



**Kaunas University of Technology**  
School of Economics and Business

**Antecedents of Innovative Migrant Entrepreneurship**  
Master's Final Degree Project

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**Kaunas, 2022**



**Kaunas University of Technology**  
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Master's Final Degree Project

Innovation Management and Entrepreneurship (6211LX031)

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## **Antecedents of Innovative Migrant Entrepreneurship**

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### Summary

Following the past decades of mass migration, a considerable increase in the number of migrant entrepreneurs in the host country, often surpassing the number of native-born entrepreneurs, has been detected. This widely observed occurrence has created substantial benefits for the home and host countries of migrant entrepreneurs, including enhanced economic development and growth, as well as poverty reduction and an increase in welfare. Additionally, migrant entrepreneurs' contribution to innovative activities and outcomes also caught scholars' attention. However, this phenomenon did not only attract the interest of scholars but also of policymakers. To further foster this development and enhance the positive effects triggered by the increasing number of migrant entrepreneurs, policymakers introduced various supposedly supporting policies over the years. These policies were often grounded on an insufficient and deficient base of information though, which led to undesired outcomes.

So, to take advantage of these benefits, a solid foundation of information on migrant entrepreneurs needs to be substantiated. Such fundamental information on migrant entrepreneurship may include antecedents and factors, that affect migrants' decision to enter entrepreneurship and engage in innovative activities.

Therefore, the **project aim** is to reveal relevant antecedents that foster migrant entrepreneurs to conduct innovation.

In order to achieve the project aim, the following research objectives were set:

1. To reveal the current state of scientific literature on migrant entrepreneurship, antecedents thereof and migrants' contribution to innovation.
2. To conduct an analysis of fundamental concepts of entrepreneurship for the identification of relevant antecedents of migrant and innovative entrepreneurship on a micro and macro level.
3. To develop a conceptual model for relevant antecedents of innovative migrant entrepreneurship based on literature findings.
4. To substantiate a methodology of relevant antecedents of innovative migrant entrepreneurship identification.
5. To empirically test the proposed model of relevant antecedents of migrant entrepreneurs with innovative start-ups in Germany.

The **research methodology** chosen and applied in this final degree project includes the analysis of scientific literature to detect and substantiate important components of the conceptual model for the identification of relevant antecedents of innovative migrant entrepreneurs. For the validation of the proposed conceptual model, a qualitative study, including a multiple case study analysis was assessed to be most suitable and conducted accordingly. The research context was set according to migrant entrepreneurs of innovative start-ups in Germany. The data was collected through semi-structured interviews and additional desk research on secondary data. To validate the proposed conceptual model, a qualitative content analysis was conducted in order to extract all relevant information.

The **key theoretical findings** encompass antecedents of innovative entrepreneurs and antecedents of migrant entrepreneurs. Based on these findings, a conceptual model for antecedents of innovative migrant entrepreneurs was created, which includes different elements on a micro and macro level.

The **key empirical findings** favour the acceptance of the proposed conceptual model and its components with certain limitations. The empirical and literature findings of two demographic antecedents, namely age and the length of stay remain inconclusive. Furthermore, four additional psychological antecedents were identified and added to the conceptual model, namely entrepreneurial drive and iterative mindset as well as self-reflection and empathy.

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Reikšminiai žodžiai: novatoriškas verslumas, migrantų verslumas, demografiniai veiksniai, psichologiniai veiksniai, ištekliais pagrįsti veiksniai

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## Santrauka

Pastaraisiais dešimtmečiais, pasaulyje augant migracijos srautams, priimančiojoje šalyje pastebimas didelis migrantų verslininkų skaičiaus augimas, dažnai viršijantis vietinių verslininkų skaičių. Šis plintantis reiškinys atneša didelę naudą tiek migrantų verslininkų kilmės, tiek juos priimančiosioms šalims, nes tai skatina didesnę ekonomikos vystymąsi, gerovės augimą, o taip pat skurdo mažinimą. Be to, mokslininkų dėmesio sulaukė ir verslininkų migrantų indėlis į inovacinę veiklą ir jos rezultatus. Šiuo reiškiniu susidomėjo ne tik mokslininkai, bet ir politikos formuotojai. Siekdami toliau skatinti šią plėtrą ir didinti teigiamą poveikį, kurį sukelia didėjantis verslininkų migrantų skaičius, politikos formuotojai bėgant metams ėmėsi įvairių politinių paramos priemonių. Tačiau ši parama dažnai buvo grindžiama nepakankama ir skurdžia informacija, o tai lėmė nepageidaujamus rezultatus.

Taigi, norint pasinaudoti migrantų verslininkų teikiama nauda, reikia turėti esminę ir pagrįstą informaciją apie jų veiklą. Tokia fundamentali informacija apie migrantų verslumą gali apimti ketinimus, motyvaciją ir veiksnius, kurie daro įtaką migrantų sprendimui imtis verslumo ir inovacinės veiklos.

Šio projekto tikslas - atskleisti antecedentus, kurie skatina migrantus kurti inovatyvų verslą.

Siekiant įgyvendinti tyrimo tikslą, buvo išskirti šie tyrimo uždaviniai:

1. Atskleisti esamą mokslinės literatūros apie migrantų verslumą, jo antecedentus ir migrantų indėlį į inovacijų diegimą būklę.
2. Atlikti fundamentalių verslumo sąvokų analizę, siekiant nustatyti svarbius migrantų ir inovatyvaus verslumo antecedentus mikro ir makro lygmeniu.
3. Remiantis mokslinės literatūros analize, sudaryti migrantų inovatyvaus verslo atecedentų tyrimo modelį.
4. Pagrįsti migrantų inovatyvaus verslo atecedentų tyrimo metodiką.
5. Empiriškai patikrinti migrantų inovatyvaus verslo atecedentų modelį Vokietijos startuolių atveju.

Šiame baigiamajame magistro projekte pasirinkta ir taikoma tyrimo metodika apima mokslinės literatūros analizę, siekiant aptikti ir pagrįsti svarbius conceptualaus modelio, skirto atitinkamiems inovatyvių verslininkų migrantų antecedentams nustatyti, komponentus. Siekiant patvirtinti pasiūlytą

konceptualųjį modelį, buvo įvertinta, kad kokybinis tyrimas, apimantis kelių atvejų analizę, yra tinkamiausias tikslui pasiekti. Tyrimo kontekstas buvo nustatytas pagal Vokietijoje veikiančių inovatyvių naujų įmonių verslininkus migrantus. Duomenys buvo renkami atliekant pusiau struktūruotus interviu ir antrinių duomenų tyrimą.

Pagrindinės teorinės išvados apima inovatyvių verslininkų ir migruojančių verslininkų antecedentus. Remiantis šiomis išvadomis buvo sukurtas koncepcinis inovatyvių verslininkų migrantų antecedentų modelis, apimantis skirtingus mikro ir makro lygmens elementus.

