed startup scene and thus might differ from other cities in Germany as well. Therefore, care needs to be taken when generalizing results to the country-level or the region-level.

Also, the measurement of EO was previously administered and validated largely in western countries and may therefore produce biased results when applied in other national and cultural contexts (Runyan et al., 2012). In addition, other constructs explaining EIT, such as international entrepreneurial intention or international attitude (Jie & Harms, 2017; Sommer, 2010) could be used in future studies.

Despite these limitations, we are confident that our results are novel and suggest the need for further studies to validate our results by focusing on a greater number of countries and a larger sample size. Our study can also be complimented with a qualitative analysis to explain the results.

4.8. Supplementary Information

Author Contributions: Conceptualization, L.H.M. and L.R.; data curation, L.H.M. and L.R.; Methodology, L.H.M. and L.R.; formal analysis, L.H.M.; writing—original draft preparation, L.H.M.; writing—review and editing, L.H.M. and L.R.; visualization, L.H.M.

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Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

<i>Variables, Items, and Cronbach's Alpha</i>	<i>Factor loadings</i>	<i>Reference</i>
Risk-taking (4 items, $\alpha = 0.72$)		(Goktan and Gupta 2015)
Scale: Totally disagree (=1)/Totally agree (=7)		
How well do the following statements on risk-taking describe you?		
1. I am willing to get involved in situations where the outcomes are not certain.	0.752	
2. I would rather take my chances and try something new, than regret later about it.	0.555	
3. I enjoy doing things where there is some risk involved.	0.534	
4. My career choices can certainly involve professions that may involve financial uncertainty for me.	0.813	(Goktan and Gupta 2015)
Innovativeness (4 items, $\alpha = 0.86$)		
Scale: Totally disagree (=1)/Totally agree (=7)		
How well do the following statements on innovativeness describe you?		
1. I like to experiment with new technologies.	0.734	
2. Among my peers, I am usually the first one to try out new technologies.	0.857	
3. I am never hesitant to try out new technologies.	0.855	(Goktan and Gupta 2015)
4. If I heard about something new, I would look for ways to try it out.	0.819	
Proactiveness (4 items, $\alpha = 0.70$)		

Scale: Totally disagree (=1)/Totally agree (=7)		(Goktan and Gupta 2015)
How well do the following statements on proactiveness describe you?		
1. If I see something I don't like I fix it.	0.365	
2. No matter what the odds, if I believe in something, I will make it happen ...	0.832	
3. I love being a champion for my ideas even against others' opposition.	0.723	
4. I am always looking for better ways to do things.	0.391	
International Cognition (4 items, $\alpha = 0.69$)		(Felício et al. 2016)
Scale: Totally disagree (=1)/Totally agree (=7)		
How well do the following statements on cognition describe you?		
1. I encourage cross-disciplinary collaboration.	0.520	
2. I am able to listen to others and change my opinion.	0.654	
3. I believe that I can influence what happens around me.	0.768	
4. I am an active member when working in a team.	0.609	
International Knowledge (3 items, $\alpha = 0.40$)		(Felício et al. 2016)
Scale: Totally disagree (=1)/Totally agree (=7)		
How well do the following statements on knowledge describe you?		
1. In my job, I am in contact on a daily basis with international clients, suppliers, and employees.	0.545	
2. I have gained experience from international travel.	0.742	

3. I have other relevant experience.	0.506	
International Behavior (5 items, $\alpha = 0.76$)		Adapted from (Felício et al. 2016)
Scale: Totally disagree (=1)/Totally agree (=7)		
How well do the following statements on behavior describe you?		
1. I think that internationalization is the only way to achieve the growth objectives.	0.619	
2. I am willing to lead the enterprise into the international market.	0.610	
3. I spend considerable amounts of time planning international operations.	0.699	
4. I see the world as a single, vast market.	0.825	
5. I see the world not only as a playground (i.e., a new market to explore) but also as a school (i.e., a source of new ideas and knowledge).	0.701	
Demographics		
In which country are you currently based? (Open)		
What is your age in years? (Open)		
Which gender do you identify with? (Female = 1)		
Please specify the highest level of education you attained. (High School = 1; Technical Training/College = 2; Bachelor's Degree = 3; Master's Degree = 4; Doctorate = 5)		
Have you studied abroad? (Yes = 1)		
Please specify your foreign language skills level of your first foreign language. (Not existent (=1)/Excellent (=7))		

Table 4-4: Questionnaire variables: items, factor loadings, Cronbach's Alpha, and references.

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**PART FIVE: A SPOTLIGHT ON
HUMAN CAPITAL
INVESTMENT FOR
SUSTAINABLE
ENTREPRENEURSHIP**

5. Entrepreneurship Education and Sustainable Development Goals: A literature Review and a Closer Look at Fragile States and Technology-Enabled Approaches

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Abstract: Entrepreneurship has the potential to reduce poverty, stimulate economic growth and boost innovation, in addition to enhancing social and environmental sustainability. In accordance with the human capital theory and previous empirical studies, it is assumed that entrepreneurship education and training (EET) directly correlates with positive entrepreneurial outcomes and therefore sustainable development. Although several scholars have attempted to review and analyze EET literature over the past decade, none of these reviews directly links EET with sustainable development or focuses on the role and status of EET (research) in less-stable areas of the world. This systematic review thus attempts to analyze recent literature to identify the extent to which EET research addresses Sustainable Development Goals (SDGs). The review identifies several gaps in research and practice that potentially hinder EET from adequately advancing sustainable development, including a dearth of research on fragile states and demographic diversity, limited EET access to non-university students and a general lack of focus on educational technology, progressive education approaches, and innovation in fragile countries compared to stable ones. The review also identifies challenges pertaining to EET resource constraints in fragile contexts. The paper concludes by offering insights on how educational technology could mitigate EET

challenges in fragile environments to ultimately ease some barriers towards SDG advancement and provides recommendations for future research directions.

Keywords: Sustainable Development Goals; Entrepreneurship Education and Training; Fragile States; Educational Technology

5.1. Introduction

Two billion people currently live in countries impacted by fragility, conflict and violence, with the percentage of individuals living in extreme poverty in conflict-affected areas expected to rise to more than 60% by 2030 (World Bank, 2018b). High (youth) unemployment levels in fragile contexts not only hinder economic development, but also contribute to violence and conflict (OECD, 2016b). For instance, evidence from the Sahel region shows that the social stigma accompanying poverty and unemployment drives youth to join armed groups in pursuit of social recognition (International Alert, 2018), while the lack of economic opportunity and the promise of a regular income have driven many Syrians to join extremist groups (Aubrey et al., 2016). Without youth engagement in the labor market, the vicious cycle of poverty and violence cannot be broken.

Realizing the importance of economic empowerment to achieve Sustainable Development Goals (SDG), the United Nations (UN) has been increasingly focusing on entrepreneurial interventions to support ambitious youth to start their own businesses and generate employment opportunities for themselves and others (United Nations, 2017). Entrepreneurship has also been shown to contribute to advancing social and environmentally sustainable development areas with positive impacts in the areas of financial inclusion, empowerment of women, sustainable farming, and minority integration, among many others (Apostolopoulos et al., 2018). Entrepreneurship therefore has direct positive impacts specifically towards poverty alleviation (SDG 1), economic development and unemployment reduction (SDG 8), enhancement of infrastructure and innovation (SDG 9), social equality and inclusion (SDGs 5 and 10) and sustainable production and consumption (SDG 12).

Empowering individuals with sufficient academic education creates the necessary human capital to enhance product and process innovation (Baumol et al., 2011), while specialized entrepreneurship education and training (EET) enhances entrepreneurship-related human capital, skills and behaviors (Martin et al., 2013; Walter & Block, 2016). Particularly in contexts of fragility and poverty, where unskilled entrepreneurs predominate and small business activities are mostly of a low-growth, survivalist nature (Z. Acs, 2006; Karnani, 2009; Naude, 2007), EET is vital in allowing entrepreneurship to reach its full potential. Suboptimal access, quality, and regulation of formal education systems in several less-developed countries

(Kremer et al., 2017), however, call for innovative means of delivering entrepreneurial capacity-building interventions beyond—in addition to within—the walls of traditional formal education institutions.

Adaptive learning technologies could provide significant value in less-developed countries by supporting and supplementing their educational needs (Nye, 2015), while enabling personalization of learning, establishing connections between learners, increasing student engagement, and providing access to various learning materials (Woolf et al., 2013). With even the world's least-developed countries currently exhibiting rapid growth in technology adoption (ITC, 2017), there is little reason digitalization cannot become a friend of, rather than a threat to, the advancement of global sustainable development.

Despite recent advancements in the EET research field and the publication of several literature reviews and meta-analyses in the area (Fayolle, 2013; Martin et al., 2013; Valerio et al., 2014; Walter & Block, 2016), little research connects the EET literature with sustainable development and, to my knowledge, none has been found that directly analyzes EET's relationship to SDGs. Realizing EET's vital role in enhancing entrepreneurship in advancement of (at least) six SDGs, it is important to understand the target beneficiaries, approaches, outcomes and tools employed by current EET initiatives and their representation in highly reputable entrepreneurship journals.

This paper therefore features a systematic literature review inspired by Eichler and Schwartz (2019), where recent entrepreneurship publications in the EET area are analyzed with respect to their contribution to SDGs 1, 5, 8, 9, 10 and 12. Though the review revealed adequate emphasis on outcomes pertaining to SDG 8, several gaps in research and practice are identified that potentially hinder EET from advancing other SDGs, including a dearth of research on fragile states and demographic diversity, limited EET access to non-university students and a general lack of focus on educational technology, progressive education approaches and innovation in fragile countries compared to stable ones

An analysis of key obstacles hindering EET from achieving its sustainable potential in fragile contexts follows. The prevalence of traditional education, lack of qualified teachers, lack of funding and limited access to EET appear to challenge several less-stable countries. Educational technology, particularly ITS, is proposed as mitigation to those challenges

grounded by examples of successful implementations in various fields of education across several developing-country contexts.

5.2. Theoretical Background

Indeed, both replicative and innovative entrepreneurs (Baumol, 2010) have been shown to be instrumental for sustainable development. Replicative ones who start new businesses regardless of whether similar firms are already present in the market are important in fighting poverty (Griffiths et al., 2012), enhancing competition and increasing product supply (Minniti & Levesque, 2010). Therefore, replicative entrepreneurs could be expected to contribute to reducing poverty and tackling unemployment, directly advancing SDGs 1 and 8. However, it is the innovative entrepreneurs who provide new services and goods needed by the public, create a learning environment for future entrepreneurs, commercialize knowledge and new ideas, generate (longer-term) profitability and instigate endogenous change which has the potential to disrupt the status quo (Audretsch, 2007; Baumol & Strom, 2007; Fogel et al., 2009; Koveos & Yimin, 2012; Naudé, 2007). They therefore have the additional advantage of contributing to SDG 9 through fortifying local infrastructure, stimulating homegrown technology development and enhancing sustainable industrialization. Certainly, numerous innovations stemming from low-resource environments and poverty-stricken entrepreneurs have proven their contribution to sustainable development, as seen through examples in the green energy and healthcare technology sectors in Kenya and India (R. Khan, 2016; Pansera & Sarkar, 2016).

Entrepreneurship has the potential to advance social and environmental sustainability in addition to economic sustainability. For instance, supporting female entrepreneurship contributes to women empowerment, improving quality of life, as well as economic growth and entrepreneurial diversity (Huis et al., 2019; Kato & Kratzer, 2013; Yunis et al., 2019), hence directly contributing to the advancement of SDG 5. Migrant and refugee entrepreneurship also enhance social integration, empowerment and psychological wellbeing, reduces dependency on welfare and foreign aid, creates employment opportunities for other newcomers and stimulates domestic entrepreneurship (Betts et al., 2015; Brandt, 2010; Munkejord, 2015; Rashid, 2018; Wauters & Lambrecht, 2008), providing evidence of entrepreneurship's capability to reduce inequality and enhance social cohesion (support for

SDG 10). Additionally, recent green entrepreneurial innovations in agriculture, packaging, energy and manufacturing have the potential to directly enhance sustainable production and consumption (support for SDG 12) (Walz et al., 2017; Wikström et al., 2019).

In accordance with the human capital theory, possession of higher levels of knowledge, skills and relevant competencies is positively correlated with labor market productivity, underscoring the importance of investment in human capital to enhance economic development (Becker, 1964). In relation to entrepreneurship in particular, it is argued that proper education at secondary and post-secondary levels enhances the formation of a creative and inventive population with the necessary business start-up skills (Baumol et al., 2011).

This is further validated by large-scale studies on EET. Based on a meta-analysis of 42 independent samples consisting of 16,657 cases, EET is found to enhance entrepreneurship-related human capital, knowledge and skills, positive perception of entrepreneurship, intention to seek entrepreneurship, entrepreneurship outcomes and startup performance (Martin et al., 2013). Another study on 11,230 individuals in 32 countries shows that entrepreneurship education at the school level has a positive correlation with subsequent entrepreneurial activity, particularly in institutional environments with lower corruption control and financial capital availability (Walter & Block, 2016).

Realizing that EET impacts could differ depending on the context and audience, it is important that EET be provided to youth at various stages and in different settings. A World Bank study summarizing findings from 230 EET program evaluations in developing countries concludes that entrepreneurship education at the secondary level encourages entrepreneurial behavior and the development of relevant socio-emotional skills, while at the post-secondary level enhances the development of entrepreneurial capabilities and mindsets (Valerio et al., 2014). The study also shows that entrepreneurship training for potential entrepreneurs positively impacts their business practices and helps them in launching new businesses, while it can support practicing entrepreneurship in accessing financial capital. This clearly shows the importance of providing EET at various levels outside of advance, stable economies.

With the notion that EET positively correlates with entrepreneurial activity, I therefore assume that EET initiatives have the potential to advance several SDGs. Accordingly, EET initiatives focusing on outcomes such as business creation, innovation and technology and/or

environmentally conscious product and service development have the potential to advance SDGs 8, 9 and 12, respectively. Meanwhile, EET initiatives targeting the low-income, women and girls and/or minority groups have the potential to advance SDGs 1, 5 and 10, respectively.

Naturally, provision of education and training alone cannot be expected to achieve its goals without considering how they are delivered. John Dewey classifies education as “traditional” versus “progressive”, where traditional education involves standardized knowledge transmission from a teacher to students who are largely passive recipients of knowledge (Dewey, 1938). On the other hand, progressive education considers each learner’s capacities and interests and focuses on individual learning-by-doing, shifting the teacher’s role to a knowledge facilitator rather than provider. Traditional educational approaches therefore contradict the desire for empowerment, change and inventiveness that entrepreneurship education seeks to achieve and have even been associated with lower entrepreneurial intentions (Piperopoulos & Dimov, 2015), calling for progressive approaches in which learning and experience are merged to mirror future workspaces and emphasize critical thinking, reflection and collaboration (Dewey, 1938; McGuigan, 2016).

Additionally, the general relevance of traditional education is now less than ever given that learners can access a myriad of knowledge sources through digital means even in several less developed and fragile settings (Nye, 2015). There is therefore a higher need for specialists to support learners in organizing and prioritizing knowledge rather than its mere provision, while utilizing digital means and educational technology given their extraordinary potential to enhance the quality, outcomes and accessibility of education and learning (Kostoska & Kocarev, 2019; Velázquez & Méndez, 2018), with EET being no exception.

The conceptualization of EET's contribution to SDG advancement is portrayed in Figure 5-1.

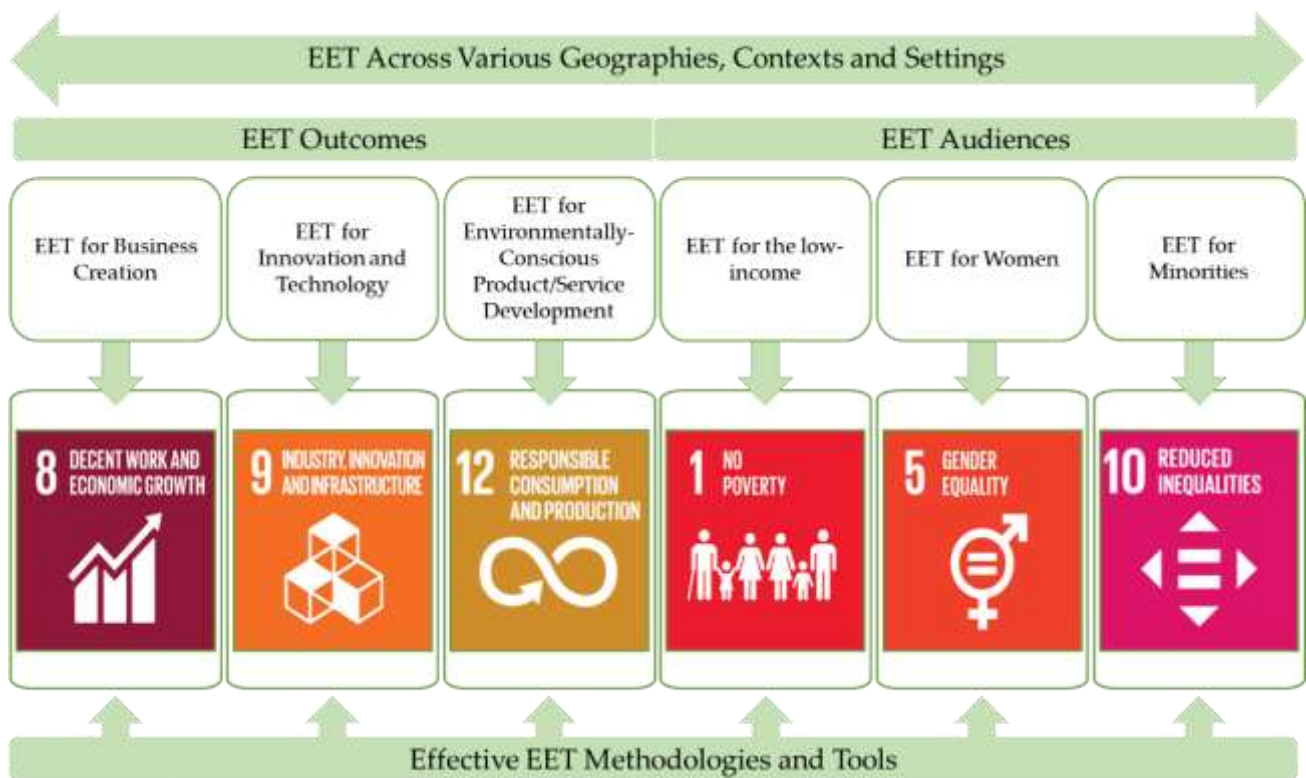


Figure 5-1: Conceptual framework on the EET-SDG relationship.

5.3. Systematic Review of EET Literature

A systematic literature review was conducted following Tranfield et al.'s methodology and the PRISMA guidelines (Moher et al., 2009; Tranfield et al., 2003), to examine entrepreneurship literature's contribution to sustainable development in accordance with the theoretical framework. Therefore, EET literature in mainstream, high-impact entrepreneurship journals was reviewed to identify the main geographies and settings, target audiences, desired outcomes and common methodologies and tools employed by recent EET initiatives. The process and results of the systematic review are summarized in Figure 5-2.