Pagrindinės empirinės išvados rodo, kad pasiūlytas konceptualus modelis ir jo dedamosios buvo patvirtintos empirinio tyrimo metu. Empiriniai ir literatūros duomenys apie du demografinius veiksnius, t. y. amžių ir buvimo trukmę, lieka neįtikinami. Be to, tyrimo metu buvo atskleisti keturios papildomi psichologiniai antecedentai: verslumo stimulus ir iteracinis mąstymas, savirefleksija ir empatija.

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## **List of abbreviations**

### **Abbreviations:**

COVID-19 – Coronavirus disease 2019;

EU – European Union;

GDP – Gross domestic product;

OECD – Organisation for Economic Co-operation and Development;

STEM – Science, Technology, Engineering, and Mathematics;

TTS – Text-to-Speech.

## Introduction

Over the past decades, an unprecedented influx of migrants, moving from their home country to a host country, has occurred. According to the World Migration Report (International Organization for Migration and United Nations, 2020), the number of migrants in the world in 2019 amounted to approximately 272 million people, which is a significant increase of 119 million migrants since the 1990s. In order to build a livelihood, some migrants found an occupation in the host country's labour market, while a substantial number of migrants entered self-employment in the form of entrepreneurship. Hunt (2010) and Ozgen et al. (2012) observed that the rate of migrant entrepreneurs even surpasses the rate of local-born entrepreneurs. This phenomenon has substantiated considerable benefits, such as a boosted economic development and growth, poverty reduction, as well as an increase in welfare to both, the home and the host country (Brixy et al., 2013; Constant and Zimmermann, 2006; Dheer, 2018; Hunt, 2010; Poblete and Mandakovic, 2021; Sahin et al., 2006; Saxenian, 2002b). Some researchers, including Hunt (2010), Nathan and Lee (2013) and Saxenian (2002a; b) have also praised the migrants' contribution to innovation.

In light of these positive effects deriving from this relationship between migrants and entrepreneurship, many researchers and policymakers have shown extensive interest in the matter. Over the years, many governments introduced policies, that were targeted toward fostering migrant entrepreneurship and its benefits (Naude et al., 2017). However, these enhancing policies were based on insufficient and deficient information, which often led to unsought outcomes. These faulty policies earned a considerable amount of criticism from scholars (ibid.).

So, in order to effectively leverage these benefits, a solid basis of information on migrant entrepreneurship needs to be built. This includes fundamental information on migrant entrepreneurship, particularly factors and antecedents, that have an impact on the decision of migrants' entry into entrepreneurship and their potential intention to be innovative.

Even though there is a substantial amount of literature on the topic of entrepreneurship and innovation respectively, the contribution of scientific literature on migrant entrepreneurship is still relatively small (Dheer, 2018; Vissak and Zhang, 2014). The greater interest of scholars and researchers was drawn to necessity-driven entrepreneurship by migrants, whereas the role of migrant entrepreneurs as contributors to innovation was neglected (Vissak and Zhang, 2014). This may also include scarce research on antecedents of migrant entrepreneurship. Therefore, a **research gap**, encompassing the lack of academic literature on the topic of antecedents of migrant entrepreneurship with respect to the creation of innovation, was identified.

Based on the acknowledged research gap in the scientific literature, the master thesis' **research question** comprises the following: „What are relevant antecedents of innovative migrant entrepreneurship that foster migrant entrepreneurs to conduct innovation?“

The **subject matter of research** is the identification of relevant antecedents of innovative migrant entrepreneurship.

Therefore, the **project aim** is to reveal relevant antecedents that foster migrant entrepreneurs to conduct innovation.

In order to achieve the project aim, the following research objectives were set:

1. To reveal the current state of scientific literature on migrant entrepreneurship, antecedents thereof and migrants' contribution to innovation.
2. To conduct an analysis of fundamental concepts of entrepreneurship for the identification of relevant antecedents of migrant and innovative entrepreneurship on a micro and macro level.
3. To develop a conceptual model for relevant antecedents of innovative migrant entrepreneurship based on literature findings.
4. To substantiate a methodology of relevant antecedents of innovative migrant entrepreneurship identification.
5. To empirically test the proposed model of relevant antecedents of migrant entrepreneurs with innovative start-ups in Germany.

## **Methodology**

For this thematic focus of the thesis, a deductive research approach is considered appropriate and reliable. The first part of the thesis, namely the problem analysis, involves a literature review, an elaboration of the relevance of migrant entrepreneurship for home and host country, with reference to its impact on different country dimensions, followed by a summarizing problem statement. The second part of the thesis, referring to the theoretical solution, encompasses the development of a conceptual model for antecedents of innovative migrant entrepreneurship, that is in alignment with the established project aim. The conceptual model is based on literature analysis of previously identified antecedents of innovative and migrant entrepreneurship. Additionally, these antecedents will be analysed from a micro and macro perspective for a more comprehensive overview.

For the purpose of testing and validating the developed model for its applicability, migrant entrepreneurs of innovative start-ups in Germany were chosen as the research context. The selection of interview subjects is also to ensure accessibility of interviewees and the comparability across geographic regions. As part of the qualitative research method, an interview guideline was conceptualised, based on elements of the proposed model. While the primary source of data represents interviews with migrant entrepreneurs of innovative start-ups in Germany, secondary data acquired through desk research will represent a complementary source of data.

The qualitative content analysis of collected data was conducted using the software MAXQDA in order to validate the proposed model. The thesis closes with a discussion of findings, including limitations of the thesis and recommendations for further research, followed by an overall conclusion and practical recommendations.

## **1. Problem Analysis in the Antecedents of Innovative Migrant Entrepreneurship**

With the progression of mass migration over the past years, the subject of migrants' role within the host country has gained substantial economic, social, and political interest from scholars as well as policymakers (Block et al., 2016; Dheer, 2018; Sahin et al. 2006). As of 2019, there are approximately 272 million international migrants all over the world, according to the World Migration Report (International Organization for Migration and United Nations, 2020). In fact, the largest proportion of 84 million migrants is hosted in Asia, while Europe accommodates 82 million. In total, this accumulates to almost 61 per cent of total global international migrants. In contrast, North America welcomed close to 59 million migrants in 2019. To put these numbers into relation, migrants in North America and Europe make up almost 16 per cent and 11 per cent of their total country population, respectively (ibid.). Naturally, migrants occupy a significantly growing percentage of the labour market. While some migrants tend to pursue wage employment, a considerable number of migrants tend to enter self-employment in the form of entrepreneurship. In 2015, migrants owned close to 25 per cent of newly founded ventures in the US, even though they amounted to less than 15 per cent of the total country population (Nazareno et al., 2019).

For a comprehensive understanding of the topic of migrant entrepreneurship, a review of literature on migrant entrepreneurship and its importance will be presented. This chapter finishes with a precise problem statement.