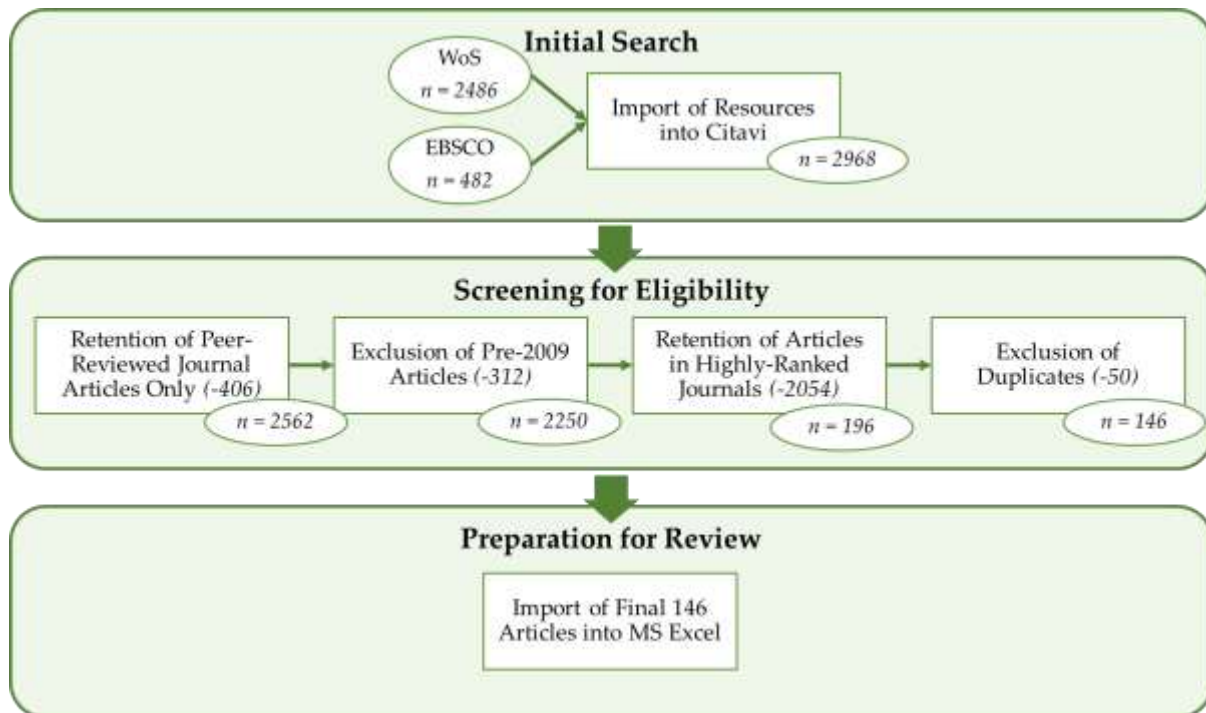


Figure 5-2: Summary of the systematic literature review process.

This was initiated by searching for scholarly works that contain the keywords/terms “entrepreneurship” and “education”, “entrepreneurial” and “education”, “entrepreneurship” and “training”, “entrepreneurial” and “training” or “sustainable development” and “entrepreneurship” in their titles in the Web of Science (WoS) and EBSCO Business Source Complete databases using Citavi Reference Management Software, resulting in 2486 WoS and 483 EBSCO entries. WoS was used due to its comprehensive coverage of literature in social sciences, the humanities and technology (Falagas et al., 2008) and was preferred to other similar databases such as SCOPUS due to its coverage of journals with generally higher impact compared to SCOPUS (Chadegani et al., 2013). Meanwhile, EBSCO was used, as it is considered one of the most complete business studies databases (Zott et al., 2011).

The resulting database was extracted to Microsoft Excel, and resources published before 2009 were removed, as more recent literature has higher relevance in terms of informing current research, policy and practice recommendations. Books and book chapters were also removed from the database.

The resulting 2250 entries were then filtered by selecting peer-reviewed journal articles published in the 37 most highly ranked entrepreneurship journals according to the German Academic Association for Business Research (VBH) (VHB, 2019). Peer-reviewed journal articles were mainly chosen, as they are considered highly validated and impactful knowledge sources (Podsakoff et al., 2005). The reason for focusing explicitly on highly ranked entrepreneurship journals embodies a response to two recent calls for action from entrepreneurship scholars. The first of these was Wiklund et al.'s (2019) criticism of business research as being too little focused on solving real problems, with entrepreneurship research in particular being one field where social relevance can and should be combined with theoretical rigor, including focusing on many aspects of sustainable development. The second was Welter et al.'s (2017) call to diversify entrepreneurship research beyond silicon-valley-like contexts and without disregarding specific social groups from entrepreneurship research due to their perceived lack of economic contribution, hence implicitly labeling them as "unimportant". This analysis therefore sheds light on whether and how established entrepreneurship journals are indeed shifting focus to sustainable development as desired target and outcome of entrepreneurship and on the demographic diversity and social inclusion of various groups as research subjects, particularly within the ever-growing research subfield of EET.

The resulting 196 resources were then analyzed for duplicates, leading to the removal of an additional 50 (repeat) entries. The analysis then began for the remaining set of 146 journal articles. After reading all the abstracts, the articles were classified based on their type (empirical, theoretical/review, book review) to give an overview of the literature characteristics. Articles for which no access was given, those featuring no empirical analysis or case studies of EET programs or featuring an empirical analysis or case studies on non-EET initiatives (e.g., general education or technology transfer) were marked as excluded from further analysis with regards to EET impact on SDGs.

The 79 remaining articles were then thoroughly analyzed by scanning their full texts and summarizing key findings relevant to their contribution to SDG advancement. The articles were categorized based on several criteria. Firstly, target geography was considered in two different ways: classification by "region" was performed according to the seven administrative world regions defined by the World Bank (World Bank, 2019) and classification

by “fragility” was done according to the Fragile State Index (FSI) developed by The Fund for Peace (FFP) (Fund for Peace, 2019a). The FFP created the FSI based on a Conflict Assessment System Tool (CAST) that assesses the vulnerability of a state to collapse in pre-, active- and post-conflict situations based on 12 cohesion, economic, political and social indicators. The FSI considers 178 states and classifies them in 4 categories – alert, warning, stable, and sustainable—based on their FSI scores, with the highest-scoring states classified as “alert”, and the lowest-scoring as “sustainable”.

Resources were also categorized according to the nature of EET, focusing on education/training setting as well as the demographic diversity of target EET recipients (with focus on SDGs 1, 5 and 10). Additionally, key desired EET outcomes relevant to advancing SDGs 8, 9 and 12, whether education is provided in a traditional or progressive manner and the use of educational technology were documented. Finally, EET challenges were identified based on the reviewed literature with a specific focus on initiatives in less-stable countries (warning/alert FSI classification).

5.4. Findings and Discussion

The majority of analyzed studies appear to be of an empirical nature, with a focus on EET programs within higher education institutions. Of these, several papers feature descriptive case studies of EET, where the design, expected outcomes and challenges of specific EET programs are outlined while highlighting unique features such as teaching philosophies, pedagogical approaches and innovative curricula (e.g. Asvoll & Jacobsen, 2012; Buller & Finkle, 2013; Janssen & Bacq, 2010; Lefebvre & Collot, 2012). On the other hand, most of the quantitative studies in the review appear to use self-reported questionnaires administered to EET program participants to evaluate EET outcomes such as entrepreneurial intention and motivation (e.g. Ahmed et al., 2017; Elmuti et al., 2012; Mayer et al., 2014), opportunity recognition (e.g. Ghina et al., 2017; Morris et al., 2013) and self-efficacy (e.g. Fayolle & Gailly, 2015; Morris et al., 2013). Very few studies appear to have employed longitudinal approaches (e.g. Arpiainen & Tynjala, 2017; Dutta et al., 2011; Gielnik et al., 2017) or non-self-reported questionnaires (e.g. Drummond, 2012; Turnbull & Eickhoff, 2011). Additionally, with a few exceptions (e.g. Benson et al., 2012; Hoppe, 2016), most of the reviewed empirical studies do not appear deeply rooted in theory.

A smaller proportion of the reviewed papers are of conceptual or review nature. A few of those studies introduce conceptual models and theoretical frameworks for the assessment and evaluation of EET programs (e.g. Ghina et al., 2015; Thrane et al., 2016), while others involve systematic literature reviews and meta-analyses of the methods and impacts of published EET literature (e.g. Lorz et al., 2013; Rideout & Gray, 2013). However, none of those literature review or conceptual papers appear to analyze EET explicitly in the sustainable development context.

The following subsections feature a deeper dive into the nature, context and impact of the analyzed literature with respect to SDGs.

5.4.1. Bibliometrics

As seen in Figure 5-3 and Figure 5-4, there appears to be an increase in academic interest in EET over the past 10 years, with the majority of the articles being of empirical nature. The year 2019 is not included in the figures, given that only the first half of the year is represented thus far.

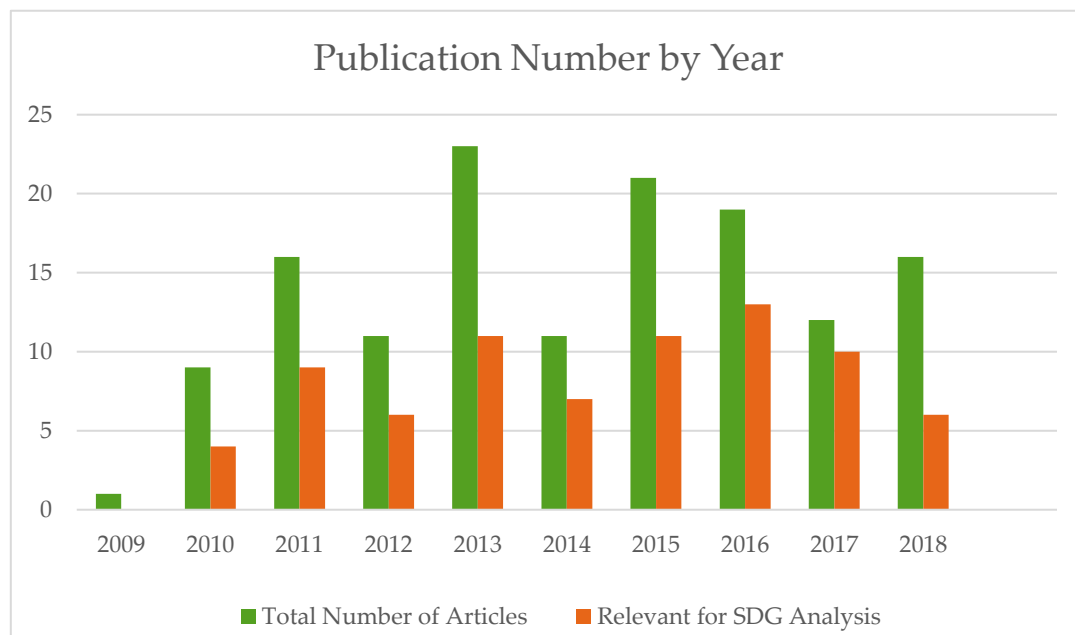


Figure 5-3: Publication number by year.

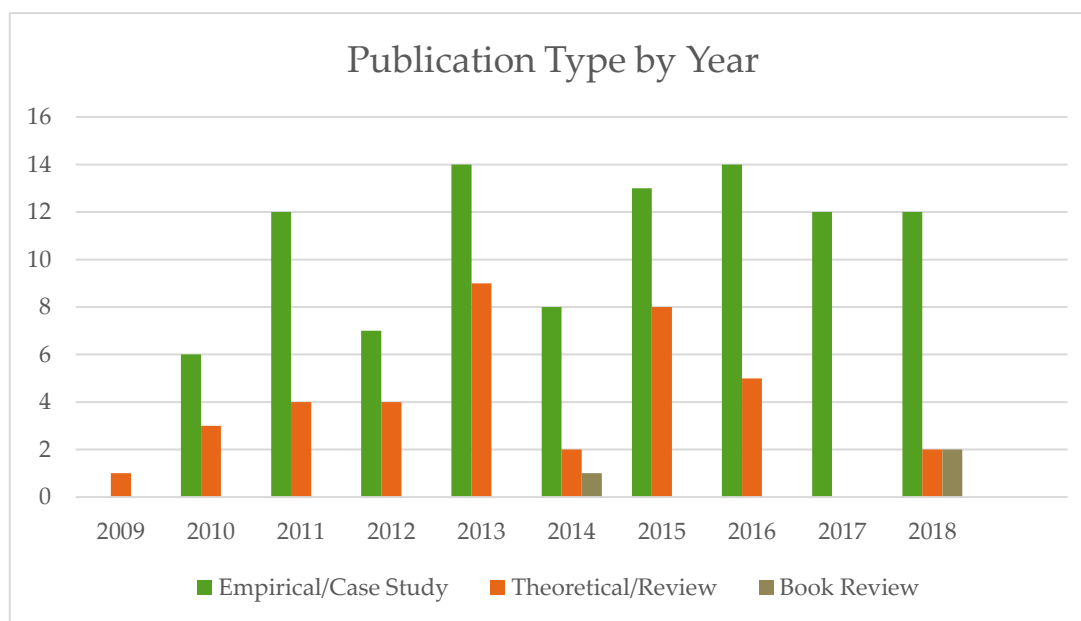


Figure 5-4: Publication type by year.

5.4.2. Country Context

The analyzed articles were classified according to their respective target regions and country fragility levels as seen in Figure 5-5 and Figure 5-6. The vast majority of the reviewed EET initiatives target the Europe and Central Asia region (51%) and about 16% focus on North America. Only 10% of the articles handle EET programs in the Sub-Saharan African region, 10% of the articles focus on the East Asia and Pacific region, 6 articles handle the Middle East and North Africa region covering Egypt (3 articles), Iran (2 articles), Israel (1 article) and Turkey (1 article), 2 articles are in South Asia (1 in Pakistan and 1 in India) and 1 article is based in Latin America and the Caribbean (Brazil). Three of the reviewed articles cover several/all global regions.

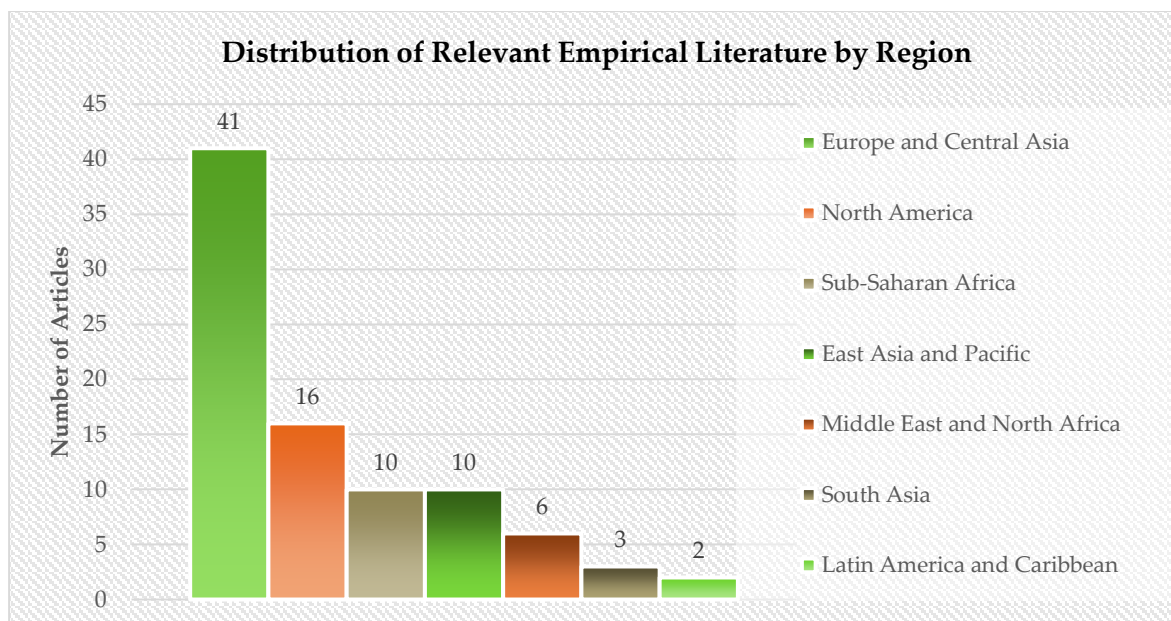


Figure 5-5: Distribution of relevant empirical studies by World Bank economic region.

Clearly, scientific interest in EET is largely focused on advanced economies. Indeed, with respect to country fragility, only 29 articles handle countries ranking among the 50% less-stable in the world (Fund for Peace, 2019a), though many handle countries such as China, Indonesia, Ghana and Ukraine, which are officially not considered fragile contexts by OECD standards (OECD, 2018). In fact, only 8% of the reviewed articles handle country contexts classified as alert and are therefore of high fragility.

This could indicate that EET in the world's more underprivileged areas, which are in the most pressing need for sustainable development, does not receive much attention from entrepreneurship scholars. Either little research is done in those parts of the world, or the research is of quality that did not match the review criteria. This could also signal difficulty in conducting research in fragile states, the preference of researchers to conduct studies based

on ease regardless of social importance and/or a general lack of EET initiatives in those locations.

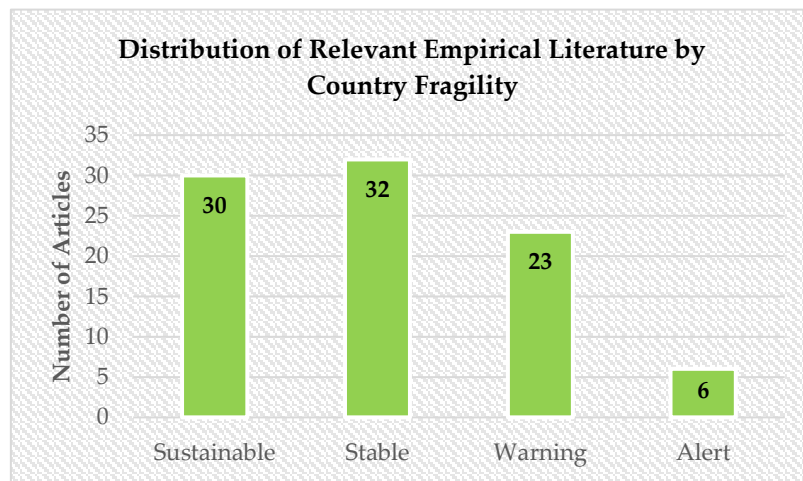


Figure 5-6: Distribution of relevant empirical studies by FSI fragility classification.

Conducting research in fragile countries, particularly those affected by extreme inequality and violent conflict, can indeed be challenging (Wood, 2006), hindered by issues of informed consent, safety of researchers and research subjects, cultural misunderstandings, emotional well-being of field researchers and lack of researcher training. This could explain why no research was found on countries such as Syria, Afghanistan and South Sudan, which rank among the world's most fragile countries and from which over 55% of global refugees originated in 2017 (UNHCR, 2018a), despite a crucial need for understanding and implementing sustainable development efforts in those countries. Those research issues are ones that intelligent technologies can support the mitigation of, as will be seen later in this paper (Section 5.6).

5.4.3. Recipients

As seen in Table 5-1, a striking 78% of the reviewed literature handles EET courses and programs for university students, with a few case studies discussing EET at the school level (13%) and vocational training institutions (3%). Only a handful of studies focus on recipients outside of academic institutions such as the unemployed and those already running their own business.

This identifies a clear gap in scientific research on school-age entrepreneurship education and a potential global shortage of EET initiatives targeting youth outside of universities. This

aligns with Global Entrepreneurship Monitor (GEM) findings that lack of EET at the school age is a key factor restraining entrepreneurship across all global geographies (GEM, 2018a). Particularly in fragile conditions, where attendance of universities may be considered a luxury by a majority of the population, EET (research) should shift focus to other audiences to maximize its sustainable developmental potential.

In addition, very few reviewed articles focus on alleviating poverty (SDG 1) or enhancing socioeconomic equality (SDGs 5 and 10) through targeting the relevant demographic segments. For instance, only 6 articles explicitly focus on low-income individuals, 4 articles handle programs primarily targeting women and girls and 2 articles handle minority groups (e.g., army veterans and youth with special needs). None of the reviewed articles explicitly targets victims of conflict, forcibly displaced individuals or migrants.

<i>EET Recipients</i>	<i>All</i>		<i>Sustainable/ Stable Countries</i>		<i>Warning/ Alert Countries</i>	
By Age Group/Educational Setting	#	%	#	%	#	%
University Students	61	78	42	75	24	83
School Students	10	13	8	14	2	7
Small Business Owners	5	6	4	7	2	7
Unemployed Adults	5	6	4	7	1	3
Students in Vocational Training Institutes	2	3	2	4	0	0
General Public	3	4	3	5	0	0
Academic Staff	1	1	1	2	1	3
By Demographic Diversity						
Low-Income Individuals	6	8	3	5	4	14
Women/Girls	4	5	1	2	3	10
Minority Groups	2	3	1	2	1	3

Table 5-1: Summary of EET recipients by age group/educational settings and demographic diversity.

Although it is highly unlikely that those demographic groups are explicitly excluded from partaking in general EET programs, it is important to recognize the challenges that hinder them from participating in or benefiting from unspecialized initiatives. For example, women have been shown to exhibit some gender-specific entrepreneurial learning patterns (Ettl & Welter, 2010), suggesting the need for personalized EET approaches for women and girls. Additionally, the psychological trauma and emotional burden facing refugees, conflict survivors, the poor and the differently abled could largely inhibit them from benefiting from

generic EET approaches (see, for example, Winder, 2015). Depression alone is reported to be up to twice as common among low-income populations (WHO, 2007). Therefore, researchers and practitioners are urged to focus on research on and implementation of EET specifically targeting diverse demographic groups to best position entrepreneurship as a vehicle to advance SDGs 1, 5 and 10 in advanced and fragile economies alike.

5.4.4. Outcomes, Methods and Tools

Key education/training objectives, methods and tools discussed in the reviewed EET literature are summarized in Table 5-2. Most reviewed studies focus on the establishment and success of small businesses and new ventures as key desired or expected outcomes of EET, which positions EET as a vehicle to advance SDG 8. Many of those studies focus on the enhancement of entrepreneurial intention through EET, exemplified by cases in sustainable/stable economies (e.g. Spain, Entrialgo & Iglesias, 2016; the USA, Kassean et al., 2015; and the Netherlands, Mayer et al., 2014), as well as warning/alert economies (e.g., Turkey (Kunday & Çakır, 2017), Egypt, Iran (Ashourizadeh et al., 2014), and Pakistan (Ahmed et al., 2017)). Others focus directly on enhancing entrepreneurial behavior such as increasing startup rate and small business success (e.g. Asvoll & Jacobsen, 2012; Ojala & Heikkilä, 2011), while a few link EET to economic growth at a macro level (e.g. O'Connor, 2013). Although a few studies reveal a negative impact of EET on entrepreneurial intentions, particularly due to decreased EET participant optimism after learning exactly what it takes to start a new business (Oosterbeek et al., 2010), or that entrepreneurial intentions are not necessarily correlated with subsequent new venture creation (Souitaris et al., 2007), the vast majority of reviewed studies generally indicate the positive effect that EET has on enhancing entrepreneurial intention, new business formation and business success. Particularly in more fragile contexts, most reviewed studies indicate a positive correlation between EET and entrepreneurial intentions. A notable exception is a study in Pakistan (Ahmed et al., 2017), where the lack of progressive and experiential learning methods is blamed for a reduced entrepreneurial intention in students who attend a university EET course. This supports studies which reveal EET's particularly important positive role in countries with higher corruption and lower institutional stability levels (Walter & Block, 2016). Additionally, it is possible that EET participants in more fragile settings generally lack the enthusiasm and optimism that peers in stable economies might possess, hence do not enter the EET programs with potentially

unrealistic expectations of launching the next revolutionary company compared to those in silicon-valley-like environments.

As for studies focusing on innovation, industrialization and technological advancement as key EET objectives (SDG 9), a clear difference is observed between sustainable/stable and warning/alert countries. The majority of studies focusing on the development of innovative mindsets and problem-solving skills are based in highly stable countries (e.g. Lefebvre & Collot, 2012; Ojastu et al., 2011; Turnbull & Eickhoff, 2011), and none have been found in an alert country. This is understandable, given the higher prevalence of technology and innovation in advanced economies. However, the growth rate in mobile broadband subscriptions in least-developed countries between 2012 and 2017 was almost 55%, in addition to a 37% growth in fixed broadband subscriptions (ITC, 2017). Furthermore, 15% of households in least-developed countries have access to the Internet as of 2017, while many internet users there can access the Internet from publicly available shared connections (ITC, 2017). This trend could be promising for the enhancement of various aspects of innovative entrepreneurship in fragile contexts (including the use of educational technology in EET as discussed in Section 5.6).

Only 1 of the reviewed articles aims to explicitly advance environmental sustainability (in particular SDG 12). This unfortunately highlights a lack of scientific interest within EET research and/or practical focus of current EET efforts on stimulating eco-entrepreneurship. No surprise, therefore, that in a recent study on entrepreneurship in developing countries and SDGs, total entrepreneurship activity was found to negatively correlate with environmental sustainability measures (Dhahri & Omri, 2018). With the global emergence of numerous innovations targeting environmentally sustainable production and consumption (Eichler & Schwartz, 2019; C. J. Moon, 2017), EET's role in advancing those innovations could be worth investigating. Particularly in less stable parts of the world, EET could support the much-needed change of mindset that is necessary to advance eco entrepreneurship (C. Moon, 2018).

<i>Nature of Reviewed EET Programs</i>	<i>All</i>		<i>Sustainable/ Stable Countries</i>		<i>Warning/ Alert Countries</i>	
<i>Key Objectives</i>	#	%	#	%	#	%
New Business Creation and/or Growth	75	96	54	96	28	97
Innovation, Industrialization and Technology	46	59	38	68	10	34
Environmentally Sustainable Products/Services	1	1	1	2	0	0
<i>Key Methods and Tools</i>						
Experiential Learning Approaches	50	64	41	73	11	38
Educational Technology Tools	7	9	7	13	0	0

Table 5-2: Summary of EET programs by key objectives/outcomes, methods and tools relevant to advance sustainable development.

5.4.5. EET Challenges

Several practical EET challenges were discussed in the reviewed literature pertaining to program design, delivery and evaluation. Design-related challenges include designing programs that could achieve official academic accreditation (Johannisson, 2016; Lefebvre & Collot, 2012), programs particularly aiming to enhance creativity and opportunity recognition (Karimi et al., 2016) and programs that enhance business growth rather than merely new business creation (Paco et al., 2016). Delivery-related challenges result from lack of interest in or cultural resistance to entrepreneurship (Hoppe, 2016; Janssen & Bacq, 2010) and collaboration issues between key implementation stakeholders (Asvoll & Jacobsen, 2012). Evaluation-related challenges arise from bias in self-assessment evaluations (Hayes & Richmond, 2017), lack of measurable short-term program impacts (Rauch & Hulsink, 2015) and pre-selection of students with high success potential (Martin et al., 2013).

Additional challenges related to resource availability, including lack of funding, qualified educators, learning materials and infrastructure, predominate in less-stable countries. Realizing that EET challenges differ with geographic location and country context suggests the need for higher customization of EET programs and policies. Challenges relevant to fragile contexts are further discussed in the next section.

5.5. A Closer Look: EET Challenges amid Fragility

This section zooms in on EET challenges found in countries classified in the warning or alert FSI categories per the reviewed literature. Challenges that were encountered across more than one article are highlighted and summarized in Table 5-3. Interestingly, all of those challenges pertain largely to resource constraints.

#	Challenge	Country Examples	Select References
1	Limited Access to EET Facilities/Programs	Egypt, Brazil, Mozambique, Indonesia, South Africa	(Benedict & Venter, 2010; Ghina et al., 2017; Kirby & Ibrahim, 2011; Libombo et al., 2015; Lima et al., 2015)
2	Lack of Qualified Educators	Egypt, Mozambique, Brazil, South Africa, India	(Benedict & Venter, 2010; Kirby & Ibrahim, 2011; Libombo et al., 2015; Lima et al., 2015; Mukesh et al., 2018)
3	Lack of Funding for EET	Egypt, Mozambique	(Kirby & Ibrahim, 2011; Libombo et al., 2015)
4	Prevalence of Traditional Education	Ukraine, Egypt, Mozambique, Ghana, Namibia, South Africa	(Arpiainen & Tynjala, 2017; Benedict & Venter, 2010; Dzisi & Odoom, 2017; Kirby & Ibrahim, 2011; Libombo et al., 2015; Westhead & Solesvik, 2016)

Table 5-3: EET challenges in warning and alert countries.

The first challenge identified was lack of access to EET facilities. This was observed across several locations, even though reasons for lack of access may differ. In the case of Egypt, EET is mostly available in some private university settings and seems to be made accessible mostly to the “elite class” of the society (Abbas et al., 2014; Kirby & Ibrahim, 2011). Though not specifically mentioned as a challenge in the corresponding article, a similar situation may apply to Indonesia, in which the EET program management administer psychological tests in the student selection process (Ghina et al., 2017). With mental health issues being closely related to poverty (WHO, 2007), employing psychological tests in the student recruitment process could imply the exclusion of the most underprivileged from such programs. In Brazil, EET seems limited to a handful of higher education institutes and concentrated mostly in two

more developed regions of the country (Lima et al., 2015). Educational resources and support infrastructures, such as labs, libraries, and incubators appear to be quite limited in availability in Mozambique (Libombo et al., 2015), restricting EET access.

Those Brazilian, Mozambican and Egyptian cases, in addition to studies in South Africa and India, also mention the lack of qualified teachers as a challenge to EET. According to the corresponding papers, the lack of trained educators in Brazil seems to be one of the biggest challenges to EET in the country, the number of teachers in Mozambique with specific training or experience in entrepreneurship is quite small, while Egypt needs to train educators on ways to enhance creativity and innovativeness in students, rather than simply transferring and assessing knowledge. The Indian case cites a lack of experienced educators and systemic focus on EET as obstacles to entrepreneurial development in the country, while teachers in South Africa appear to discourage students from disadvantaged backgrounds from taking courses focused on critical thinking (e.g., math and sciences), as they might be “too difficult” for them, hindering their development into active and effective labor market participants. Both articles on Mozambique and Egypt also mention the lack of financial resources as a main EET challenge, where lack of funding is a key reason leading to the limited availability of educational resources and support structures in Mozambique and the lack of EET in public Egyptian universities.

Egypt, Mozambique, Ukraine, Ghana, South Africa and Namibia also seem to have a prevalent culture of traditional education in which innovative curricula and teaching materials are lacking. Egypt has a traditional public education system where habitual memorization of standard learning materials largely prevails over fostering practical knowledge and creative thinking. Ukrainian teachers use Russian and Ukrainian textbooks, which do not incorporate recent global advances and current methods in EET as main knowledge sources. Students in Ghana report very little focus on developing practical knowledge and skills through the EET they receive, and teachers indicate the use of untailored foreign curricula as a challenge to students. Namibian students have such little exposure to progressive education that they may feel insecure when entering an innovative learning environment. Finally, the South African education system has been criticized for its poor preparation of young learners for future entrepreneurial careers and business skills due to focus on traditional learning methods.

Interestingly, several of those challenges may also apply to general academic education. For instance, a study in Nigeria indicated that the lack of infrastructure and learning facilities, public financing, inadequacy of academic staff and defective curricula are challenges facing higher education (Aluede et al., 2012). In Haiti, 80% of primary schools are private, and hence cannot be afforded by the poorer families, in addition to a shortage of trained academic staff and schooling infrastructure (World Bank, 2017). Poverty constricts access to schooling in Mexico, Malawi, Kenya and Colombia, while distance to school lessens enrollment of Afghanis, particularly girls, in school (Kremer et al., 2017). Teachers were often found absent in schools in Bangladesh, Ecuador, India, Indonesia, Peru and Uganda, while textbooks seem to be tailored only to the best performing students in Kenya (Kremer et al., 2017). Although the nature of general academic education and EET may differ, one may imply that some solutions to general academic education challenges in less-stable countries may also apply to EET.

5.6. Tackling the Challenges: The Promise of Technology

Adaptive and intelligent technologies, though not entirely new (Bloom, 1984; Carbonell, 1970; Nkambou et al., 2010), have only recently become an (increasingly) important part of debates concerning enhancing education in challenged environments (see for example Calhoun & Calhoun, 2014). Currently, though, such educational technologies range from simple innovations such as Cybersmart Africa's use of PVC pipes, nylon sheets and Nintendo Wii remote controls to create interactive whiteboards in Senegalese schools (Trucano, 2011), to complex ones combining various modern technologies to produce advanced educational software (see for example cases from Morocco (Fahim et al., 2019) and Taiwan (Chien, 2019)).

A prominent example of currently widespread educational technologies is Massive Open Online Courses (MOOCs), essentially online courses that allow anyone anywhere to register and access educational content (usually) without paying fees. Though generally seen as a potential solution to lack of educational materials, instructors and academic institutes in developing and fragile countries (Liyanagunawardena, 2015; Thapa & Sein, 2014), MOOCs do not necessarily foster the collaboration, adaptation and experiential needs of effective entrepreneurial learning. On the other hand, several experiential and collaborative learning technologies such as augmented reality (Birt et al., 2018; Lytridis et al., 2018) and wearable

technologies (Kutafina et al., 2016) might be difficult to implement in low-resources environments due to high cost and hardware maintenance needs.

Nevertheless, there exist several software-based solutions that have the ability to enhance creative thinking, collaboration and problem-solving while mitigating specific fragility-related challenges facing entrepreneurship education. Important examples are intelligent-tutoring systems (ITS), mobile applications and simulation games built on foundations of machine learning, artificial intelligence, gaming and mobile app development, among other technologies. Such technologies could have the capability to enhance personalization, collaboration, engagement in and access to learning (Woolf et al., 2013), while addressing educational challenges such as shortage of qualified teachers and lack of innovative educational materials, especially with their current availability in developing countries, both home-grown (developed by local researchers) and designed elsewhere (Nye, 2015). Below are some specific examples of successful educational technology implementations in alert and warning countries, identified through reviews of educational technology literature, that could inspire adaptive learning system development and adoption for EET in the fragile context. It is worth mentioning that searching through multiple databases, both mainstream and scientific, has yielded no results for case studies explicitly featuring implementation of adaptive educational technology in EET.

- Example 1 — Ghana and Zambia (Mills-Tettey et al., 2009).

The use of an automated reading tutor, LISTEN, was piloted in Ghana and Zambia, through which children who struggle in learning the English language learn through a personalized tutor. The tutor listens to the child as they read stories displayed on the computer screen, analyzes the reading, and provides graphical and spoken feedback. Learning progress is monitored, and stories are displayed at a level appropriate to the child's. In Ghana, this was piloted in an internet café near a school, where only one computer was needed, which the children took turns to use. The system could potentially include learning content adapted to the local culture and dialect.

The tutor was also tested on Ghanaian children from a public school in a low-income community as well as others enrolled in an informal educational program for disadvantaged children and results provide evidence that students who used the tutor gain considerably

more knowledge than others. It might also be worth mentioning that students received only minimal training in computer use before using the software, and the system was often used by multiple children at a time, who would help each other in their learning process. The system was then also tested in a Zambian school that contained a computer lab and showed promising results.

- Example 2 — Brazil (Gomede et al., 2018).

Realizing the plentitude of online-available educational resources and materials combined with a need for virtual teachers and independent student learning, Edukas was developed as “a learning environment, a management system and an analytics framework” (Gomede et al., 2018, p. 12). The system uses data mining techniques to analyze each student’s level and behavior and therefore suggest/predict learning materials that fit them the most. Therefore, the students receive personalized learning content from a large database. Teachers are also able to use the system to assess the students’ performance and define action strategies and roadmaps that enhance their decision-making capabilities.

- Example 3 — India (Banerjee et al., 2007).

The use of computer games aiming at enhancing mathematics skills was implemented in schools across Gujarat, where games were adjusted to each student’s level so each can learn at their own pace. This approach had a significant impact on increasing test scores, presumably as each student is self-stimulated independently from their own achievement level, particularly in communities where students face negative social attitudes and prejudices. Such programs also appear to be inexpensive and easy to scale.

- Example 4 — Mexico (Cabada et al., 2011).

EDUCA, an e-learning content development software, was developed to allow trainers and educators to create a variety of courses, such as Introduction to Computer Science and Maya Language. This tool allows a main instructor to create a virtual tutor using a variety of multimedia methods such as video and images and define learning styles, tags, pre-requisites and quizzes. At a later stage, learners themselves are able to add additional resources to the system. The software is then exported to a mobile format, enabling students to access content from mobile devices. Specific prerequisites and learning styles generate a personalized

learning pathway for each student. The result is an intelligent tutor that enables learning without the need for an external teacher and can be accessed remotely using a mobile device.

- Example 5 — Thailand and Pakistan (Kazi et al., 2009).

A tutoring system was developed to assign medical solutions to patient problems to aid medical students in their learning process. The system allows students to find flexible and creative acceptable solutions to several medical scenarios and helps them find solutions to complex problems that might not have a single correct answer. The system has the potential to evaluate the plausibility of the solutions created by the students and has received positive feedback when tested in two medical schools in Thailand and Pakistan.

- Example 6 — China (Graesser et al., 2005; Nye, 2015).

AutoTutor, an Intelligent Tutoring System ITS that has been implemented across multiple learning domains, including computer literacy, physics, and critical thinking, simulates a human tutor by holding a conversation with the learner in natural language. The dialogue is amplified through an animated conversational agent and three-dimensional interactive simulations to enhance learning engagement and depth. AutoTutor has been shown to significantly increase learning gains and appeared indistinguishable from a human tutor during system testing. With China's poor, rural and migrant residents being challenged by lack of access to quality education, especially with qualified teachers migrating to urban areas, the use of such ITS fits into the Chinese government strategies of developing and adopting online and digital educational technology to enhance educational outcomes across the country (OECD, 2016a).

- Example 7 — Pakistan (S. Khan et al., 2019).

Baghecha-e-Ism (BISM), an android mobile application, was developed as an educational game to support 4th graders in learning Urdu grammar. The app contains audiovisual content that was designed to better capture learners' attention while an automated content generator produces learning materials suitable for the learner's level following specific content authoring rules. The app also computes and stores analyses of each learner's progress to support evaluating and monitoring the learning process. The use of the game in Pakistani schools has been shown to yield significant improvements in knowledge acquisition and produce additional inadvertent positive results, such as enhanced collaboration between students and increased engagement and joy.

As seen in the above cases, educational technology could enhance learning even in low-resource environments among populations with low literacy levels and in school ages, such as the examples of Ghana/Zambia, Pakistan and India. In addition, the Mexico and Pakistan examples demonstrate the ability to develop and use educational technology on mobile devices, which is encouraging given the rise in mobile device adoption in least developed countries even where personal computers might not be widely available. The cases of Thailand/Pakistan and China could inspire the development of a software that aids learners in assigning viable, creative solutions to various business problems, where no one right answer might exist, in a dynamic and interactive environment. The Brazilian example also shows how adaptive learning content and effective monitoring and evaluation can be combined in one system. What those examples demonstrate is how technology can address the lack of qualified educators and educational resources such as books or libraries, while often allowing access to education from home or a mobile device at low or no cost to the student, particularly where funding for education is lacking, with the added value of personalization of learning and increased student engagement and collaboration.

In addition, technology-enabled learning environments can be aware of the learners' prior knowledge, skills and abilities and record and track different learning patterns among student groups (e.g., males versus females) as well as successful versus unsuccessful means of collaboration among students (Woolf et al., 2013). This could thus assist in assessing individual learning, for instance through evaluating input to quizzes and interactive exercises,

as well as comparing, monitoring and evaluating different learning strategies (Woolf et al., 2013). Data collected and analyzed through software applications could also include administrative data (e.g., school district, teacher) and demographic data (e.g., student age, gender, school grades), which may allow for researching, analyzing and advancing learning tools (Woolf et al., 2013).

5.7. Conclusions and Limitations

In the face of global fragility, social inequality and (youth) unemployment, entrepreneurship could be key for sustainable socioeconomic empowerment. However, this is difficult to achieve without education that employs the proper methods, tools and objectives and equally targets all society segments. Therefore, this paper sought to deepen our understanding of EET in the sustainable development context, shed light on associated challenges and better comprehend technology's role as a potential mitigation.

The study has several contributions and implications. From a theoretical standpoint, it represents one of the first analyses of entrepreneurship education in the sustainable development context and provides a unique framework to analyze the relationship of EET with respect to the advancement of specific SDGs. Additionally, it targets little-addressed research gaps on fragile-country entrepreneurship, particularly in the EET context, and provides a unique analysis of EET challenges amid fragility. Moreover, this paper blends insights from the EET, sustainable development and educational technology literature streams – ones that have rarely been combined in previous studies. This research therefore sets the stage for future empirical analyses on EET's contribution to SDGs, EET challenges in fragile contexts and technology's contribution to resolving those challenges.