### **1.1. Studies of Literature on Migrant Entrepreneurship**

The topic of migrant entrepreneurship has received a significant surge of global attention and interest from a broad range of scholars and policymakers in recent years. However, the literature on migrant entrepreneurship is still at an early stage (Poblete and Mandakovic, 2021; Vissak and Zhang, 2014). For instance, many academic papers are still focused on core principles and concepts of migrant entrepreneurship and rarely go beyond that. Furthermore, there are still several topics within migrant entrepreneurship where scholars' opinions are not consistent with each other, such as the amount of innovativeness brought by migrant entrepreneurs (Block et al., 2016; Hunt, 2010; Naude et al., 2017; Vandor, 2021). It is also worth mentioning that only a few limited articles on migrant entrepreneurship are published in common mainstream management journals, such as the *Journal of Management*, while the majority of scientific articles are published in niche journals, such as the *Journal of Migration*.

So, academic, and scientific literature on the topic of migrant entrepreneurship includes the elaboration of the general concept (Constant and Zimmermann, 2006; Naude et al., 2017), its impact on country dimensions (Hart and Acs, 2011; Sahin et al.; 2006), antecedents thereof (Mestres, 2010; Poblete and Mandakovic, 2021) and innovative impact and outcomes resulting from migrant entrepreneurship (Hunt, 2010; Oezgen et al., 2012; Saxenian, 1999).

Saxenian (1999; 2002a; b) is known as one of the pioneering researchers in the field of high-tech immigrant entrepreneurship. The author acknowledges the lack of information on the economic contribution of highly skilled immigrants. Hence, her study investigates the degree to which highly skilled immigrants contribute to job and wealth creation for the economy in California. She recognized that an increasing number of Indians and Chinese individuals entered entrepreneurship in Silicon Valley due to a "glass ceiling" that impeded their promotion within their former occupations at high-tech businesses. In fact, almost one-third of ventures in Silicon Valley between 1980 and 1998

was founded by Indian or Chinese individuals, which emphasizes immigrants' importance to the Silicon Valley and the general economy. According to her qualitative research, she discovered that the Indian and Chinese high-tech communities were maintained by a rich network of connections and relations to their countries of origin.

Constant and Zimmermann (2006) investigate and determine typical characteristics of immigrant and German-born entrepreneurs. Furthermore, their study attempts to understand the fundamental motivation of native-born Germans and immigrants to enter entrepreneurship. Based on data from the German Socioeconomic Panel 2000, findings show that the decision to enter entrepreneurship does not differ much between natives and immigrants and that it is strongly linked to different push and pull factors, such as financial worries or appeal, as well as other socio-economic reasons. Furthermore, they note that especially research on immigrant entrepreneurship in Germany and Europe is rather scarce in comparison to research on that matter in the US.

Baycan-Levent and Nijkamp (2009) examine and put several kinds of migrant entrepreneurship from different countries in Europe in comparison to each other in order to define methodical categories of migrant entrepreneurship, as well as to emphasize relevant key characteristics of migrant entrepreneurship in Europe. The research was conducted according to a comparative analysis based on available quantitative and qualitative data from previous studies. According to their findings, migrant entrepreneurs in Europe are often influenced by specific push factors to enter entrepreneurship. These push factors may include a high unemployment rate and low status in the job market. Some of these factors may be more relevant for the decision to enter entrepreneurship in some regions, than in others. Correspondingly, Baycan-Levent and Nijkamp (2009) observed territorial differences in the relevance of some factors between southern and northern European countries.

Hunt (2010) examines the degree to which skilled migrants increase innovation in the US by investigating individual patenting activities and state-level factors of patenting. Based on a 1940-2000 state panel, Hunt (2010) demonstrates that migrant college graduates have positive spill-over effects on innovation. As a result, an increase in patenting activities by the general population was observed. Furthermore, additional research in the area of migration pathways was noted to be of considerable value. To be precise, this project aims to find out whether science and engineering graduate students with the possibility of a permanent residence or scientists and engineers on a temporary work visa are more successful migrants.

Hart and Acs (2011) measure the role of immigrant entrepreneurs in high-tech firms, using a professional-quality survey. Accordingly, they found out that such firms create jobs and contribute to overall growth in the United States. While they claim that immigrants' contribution to these benefits was exaggerated, they still acknowledge their importance to countries' economies. Approximately 16% of companies that were analyzed in their study had at least one immigrant founding member. These specific firms distinguished themselves through better performance than high-tech firms led by native entrepreneurs. Both scholars indicated the lack of research in the field of migrant entrepreneurship and recommend the relationship between immigrant and native-born entrepreneurs, including common or different strategies among them, as a topic in need of further research.

Oezgen et al. (2012) measure the effect of different factors, such as population size, abilities, and diversity of immigrants on the innovativeness of districts in the host country. Innovation will be measured according to the number of patent registrations per million residents. Oezgen et al. (2012)

found that multiple factors, including accessibility by region, industrial structure, human resources, and gross domestic product ( in the following “GDP”) growth drive innovation. Also, the diversity and level of abilities of migrants positively influence the number of patent registrations. This means, that a particular combination of immigrants from diverse backgrounds is more significant for innovation than the volume of immigrant communities in a specific region.

Naude et al. (2017) examine the connection between migration and entrepreneurship during economic growth. They demonstrate that standardized policies and regulations for migrants and migrant entrepreneurs are built on deficient information thereof. That is why they propose to disregard migrants as “super-entrepreneurs” for the proposal of policies and consider that the developmental effects of migration are contributed by others, such as low-skilled migrants. They also emphasise the importance of eliminating discriminatory obstructions against migrants in economic markets in order to support the development of home and host countries of migrants. Ultimately, they note that not all migrants will enter entrepreneurship, which is why research in the area of highly skilled migrants and entrepreneurship as well as necessity-driven versus opportunity-motivated migrant entrepreneurship is necessary. This is important to also for comprehending the factors influencing the relationship between migration, entrepreneurship, and development.

Rametse et al. (2018) explore migrant entrepreneurship in Australia, with a special focus on the connection between entrepreneurial motivation and the competencies of migrant entrepreneurs. Based on data from a survey questionnaire from 157 immigrant entrepreneurs, the findings confirm that migrant entrepreneurs who stated personal achievement as their entrepreneurial motivation show a high level of entrepreneurial competencies, including identification of opportunities, proactiveness and managerial innovativeness.