The study reveals a shortage of EET research outside of stable western countries and university walls, with little focus on environmental sustainability and innovative entrepreneurship particularly in less-stable countries. Additionally, the reviewed articles seldom mentioned low-income groups, women or minorities, with no research found on EET targeting conflict-affected individuals or migrants. This could be due to the fact that researchers are often incentivized to merely publish their work rather than focus on the social or environmental implications of their research (Beynaghi et al., 2016; Wiklund et al., 2019),

which calls for institutional reforms that encourage scholars to pursue meaning and relevance in their research endeavors.

Accordingly, several specific recommendations may be made for future research. Firstly, although entrepreneurship education research has been growing in major entrepreneurship journals, there is a clear need for a shift in direction if entrepreneurship education research is to reach its full potential with respect to supporting sustainable development. This includes an increase in the quantity of research featuring EET programs that are non-university-based, located outside of institutionally stable countries and/or targeting demographic groups that are not adequately represented in entrepreneurship scholarship (see also Welter et al.'s (2017) call to diversify entrepreneurship research). For instance, a myriad of EET initiatives have been recently established in fragile countries to enhance employability and entrepreneurial knowledge for unemployed adults and school-aged youth. Such initiatives remain understudied by entrepreneurship scholars or at least highly underrepresented in highly ranked entrepreneurship journals. A few examples include YES Network Pakistan, IFAD's PROSPERER in Madagascar and Botswana's Kickstart in addition to global initiatives such as the ILO's Know About Business and the UNCTAD's Empretec (UNCTAD, 2015). Similar initiatives should be key sampling and case study targets for EET research if it were to enhance focus on advancing sustainability.

A shift in the quality of EET research is also needed. it is recommended to focus on research pertaining to the desired outcomes of EET with relation to sustainable development. For example, Moon et al. (2018) point out the importance of building a socially and ecologically aware mindset for learners and teachers alike to maximize the sustainable impact of EET in higher education institutes. Although a large number of studies focus on mindset development as key EET outcome (for example Dutta et al., 2011; Middermann & Rashid, 2019; Ndou et al., 2018; Turnbull & Eickhoff, 2011), very few focus on EET's relationship to developing the mindset needed to achieve sustainability through entrepreneurship. Additionally, I follow Schaltegger et al. (2018) in recommending additional research on the role of collaboration in achieving sustainable development through entrepreneurship, with a specific focus on EET's impact on fostering collaborative mechanisms among and within entrepreneurial ventures and teams to enhance sustainability. Finally, the success of EET programs remains largely evaluated from an economic perspective (e.g., number of startups

established, financial performance of resulting firms, etc.) rather than a social or environmental perspective (Sarasvathy, 2004). These evaluation approaches are rather insufficient to evaluate EET's contribution to sustainable development. It is, therefore, recommended to perform research evaluating EET based on impact on critical thinking skills (Straková & Cimermanová, 2018) and competencies (Eizaguirre et al., 2019) needed to achieve sustainable development, as well as using evaluation tools particularly tailored towards measuring sustainable impact (Horne, 2019).

Additionally, further research is recommended on macrolevel factors that influence EET's contribution to SDGs. For instance, studies show that additional workload on instructors (Drummond, 2012) and cultural resistance (Abbas et al., 2014; Benson et al., 2012) are among the reasons that hinder entrepreneurship educators from using experiential learning methods, but few studies focus on how resource constraints, national culture or religion contribute to these issues. Additionally, the impact of entrepreneurship policies, funding allocations and donor strategies on EET program design and outcomes with respect to sustainability are worth investigating.

In addition to pinpointing areas of improvement for current EET research to better target SDG advancement, the findings have several implications for EET practitioners. Firstly, the study identifies several areas where EET initiatives ought to shift focus. For instance, more programs that are particularly inclusive to women, ethnic minorities, differently abled individuals and the low-income need to be established. This could be supported through the involvement of those target beneficiary groups in the design and management of EET programs. The inclusion of EET in public school curricula worldwide also needs to be considered. Moreover, EET programs need not simply focus on starting a business as an end result, rather on building the mindsets and skills to create ecologically and socially responsible future products and services.

Additionally, the paper sheds light on the unique challenges that education and research face in fragile countries—namely, the shortage of funding and qualified teachers, prevalence of traditional education methods and poor access to EET—calling for alternative mechanisms through which EET implementation and research can be optimized. Alternative financing mechanisms and teacher training approaches, particularly to build an experiential learning

culture and sustainability mindset within educators, might be particularly worth considering in fragile settings.

Technology-based EET is proposed as a possible mitigation to the challenges in fragile contexts, as several educational technologies do not only allow for the personalized, collaborative learning needed for entrepreneurial skill and mindset development, but could potentially tackle specific education challenges such as lack of access to learning centers, qualified educators and innovative teaching materials in the absence of sufficient financial resources. In addition, such technologies provide alternative research avenues by easing some of the barriers associated with conducting research in alert and warning countries. Future research evaluating how various technological tools and approaches could be best implemented in EET is needed in addition to research focusing on using educational technology as means to research and evaluate EET initiatives. Moreover, practitioners are invited to experiment with implementing such technologies in EET, drawing on learnings from other educational contexts.

Undoubtedly, findings from this study are not conclusive, and are dependent on the literature search criteria used in this systematic review. For example, literature from development economics, pedagogical sciences and computer science has not been explicitly included in the main review conducted in this paper. In addition, alert and warning countries are not all the same and each has unique characteristics and challenges that need to be carefully evaluated and considered when formulating solutions. This article simply aims to emphasize some of these challenges to open the door for contemplation and future investigation.

Finally, technology alone cannot be considered a magic problem solver. The success of using technology to tackle education challenges highly depends on technology customization to local culture and traditions, whether proper analysis of local needs was performed, availability of adequate technical maintenance and the provision of local guidance on technology use (Shah, 2011). In addition, issues such as poor infrastructure (e.g., electricity, internet or hardware availability) and the enforcement of local political regulations on learning content need to be considered (Nye, 2015). This calls for proper communication and alignment between technology developers, sponsors, end-users and host governments (Nye, 2015), as well as thorough analysis and understanding of local environments. Leveraging on-

the-ground resources, such as civil society organizations, activists and community leaders could prove valuable in those circumstances.

5.8. Supplementary Information

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PART SIX: CONCLUSIONS

6. Conclusions

This thesis focuses on the assessment of HCAs (papers 1-3) and relevant investments (paper 4) that enable sustainable entrepreneurial outcomes in fragile contexts. Accordingly, results will be summarized and discussed in two sections; namely (human capital) assets and investment. The assets section will cover quantitative research findings from papers 1-3 while the investment section will cover literature review findings from paper 4. All findings are presented as direct responses to the research questions (section 1.2) and summarized in Table 6-1. This is followed by an overview of the theoretical implications, limitations and potential for future research (section 6.3.1) as well as implications for practitioners (section 6.3.2).

6.1. Empirical Findings: Human Capital Assets of Fragile-Country Entrepreneurs

Q1 What extrinsic and intrinsic factors constitute the motivation of FCEs to found new businesses? How do these factors differ between entrepreneurs who remained in and those who have left their fragility-affected home country?

Results from EFA suggest the presence of four key motivational factors behind FCE decisions to found new companies. The key factor, self-realization, is composed entirely of intrinsic elements which is generally associated with superior performance and outcomes (Deci et al., 2017; Ryan & Deci, 2000). Three additional motivational factors have been identified, which collectively account for a slightly smaller portion of the FCE entrepreneurship motivation in comparison with self-realization. Those factors all pertain to the founder's perception of the surrounding environment and could be summarized (in order of magnitude) as the perception of supportive institutions, cultural influence and economic milieu. This indicates the importance of educational, financial, cultural and regulatory drivers in shaping FCE entrepreneurship motivation.

The impact of those motivational constructs was compared between Syrian entrepreneurs in Berlin and Damascus. Interestingly, no significant differences in entrepreneurship motivation were noted among the two subsamples as indicated by MANCOVA and confirmed by non-parametric methods. This might appear counterintuitive, as the significant differences in institutional fragility between Germany and Syria may be expected to influence

entrepreneurship motivation differently. However, this could be an (unfortunate) indicator of the FCE's lack of capacity to access the environmental support factors and ecosystem players available to local entrepreneurs in the stable environment. In other words, even in the most stable of environments, FCEs are unable to enjoy this stability due to the fragility of their own situation as newcomers. A zoom-in on this particular issue is provided in Chapter 7.

Q2 How do entrepreneurial and managerial behaviors correlate to start-up success in a fragile context? How does personality predict success-related entrepreneurial and managerial behaviors of FCEs? How does country fragility impact the personality-behavior relationship?

While comparing the expression of entrepreneurial and managerial behaviors among highly successful and less successful entrepreneurs, based on economic and subjectively self-defined success, a significant difference was found. In other words, the expression of desired entrepreneurial and managerial behaviors correlates with startup success both from an economic perspective and the founder's perspective based on the independent sample t-test results. This provides support for employing behavioral measures as proxy measures of entrepreneurial success, particularly in fragile environments where typical (financial, macroeconomic) success measures are less relevant and more difficult to assess.

The impact of personality characteristics on both types of behaviors, as assessed through MLR, was confirmed with respect to agreeableness and conscientiousness. Additional personality characteristics appeared to have a confirmed positive impact on one category of behaviors but not the other. For instance, extraversion was found to (slightly) predict managerial but not entrepreneurial behaviors, while openness was found to correlate with entrepreneurial but not managerial behaviors, albeit in a non-linear manner. This primarily indicates the importance of being an amiable, trusting, friendly, hardworking entrepreneur to succeed in fragile contexts rather than the typical western image of entrepreneurs as individualistic, autonomous, groundbreakingly innovative extraverts (e.g. Brandstätter, 2011; Rauch & Frese, 2007; H. Zhao & Seibert, 2006).

Country fragility was found to be a significant moderator of the personality-behavior relationship, particularly with respect to entrepreneurial behaviors. In fact, the positive correlation between emotional stability and entrepreneurial behavior became insignificant after accounting for fragility, suggesting the need for higher emotional stability levels with

increasing institutional fragility. This finding provides additional evidence for trait activation in fragile contexts and stresses the importance of analyzing the psychological HCAs of entrepreneurs operating in varying environments rather than generalizing conclusions drawn from empirical analyses performed in immensely different settings.

Q3 How do FCEs differ from their peers in stable environments in their Entrepreneurial Internationalization Tendencies (i.e. Entrepreneurship Orientation and Global Mindset)?

Results from ANOVA and non-parametric methods indicate that German entrepreneurs exhibit higher levels of risk-taking, international knowledge and international cognition in comparison with Pakistani entrepreneurs. This provides support for the role that advanced, stable institutions play in fostering individual risk-taking behaviors, consistent with Stewart et al.'s (2008) findings that volatile environments correlate with risk-aversion. In other words, for an individual to take risk, a safety blanket is needed which cannot be easily provided in fragile, violent environments. Findings pertaining to international knowledge and cognition could appertain to the highly international environment of the Berlin startup ecosystem (T. Baron & Harima, 2019) and Germany's advanced educational system.

Pakistani entrepreneurs, however, exhibit comparable levels of innovativeness and proactiveness and higher levels of international behavior in relationship with their counterparts in Berlin. This could be explained by the FCEs' need to seek international prospects due to the limited availability of growth opportunities in their home countries (Nabeel Muhammad et al., 2017; Nishat & Nadeem, 2016).

	Startup Stage	Desired Human Capital Outcomes	Confirmed Human Capital Assets*	Additional Findings
Paper 1	Pre-Startup	Starting a New Company	Motivational Drivers: Self-Realization (Perceived) Supportive Institutions (Perceived) Cultural Influence (Perceived) Economic Milieu	<ul style="list-style-type: none"> • There is no observed difference between the motivational drivers of Syrian entrepreneurs in Damascus and Syrian (newcomer) entrepreneurs in Berlin.
Paper 2	Initiation/Early Growth	Company Growth	Personality Characteristics: Conscientiousness Agreeableness Openness/Extraversion Behaviors: Entrepreneurial and Managerial Behaviors	<ul style="list-style-type: none"> • State fragility is a significant moderator of the personality-entrepreneurial behavior relationship. • The impact of emotional stability becomes insignificant when accounting for fragility. • Openness exhibits a quadratic relationship with managerial behaviors.
Paper 3	International Expansion	Company Internationalization	Entrepreneurial Internationalization Tendencies: Innovativeness Proactiveness International Behavior	<ul style="list-style-type: none"> • Pakistani entrepreneurs exhibit lower levels of risk-taking, international knowledge and international cognition compared to German entrepreneurs.

**Listed in descending order of importance/significance.*

Table 6-1: Summary of thesis empirical findings from an HCT perspective.

6.2. Review Findings: Human Capital Investment in Fragile-Country Entrepreneurs

Q4 How do current EET initiatives support sustainable development in fragile contexts?

The simple answer is: they barely do. The SLR revealed little focus of EET literature on fragile countries, with the majority of empirically analyzed EET initiatives focusing on western, stable countries. The few studies delineating and assessing EET programs in less stable countries appear focused on university students and generally starting a new business as key desired EET outcome. This reveals a focus on developing EET assets for populations who are likely to possess higher levels of human capital to begin with, largely disregarding the unemployed, the poor or younger adults.

This also indicates a key focus on economic aspects of sustainable development rather than social or environmental ones, exacerbated by the fact that very few programs explicitly target women, the differently abled or demographic minority groups. Additionally, EET focusing on developing HCAs needed for the development of ecologically friendly products or services appears almost non-existent.

In addition to the shortage of EET in countries of lower institutional stability, the delivery of EET is marred with many challenges including limited access to EET facilities, lack of funding, shortage in qualified educators and the prevalence of traditional educational methods that are ineffective in fostering HCAs pertaining to sustainable entrepreneurship. The dearth of experiential learning culture and the absence of educational technology from fragile-country EET initiatives potentially further contributes to those challenges and reduces the ability of EET to foster innovative entrepreneurship, even leading to negative outcomes such as reduced entrepreneurial intention (e.g. Ahmed et al., 2017).

6.3. Implications and Limitations

6.3.1. What This Means for Research

Thus far, entrepreneurship research has largely neglected entrepreneurs outside of the western world and those with non-silicon-valley-like business models, or at least regarded them as survivalists with low potential of having significant positive (economic) impact (Welter et al., 2017). Additionally, the research field, though increasingly advancing in theoretical complexity, has been largely unable to adequately combine theoretical rigor with social relevance in response to major global challenges (Wiklund et al., 2019).

In acknowledgment of entrepreneurship's significant role in the sustainable development of fragile contexts, this research attempts to enhance the understanding of FCEs and their success enablers from an HCT perspective without implicit insinuation that some productive entrepreneurs are of low value or importance. Rather, this thesis assumes that various facets of entrepreneurship, as long as they are not rent-seeking or destructive, could have a significant positive contribution, albeit of different nature.

This thesis also combines theoretical and empirical robustness with social relevance. In addition to the HCT, the thesis draws on several other theories rooted in economics, sociology and psychology and extends their use to new contexts and settings. The study of FCE entrepreneurship motivation (Chapter 2) employs the eclectic theory of entrepreneurship and the SDT in the Syrian context; two robust theories that have not only been rarely used in fragile contexts, but in studies of entrepreneurship motivation overall. Analyzing FCE personality and behavior (Chapter 3) drew on perspectives from the trait activation theory, another theory from organizational psychology that has been little tested in entrepreneurship studies, and certainly not in fragile contexts. On analyzing FCE international entrepreneurship (Chapter 4), EIT were assessed from the institutional theory and mindset theory perspectives, the former of which, although frequently employed in entrepreneurship studies, has been seldom tested in fragile contexts. Additionally, this research utilizes primary data sources and quantitative approaches, both of which are infrequently employed in fragile-country settings potentially due to issues with data access or safety of researchers (see Wood, 2006).

The research also combines multiple levels of analysis. Research at the micro level is conducted by collecting data from entrepreneurs directly on their HCAs such as motivations,

behaviors, personality characteristics and mindsets. This data is also aggregated to enable comparative analyses at the regional/country level. The paper on entrepreneurship motivation (Chapter 2) compares Syrians in Damascus with Syrians in Berlin, the one on behavior and personality with respect to successful firm maintenance (Chapter 3) is carried across various sub-Saharan African countries while controlling for country fragility, whereas the one on EIT (Chapter 4) compares FCEs (in Pakistan) with entrepreneurs in a stable country (in Germany). This provides a response to Low and MacMillan's (1988) call to combine micro and aggregate levels of analysis in entrepreneurship research, which apparently had not been adequately addressed over the years that followed (Davidsson & Wiklund, 2001).

Each paper presents additional unique theoretical contributions to entrepreneurship research. The entrepreneurship motivation study provides a new, robust and validated tool for assessing entrepreneurship motivation that is appropriate in FCE settings (see sections 8.1 and 8.2 for full questionnaires) and offers deeper insights into FCE entrepreneurship motivation beyond necessity and opportunity. This could support future researchers in robustly exploring and classifying entrepreneurship motivation in various settings using a brief ready-to-use instrument. The paper also provides evidence for the dominance of intrinsic motivation among the studied Syrian entrepreneurs, encouraging future research to further explore multiple facets of intrinsic motivation in FCE settings and their relationship to desired entrepreneurial outcomes.

The second paper also provides several theoretical contributions. Firstly, it extends the personality and entrepreneurship literature by providing a unique assessment of the personality-behavior relationship; a little-understood relationship in entrepreneurship. It also affirms the predictive abilities of entrepreneurial and managerial behaviors to successful entrepreneurial outcomes, opening the door for future research that evaluates entrepreneurial success in fragile settings from the more relevant behavioral perspective rather than standardized economic metrics. Finally, this research has shed light on personality and behavioral HCAs in sub Saharan African contexts while accounting for country fragility. Given that the expression of personality characteristics into desired behaviors highly depends on environmental cues (Judge & Zapata, 2014; Tett & Guterman, 2000) and that populational personality characteristics highly vary across different cultures (McCrae & Terracciano, 2005), this knowledge is important to avoid inaccurate generalizations of findings from

western/stable contexts to African/stable ones. Future research could focus on FCE personality and behavioral dynamics and interactions in entrepreneurial teams, considering different types of entrepreneurs (e.g. informal entrepreneurs, rural entrepreneurs, those operating social or environmental companies) and single-country comparisons (e.g. using hierarchical modeling).

Findings from the EIT study not only enrich entrepreneurship in fragile countries literature, but also research on international comparisons of entrepreneurship, the latter being a response to recent calls to more comparative analyses of EIT on an international level (e.g. Jones et al., 2011; Terjesen et al., 2016). It also tests the applicability of the EO and GM constructs in a fragile country. Future studies could extend such comparisons to several countries with varying stability levels rather than highly stable and highly fragile countries only, as well as examine the impact of specific institutional aspects (e.g. policies, regulations and social security) on individual EO and GM components.

The study on human capital investment (Chapter 5), the EET study, unveiled several shortcomings of EET literature with regards to sustainable development, particularly in fragile settings. Besides a general lack of EET research in fragile contexts, EET research appears particularly scarce in non-university settings and with respect to female entrepreneurs and entrepreneurs from demographic minorities, developing HCAs related to social and environmental outcomes and the use of educational technology. Scholars are urged to further investigate EET in the aforementioned areas in addition to evaluating potential solutions to challenges facing EET in fragile countries and systemic/institutional influences on and enablers of adequate EET delivery. The efficacy and applicability of technological tools and experiential learning methods in fragile-country EET are also worth investigating.

This thesis also opens doors for future research in other ways. First of all, it provides exploratory quantitative and literature review insights that enable explanatory qualitative analyses. Indeed, this thesis focuses on the identification of HCAs in FCE settings but does not provide concrete, empirically tested explanations for why FCEs possess those HCAs, how they acquire and develop those HCAs, or why those HCAs differ between FCEs and other entrepreneurs. Additional research could also focus on data triangulation and assess enablers of FCE success from other perspectives besides those of the FCEs themselves (e.g. experts,

policy makers). Moreover, longitudinal research and experimental methods are recommended to analyze and validate causal (investment-asset-outcome) relationships, test the efficacy of interventions (e.g. an entrepreneurship education program, a change in policy or regulation) and monitor changes over time; ultimately informing and justifying relevant large-scale investments.

Additionally, several challenges and delays were faced in data collection due to difficulties in reaching entrepreneurs in fragile countries and the lack of trust of FCEs in foreign institutions; several have expressed concerns regarding collaborating with a German university due to perceptions of “being used” and “giving without taking”. Though these issues were mitigated through establishing collaborations with local entrepreneurship support organizations, regularly sharing findings with study participants and collaborators as well as offering mentorship and support for the entrepreneurs, such issues are likely to repeatedly arise when conducting research in fragile countries. Accordingly, it is recommended to establish research partnerships with local researchers and empower them with the knowledge and tools to conduct high-quality research in their home countries. Difficulty in obtaining sufficient sample sizes could also be mitigated through using alternative research methodologies and tools such as data mining and machine learning which could harness the myriad of publicly available data (e.g. public Facebook statuses, twitter feeds) on FCEs.

Moreover, future research could assess additional variables pertaining to fragility and entrepreneurial HCAs. This includes individual facets of fragility rather than country fragility as a single construct. The OECD (2016b, 2018) identifies five dimensions of fragility; political, societal, economic, environmental and security. The FSI (2019a) similarly identifies fragility indicators as cohesion, social, economic and political ones. The interactions/impacts of each of those indicators with/on entrepreneurial HCAs is worth investigating. Additionally, other KSAOs and psychological HCAs could also be included in future analyses. Finally, it is important to note that not all fragile states are the same and significant inter- and intra-country differences indeed exist. This research merely uncovers the tip of the iceberg on fragility-human capital relationships in entrepreneurship.

Researchers are also urged to compliment those findings with analyses of FCE success enablers from additional theoretical lenses. The focus of this thesis was on an HCT

perspective, but fragile-country entrepreneurship could also be analyzed from social, cultural or environmental standpoints. This is important given that not only do entrepreneurs have the capacity to shape and reform institutions, institutional development and stability also influence entrepreneurship quality and success (Z. Acs et al., 2008; F. Chowdhury et al., 2019; Sobel, 2008; Welter & Smallbone, 2011). Pierre Bourdieu's concepts of social and cultural capital may thus compliment HCT perspectives and allow for more robust assessments of entrepreneurship outcomes and enablers (Bourdieu, 1986). Other examples include McMullen's (2011) theory of development entrepreneurship and Johnson and Schaltegger's (2019) multilevel causal mechanism framework for sustainable entrepreneurship; theoretical approaches that would enable much-needed analyses on FCE-institution interactions and socioenvironmental outcomes of fragile-country entrepreneurship.

6.3.2. What This Means for Practice

"Guiding policy or activism by conspicuous events, without reference to data, should come to be seen as risible as guiding them by omens, dreams, or whether Jupiter is rising in Sagittarius."

-Steven Pinker in an interview with The Harvard Gazette (2019).

Understanding what makes entrepreneurs successful enables research-based policy interventions to advance productive entrepreneurship in countries where today's dwellers might be the future's refugees. Particularly with the common narrative portraying fragile-country individuals as "helpless" or "unfortunate" with no/low chances of contributing positively to global development, hard evidence indicating and confirming the tendencies and inherent capabilities of some of those individuals to succeed as business owners or innovators could encourage humanitarian organizations and policy makers to invest in supporting entrepreneurship amidst and despite fragility.

In the pre-startup stage, understanding the degree of autonomy and intrinsic drive of an individual's decision to seek entrepreneurship enables an assessment of whether the individual inherently has more of what it takes to succeed as an entrepreneur. This could support the prioritization of individuals with higher degrees of intrinsic motivation to receive financial and training support (where resources are limited) and the personalization of EET programs. The Syrian case demonstrates that self-realization, a clearly intrinsic motivational factor, is the leading driver behind Syrians' decision to found a new business in the studied

sample, breaking stereotypical images of FCEs as necessity-driven or survivalists with low success potential (Z. Acs, 2006; Naudé, 2007). Such individuals, given the association between autonomous motivation and higher performance and successful outcomes (Deci et al., 2017; Deci & Ryan, 1985, 2000), could be paid higher attention by practitioners, investors and trainers aiming to advance human prosperity in conflict(-prone) situations.

Meanwhile, identifying the environmental factors which FCEs perceive as driving forces for their entrepreneurship motivation enhances our understanding of specific ecosystem and institutional enablers of entrepreneurship in conflict-prone areas. This could have important implications for policy-making and international development initiatives. For instance, the study in Syria demonstrates the importance of education, regulatory support, market opportunities and access to finance in shaping entrepreneurship motivation. This shows the importance of simplifying bureaucratic hurdles and reducing financial and human capital barriers to entry to growing market sectors for FCEs. The study also highlights the importance of community support in providing the resources and motivation needed to start a new business. Therefore, such studies provide empirical evidence to guide humanitarian initiatives and policy makers in identifying specific strategic and operational focus areas to optimize their efforts in fragile contexts.

While initiating and growing a new business, understanding the personality and behavior HCAs of FCEs might provide further support for practitioners when selecting entrepreneurs for acceleration/incubation under limited resources. This also aids the creation of entrepreneurial teams with complimentary member HCAs and distributing tasks more effectively among team members to optimize team performance. Additionally, realizing which behavioral aspects are “lacking” in FCEs provides guidance for EET designers and educators to particularly focus on developing “missing” behaviors. For instance, the lower mean scores on negotiation behaviors (an aspect of entrepreneurial behaviors) and financial management behaviors (an aspect of managerial behaviors) observed in the findings from sub-Saharan Africa (see section 3.4.1) indicate the need for EET initiatives in the region to focus on the development of negotiation and financial management behaviors and competencies.

Study results also aid in the customization of support, coaching and financing/investment programs based on personality characteristics. For instance, the findings from the sub-

Saharan African study show the importance of agreeableness and conscientiousness as predictors of the managerial and entrepreneurial behaviors needed for new venture success, overriding beliefs common in silicon-valley-like environments that successful entrepreneurs are extraverted, ego-centric individualists. This demonstrates the importance of context and cultural setting in shaping entrepreneurs' personalities and behaviors (Hofstede & McCrae, 2004), particularly as traits treasured in certain parts of the world might be less valuable or even frowned upon in others. Accordingly, international investors and development workers should be aware of not "copy-pasting" common entrepreneurship support approaches employed in stable (and western) countries to fragile ones. For instance, favoring investment in entrepreneurs based on their self-marketing, image-selling pitching skills might prove less valuable than investing and supporting the more collaborative, friendly and diligent ones in the sub Saharan context.

The study results also indicate a strong correlation between male gender and exhibiting the desired entrepreneurial and managerial behaviors, which brings about several considerations. First of all, the inability of sub Saharan female-identifying entrepreneurs to be as successful as their male counterparts could be due to the persistent gender gap in education enrollment and attainment in the region (Tuwor & Sossou, 2008), largely due to cultural and religious influences (Cooray & Potrafke, 2011) combined with (resulting) labor market discrimination (Morrisson & Jütting, 2005). These gender biases likely hinder women from effectively developing the behaviors and competencies needed to succeed as venture founders. It is therefore important for practitioners and policy makers to focus specifically on empowering female founders with the necessary skills and tools to succeed in the labor market, bearing in mind the gender-based differences in entrepreneurial learning patterns and strategies (Ettl & Welter, 2010). Another consideration is that women generally define their success as entrepreneurs differently in comparison to their male counterparts (Ettl, 2010), urging practitioners to include diverse demographic perspectives when evaluating entrepreneurial success and economic performance indicators.

As for business expansion, the identification of cognitive and behavioral enablers of entrepreneurial internationalization in fragile contexts supports the establishment of pertinent support systems, such as innovation policies or internationally relevant training approaches. This also supports the provision of training and coaching that targets the

development of deficient skills and capabilities that hinder FCEs from taking their businesses to the global level.

In the specific case of Pakistan, empirical analyses show that Pakistanis are as innovative and proactive as those in a more stable environment (i.e. Germany), but are lagging behind in their risk-taking abilities, international cognition and international knowledge. The hindered ability to take risk could be a direct result of the lack of an institutional safety net: the government does not provide entrepreneurs with a safe place on which to fall if their risks do not pay off; no social security income or job placement services are provided by the state if the startup fails. This needs to change if new businesses are to be adequately supported to grow and internationalize.

Additionally, the lack of international knowledge and cognition compared to Germans indicates the need for cross-cultural exchanges, (networking) events and pedagogical approaches, potentially involving live interactions with counterparts in other parts of the globe (Musteen et al., 2018), to enhance the international activities of FCEs. However, it is important to consider that the higher international behavior levels exhibited by Pakistani entrepreneurs is potentially a double-edged sword: on the one hand, it may enable Pakistani entrepreneurs to better position themselves in global business markets. On the other hand, it could be an indicator of the lack of growth opportunities those FCEs perceive in their local environments and their desire to take their businesses, and ultimately their personal lives, elsewhere, exacerbating issues such as brain drain faced by fragile countries.

This thesis also provides new tools and affirms/encourages the use of existing ones to support monitoring and evaluation efforts of EET initiatives in fragile environments. For example, programs aiming to incubate and coach potential entrepreneurs at the (pre-)startup stage could evaluate their success through ex-ante/ex-post analyses of entrepreneurship motivation of program participants. In this sense, an increase in intrinsic motivation and entrepreneurship motivation due to the receipt of education and training could signify a successful program. Similarly, evaluations of incubation/acceleration programs could focus on the development of entrepreneurial and managerial behaviors and/or EITs as desired program outcomes. Such approaches therefore focus on evaluations of long-term success

indicators rather than short-term financial metrics, which are likely far more important for sustainable development.

Moreover, this enhanced knowledge of personal attributes relating to desirable entrepreneurship outcomes is important for the entrepreneurs themselves (see Bird et al., 2012). Entrepreneurs who have access to knowledge about the behaviors and mindsets that they need to reach their goals would subsequently have more clarity on the personal characteristics they need to develop or modify to reach desired outcomes at various stages of their entrepreneurial journey.

This thesis compliments this individual-level empirical data with a global literature-based view on the contribution of EET in such environments. Given the widespread use of educational approaches to support entrepreneurship worldwide, an evaluation of how they contribute to sustainable development and resolution of issues particularly relevant in fragile contexts is necessary. The literature review on EET's contribution to SDGs therefore identifies several focal areas for practitioners to enhance entrepreneurship's role as a developmental catalyst.

Firstly, EET programs appear to generally lack focus on the low-income, ethnic minorities, women and differently abled individuals. If entrepreneurship is to effectively nurture social development, then its support initiatives cannot afford to be socially exclusive. Additionally, the apparent significant focus of EET initiatives on university students could lead to the inadvertent exclusion of other youth and working-age adults from access to EET support. In contexts where the prevalence of unemployment, mental illness and violent behaviors is high among youth, employability programs should particularly look beyond the walls of higher education institutions to maximize positive impact.

Moreover, EET programs appear to seldom focus on the creation of environmentally friendly products and services. This might indeed have catastrophic consequences in an era of ecological and climate emergencies. If individuals are merely encouraged to commercialize products and services to maximize revenues regardless of ecological impact, we might see even more companies generating plastic waste, producing toxic chemicals and contributing to desertification and land misuse in the name of entrepreneurship. The development of sustainability-aware mindsets and behaviors is not only needed for entrepreneurs, but also

educators, policy makers and humanitarian workers. Regulatory and financial incentives are also recommended to support fragile-country entrepreneurship in pursuing social and environmental goals.

Realizing the specific challenges facing EET initiatives in fragile environments, I call practitioners to employ innovative approaches to EET design and delivery. Particularly with the rising efficacy and availability of adaptive educational technologies worldwide, including developing and fragile countries (Nye, 2015), their adoption into EET could play a major role in addressing issues such as lack of funding and qualified educators, poor access to educational facilities and the prevalence of traditional education. Combined with enhanced learner collaboration and critical thinking and the provision of new avenues for monitoring and evaluating learning progress, employing such technologies in EET is worth considering.

In conclusion, I hope this thesis instigates a change in our definition of and expectations from entrepreneurship, particularly through exchanging capitalist lenses with ones that look beyond cash flow and deeper into socioenvironmental values. Finally, I wish for academics and decision makers to recognize that at a human (capital) level, we are all incredibly similar. In other words, no homo sapiens has earned the right to superiority. Only when we realize the unsustainability of the common us-versus-them approaches may humanity thrive. Afterall, none of us is truly safe from fragility.

6.4. References

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PART SEVEN: SUPPLEMENTARY MATERIALS

7. Further Reading: Leaving Fragility Behind? A Spotlight on Newcomer Entrepreneurship

Extreme fragility has resulted in the forced displacement of currently over 70 million individuals worldwide (UNHCR, 2019b). With less than 3% of the forcibly displaced returning to their home countries (UNHCR, 2019a), many ultimately integrate in their host country's labor market, even establishing themselves as entrepreneurs. Though extreme fragility might no longer pose direct threats, displaced FCEs indeed face a fair share of challenges when attempting to establish their entrepreneurial careers in a host country. In other words, leaving a fragile country often does not equate to living a stable life. This section, comprised of the 5th paper that I had written during my doctoral studies, sheds light on some of those challenges and proposes potential practical mitigations.

Paper #5: “Call Me a Business Owner, Not a Refugee!” Challenges of and Perspectives on Newcomer Entrepreneurship

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Labor market participation is vital to newcomers’ successful integration in the host country. Although wage earning remains the most common means of participating in the labor market, some newcomers alternatively start their own businesses. Newcomer entrepreneurship has substantial benefits for the business owner and the host community alike and can be facilitated through the establishment of supportive policies and initiatives. However, aspiring newcomer entrepreneurs face several obstacles when they attempt to start a business. Through a systematic literature review and a selection of global case studies, this paper identifies some of the challenges with respect to market opportunities, access to entrepreneurship, human capital, social networks, and the social environment in the newcomer entrepreneurship context. Unveiling those pain points paves the way for developing suitable solutions. Regulatory incentives and innovation could enhance market opportunities. Taking measures to reduce hurdles pertaining to bureaucratic complexity, foreign credential assessment, policy evaluation, legal status restrictions and securing financial capital could increase access to entrepreneurship. Tailored progressive education, training, consulting and mentoring opportunities may resolve issues in the area of human capital, while technology access and professional networks contribute to strengthening newcomers’ social networks. Finally, pressures in the societal environment, mainly resulting from discrimination, could be mitigated through community education and newcomer civic engagement. While the lack of research on newcomer entrepreneurship and the vast

differences among newcomer scenarios hinder the development of standard solutions, this paper aims to provide a foundation on which further investigation, strategic planning and solution implementation efforts could be based. Active, informed and engaged leadership is needed to champion the transition of the newcomer image from a passive and vulnerable recipient to an empowered contributor.

7.1. Newcomer Entrepreneurship: Potentials and Motivations

An estimated 68.5 million individuals are currently forcibly displaced worldwide, including 19.9 million refugees under the UN Refugee Agency (UNHCR) mandate and 5.4 million Palestinians registered by the United Nations Relief and Works Agency (UNRWA) (UNHCR, 2018b). With no end in sight to conflict and violence in the world's main refugee home countries, integration into host communities is instrumental in allowing newcomers to rebuild their lives in peace and dignity.⁵

Labor market participation is key to integration, with clear positive outcomes for both integrated individuals and their new host countries. In Germany, for instance, positive impacts on the economy are expected within at most five to 10 years of receiving newcomers and is expected to be even faster if integration efforts occur more efficiently (Fratzscher & Junker, 2015). Economic integration is also expected to further enhance economic development in Lebanon, Jordan and Turkey, which have been experiencing GDP growth due to the presence of Syrian newcomers (Beilfuss, 2015).

Although paid employment generally remains the key means of migrant labor market participation (Rath & Schutjens, 2016), entrepreneurship, namely the act of starting a new business, is another path toward economic integration, with significant potential benefits to both the entrepreneur and the host country. A Global Entrepreneurship Monitor study across 69 economies and an analysis by the Organization for Economic Co-operation and Development (OECD) show that migrants generally have a higher likelihood to pursue entrepreneurship than locals (Rath & Swagerman, 2016; Xavier et al., 2013). However, the

⁵ In this paper, migrants are defined as any foreign-born individuals living in a host country in which they are planning to remain for the long term, while newcomers are a subset of migrants who have specifically left their place of origin due to threat of violence, conflict, persecution or inhumane treatment.

prevalence and success of newcomer entrepreneurship varies significantly (Betts et al., 2015). For instance, a study on economically active newcomers in Kampala, Uganda, shows that 94.8 percent of Congolese, 78.2 percent of Rwandans and 25.9 percent of Somalis are self-employed (Betts et al., 2015). Meanwhile, a recent study on Syrians in the Netherlands, the United Kingdom and Austria shows that only 1.5 percent of surveyed newcomers have started a business in the host country, despite 32 percent of them having had entrepreneurial experience back home (Betts, Sterck, et al., 2017).

Motivations for newcomers to start businesses also highly vary. For example, some migrants choose self-employment due to push or necessity,⁶ where culture or language barriers, discrimination, lack of accredited relevant qualifications or regulations hinder them from otherwise getting employed, while others are pulled toward an entrepreneurial career (Xavier et al., 2013). A study in Belgium shows that newcomer entrepreneurs are mostly active within the “trade and industry” and “handicrafts” sectors and are highly driven by a desire to integrate into the host community and to achieve self-realization and autonomy (Wauters & Lambrecht, 2008), while a study in Norway highlighted the desire to develop the local region as a main entrepreneurial motivation (Munkejord, 2015). Another study across Kenya, Jordan, Uganda, the United States and South Africa shows that knowledge of and the desire to address market needs and problems facing their own community motivate newcomers to become entrepreneurs (Betts et al., 2015). The same study highlights that Syrian entrepreneurs in Jordan have particularly high past entrepreneurial experience and capital management skills, making entrepreneurship more of a natural choice (Betts et al., 2015). Research in Germany reveals that newcomers are motivated by the desire for autonomy and flexibility, the availability of education and training opportunities, regulatory incentive, and an accommodating culture, where community members provide advice and support.⁷ Those

⁶ Entrepreneurs can be classified into push, or necessity-driven, and pull, or opportunity-driven, based on their motivation to start a business. Push entrepreneurs are “those whose dissatisfaction with their current position, for various reasons unrelated to their entrepreneurial characteristics, pushes them to start a venture” (Amit & Muller, 1995, p. 65), while pull entrepreneurs are those “who are lured by their new venture idea and initiate venture activity because of the attractiveness of the business idea and its personal implications” (Amit & Muller, 1995, p. 65).

⁷ The findings are based on an exploratory, quantitative, comparative analysis of Syrian entrepreneurs in Berlin and Damascus conducted by the author, and the full study is currently being finalized and prepared for future publication. Please contact the author directly for additional information on this research project.

varieties in entrepreneurial characteristics and motivations across different scenarios make generalizable support frameworks and standard recommendations for enhancing newcomer entrepreneurship difficult to plan and implement.

Nevertheless, the significance of newcomer entrepreneurship is undeniable. Entrepreneurship has substantial benefits for both the newcomer entrepreneur and the host country. Starting a business could enhance newcomers' psychological well-being and sense of belonging in the new community; reduce foreign aid and welfare dependency; empower newcomers to make their own decisions and take charge of building their own lives; allow newcomer business owners to socio-economically support other newcomers; create novel solutions to challenges resulting from forced migration; and stimulate domestic entrepreneurship in the host country (Betts et al., 2015; Brandt, 2010; de la Chaux & Haugh, 2017; Munkejord, 2017; Wauters & Lambrecht, 2008). Additional evidence demonstrates that migrant entrepreneurs, in general, contribute to increasing innovation levels in the host country; are more likely to engage in transnational business activities; enhance the vitality of certain neighborhoods and sectors of the economy; and contribute to the discovery and development of new markets (N. Lee, 2015; Nathan, 2015; Rath & Schutjens, 2016; Rath & Swagerman, 2016). Realizing the importance of newcomer entrepreneurship necessitates the establishment of support structures for potential newcomer business owners.