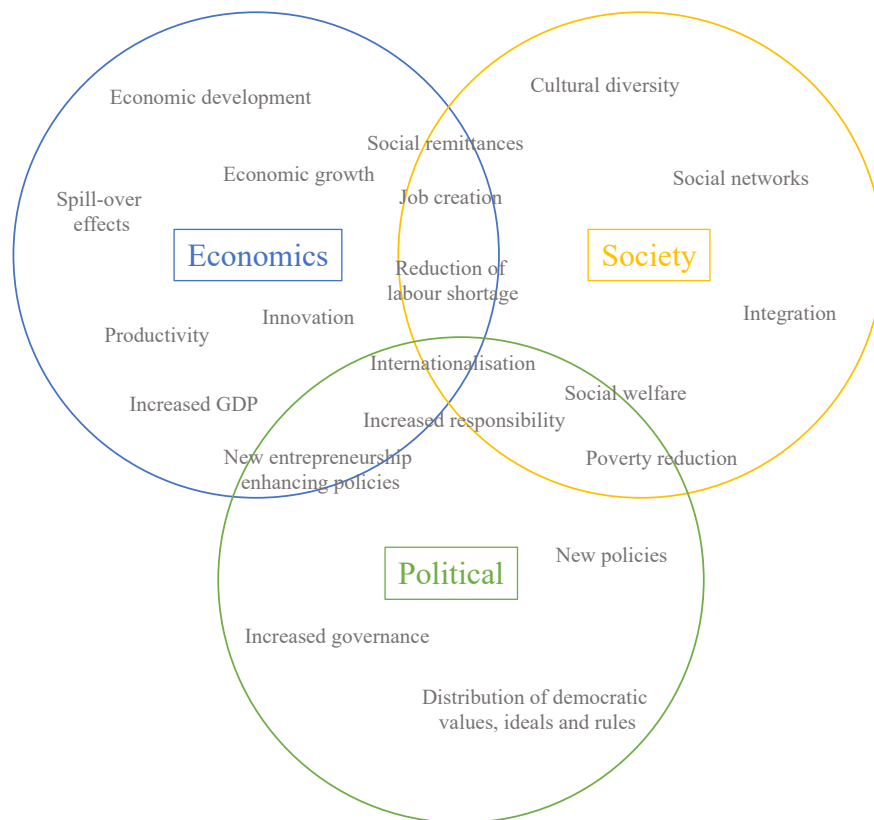
Poblete and Mandakovic (2021) utilize the social cognitive theory to detect key drivers of innovative migrant businesses in Chile as an emerging country, based on previously identified antecedents of innovative entrepreneurship and important characteristics of migrant entrepreneurship. An analysis of imitative versus innovative entrepreneurship was conducted. The findings show that migrants who feel proficient enough to create ventures will very likely conduct innovative entrepreneurship. The researchers emphasised the need for further research on migrant entrepreneurship, particularly in emerging countries.

## **1.2. Importance of Migration and Migrant Entrepreneurship**

As the proportion of migrants in labour markets, especially in Europe and the US, has steadily increased over the past decades (International Organization for Migration and United Nations, 2020), it is highly important to examine the impact of this global phenomenon from a macro perspective in order to determine the economic, social and political relevance and reach thereof.

In fact, various researchers have discovered a range of beneficial contributions by migrants and migrant entrepreneurs to the environment of their host and home country. Correspondingly, Fig. 1 shows an overview of all relevant impacts according to the economic, social, and political dimensions of a country. However, it is crucial to take into consideration, that most of the elaborated impacts cannot be solely allocated to one specific dimension. In fact, a majority of economic, social, and political impacts overlap and can be attributed to multiple dimensions.





**Fig. 1.** Impact of migration and migrant entrepreneurship

(Own figure, based on Baycan-Levent and Nijkamp, 2009; Brixy et al., 2013; Constant and Zimmermann, 2006; Dheer, 2018; Hunt, 2010; Mestres, 2010; Rametse et al., 2018; Saxenian, 2002b; Vandor, 2021).

In the following, the impact of migrants and migrant entrepreneurship according to a country's economy, society, and politics will be elaborated on in detail.

### **Economic Dimension**

According to Sahin et al. (2006), there is a significant impact of entrepreneurship on the host country's economy. The impact can occur in multiple ways and magnitudes, by means of innovation and competition, directly, as well as indirectly. Many researchers agree upon and acknowledge the economic advantages of migration and migrant entrepreneurship. In general, migrants and migrant entrepreneurship contribute, support, and drive the host country's economic growth and development directly and indirectly (Brixy et al., 2013; Constant and Zimmermann, 2006; Dheer, 2018; Hunt, 2010; Poblete and Mandakovic, 2021; Sahin et al., 2006; Saxenian, 2002b). Among others, migrant employees, and entrepreneurs directly tackle unemployment issues, not only by creating new jobs through their small start-ups and companies but also by reducing labour shortages, especially in Europe (Baycan-Levent and Nijkamp, 2009; Brixy et al., 2013; Constant and Zimmermann, 2006; Dheer, 2018; Hunt, 2010; Mestres, 2010; Rametse et al., 2018; Saxenian, 2002a; b; Vandor, 2021). They do so while offering flexibility and mobility in the labour market at the same time (Baycan-Levent and Nijkamp, 2009; Brixy et al., 2013; Sahin et al., 2006). The creation of migrant entrepreneurship also drives a structural change in the country's labour market (Baycan-Levent and Nijkamp, 2009; Brixy et al., 2013). In order to start a new venture or fulfil the job market's requirements, migrants often bring new skills to the host country (Mestres, 2010). While generating income and output, that satisfies the needs of migrant and native consumers, migrants and migrant

entrepreneurship stimulate the competitiveness within the market of the host country, further increasing productivity, and ultimately contributing to economic growth, and development (Brixy et al., 2013; Rametse et al., 2018). Saxenian (2002a; b) also notes that migrants indirectly foster economic growth through the management of information streams and the provision of cultural and linguistic expertise that leads to enhanced trade and FDI in their country of origin. The strategic approach of internationalisation creates a transnational network from which both host and home country benefit significantly.

In spite of all the positive effects of migrants and migrant entrepreneurship, Block et al. (2016), Constant and Zimmermann (2006), Koellinger (2008) and Naude et al. (2017) point out that the majority of these benefits is stemming from very few small, innovative, rapid- and high growth businesses, while the mainstream of new businesses does not innovate and undergoes only moderate growth in employment and revenue. Additionally, Naude et al. (2017) emphasize that many entrepreneurs are not able to maintain their company for a longer period and fail after a few years. Hence, the few positive effects are short-lived and not sustainable. This observation is also linked to the question of whether jobs created by numerous young firms are sustainable, considerable and of appropriate quality (Block et al., 2016; Naude et al., 2017).

Another highly discussed and controversial topic is migrants' role as a contributor to innovativeness (Block et al., 2016; Hunt, 2010; Naude et al., 2017; Vandor, 2021). Multiple researchers, including Hunt (2010), Nathan and Lee (2013) and Saxenian (1999; 2002b) agree that migrants are more entrepreneurial and innovative than natives. One example of such an innovative outcome is the development of Silicon Valley (Saxenian, 1999; 2002b). Saxenian (2002b) acclaims that migrant owned technology companies contributed profoundly to the development of Silicon Valley. By the end of the 1990s, highly educated and skilled migrant entrepreneurs made up almost 30 per cent of companies in Silicon Valley and contributed to billion dollars in sales and thousands of jobs (ibid.). Hunt (2010) measured the increased innovative and entrepreneurial activeness, including invention activities by the amount of patenting, commercialisation, and licensing of such, published books and papers for important conferences and successful company creations. She concluded that the migration of highly educated college graduates contributed to one-third of the major increase of patent applications in the 1990s, increasing overall innovation, productivity, and the country's gross domestic products (in the following "GDP"). Additionally, she emphasised the resulting positive knowledge spill-over effects on natives. Nathan and Lee (2013) discovered that migrant entrepreneurs are not only more inclined to implement big process innovations than natives, but they also observed that culturally diverse and heterogenous management teams are more inclined to bring new product innovations to the market than homogeneous ones are.