Accordingly, this paper seeks to identify common challenges facing entrepreneurial newcomers across different scenarios, bearing in mind the vast differences between their characteristics and drivers. The challenges faced by and the support needed for a newcomer shop owner in a refugee camp in a neighboring country could differ greatly from those by and for a newcomer tech innovator in a European city. Identifying broader patterns pertaining to the challenges newcomers face and the support they may need is the focus of this study. The following sections describe, first, the research design, then highlight key general challenges for newcomer entrepreneurship, make recommendations on how to address each challenge and showcase global case studies on successful newcomer entrepreneurship support initiatives.

7.2. A Review of the Research: Barriers to Newcomer Entrepreneurship

To briefly compare the state of research on entrepreneurship in general with newcomer entrepreneurship in particular, a quick search of the keyword “entrepreneurship” by title was conducted in the Web of Science (WoS) and EBSCO Business Complete databases.⁸ Without using any filters or refining the search criteria, the search resulted in 9,300 resources in WoS and 8,057 in EBSCO.

In contrast, only seven resources in WoS and one resource in EBSCO were found when “refugee entrepreneurship” instead of “entrepreneurship” was used as the search phrase. Indeed, restricting search criteria to a subset of entrepreneurship literature would lead to fewer entries, but the state of research on newcomer entrepreneurship appears, perhaps not surprisingly, very limited. However, through performing a systematic review of literature, some studies were found that enabled a better understanding of the nature and status of research in the area, as well as identifying some entrepreneurship challenges in the newcomer context.⁹

The review identified some clear gaps in the literature. However, the majority of the reviewed literature appeared to focus on newcomer host countries in North America and Northern Europe, even though 85 percent of global refugees are hosted by developing countries and one-third are hosted by least-developed countries alone (UNHCR, 2018b). Furthermore, available UNHCR data shows that about 53 percent of the global population of concern is under the age of 18 (UNHCR, 2018b). Enhancing innovative thinking and entrepreneurial skills among newcomer youth could therefore be a worthwhile long-term investment, but

⁸ WoS is considered one of the most comprehensive social sciences databases (Falagas et al., 2008), while EBSCO is considered one of the most complete scientific databases in economic and business studies (Zott et al., 2011). Given the socioeconomic nature of the topic, these two databases were chosen for this analysis.

⁹ In addition to searching the key phrase “refugee entrepreneurship” by title in WoS and EBSCO, the phrases “migrant entrepreneurship,” “immigrant entrepreneurship,” “ethnic entrepreneurship,” “refugee innovation,” “migrant innovation,” “immigrant innovation” and “ethnic innovation” were searched as well. The resulting scientific literature was then filtered to retain only resources in the English language; those published in or after 2008, to ensure relevance of publications to current policy and economic implications; and peer reviewed articles, as they are considered highly validated knowledge sources (Podsakoff et al., 2005). The resulting 142 articles were then analyzed, 27 of which were found particularly relevant in identifying potential challenges pertaining to newcomer entrepreneurship.

there appears to be very limited research on this subject. Also, only four of the reviewed studies involved an analysis or discussion of female entrepreneurship with respect to migrants, and none of these specifically addressed newcomers. With about half of the global newcomer population being female (UNHCR, 2018b) and women, generally, having a higher tendency of being successful entrepreneurs compared to men (Fetsch et al., 2015), newcomer female entrepreneurship is worth investigating.¹⁰

Recommendation 1: Expand research efforts on newcomer entrepreneurship to increase knowledge in the field, enabling improved decision making and strategy development, particularly in countries outside of Northern Europe and North America and on female and youth entrepreneurs.

7.3. Identifying Newcomer Entrepreneurship Challenges

Of the 142 studies analyzed, 27 were particularly relevant in identifying potential challenges pertaining to newcomer entrepreneurship.

Those challenges were classified under the five categories outlined by Bram Wauters and Johan Lambrecht (2008), as part of a model they developed to explain the lack of refugee entrepreneurship in Belgium, namely:

- market opportunities;
- access to entrepreneurship;
- human capital;
- social networks; and
- the societal environment.

Their model was developed as an adaptation of the three-dimensional ethnic entrepreneurship framework developed by Howard E. Aldrich and Roger Waldinger (1990) and the concept of mixed embeddedness, as defined by Robert Kloosterman, Joanne Van der

¹⁰ Female entrepreneurship support initiatives such as Womenpreneur (<http://womenpreneur-initiative.com/about-us/>) could be potentially involved in investigating female newcomer entrepreneurship and discussing the establishment of relevant support structures.

Leun and Jan Rath (1999).¹¹ Although Walter and Lambrecht's model was developed based on field research in one country, representing a small, specific sample of refugees, newcomer entrepreneurship barriers identified across the global studies reviewed for this paper appeared to fit in this model, hence it was adopted for this paper. A detailed discussion on each category is provided in the following sections.

7.3.1. Market Opportunities

Newcomers, more than locals, seem to struggle to establish businesses in growing market sectors or to engage in innovative business activities. This section outlines those challenges in more detail.

7.3.1.1. Poor Choice of Market

The market conditions and prospects available to newcomer entrepreneurs could restrict their entrepreneurial choices and hinder their subsequent success. Several studies, such as the Belgian case (Wauters & Lambrecht, 2008), show that many newcomers operate in market sectors that require lower financial investment and are easier to enter but with potentially low profits. This phenomenon is also seen in the experience of Ghanaians in the Netherlands, including those who are highly educated (R. C. Kloosterman et al., 2016). In case of migrants from one developing country to another, namely Cameroonians in South Africa, some migrants appear to be forced to compete with locals for labor market opportunities, which could contribute to exacerbating poverty in the host community (Tengeh & Nkem, 2017).

These cases demonstrate that some newcomers do not operate in sectors where there is market need or opportunity but instead operate in those more easily accessible, despite the lower chances of business success and profitability. In the worst cases, those newcomers fuel

¹¹ Aldrich and Waldinger's model (1990) considers three dimensions in explaining ethnic entrepreneurship. The first is opportunity structures, which include market conditions that may favour certain products or services tailored for the ethnic community, as well as situations serving the larger market. The second is group characteristics, which include culture, aspirations and selective migration, as well as government policies, social networks and enablers of resource mobilization. The third is ethnic strategies arising from the interaction between the two aforementioned dimensions. Mixed embeddedness positions immigrant entrepreneurship "at the intersection of changes in socio-cultural frameworks on the one side and transformation processes in (urban) economies on the other," where "the interplay between these two different sets of changes takes place within a larger, dynamic framework of institutions on neighborhood, city, national or economic sector level" (R. Kloosterman et al., 1999, p. 257).

competition with existing business owners, which could potentially prompt less welcoming attitudes toward them. Therefore, it is important to stimulate newcomer entrepreneurship in sectors of the economy where growth prospects are higher and business success more likely. An example is post-genocide Rwanda's stimulation of the coffee sector, where liberalization and deregulation of the industry boosted entrepreneurship and employment, thereby enhancing peace building, social cohesion and sustainable economic development (Tobias & Boudreaux, 2011). Canada has also launched the Start-up Visa program, which aims to provide migrants with permanent residencies if they establish businesses with high-growth potential in the country.¹²

Recommendation 2: Provide newcomers with regulatory incentives to establish businesses in sectors with sustainable growth opportunities, reducing the barriers of entry to those markets.

7.3.1.2. Lack of Innovation

Another observation emerging from the literature is the tendency of newcomer entrepreneurs to pursue replicative, rather than innovative, entrepreneurship.¹³ Although replicative entrepreneurs could enhance competition, increase product supply and contribute to poverty reduction, it is the innovative entrepreneurs who have the potential to disrupt current conditions and create sustainable change and socio-economic growth (Griffiths et al., 2012; Minniti & Levesque, 2010). This further shows the importance of focusing not merely on enhancing the quantity of newcomer businesses, but their quality. Therefore, support structures need to be put in place to enhance innovative thinking and start-up behavior among newcomers. This includes enhancing creative thinking among newcomer children, for instance, through arts and crafts workshops, which could significantly correlate with their future adult innovative and entrepreneurial behavior (LaMore et al., 2013).

Recommendation 3: Develop support structures aiming to enhance newcomer innovation and creativity, including among newcomer youth and children.

¹² www.canada.ca/en/immigration-refugees-citizenship/services/immigrate-canada/start-visa.html.

¹³ In this context, replicative entrepreneurship refers to starting a new business to which many similar others might exist, while innovative entrepreneurship refers to that which introduces a new product or service to the market (Baumol, 2010).

7.3.2. Access to Entrepreneurship

Identifying a market opportunity is one thing; being able to seize it is another. Regulatory hurdles and lack of access to financial capital are key hindrances facing newcomers attempting to initiate or sustain entrepreneurial activity.

7.3.2.1. Regulatory Hurdles

Bureaucratic hurdles can play a significant role in restricting entrepreneurship access for newcomers around the world. Complicated laws and regulations, lack of acknowledgement of foreign credentials, labor market restrictions due to legal status and the absence of entrepreneurship-friendly policies are examples of the hurdles that negatively impact newcomer entrepreneurs, whether they are in South Africa (Tengeh & Nkem, 2017), the Netherlands (R. C. Kloosterman et al., 2016), the United Kingdom (Ojo et al., 2013) or the United States (Z. K. Moon et al., 2014).

7.3.2.1.1. Bureaucratic Complexity

Navigating the thicket of business and entrepreneurship regulations can be further complicated when they are vague or lack clarity, particularly in terms of their applicability to newcomers or even migrants in general (Stromblad, 2016; Yeasmin, 2016). Moreover, newness in a host country is often accompanied by a lack of knowledge of the local laws and regulations (Z. K. Moon et al., 2014), especially when a language barrier is present (Ram & Jones, 2015; Wauters & Lambrecht, 2008; Yeasmin, 2016). Efforts to reduce bureaucratic complexity are necessary to enhance newcomer entrepreneurship.

Recommendation 4: Enable newcomers to complete legal forms and documents related to the business establishment process in their mother language or provide access to interpreters when necessary.

Recommendation 5: Establish accessible legal consulting services for newcomers to assist them in maneuvering bureaucratic processes.

Recommendation 6: Employ secure web-based platforms to speed up and streamline bureaucratic procedures by reducing paperwork.

7.3.2.1.2. No Accreditation of Foreign Credentials

In addition, it seems that the credentials of migrants, particularly in developed countries, are not easily accredited (R. C. Kloosterman et al., 2016; Pecoud, 2017; Stromblad, 2016; Wauters & Lambrecht, 2008). Therefore, deeming newcomers “unqualified” to do the job or to operate in a particular sector, even when they possess a wealth of relevant education or experience from their homelands, could hinder them starting a business or push them to operate in a sector requiring lower entry barriers and human capital levels. Changing the way foreign credentials are evaluated could be critical in mitigating this issue. For example, newcomer qualifications in Norway are evaluated through NOKUT (the Norwegian Agency for Quality Assurance in Education), a centralized agency for foreign credential assessment, where a combination of personal interviews and oral and written methods are employed to assess newcomers’ credentials.¹⁴

Recommendation 7: Evaluate foreign credentials-based interviews, skill tests and practical assessments rather than rely solely on newcomers’ foreign documents.

7.3.2.1.3. Difficulty in Policy Evaluation

Even though migrant entrepreneurs originating from stable countries seem to face the aforementioned bureaucratic difficulties as well, as seen in Spain (Dinu et al., 2015) and Israel (Heilbrunn & Kushnirovich, 2008), it is noteworthy that newcomers face those difficulties to a larger extent than other migrants (Wauters & Lambrecht, 2008). Leaving their homelands due to a sudden crisis or emergency can force individuals to leave without their personal belongings, including educational certificates, and without knowing their exact final destination, which leaves less time and capacity to prepare for life in the final host country (Wauters & Lambrecht, 2008). Furthermore, the psychological trauma of fleeing from war or prosecution places newcomers in a more challenging position than other migrants when attempting to achieve self-reliance and economic independence (Wauters & Lambrecht, 2008).

Establishing group-specific policies has been recommended as a possible mitigation strategy to overcome these difficulties (Billore et al., 2010; Grosu, 2015; Tengeh & Nkem, 2017; Y. Wang & Warn, 2018; Yeasmin, 2016). However, this idea raises a different challenge — how should “groups” be defined? Separation into migrants and newcomers is potentially not enough,

¹⁴ Please visit www.nokut.no/en/ for more information.

given the different categories that can fall under the umbrella of “newcomer”. This complexity makes it not only difficult to design such policies, but also to measure their effectiveness and impact, hence hampering the process of policy design (Stromblad, 2016). Therefore, when and if group-specific policies get designed and implemented, effective engagement of and communication between governments, civil society organizations, employers, newcomers and other key stakeholders affected by these policies are necessary to monitor and enhance their efficacy and impact.

Recommendation 8: Engage newcomers and civil society actors in the policy-making process (as, for example, Canada’s Newcomer Youth Civic Engagement Project¹⁵ is doing).

Recommendation 9: Implement policy monitoring and evaluation efforts that include all stakeholders engaged in policy making and execution. Such efforts would include holding regular stakeholder meetings to discuss and exchange updates, issues and lessons learned, as well as conducting longitudinal analyses of policy impact over time through in-depth stakeholder interviews.

7.3.2.1.4. Legal Status Restrictions

Regulatory hurdles also arise because people can and do shift between and across legal categories, both in their countries of origin and as they travel through space and time (Crawley & Skleparis, 2018, p. 59). For example, the European Union has constructed a “Safe Countries of Origin” list in which certain countries are considered to have safe-enough conditions to justify denying individuals from these countries protection under international refugee law (European Commission, 2018). This list of “safe” countries includes Nigeria, Ethiopia and Kenya, which are ranked among the 25 percent *least* stable countries in the world (Fund for Peace, 2018). In another example, the European Union signed an agreement with Afghanistan in 2016 allowing the deportation of Afghan asylum seekers from Europe and forcing the Afghan government to receive them at the risk of reducing EU aid to the government, hence rejecting their asylum requests (Crawley & Skleparis, 2018; European External Action Service, 2018). As well, Lebanon has taken measures to alter the legal status of Syrians without differentiating between those who have been living and working in the country for decades

¹⁵ Please visit <http://ccrweb.ca/en/youth/nyce-project> for more information.

and ones who recently came as a result of the current Syrian crisis, resulting in ambiguous legal categories that do not clearly reflect the individuals' backgrounds or migration experiences (Harb et al., 2018).

Besides not receiving certain protection rights when they get classified as migrants, newcomers with high entrepreneurial skills and potential could also be excluded by their legal classification from receiving needed support, if this support is not directed to their specific category. Further, this kind of classification might generate resentment between different newcomer groups. Therefore, provisions of support based on category alone need to be reconsidered.

Recommendation 10: Consider individual cases rather than generalized categories (such as country of origin or legal status) when providing solutions to economic integration issues of newcomers. In other words, all migrants who have left their place of origin due to threat of violence, conflict, persecution or inhumane treatment should be treated similarly.

The Case of Uganda's Refugee Act: A progressive Role Model for Refugee Host Countries Worldwide

Although Uganda globally ranks in the bottom quartile in terms of fragility (Fund for Peace, 2018), that has not stopped the country from designing and implementing effective refugee integration policies, making Uganda's refugee law one of the most progressive in the world (World Bank, 2016). Uganda has an open-door policy, welcoming asylum seekers irrespective of their nationality, and not only offers the right of movement and employment for refugees but also provides each refugee family with a piece of land for their own exclusive agricultural use (World Bank, 2016).

As a result of the 2006 Uganda Refugee Act and its subsequent implementation in 2010, 78 percent of refugees in rural areas of Uganda are engaged in agricultural activities, thus contributing to enhancing their own livelihoods as well as developing Uganda's rural region, and 31 percent of refugees are business owners in a variety of industries (World Bank, 2016). With refugees coming from countries where conflict has no end in sight, including South Sudan (UNHCR, 2018a), Uganda realizes that viewing refugees as economic engines and

social contributors rather than merely as aid recipients is crucial for their socio-economic integration.

7.3.2.2. Lack of Access to Financial Capital

Lack of financial capital is a challenge not restricted to newcomer entrepreneurs. Based on research in 54 different economies, where at least 36 experts in each were interviewed, lack of entrepreneurial finance was found as a barrier to entrepreneurship for aspiring business owners around the world (GEM, 2018a).

7.3.2.2.1. Poor Access to Informal Channels

The fact that many newcomers had to flee their home countries without the ability to carry valuables and are unable to return due to fear of prosecution means it is difficult for them to acquire funds from their home countries (Wauters & Lambrecht, 2008). Some newcomers also report not receiving money from family and friends in their home country due to their perceived fear of being tracked and located by terrorist groups or violent entities.¹⁶ The difficulties faced by newcomers in accessing funds through informal channels, such as family and friends, illustrate the need for alternative sources of funding to support their entrepreneurial initiatives.

Recommendation 11: Establish and sustain informal microlending groups that support entrepreneurial projects, for example, rotating savings and credit associations and community social welfare schemes (Tengeh & Nkem, 2017).

Recommendation 12: Utilize digital platforms to raise awareness and funds for newcomer entrepreneurs (such as crowdfunding campaigns).

7.3.2.2.2. Poor Access to Formal Channels

Formal channels of funding similarly present hurdles because newcomers could be perceived as a high-risk group by banks and funding providers in the host country due to a lack of credit history.¹⁷ Interestingly, it is proven that banking on “unbankable” populations brings significant returns for financial institutions. It can enhance economic activity in lower-income, otherwise stagnant market sectors and reduce the newcomer’s dependency on government

¹⁶ This is based on preliminary findings from 34 in-depth interviews with Syrian, Iraqi and Afghan refugees in Germany conducted by Swati Mehta, who is a fellow at the German Chancellor’s office, Division of Economic and Social Affairs. The research is funded by the Deutsche Gesellschaft für Internationale Zusammenarbeit.

¹⁷ Based on interviews conducted by Swati Mehta (see note 12).

financial assistance (Richardson, 2009). In a case study on Grameen Bank,¹⁸ the bank appeared to have a higher return on equity and a higher return on assets than leading American banks (Haque & Harbin, 2009), with a profit of about US\$16.5 million in 2016 alone (Grameen Bank, 2017). Therefore, supporting newcomer entrepreneurship has potential benefits, not only for newcomers and the host country, but also for creditors of and investors in newcomer businesses.

Recommendation 13: Incentivize banks to provide loans on favorable terms to newcomers with higher leniency with respect to credit history.¹⁹

Recommendation 14: Establish investment agencies, including angel groups and venture capital firms, that support newcomer-owned businesses (such as R Ventures Foundation in the Netherlands²⁰).

Recommendation 15: Engage the private sector in financially sponsoring newcomer entrepreneurs (by, for example, incorporating newcomer support in corporate social responsibility programs).

Recommendation 16: Educate and raise awareness among investors and financial institutions about the benefits of investing in newcomer businesses.

Recommendation 17: Provide financial subsidies for physical business space rental to newcomer entrepreneurs (for example, the Migration Hub Network²¹ provides free office space for newcomer entrepreneurs in Berlin and Heidelberg).

¹⁸ Grameen Bank is a microcredit institute founded by Nobel-prize winner and Bangladeshi social entrepreneur Muhammad Yunus. It caters to low-income borrowers, mostly women, looking to start or sustain small businesses.

¹⁹ Canada's Royal Bank, for example, already provides newcomers with loans to buy a home or a car without the need for credit history (see www.rbc.com/newcomers/refugee/index.html). Such programs could be extended to business start-up loans.

²⁰ Please visit <http://rventuresfoundation.org/> for more information.

²¹ See www.migrationhub.network/.

The Case of the Tent Foundation: A Presidential Call to Action Mobilizes Corporate America

In June 2016, Barack Obama's White House announced a call to action for the American private sector, urging US companies to join the government's efforts in mitigating the global refugee crisis by supporting newcomers in first-receiver as well as resettlement countries around the world (The White House, 2016a). In response, the Tent Foundation was formed as a coalition of 51 US companies that made a commitment of US\$650 million for newcomer support, including enhancing economic integration and financial inclusion of over 4 million newcomers worldwide (The White House, 2016b).

Today, "Impact Investment" is a key pillar of the Tent Foundation, through which corporations invest directly into newcomer-owned small and medium enterprises to enhance newcomer entrepreneurship.²² For example, the Alight Fund, one of the companies supported by Tent, is a founding partner of the World Refugee Fund, the world's first global microfinance fund dedicated to newcomer entrepreneurs, which has so far supported more than 6,000 newcomer entrepreneurs with over US\$5 million in loans.²³

7.3.3. Human Capital

Starting life in a new place could pose difficulties even to the best-prepared voluntary migrants. However, being forcibly displaced leaves individuals even less time and capacity to prepare, particularly when they do not know where they will end up or how long they will remain displaced.

7.3.3.1. Lack of Knowledge and Skills

Lack of knowledge, whether it is of culture and social norms, laws and regulations, rights and responsibilities, market structure and need, often exacerbated by a language barrier, is a challenge for newcomers, not least the entrepreneurial ones. This is seen across multiple contexts — from refugees in the Finnish Arctic (Yeasmin, 2016) to Latinos in busy American

²² See www.tent.org/our-work/impact-investment/.

²³ See www.alightfund.com/about.

cities (Z. K. Moon et al., 2014). What is more, aspiring newcomer entrepreneurs may also lack the technical know-how of the business start-up process, or their management skills may not be applicable in the new market (Ghadamosi, 2015; Z. K. Moon et al., 2014; Wauters & Lambrecht, 2008). Training and counselling programs could be key in addressing this challenge.

Recommendation 18: Provide capacity building and information to entrepreneurial newcomers by establishing training programs and centers offering expert training, counselling and mentorship on entrepreneurship.

7.3.3.2. Lack of Success of Support Initiatives

The limited success of the few support initiatives that do exist is another factor contributing to newcomers' lack of human capital and information they need to successfully start a business. Lack of proper communication appears to be a reason why many newcomers seem to be unaware of available support, leaving support groups struggling to find newcomers that could benefit from their services (Rath & Swagerman, 2016). This miscommunication could be due to ineffective marketing and outreach, done, perhaps, in a language the newcomer could not understand or through using ineffective marketing channels that do not reach newcomers. It is also possible that several programs are designed in ways that impose specific agendas, strategies and frameworks on the beneficiaries, with little regard to what they actually want and need (Easterly, 2002). Therefore, it is important to design support programs that align with the needs of newcomers and deliver them via accessible channels.

In addition, several education and training programs follow traditional, theoretical approaches that do not concentrate on the practical knowledge needed for starting a business; hence, the method of information delivery is important to consider.²⁴ In particular, when seeking to encourage newcomers to start innovative businesses, traditional training approaches may not align with the desired change and creativity that the training aims to

²⁴ John Dewey (1938) classifies education as "traditional" versus "progressive," where traditional education involves knowledge transmission from a teacher to students in a standardized manner. In this sense, traditional education positions students to be passive recipients of knowledge that is influenced by cultural heritage, while progressive education considers each learner's capacities and interests and focuses on individual learning-by-doing.

achieve. More progressive approaches that focus on experiential learning, critical thinking and reflection are needed (Dewey, 1938; McGuigan, 2016).

Recommendation 19: Conduct careful assessments of newcomer needs before and throughout the design and implementation of support programs via the engagement of newcomers from various age groups, skill levels, nationalities and legal statuses in program design and pilot stages.

Recommendation 20: Provide information to newcomers relevant to labor market participation (general laws and regulations and support organizations' contact information) upon their entering or obtaining work permits in the host country.

Recommendation 21: Market and implement the programs in languages spoken by target newcomers.

Recommendation 22: Establish innovative entrepreneurship education initiatives that allow newcomer entrepreneurs to develop skills and knowledge experientially with the guidance of experts, such as paid internships, fellowships or apprenticeships in entrepreneurial firms, and business idea or case competitions.

The Case of Five One Labs: Bringing Arab and Kurdish Youth Together through Entrepreneurship Education and Training

The autonomous region of Kurdistan in the north of Iraq has become a "safe haven" for more than two million refugees and internally displaced persons from Iraq and Syria, including many from minority groups fleeing the Islamic State militant group (ISIS), making their percentage about 28 percent of the total population (Mustafa & Hagglund, 2017). Realizing the importance of innovative entrepreneurship for all groups involved, Five One Labs was founded to enhance start-up creation in the area.

The organization trains aspiring entrepreneurs, both locals and newcomers, in six-month-long programs concentrated on design thinking and lean start-up methodology, and also offers shorter-term evening programs, programs for women, online trainings and networking

events with services in Arabic, Kurdish and English.²⁵ Aspiring entrepreneurs are trained in business skills and leadership and receive personalized mentorship throughout their business plan writing and company initiation processes.

In less than one year, the program reached more than 1,000 aspiring entrepreneurs, and 100 percent of training recipients said, when surveyed, that the incubator helped them take the steps necessary to launch their business, according to organization co-founder Patricia Letayf. Among the newly launched companies are Tech Teens, a coding school for children founded by Fatima Mohammad from Basra, and Software You Need, a company providing software solutions designed to increase business operational efficiency in Iraq, founded by Ali Alrawi, who fled Ramadi due to ISIS occupation.

7.3.4. Social Networks

7.3.4.1. Lack of Connections

Building social relationships is critical for entrepreneurial success, as they enable individuals to obtain information on market opportunities and to access support and resources needed by entrepreneurs during the start-up process (Abou-Moghli & Al-Kasasbeh, 2012). These connections can be particularly important for aspiring migrant entrepreneurs because they often lack knowledge about their new environment and have a higher need for start-up support. For instance, a study on Chinese entrepreneurs in Australia showed that skilled migrants relocating on the grounds of personal opportunity and unskilled migrants relocating on humanitarian grounds both tend to leverage the immigrant Chinese community to support their business start-up process (Y. Wang & Warn, 2018).

For newcomers, settling in a host country without a history of migration from their particular community, as well as having to travel without prior planning due to an emergency situation, could mean they have greater difficulty than other migrants in establishing these critical connections and social networks in the new country (Wauters & Lambrecht, 2008). Business associations and networks formed by migrants and newcomers, such as the Syrian International Business Association and Honduras Global, as well as by host community members, such as The Entrepreneurial Refugee Network (TERN) in the United Kingdom and

²⁵ See <https://fiveonelabs.org/>.

Start-Up Your Future in Germany, can help mitigate this issue through connecting newcomer entrepreneurs with each other and local entrepreneurs, hence facilitating network formation. In addition, newcomers often rely on social media and digital tools to establish, maintain and expand their social networks (Alencar, 2018; UNHCR, 2016). Initiatives such as Refugee Phones have been started, collecting smartphones and chargers for refugees in Europe as a response,²⁶ as well as the World Food Programme's effort to provide Wi-Fi in the Domiz Syrian refugee camp in Northern Iraq (WFP, 2016).

Recommendation 23: Establish professional networks connecting newcomer business owners with each other and local business owners from similar industries.

Recommendation 24: Support the provision of smartphones and internet connectivity to newcomers in urban, rural and camp areas.

7.3.5. Societal Environment

7.3.5.1. Discrimination

Upon coming into office, US President Donald Trump proposed a permanent ban on Syrian refugees, except for Christian minorities, and a temporary suspension of the US refugee program (The White House, 2017). In Lebanon, 45 towns imposed a curfew that makes it punishable by law for a Syrian or Palestinian to step in the streets in the evening (HRW, 2014). Meanwhile, the Alternative for Germany (AfD) far-right political party proposed complete bans on family reunification for refugees with “subsidiary protection” (B. Knight, 2018). These are only a few examples of the discrimination newcomers face due to ethnicity, origin, religion or status. Fleeing violence and conflict only to be faced with racism and discrimination during the refugee/displacement journey hardly makes it easier for newcomers to integrate into a new country and rebuild their lives in peace, and the entrepreneurial ones are no exception.

Not only is discrimination a factor that potentially deters newcomer entrepreneurs from establishing their customer base and expanding business operations, but it could also possibly further hinder a newcomer's access to finance. In Sweden, for instance, it appears that favorable financial conditions for newcomer entrepreneurs seem to be prevalent where a

²⁶ To learn more about these initiatives, please visit www.siba.world/, <http://hondurasglobal.org>, www.wearetern.org/, www.startupyourfuture.de/en/about-us/, and www.refugeephones.co.uk/.

higher ethnic representation of their own minority is present in the banking sector in a specific area (Eliasson, 2014). Discrimination could furthermore be a reason why some newcomers remain in their own community circles and do not engage with the host community (Ghadamosi, 2015). In addition, it could be a key factor explaining why even some of the more educated and experienced newcomer entrepreneurs are hindered from engaging in cognitive-cultural activities and resort to entrepreneurship that does not match their human capital level (R. C. Kloosterman et al., 2016), pushing them to operate in markets where earnings tend to be low and work hours long and difficult (Rath & Swagerman, 2016). Moreover, discrimination could reduce the newcomer's trust in the host community and system, pushing the newcomer to be reluctant in asking for support when needed (Eraydin et al., 2010; Wauters & Lambrecht, 2008).

Unfortunately, change in racist or discriminatory mindsets does not happen overnight. However, implementation of institutionalized measures to overcome discrimination at the individual, group and country levels is one step toward this change.

Recommendation 25: Incentivize employers to hire qualified newcomers.

Recommendation 26: Incentivize employers to train and provide internships for less qualified newcomers or for those with no accredited qualifications to enhance their chances of entering the labor market (such as Germany's Deutsche Bank's Introductory Program for Refugees).²⁷

Recommendation 27: Provide cross-cultural training and orientation for employers to enhance their understanding and acceptance of newcomers/newcomer employees.

Recommendation 28: Mobilize local community leaders and educational institutes to educate and raise awareness among locals about newcomers, their stories and the benefits of integration.

Recommendation 29: Engage newcomers in community organizations and educational institutes to take part in processes and activities that aim to provide newcomer support.

²⁷ Please visit www.db.com/careers/en/grad/role-search/banking-introductory-programme-for-refugees.html for more information.

Recommendation 30: Engage integrated newcomers to support more recently arrived newcomers throughout their integration process, to enhance their trust in the new system and to empower them to ask for support.

Recommendation 31: Incentivize civil society organizations to organize social and professional events in which newcomers and locals exchange ideas, stories, knowledge and skills.

The Case of Nawaya Network's Generation of Innovation Leaders: Social Cohesion through Social Innovation

At least 13 Lebanese municipalities and the Lebanese army have, together, forcibly evicted a minimum of 11,000 Syrians from their homes, it is suspected due to their nationality or religion, with another 57,000 refugees at risk of eviction (HRW, 2018). As well, Palestinian refugees in Lebanon are deprived of many of their basic human rights, including the right to work in up to 20 different professions, as are Lebanon-born individuals from Palestinian parents; further, these individuals are refused the right to own immovable property or given access to basic services such as education and health care.²⁸

Realizing those challenges facing the country with the world's largest refugee-per-capita number, the Nawaya Network, a Lebanese non-profit, initiated the Nawaya Impact Lab.²⁹ This initiative trains Syrian and Palestinian, as well as Lebanese, youth from low-income backgrounds in business development and innovative thinking, while providing them with seed funding to start profitable companies that creatively tackle social problems. The program not only supports aspiring entrepreneurs with funds and knowledge to start businesses, but also enhances social cohesion by fostering collaboration and conversation between locals and newcomers through cooperative problem solving.

Such companies include Zakhrafiyat,, which upcycles waste materials, such as tires and wood, into calligraphic artwork; Karrousa, a theatre production company with a cast of newcomers and locals aiming to raise awareness on social issues through drama; Tanmya, an educational

²⁸ See (Chaaban et al., 2010); see also www.unrwa.org/where-we-work/lebanon.

²⁹ See www.nawaya.org/impact-lab.

camp for children in refugee camps, with the goal of increasing their school retention rates; and Wasel, a web platform that connects restaurants with refugee delivery drivers on demand. As of 2017, the program trained 2,566 youth and incubated 353 small social enterprises, of which 65 percent successfully launched, while US\$20,000 in revenues have been generated from the supported businesses (The Nawaya Network, 2017).

7.4. Conclusion

With rising rates of forced displacement globally and millions of displaced people remaining in receiving countries for several years with no expectation of return, labor market participation is vital in mitigating the resulting challenges to both displaced populations and their hosts. Beyond being a source of wage earning, the establishment of new businesses by newcomers is a key means of facilitating economic integration.

However, starting a business as a newcomer is not easy. Challenges pertaining to market opportunities, access to entrepreneurship, human capital, social networks and the social environment face newcomer entrepreneurs globally. Solutions to ease the obstacles facing aspiring newcomer entrepreneurs need to be effectively designed and implemented. Figure 9-1 summarizes the challenges and the 31 recommendations presented in this paper.

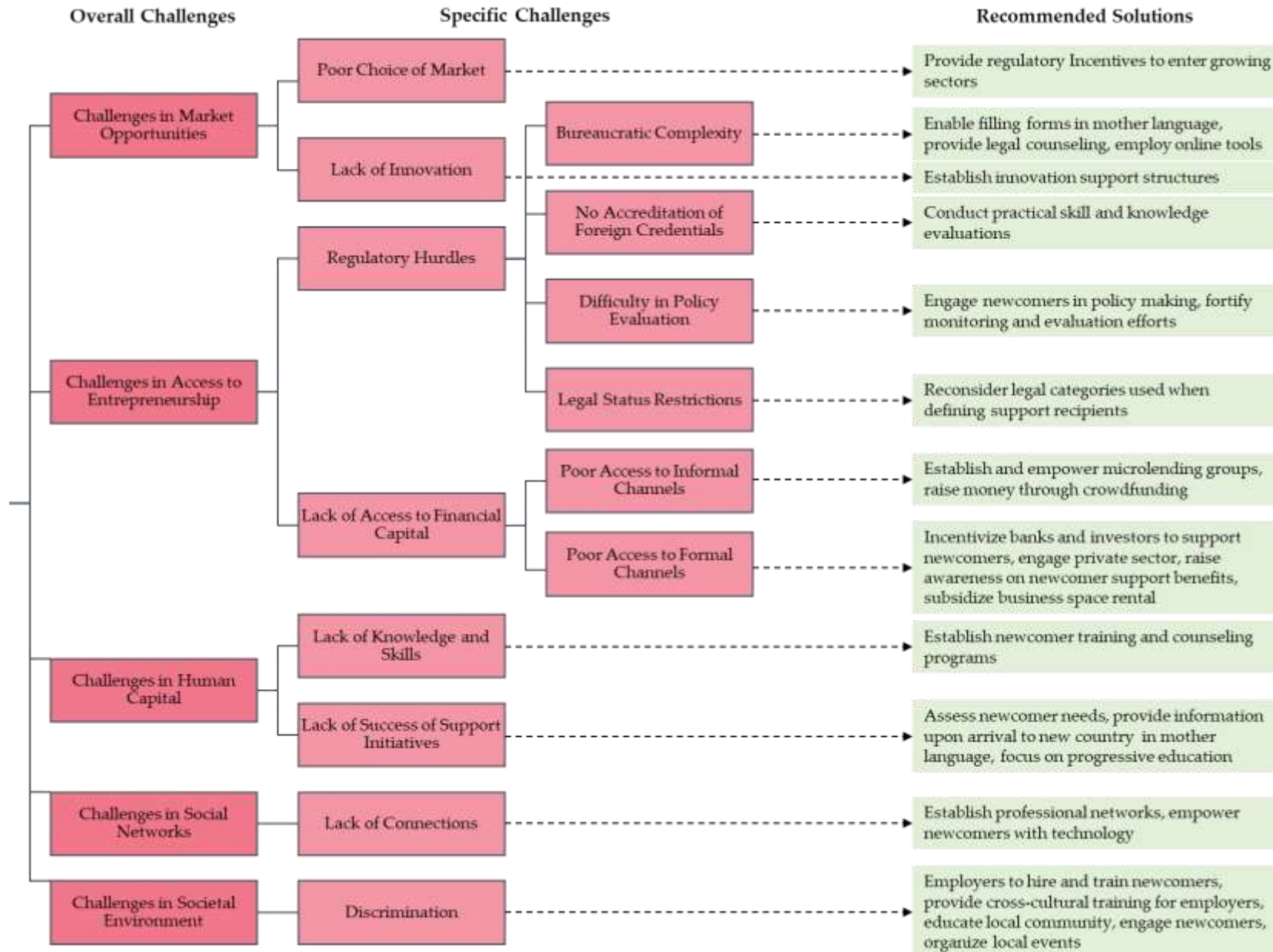


Figure 7-1: Summary of Challenges of and Recommended Solutions for Newcomer Entrepreneurship.

Nevertheless, implementing effective solutions is not possible without further research in the field, especially research that focuses on different scenarios and contexts of newcomer entrepreneurship. Newcomer entrepreneurs come from a variety of countries, cultures and educational backgrounds and speak many different languages. They can be any age or gender, come from a developing or developed countries, and fall under many legal status categories. Therefore, no universal solutions exist; solutions need to be customized carefully, based on further research and analysis. Further analyses on newcomer entrepreneurship outside of North America and Northern Europe; on newcomer entrepreneurship by gender; on innovative versus replicative newcomer entrepreneurship; and on newcomer business success and sustainability are needed.

Finally, those challenges cannot be mitigated without engaged and aware leaders who are able and willing to set examples for local communities. Championing support and empowerment programs and initiatives will enable transitioning away from framing newcomers as helpless refugees to integrated, contributing members of their communities. This shift in perspective is key in making positive change happen, and this paper hopes to bring leaders one more step closer toward this goal.

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8. Appendices

8.1. Questionnaire: Entrepreneurship Motivation (English Version)

So, you're starting a new company! Great stuff – how about you tell us more about you?						
1	What is the highest level of education you enrolled for?					
	High School	Technical College/ Training	Bachelor's Degree	Master's Degree	Doctorate Degree	Other (Please Specify)
2	What is the highest educational degree you obtained?					
	High School	Technical College/ Training	Bachelor's Degree	Master's Degree	Doctorate Degree	Other (Please Specify)
3	When did you first start working on your start-up idea?					
	> 5 years ago	>4 - ≤5 years ago	>3 - ≤4 years ago	>2 - ≤3 years ago	>1 - ≤2 years ago	>6 - ≤12 months ago ≤6 months ago
4	Please briefly describe the service or product your company provides					
5	<p>Please rate your agreement with the following statement:</p> <p>My company offers a service or product that contributes positively to a social and/or environmental cause</p>					
	Disagree strongly (1)	Disagree moderately (2)	Disagree a little (3)	Neither agree nor disagree (4)	Agree a little (5)	Agree moderately (6) Agree strongly (7)
Awesome! Now tell us why you're doing what you're doing in the first place!						
6	<p>Please rate your agreement with the following statements (from 1-7, as explained above):</p> <p>I wanted to start a company...</p>					
... to improve my personal skills and knowledge						
... because I am confident in my success as an entrepreneur						
... to feel that I have accomplished something						
... because I am passionate about my start-up idea and/or field of work						
... to make the best use of my natural talent in this field						
... because I am innovative and enjoy working with original concepts						
... because I want to make a positive contribution to the lives of people that I care about						
... to be my own boss and make money independently						
... to have more control over my circumstances, decisions, and results of my work						
... to have a flexible schedule and better manage my time						
... because I naturally like to take risks and try new things						
... because failure does not scare me and I can handle difficult situations well						
... because I felt that my previous job became too easy and comfortable						

... because I was encouraged by benefits such as tax cuts and easy bureaucratic procedures
... because I was encouraged by the legal and ethical work laws and structures (or lack of them)
... because I was motivated by the general education level in my place of residence
... because I was motivated by the availability of general entrepreneurship training opportunities in my city/country of residence
... because I was motivated by the availability of entrepreneurship training opportunities provided specifically to my community (for e.g. from refugee support organizations)
... because I personally received entrepreneurship training and/or education that motivated me to do so
... because by my formal education motivated me to do so
... because my past formal employment experience motivated me to do so
... because I have experience with starting companies
... because of the safety situation (or lack of it) in my current location
... because I feel discriminated against, or unaccepted in the society and/or job market
... because entrepreneurship is so common in my culture and heritage
... because I am currently in a country/city where entrepreneurship seems common and trendy
... because I can access extended social and professional contacts who can help advise and support me to start or run the business
... because it is common in my circle of friends, family members, or acquaintances to do so
... because I have friends, family members, or acquaintances who can help advise and support me to start or run the business
... because of certain values and social obligations within my community
... because I was driven by my morals and/or (spiritual, religious, humanitarian) values
... to feel accepted in my social circle and gain respect and higher status
... to continue my family tradition
... as I was influenced by someone important to me, who succeeded as an entrepreneur
... because of the economic stability (or lack of it) where I live
... because it is easy to access funds in my country of residence (for e.g. through banks)
... because it is easy to expand my company abroad and work internationally
... because there is a growing demand for companies that provide my service/product in the country/city where I live
... to provide a product or service needed specifically by my community
... because I can secure funds from my friends, family, or acquaintances
... because I wanted to make use of my personal savings and financial resources
... because I see a good opportunity of financial gain with my new company
... because I was not able to get a job position that I'm happy with
... to provide support that my family needs
... because I experienced financial difficulties in the past
And finally...