In contrast, researchers, including Block et al. (2016), Brixy et al. (2013), Constant and Zimmermann (2006), and Naude et al. (2017) do not observe significantly more innovative activities e.g., in the form of patent registration, R&D spending and new products or processes introduced, of migrant owned ventures than of non-migrant owned ones.

### **Social Dimension**

Migration and cultural diversity bear considerable positive effects on the social wellbeing of the host country, especially concerning demographic changes, such as an ageing population in Europe

(Baycan-Levent and Nijkamp, 2009). Especially in Europe, migrant employees and entrepreneurs represent an expanding portion of the labour force (Baycan-Levent and Nijkamp, 2009). With that being said, employment and entrepreneurship represent a major opportunity for the integration of migrants into the host country's overall society, which positively decreases social tension (Baycan-Levent and Nijkamp, 2009; Vandor, 2021). Furthermore, it has been observed that migrant entrepreneurship positively influences poverty reduction (Naude et al., 2017; Poblete and Mandakovic, 2021). In that regard, migration and migrant entrepreneurship are also valuable means to contribute to the welfare of individuals in the host-, but also in the home country (Brixy et al., 2013; Constant and Zimmermann, 2006; Hunt, 2010; Naude et al., 2017; Sahin et al., 2006). That is explained by an increasing amount of highly qualified and skilled migrants that can contribute to the level of innovativeness of the host country e.g., in the form of entrepreneurship (Hunt, 2010). The home country, on the other hand, benefits from "social remittances", which are defined as "ideas, behaviours, identities, and social capital" going from the host country to communities in the home country of migrants (Naude et al., 2017). This means that a transnational transfer of knowledge and skills from migrants in the host country to family and friends in the home country occurs. This enables family and friends to apply the transferred expertise in the home country (De Haas, 2010; Naude et al., 2017). Remittances may then lead to rising household expenditures on education, health services and investments (De Haas, 2010).

### **Political Dimension**

The economic and social benefits of migrant entrepreneurship did not only capture the attention of researchers but also of political actors. In order to enhance the beneficial impact of migrant entrepreneurship, the majority of governments in developed countries invest substantial amounts of money in different regulations and policies to encourage and promote entrepreneurship (Block et al., 2016; Naude et al., 2017). However, Naude et al. (2017) emphasize that well-intentioned but inadequately knowledgeable policymakers create more damage than good to migrants, migrant entrepreneurship and the country's growth and development. One example is stricter border controls that were supposed to prevent illegal migration. Yet, it was observed that stricter border controls do not lead to the desired outcome of illegal migration prevention, but instead, they encourage and lead to the usage of more hazardous migration routes and methods. Furthermore, general policies that address the heterogenic pool of entrepreneurs that differ in e.g., degree of innovation, entrepreneurial skills, abilities, and experience are often ineffective and also lead to unsought results (Koellinger, 2008; Naude et al., 2017; Poblete and Mandakovic, 2021). For instance, loosening the entry constraints of potential entrepreneurs may lead to an overwhelming number of aspiring entrepreneurs, who lack the necessary entrepreneurial skills and know-how to start a venture. Even when providing resource-intensive training and education opportunities, it is not guaranteed that the ambition of those potential entrepreneurs will not change, as is often the case (ibid.).

Besides the impact of newly introduced regulations, Naude et al. (2017) also observed that migrants would often adopt democratic principles, ideals, and rules from the host country. They would then engage in the distribution of those democratic principles in the home country. This can be done through direct interaction with friends and family or indirectly via social networks. Return migrants even request more political responsibility in their home country in order to increase governance there (ibid.).

### **1.3. Problem Statement**

With reference to chapter 1.1., a literature gap resulting from a review of available literature was revealed. Even though the number of publications on the topic of migrant entrepreneurship has significantly grown over the past years, many researchers still consider it to be too scant and broad (Poblete and Mandakovic, 2021; Vissak and Zhang, 2014). Scientific articles with more depth and specific focus are still too rare but are highly necessary and demanded by many scholars.

Furthermore, the relevance and reach of migration and migrant entrepreneurship were presented in chapter 1.2. In the role of migrant entrepreneurs, migrants have been praised as “super-entrepreneur” (Saxenian, 2002b). This however is highly discussed among scholars (Block et al., 2016; Hunt, 2010; Naude et al., 2017; Vandor, 2021). Nonetheless, the role of migrants in the labour market bears significant economic and social benefits. These economic and social benefits may include advanced economic development and growth as well as poverty reduction and an increase in welfare in the home and host country of migrants (Brixy et al., 2013; Constant and Zimmermann, 2006; Dheer, 2018; Hunt, 2010; Poblete and Mandakovic, 2021; Sahin et al., 2006; Saxenian, 2002b). Especially policymakers try to implement entrepreneurship-enhancing policies to boost and enhance the positive effects of migration and migrant entrepreneurs (Naude et al., 2017). However, these policies often do not bear the desired benefits, but rather lead to unwanted outcomes, due to a lack of knowledge and information by those responsible policymakers. Furthermore, it also needs to be taken into consideration that most of these beneficial effects are caused by a small number of highly innovative small-sized ventures, as opposed to a large number of ventures (Block et al., 2016; Constant and Zimmermann, 2006; Koellinger, 2008; Naude et al., 2017).

Therefore, in order to leverage benefits through the implementation of adequate and responsible regulations, it is of utmost importance to understand the relationship between migrants and entrepreneurship first. This also includes a better and more comprehensive understanding of motivating antecedents of migrant entrepreneurship to conduct innovation. Therefore, it is of utmost importance to identify, understand and assess factors that contribute to the successful entry of migrant entrepreneurship to create innovation in order to enhance and foster even more advantages from migrant entrepreneurship and innovation.

Concluding, this master thesis intends to reveal relevant antecedents that foster migrant entrepreneurs to conduct innovation.

## 2. Theoretical Solution for Antecedents of Innovative Migrant Entrepreneurship

With reference to the thesis aim, comprehensive research findings on the analysis of innovative and migrant entrepreneurship are given for each topic respectively. This is followed by a presentation of theoretical solutions on antecedents of migrant entrepreneurship and concluded with the introduction of a conceptual model for antecedents of innovative migrant entrepreneurship.