7	Anything else you want to say about what drives you to start a company?					
Ok, now “finally” for real!						
8	Do we have your permission to contact you in the future for follow up?					
Yes			No			
9	If you answered yes to the question above, please provide the following information:					
First name/last name			Email address			
10	What is your gender?					
Female		Male		Other		Prefer not to Answer
11	When is your birthday					
12	What is your nationality?					
13	What city do you currently live in?					
14	When did you start living in your current country of residence?					
>10 years ago, and I’m born in the country	>10 years ago, but I’m not born in the country	>5 - ≤10 years ago	>3 - ≤5 years ago	>1 - ≤3 years ago	>6 - ≤12 months ago	≤6 months ago
15	How did you come across this questionnaire? (please list all sources)					
16	Anything else you want to tell us?					
Thanks so much for participating! You are wonderful!						

8.2. Questionnaire: Entrepreneurship Motivation (Arabic Version)

إذا فانت ترغب بأن تصبح رائد أعمال! رائع! ما رأيك بأن تجربنا قليلاً عن نفسك؟						
1	ما هي أعلى مرحلة تعليمية قمت بالالتحاق بها؟					
	شهادة ثانوية	شهادة مهنية/تقنية	شهادة بكالوريوس	شهادة ماجستير	شهادة دكتوراه	أخرى (يرجى التحديد)
2	ما هي أعلى درجة تعليمية حصلت عليها؟					
	شهادة ثانوية	شهادة مهنية/تقنية	شهادة بكالوريوس	شهادة ماجستير	شهادة دكتوراه	أخرى (يرجى التحديد)
3	متى بدأت بالعمل على فكرة إنشاء شركتك الحالية؟					
	منذ ٦ أشهر أو أقل	منذ أكثر من ٦ شهور وسنة أو أقل	منذ أكثر من سنة وسنتين أو أقل	منذ أكثر من سنتين و٣ سنين أو أقل	منذ أكثر من ٣ سنين و٤ سنين أو أقل	منذ أكثر من ٥ سنين
4	يرجى شرح المنتج أو الخدمة الذي تقدمه/التي تقدمها شركتك باختصار					
5	يرجى تقدير مدى موافقتك مع الجملة التالية: شركتي تقدم منتج أو خدمة له/لها تأثير إيجابي على المستوى الاجتماعي أو/و البيئي					
	غير موافق بشدة (1)	غير موافق بإعتدال (2)	غير موافق قليلاً (3)	لا أعارض أو أوافق (4)	موافق قليلاً (5)	موافق بإعتدال (6)
	موافق بشدة (7)					
عظيم! لم لا تحدثنا عن الأسباب التي تدفعك بالقيام بما تفعله؟						
يرجى تقدير مدى الموافقة على الأسباب التالية (حسب المقياس أعلاه من 1-7): أريد إنشاء شركة...						
...لتطوير معلوماتي ومهاراتي الشخصية						
...لأنني واثق من قدرتي على النجاح كرائد أعمال						
...لكي أشعر أنني حققت شيء ما						
...لأنني أشعر بالحماس تجاه مجال عملي وأهداف شركتي						
...لكي أفيد من موهبتي الطبيعية في هذا المجال						
...لأنني شخص خلاق وأحب العمل مع الأفكار جديدة						
...لكي أؤثر إيجابياً في حياة أشخاص مهمين بالنسبة لي						
...لكي أصبح مدير ذاتي واكسب العيش باستقلالية						
...لكي تكون لدي سيطرة أكبر على ظروفي، قراراتي ونتائج عملي						
...لكي يكون وقتي أكثر مرونة و أفضل تنظيماً						
...لأنني بطبيعتي أحب المخاطرة وتجربة الأشياء الجديدة						
...لأنني لا أخاف من الفشل وأتسم بقدرتي للتعامل مع الصعوبات بشكل جيد						
...لأن عملي السابق أصبح في غاية السهولة والراحة						
...لوجود تسهيلات شجعتني على ذلك (مثل: المزايا الضريبية والتسهيلات المعاملاتية والبيروقراطية)						

...لأن القوانين والانظمة والأخلاقيات التي تخص العمل شجعتني على ذلك	
...لأن المستوى التعليمي في مدينة/بلد سكني شجعتني على ذلك	
...لتوفرالفرص التدريبية العامة المتخصصة بريادة الأعمال في مدينة/بلد سكني	
...لتوفرالفرص التدريبية الخاصة بريادة الأعمال التي تستهدف مجتمعي بشكل خاص (مثلاً، عن طريق جمعيات دعم اللاجئين)	
...لأنني حصلت شخصياً على تدريب في ريادة الأعمال	
...لأن تعليمي الرسمي شجعتني على ذلك	
...لأن خبرتي الوظيفية السابقة شجعتني على ذلك	
...لأن لدي خبرة في إنشاء الشركات	
...بسبب الاستقرار الأمني (أو عدم وجوده) في مدينة/بلد سكني الحالي	
...لأنني أشعر بالتميز ضدي أوعدم تقبلي في المجتمع أو/و سوق العمل	
...لأن ريادة الأعمال منتشرة جداً في ثقافتني وتراثي	
...لأنني أسكن الآن في بلد/مدينة تبدو فيها فكرة ريادة الأعمال منتشرة و شائعة	
...لأن لدي طريقة للتواصل مع شبكات اجتماعية واحترافية ممتدة، يمكنها تقديم المشورات والدعم الذي يلزمني لإنشاء وإدارة شركتي	
...لأن ريادة الأعمال شائعة بين عائلتي، اصدقائي أو معارفي	
...لأنه لدي عائلة، اصدقاء أو معارف يمكنهم تقديم المشورات والدعم الذي يلزمني لإنشاء وإدارة شركتي	
...بسبب القيم والالتزامات الاجتماعية ضمن مجتمعي	
...بسبب قيمي ومبادئ الشخصية (مثلاً، دينية أو روحانية أو إنسانية)	
...لكي أشعر بالإحترام والتقبل الاجتماعي ونيل مكانة اجتماعية مرموقة	
...للإستمرار بتقليد عائلتي	
...لأنني تأثرت بنجاح شخص يهمني كرائد أعمال	
...بسبب الإستقرار الإقتصادي (أو عدم وجوده) في مدينة/بلد سكني الحالي	
...لسهولة الحصول على التمويل (مثلاً التمويل البنكي) في مدينة/ بلد سكني الحالي	
...لسهولة توسيع شركتي عالمياً والعمل بشكل دولي	
...بسبب الطلب المتزايد لشركات تقدم المنتج أو الخدمة التي أقدمها في بلد/مدينة سكني الحالي	
...لتقديم منتج أو خدمة يحتاجه /يحتاجها مجتمعي بشكل خاص	
... لأنني يمكنني تأمين التمويل من عائلتي، أصدقائي أو معارفي	
...للإستفادة من مدخراتي ومصادري المادية الشخصية	
...لأنني أرى فرصة جيدة للربح المادي مع شركتي الجديدة	
...لأنني لم اتمكن من الحصول على وظيفة تسعدني	
...لتوفير الدعم المادي الذي تحتاجه أسرتي	
...بسبب تجربتي السابقة مع الصعوبات المادية في الماضي	
وأخيراً..	
7	هل ترغب بإخبارنا أي شيء آخر بخصوص دوافعك لإنشاء شركة؟

والآن، أخيراً بالفعل!						
8	هل لديك الرغبة بأن نتواصل معك في المستقبل؟					
لا			نعم			
9	إذا كان جوابك "نعم" أعلاه، يرجى توفير المعلومات التالية:					
البريد الإلكتروني			الإسم الأول/إسم العائلة			
10	ما جنسك؟					
أنثى		ذكر	أخرى	أفضل عدم الإجابة		
11	كم عمرك؟					
12	ما هي جنسيتك؟					
13	في أي مدينة تسكن حالياً؟					
14	متى بدأت بالعيش في بلد سكنتك الحالي؟					
منذ ٦ أشهر أو أقل	منذ أكثر من ٦ شهور وسنة أو أقل	منذ أكثر من سنة و ٣ سنين أو أقل	منذ أكثر من ٣ سنين و ٥ سنين أو أقل	منذ أكثر من ٥ سنين و ١٠ سنين أو أقل	منذ أكثر من ١٠ سنين، ولكنني لم أكن مولوداً في هذا البلد	منذ أكثر من ١٠ سنين، وأنا مولود في هذا البلد
15	من أي جهة حصلت على هذا الإستیبان؟ (يرجى ذكر جميع المصادر)					
16	هل ترغب بإخبارنا بأي شيء آخر؟					
شكراً جزيلاً على المشاركة!						

8.3. Questionnaire: Personality, Behavior and New Venture Success

1	Before we begin, please name the main entity (co-working space, incubator, accelerator, non-profit, venture capital firm, etc.) that you are affiliated with - the one through which you got this questionnaire:						
Hello and welcome! Let's start by learning more about your business							
2	What's the name of your company?						
3	Please briefly describe your product or service						
4	Do you consider your company a social business?						
Yes			No				
5	Is your business a not-for-profit organization?						
Yes			No				
6	Do you consider your start-up a technology-based company?						
Yes			No				
7	Which of those statements best describes you?						
I started actively working on setting up my own business within the last 12 months, though I haven't yet paid any salaries or wages		I started actively working on setting up my own business within the last 12 months, and I have started paying salaries or wages less than 3 months ago		I am currently managing/co-managing my own business and I have been paying salaries or wages for 3 - 42 months (3 months - 3.5 years)		I am currently managing/co-managing my own business and I have already been paying salaries or wages for more than 42 months (3.5 years)	
8	Compared to other enterprises in your branch how successful you are?						
1 = Strongly more successful	2 = Moderately more successful	3 = A little more successful	4 = Not more successful	5 = A little less successful	6 = Moderately less successful	7 = Strongly less successful	
9	What is roughly your turnover? (in US\$)						
10	What has been your total sales growth over the past four years?						
Under 5%	5% to 9%	10% to 19%	20%-34%	35% to 50%	More than 50%	Not Applicable	
11	How many employees in FTE (Full Time Equivalent) do you have?						
12	How many rounds of investment by venture investors have you received?						

13	What is your local market share? (%)
14	What is your global market share? (%)
15	In how many countries is your business active?
16	Do you have any comments about this section?
Great! Now let's learn a bit more about how you run your business!	
17	Starting and running a business requires a number of activities, but these activities are not necessarily equally important. Using a scale of 1 to 7, where 1 = Almost Never and 7 = Almost Always, please indicate how frequently you engage in each of the following activities. Please rate yourself from the perspective of a trusted advisor who is providing you with constructive feedback:
Develops and maintains an effective marketing plan	
Regularly keeps track of the business's financial position	
Perseveres in spite of business setbacks	
Demonstrates the financial management skills needed to effectively run the business	
Covers off his/her weaknesses by acquiring people with complementary skill sets	
Expands the business by identifying new markets for products/services	
Maintains low levels of overhead	
Maintains decision-making control of the business	
Delivers exemplary service by exceeding customer expectations	
Takes calculated risks when appropriate business opportunity arises	
Acquires the necessary equipment to produce a quality product/service	
Does not spend excessive amounts of company resources on luxury and personal items	
Readily adapts to changing environment	
Negotiates deal closures	
Has necessary industry knowledge prior to starting business	
Is physically present and assumes responsibility for day-to-day management of the business	
Possesses general business knowledge	
Is honest in dealing with key stakeholders	
Remains focused on core business	
Meets customer's expectations	
Maintains a debt level that the business can manage	
Communicates regularly with employee base	
Has relevant education for chosen business	
Starts small and gradually grows the business	
Keeps focused on key business priorities	

Demonstrates a conviction that the business will succeed	
Develops products/services to match market needs	
Has a clear vision of where the business is going	
Proactively and aggressively sells products/services	
Advertises and promotes products/services	
Seeks advice from experts	
Sets goals for the business	
Acquires sufficient capital prior to business start-up	
Builds effective relationships with customers	
Identifies a suitable market niche that can sustain the business	
Treats employees fairly	
Conducts adequate market research prior to business start-up	
Builds relationships to facilitate business venture	
Takes advice from others	
Does whatever it takes to get the job done	
Avoids over-reliance on one or two customers	
Ensures a high-quality product/service	
Devotes long hours to the business	
Adapts services/products to changing market needs	
Establishes credibility at the upstart of the business	
Acquires people with the competencies needed for the business	
Motivates oneself	
18	Anything else you want to tell us regarding this section?
After learning more about your business and how you run it, let's gain a bit of knowledge about your personality	
19	<p>Here are a number of personality traits that may or may not apply to you. Please choose a number corresponding to each statement to indicate the extent to which you agree or disagree with that statement (from 1-7, where 1 = Almost Never and 7 = Almost Always). You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.</p> <p>I see myself as:</p> <p>_____ Extraverted, enthusiastic.</p> <p>_____ Critical, quarrelsome.</p> <p>_____ Dependable, self-disciplined.</p> <p>_____ Anxious, easily upset.</p> <p>_____ Open to new experiences, complex.</p> <p>_____ Reserved, quiet.</p> <p>_____ Sympathetic, warm.</p>

_____ Disorganized, careless.										
_____ Calm, emotionally stable.										
_____ Conventional, uncreative.										
Now to the last part: Let's get to know YOU at a more general level										
20	What is the highest educational degree you obtained?									
	High School	Technical College/ Training	Bachelor's Degree	Master's Degree	Doctorate Degree	Other (Please Specify)				
21	What is your gender?									
	Female		Male			I prefer not to answer				
22	How old are you?									
	<25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	>64
23	What is your nationality?									
24	Which country do you currently live in?									
25	Are you located in an urban or a rural area?									
	Urban		Rural			Other (Please Specify)				
26	Are you born in the country where you currently live?									
	Yes				No					
27	Have you been living in your current country of residence for more than 5 years?									
	Yes				No					
28	Anything else you want to tell us?									
29	Would you like to provide us your name and contact information for future follow-up (such as knowing the results of the study)?									
Name:										
Email Address:										
That is it! Thank you so much for your time and effort!										

9. Curriculum Vitae



Lubna Rashid

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Doctoral Degree in Entrepreneurship and Innovation Management
M.Sc. in Health Systems
Certificate in Management of Technology
B.Sc. in Biotechnology und Genetic Engineering

Education	
Technische Universität Berlin <i>Doctoral candidate at the Chair of Entrepreneurship and Innovation Management, Faculty of Economics and Management (In collaboration with the School of Entrepreneurship at the Norwegian University of Science and Technology)</i> Thesis title: Towards Successful Entrepreneurial Outcomes Amidst Extreme Fragility – A Human Capital Perspective.	Dec. 2016 – May. 2020 Berlin, Germany
Georgia Institute of Technology <i>M.Sc. in Health Systems, School of Industrial Engineering, GPA = 3.7/4.0 (American), 1.5 (German)</i> Program focus: The development and application of optimization strategies and managerial methods for health system enhancement.	Aug. 2011 – Dec. 2012 Atlanta, Georgia, USA
Georgia Institute of Technology <i>Certificate in Management of Technology</i> Program focus: The implementation and integration of technological innovation in workplaces.	Aug. 2011 – Dec. 2012 Atlanta, Georgia, USA
Jordan University for Science and Technology <i>B.Sc. in Biotechnology und Genetic Engineering, School of Biology, GPA = 3.9/4.0 (American), 1.1 (German)</i> Program focus: Foundations of molecular biology and genetics.	Sep. 2006 – Apr. 2010 Irbid, Jordan
Practical Experience	
Soulincubator Project Manager at soulbottles • Management of end-to-end project activities of the startup incubator focusing on supporting entrepreneurs to develop environmentally sustainable products and services.	Jan. 2020 – Jun. 2020 Berlin, Germany
Startup Mentor at the Venture Campus Program of TU Berlin • Support of startup teams in the development of business ideas and plans with focus on sustainability.	Apr. 2018 – Present Berlin, Germany
Strategy Consultant at MIDMAR • Development of education, civil society development and economic integration programs for youth in various Syrian cities.	Aug. 2017 – Dec. 2017 Berlin, Germany Beirut, Lebanon

Customer Success Manager at Band Industries <ul style="list-style-type: none"> • Management of customer support and relations activities at the tactical and strategic level 	Jun. 2016-May. 2017 Beirut, Lebanon
SE Factory Program Coordinator at The Nawaya Network <ul style="list-style-type: none"> • Management and organization of various aspects of the coding bootcamp. 	Jun. 2016 – Dec. 2016 Beirut, Lebanon
Communications Officer at the UOSSM <ul style="list-style-type: none"> • Strategy design and development in the area of public and donor relations and internal work process optimization. 	Dec. 2015 – Apr. 2016 Gaziantep, Turkey
Operations and Change Management Consultant at Accenture <ul style="list-style-type: none"> • Process mapping and optimization, change management and technology integration project management for clients in the high-tech, healthcare, pharmaceutical and manufacturing industries. 	May. 2013 – Aug. 2015 Seattle, Washington, USA
Research Assistant at The Georgia Institute of Technology <ul style="list-style-type: none"> • Research on ambulatory hospital process optimization and genetic-environmental interactions. 	May. 2010 – Dec. 2012 Atlanta, Georgia, USA
Additional Volunteer Experience	
Freelance Consultant for Social and Volunteer Initiatives	Dec. 2015 – Dec. 2016 Various
Founder of Initiative Silk Borders	Aug. 2015 – Dec. 2016 Croatia, Slovenia, Germany
Startup Mentor at Accenture Development Partnerships	Jul. 2014 – Jan. 2015 Atlanta, Georgia, USA
Hotline Advocate at Dekalb Rape Crisis Center	Sep. 2010 – Jul. 2011 Decatur, Georgia, USA
Appearances as Keynote Speaker	
<ul style="list-style-type: none"> • Hello Diversity Conference (Berlin, June 2019). • EMEN Financing Solutions for Migrant Entrepreneurs Conference (The Hague, June 2019). • LOK.A.Motion Refugee Entrepreneurship Forum (Berlin, October 2018). • World Cities 2 Conference (Toronto, September 2018). • World Refugee Council Berlin Meeting (Berlin, November 2017). • TEDx@TUBerlin (Berlin, June 2017). 	
Academic Research	
An Eclectic Analysis of Syrian Entrepreneurship Motivation in Conflict and Refuge. <i>Solo Author, accepted by the “International Journal of Entrepreneurship and Small Business”, January 2020.</i>	
Founder Personalities, Behaviors and New Venture Success in Sub-Saharan Africa. <i>First Author, published in “Technological Forecasting and Social Change”, December 2019.</i>	

Entrepreneurship Education and Sustainable Development Goals: A literature Review and a Closer Look at Fragile States and Technology-Enabled Approaches.

Solo Author, published in "Sustainability", September 2019.

Cross-Country Differences in Entrepreneurial Internationalization Tendencies: Evidence from Germany and Pakistan.

Second Author, published in "Administrative Sciences", July 2019.

"Call Me a Business Owner, Not a Refugee!": Challenges of and Perspectives on Newcomer Entrepreneurship.

Solo Author, published as Working Paper by the World Refugee Council, December 2018.

Systems Genomics of Metabolic Phenotypes in Wild-Type *Drosophila melanogaster*.

Second Author, published in "Genetics", April 2014.

Other

Languages: Arabic (C2), English (C2), German (C1), Spanish (B1).

Birth Date: 03. December. 1988.

Nationalities: USA, Iraq.

Interests: Science, Sustainability, Technology, Dance, Psychology, Politics, Music, Philosophy.