### 2.1. Theoretical Analysis of Innovative Entrepreneurship

As the concept of entrepreneurship is very diverse and multifaceted, the term will be elaborated from an economic perspective in the following. Accordingly, entrepreneurship or self-employment encompasses the creation of a new or the acquisition of an existing business and involves “the combination of resources in a novel way to create something of value” (Sahin et al., 2006). In accordance, Mestres (2010) defines entrepreneurs as business owning individuals, who “seek to generate value through the creation or expansion of economic activities, by identifying new products, processes or markets”, while adding the aspect that they “work in their own business, professional practice or farm for the purpose of earning a profit”. Sahin et al. (2006) include that an entrepreneur “specializes in taking responsibility for and making judgemental decisions that affect the location, form and the use of goods, resources and institutions”.

In the following, the concepts of innovative vs. imitative entrepreneurship and antecedents of innovative entrepreneurship will be briefly introduced.

#### 2.1.1. Entrepreneurial Motives

Many scholars distinguish between two types of motivational drivers for people that enter self-employment in form of entrepreneurship. These two categories are called **opportunity-motivated and necessity-driven entrepreneurship**, respectively (Dheer, 2018).

*Necessity-driven motivation.* **Necessity-driven entrepreneurs were forced into entrepreneurship as they were not able to attain wage employment in the job market of their host country and thus have limited or a lack of other options to generate income and self-sustain.** (Brixy et al., 2013; Dheer, 2018; Fairlie and Fossen, 2018; Rametse et al., 2018; Sahin et al., 2006). This implies that necessity-driven entrepreneurs were often unemployed before entering entrepreneurship (Fairlie and Fossen, 2018). Besides other push motivators, such as **obstruction to appropriately paid jobs and upward occupational mobility** (Constant and Zimmermann, 2006; Sahin et al., 2006), two central reasons that push people into self-employment include **racism and discrimination** in the job market (Rametse et al., 2018).

*Opportunity-driven motivation.* On the contrary, **opportunity-motivated entrepreneurs choose to enter entrepreneurship after a profitable business opportunity was discovered and can be exploited** (Fairlie and Fossen, 2018). Other pull motivators, that convinced opportunity entrepreneurs to create a business include the **prospect of a better income and a feeling of self-fulfilment and self-achievement** (Brixy et al., 2013; Rametse et al., 2018), as well as a sense of **“independence and upward social mobility”** (Dheer, 2018). With that being said, it is assumed that such opportunity-motivated individuals were in most cases **not actively looking for an occupation** at the time of opportunity discovery. These individuals might have been in wage employment, or at an educational institution before (Fairlie and Fossen, 2018). Due to the nature of this opportunity-driven business, it is

frequently associated with innovation (Block et al. 2016; Fairlie and Fossen, 2018). As such, they are usually aimed toward growth and expansion (Fairlie and Fossen, 2018). In fact, Rametse et al. (2018) argue that innovation is crucial for the growth of businesses.

An overview of reasons for necessity-driven and opportunity-motivated entrepreneurship is listed in Table 1.

**Table 1.** Overview of entrepreneurial motives

	<b>Necessity-driven entrepreneurship</b>	<b>Opportunity-motivated entrepreneurship</b>
<b>Definition</b>	Individual is pushed into self-employment out of necessity to earn money.	Individual is pulled into self-employment in order to exploit an opportunity.
<b>Motivation and reason</b>	<ul style="list-style-type: none"> <li>• No other professional options</li> <li>• Blocked upward occupational mobility</li> <li>• Impediment into labour market due to high unemployment rates</li> <li>• Impediment to appropriately paid jobs</li> <li>• Racism and discrimination:               <ul style="list-style-type: none"> <li>○ Structural discrimination</li> <li>○ Taste discrimination</li> <li>○ Statistical discrimination</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Self-fulfilment</li> <li>• Self-achievement</li> <li>• Financial prospect</li> <li>• Independence</li> <li>• Additional working experience</li> <li>• Possession and realization of business idea</li> <li>• Dissatisfaction with previous occupation</li> <li>• Flexibility</li> <li>• Career prospect</li> <li>• Wish to innovate</li> <li>• Usage of social networks</li> </ul>

(Based on Dheer, 2018; Rametse et al., 2018).

Despite these common behavioural patterns, Fairlie and Fossen (2018) emphasise that a clear separation between opportunity and necessity entrepreneurship in its nature is not possible. They continue by stating that previously unemployed individuals are not necessity-driven entrepreneurs by default. The same can be stated about employed individuals who are not necessarily opportunity-motivated entrepreneurs. The former might have many opportunities in ordinary wage employment, while the latter might suffer from low wages or a reduced working time.

### 2.1.2. Innovative vs. Imitative Entrepreneurship

Entrepreneurship may also vary in the level and category of novelty and innovation, that individuals introduce to the market (Koellinger, 2008). There are varying definitions to describe the term “innovation”.

Koellinger (2008) states that the concept of innovation is subjective to the observer. This means that the observer will evaluate activities according to one specific criterion and see whether it is fulfilled or not. Thereby, products, services and processes are considered innovative, if they are new to the country’s market that is currently being analysed. To rephrase, it is not necessary to introduce a product, service or process to the market that is completely new to the world, only to be referred to as innovative.

According to Organisation for Economic Co-operation and Development (OECD ) (2009) innovation is described as “the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations”, whereby importance is placed on the commercialisation or implementation of the subject. This key aspect differentiates innovation from invention. Nathan and Lee (2013) agree that innovation, “the successful exploitation of new ideas” involves the “upstream generation of ideas and their downstream commercialization”, resulting in the creation of new products and processes. This is also in line with the definition by OECD (2005) and OECD/Eurostat (2018), that describes a product innovation as “the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses.”

Therefore, innovation distinguishes itself from others on the market by the element of novelty. Novelty in its nature, encompasses only a limited amount of existing information on customer behaviour, possible competitors, product functionality and feasibility. This is linked to certain risks and uncertainties that only potential innovative entrepreneurs have to bear. So, when referring to innovative entrepreneurs, one also needs to consider that they distinguish themselves from other players in that specific market by their daily novel business activities, capabilities, and know-how as well as a novel business proposition.

On the contrary, Koellinger (2008) describes imitative entrepreneurs as persons that create a venture in a market, where business processes, capabilities, knowledge and skills, as well as business propositions are the same or very similar to those of already established companies. By definition, imitative entrepreneurs execute business undertakings in the same manner as others have before, thus it produces barely any or no incremental knowledge to the established market of the host country. Due to no or little novelty, customer behaviours can be easily observed and even predicted. Hence, imitative entrepreneurs do not bear uncertainty and risks associated with novelty and discovery, contrary to innovative entrepreneurs. A prospect for an imitative business may arise when an entrepreneur discovers a profitable opportunity that has not been exploited by another market player yet. Reasons for profitable but unrealized business opportunities are information asymmetry or simple obliviousness to it. However, similar to innovative entrepreneurs, entrepreneurs who seek to exploit imitative business opportunities will be confronted with uncertainty about rivals’ responses to market entry and a certain level of technological and financial risks

In general, the distribution of innovative and imitative entrepreneurship differs across countries. That is because various factors in the market, such as the degree of rivalry and possible opportunities are taken into consideration when determining to start a business. This explains the high number of innovative undertakings in more developed countries (Koellinger, 2008). Furthermore, innovative entrepreneurship can create wealth for the individual and country, as well as initiate societal development (Block et al., 2016).

### **2.1.3. Antecedents of Innovative Entrepreneurship**

According to Schumpeter (1989), innovation is closely linked to entrepreneurship and it is highly relevant to the economic growth and development of a country, see chapter 1.2. Moreover, innovation may offer the company a competitive advantage over other competitors in the market by directly addressing customers’ needs (Del Bosco et al., 2021). Consequently, innovation directly impacts the company’s market and financial performance.

An individual with the intention to engage in innovative entrepreneurial undertakings can be influenced by various factors, including individual attributes and environmental aspects (Ozgen et al., 2012; Shane, 2003). With reference to the underlying thesis topic, it is important to understand the role of such antecedents that impact individuals' decisions to enter innovative entrepreneurship.

In accordance with the proposed structure by Dheer (2018), demographic, psychological and resource-based antecedents in the context of innovative entrepreneurship will be presented in the following.

### **Demographic Antecedents of Innovative Entrepreneurship**

Every individual has a distinct background, encompassing various demographic factors, including age and gender among others. The demographic factors, that have a positive impact on an individual's decision to enter entrepreneurship may be referred to as demographic antecedents.

With regard to age, research findings on the impact of age are inconsistent. While Evans and Jovanovic (1989) cannot find any substantial impact of age on the decision to enter entrepreneurship, Blanchflower (2000), Bönnte (2007) and Lévesque and Minniti (2006) did find evidence to believe otherwise.

According to Bönnte et al. (2007), age is considered a factor that can positively but also negatively impact an individual's decision to enter entrepreneurship over one's lifecycle. It depends on the individual's current stage of life and the corresponding circumstances (ibid). Accordingly, there is evidence that innovative entrepreneurs of knowledge-based and high-tech businesses come from certain age groups. That is because age as a factor influences an individual's productivity and suitability for particular employment. On the one hand, an individual's capability to process new information, conclude logically and draw on creativity declines with age. On the other hand, it also needs to be taken into consideration, that tacit knowledge is built and developed over an individual's lifetime on the basis of his or her work and life experiences, as well as social interactions (ibid.). The first age group encompasses adolescent entrepreneurs, whose age ranges from 20 to 29 years. The second age group can be divided into two subgroups, namely early- and late-second-career entrepreneurs, whose age ranges from 30 to 39 and 40 to 49 years respectively (Baucus and Human, 1994). As the name implies, it is assumed that individuals in this age group had an occupation prior to entering entrepreneurship. Lastly, third-age entrepreneurs encompass individuals between 50 to 64 years of age or older (Lewis and Walker, 2013).

Bönnte et al. (2007) suggest that successful innovative entrepreneurs are most likely entering from age groups of adolescent and late-second-career entrepreneurs, due to their age and stage of life. To further elaborate, adolescents are considered impartial due to their young age and therefore limited life and work experiences. This can be advantageous when tackling creative tasks and exploring new ideas and opportunities, as their mindset has not developed a solidified and habitual way of thinking yet. Individuals of this age group often just freshly graduated from an educational institution and have the acquired theoretical knowledge at their disposal. Adolescents tend to be physically fit and enthusiastic, as well as mentally fit, with regard to problem-solving capabilities, information storage and processing, as well as adjustment to novel circumstances. However, due to the scarce amount of experience, adolescents are only able to access a very limited network of social and business contacts, that they have built thus far.

Concerning late-second-career entrepreneurs, Bönnte et al. (2007) note that there is a high probability that individuals in this age group have already established a certain financial and social basis in life.



At this stage of life, it is assumed that individuals have raised their children and have bought real estate or have secured a similar financial cushion. The underlying principle is that late-second-career entrepreneurs are in the position to pursue their entrepreneurial aspirations after having taken care of the family's needs and secured a proper safety cushion in case of failure. Therefore, they have sufficient time and savings to wait for the newly established business to generate income. In addition, they have acquired a significant amount of work and life experience, as well as established a solid social network, which can be highly beneficial for the entrance into entrepreneurship. This group is therefore in the optimal position to enter innovative entrepreneurship. In contrast to late-second-career entrepreneurs, early-second-career entrepreneurs are still in the process of establishing a family and building a financial safety cushion. Hence, the risk of entering entrepreneurship at this stage of life is high.

Moreover, Lévesque and Minniti (2006) examined a person's attitude towards risk and "time discounting" over the person's lifetime and concluded that the probability of entering entrepreneurship decreases with age. That is because the opportunity cost of time rises with age. The underlying principle is that a person's lifetime is limited and a person's discount rate of time linked to future revenue will grow over time. Consequently, undertakings that require a certain amount of time before generating revenue are rather unfavourable compared to undertakings with instant financial compensation, for instance in waged labour.

The research on gender as an antecedent of innovative entrepreneurship brings clear indications. Accordingly, Brixy et al. (2013) observed that female individuals are more unlikely to enter entrepreneurship than male individuals. Furthermore, Neville et al., (2014) and Xie and Lv (2016) discovered that female-founded innovative businesses are often outperformed by male-founded innovative businesses of the same industry in terms of business size, growth and profitability. In addition, the survival rate of the female-founded business is also significantly lower than the survival rate of male-founded ones (Xie and Lv, 2016). Brixy et al. (2013) also note that female entrepreneurs are more likely to exit entrepreneurship than male entrepreneurs. However, DeTienne and Chandler (2007) detected no differences between genders concerning innovation outcomes of start-ups. Klapper and Parker (2011) believe that the gender difference concerning business performance is due to gender discrimination against female entrepreneurs. Accordingly, females are more vulnerable to the effect of gender discrimination. Gender discrimination regarding social networks and financial resources seems to be the most relevant aspect (Ahl, 2006; Aidis et al., 2007). The former is related to the exclusion of female entrepreneurs from social networking events and groups, which makes the establishment of relevant business contacts highly difficult (Ahl, 2006). Xie and Lv (2016) acknowledge that entrepreneurship itself is considered to be a male-dominated endeavour. In addition, the technology sector is also presumed to be a male-dominated industry. Hence, these social associations and groups are often male-dominated and access by female entrepreneurs is challenging (Ahl, 2006). The latter refers to difficulties in accessing financial capital for the initiation of a business (Aidis et al. 2007). Often females are faced with higher costs when requesting a bank loan.

### **Psychological Antecedents of Innovative Entrepreneurship**

Researchers recognize the crucial role of psychological and socio-cognitive factors as motivational antecedents of innovative entrepreneurship (Middermann, 2020). These motivational factors are triggered by the individual's needs, wants, beliefs, expectations, goals, and aspirations (Boudreaux et al., 2019; Dheer, 2018).

There are economic, social, and psychological motives that increase the individual's tendency toward entering innovative entrepreneurship. According to researchers, including Brixy et al. (2013), Constant and Zimmermann (2006), Dheer (2018) and Sahin et al. (2006), a common motivation that drives individuals into entrepreneurship is the **financial appeal** of above average earnings. Another motivation for individuals to enter entrepreneurship is linked to **intrinsic rewards, such as autonomy, social acceptance, independence, a sense of achievement and the recognition and status gained through self-employment and the founding of a business** (Constant and Zimmermann, 2006; Dheer, 2018; Nazareno et al., 2019; Rametse, 2018; Sahin et al., 2006; Vandor, 2021). Even the **aspiration to take risks, innovate and create new products or processes may be psychological motives that need to be taken into consideration** (Sahin et al., 2006; Schumpeter and Opie, 1934).

Correspondingly, psychological antecedents of innovative entrepreneurship, that are mentioned in the literature include **attitude** (Boudreaux et al., 2019; Dheer, 2018; Middermann, 2020), **proactiveness** (Boudreaux et al., 2019; Middermann, 2020; Rametse et al., 2018), **entrepreneurial self-efficacy** (Boudreaux et al., 2019; Dheer, 2018), **low-risk aversion** (Boudreaux et al., 2019; Dheer, 2018; Rametse et al., 2018) and lastly high opportunity recognition capabilities (Dheer, 2018; Rametse et al., 2018). Some of these psychological antecedents will be analysed in the following.

One of the most important cognitive antecedents to innovative entrepreneurship is **proactiveness** (Middermann, 2020; Rametse et al., 2018). Accordingly, proactive individuals are considered to search their surroundings for new opportunities, express high self-initiative, and eventually follow through with changes, which they take advantage of (Middermann, 2020). Therefore, proactive individuals are not only characterised by their **high opportunity recognition capabilities**, which involve the active identification and exploitation of new opportunities, but also by their **foresighted attitude and action**, which includes the launch of new products and services before other competitors in the market and the expectation of future demands to continuously change the environment (Rametse et al., 2018). In that sense, entrepreneurial proactiveness fosters innovative activities to gain a better competitive position, and good entrepreneurial performance nationally as well as internationally (Middermann, 2020).

In place of proactiveness, some researchers identified **self-efficacy** to be a vital component for a successful entry into entrepreneurship (Block et al., 2016; Boudreaux et al., 2019; Dheer, 2018; Poblete and Mandakovic, 2021). Accordingly, entrepreneurial self-efficacy describes the **entrepreneur's trust and belief in one's skill set and abilities to create, maintain and grow a new business** (Poblete and Mandakovic, 2021). Essentially, it means that the acquisition of required skills and abilities is not enough in order to successfully enter entrepreneurship. More importantly, potential entrepreneurs need to **make actual use of these capabilities** in order to gain control of their uncertain and challenging environment and ultimately achieve their sought goals (Boudreaux et al., 2019). Therefore, a high level of self-belief in their competencies is vital to do so. The higher the level of self-belief in one's competencies, the higher the effort and perseverance in achieving one's goals.

As a result of strong self-efficacy, the potential entrepreneur has strong **opportunity-recognition capabilities** (Poblete and Mandakovic, 2021). This strong ability was also previously identified in the context of proactiveness (Middermann, 2020). Opportunity recognition was determined as a unique and essential quality of entrepreneurial behaviour, though the understanding behind the reasons and process of opportunity recognition by individuals, is still unclear (Hart and Acs, 2011). Hart and Acs (2011) and Block et al. (2016) are certain that socio-demographic and psychological characteristics,

knowledge, and particularly occupational experience play a vital role in the recognition and exploitation of business opportunities, specifically for high-tech entrepreneurship.

The concept “opportunity” itself refers to “situations that result in new means-end relationships” (Dheer, 2018). For instance, opportunities can be detected in changing customer needs or competitive products (Rametse et al., 2018). Especially, opportunities that are based on technology, research or knowledge are highly relevant for innovative entrepreneurship (Block et al., 2016). Accordingly, value creation, in the form of “identification, creation, and exploitation of opportunities” by entrepreneurial persons needs to take place. This results in new goods and services, as well as markets, methods, processes, and organisations (Dheer, 2018).

Additionally, high opportunity recognition abilities can help individuals with the creation of a clear vision, which in return provides the individual with a clear direction of where the motivation and effort should be focused on in order to achieve his or her goals (Boudreaux et al., 2019). In that sense, opportunity recognition can be understood “as continuous with the lifecycle of the venture”, meaning it starts with the establishment and ends with the closure of the business (Rametse et al., 2018).

The essence of opportunity recognition is often associated with the notion of “alertness” (Hart and Acs, 2011). In the context of entrepreneurship, alertness refers to the awareness and recognition of possible business opportunities for economic and financial gain (Boudreaux et al., 2019). This means that entrepreneurially alerted people are vigilant about business opportunities, whereas people without this sense of alertness are not (Hart and Acs, 2011). Multiple factors, including prior knowledge and experiences, environmental conditions, character traits, search methods, and social networks influence entrepreneurial alertness (Rametse et al., 2018). A large proportion of businesses started as a result of recognised business opportunities (Boudreaux et al., 2019). Boudreaux et al. (2019) do not exclude the possibility that especially opportunity-motivated entrepreneurs perceive high self-efficacy and strong entrepreneurial alertness to possible business opportunities.

Block et al. (2016) conclude that innovative business opportunities are often recognised and exploited by specific groups of individuals, namely inventors, consumers, company personnel and scholars. The former, inventors are likely to enter innovative entrepreneurship because they have the capabilities to develop new technological products and would start a new venture for the commercialization thereof. In addition, the inventor vastly benefits from plenty of working experience in diverse industries and company environments, which positively impacts the inventor’s entrepreneurial behaviour. In contrast, some consumers, distinguished by their innovative and demanding behaviour, may also enter entrepreneurship by means of products and services that were initially developed for their personal use only. Besides inventors and users, scholars commonly observed former firm-internal personnel, who left their previous occupation to start a new business. These employee-founded businesses often highly resemble their former employers’ companies, especially with respect to their innovative direction. That is because former employees gain a competitive advantage based on the amount of knowledge, expertise, and resources, including strategies and processes, acquired at their former employers (ibid.).

Though, while many studies determined the high importance of self-efficacy and alertness to business opportunities by individuals, these characteristics are not enough to start a new venture and be a successful entrepreneur (Boudreaux et al., 2019; Poblete and Mandakovic, 2021). The addition of a positive attitude towards risk-taking to both prior characteristics was recognised to have a positive impact on the decision to enter entrepreneurship (Dheer, 2018; Vandor, 2021). To understand the

importance and link between entrepreneurship and a positive risk-taking attitude, one must realize that entrepreneurship entails a series of acts, which is followed by some level of uncertainty, that the individual has to bear (Boudreaux et al., 2019). Hence, in order to start a new venture, the potential entrepreneur must have high self-efficacy, strong opportunity recognition capabilities, and most importantly, an entrepreneur must be able to take risks and bear the uncertainty, that comes along with that decision. This distinctive attitude and motivation towards risk propensity clearly distinguish entrepreneurs from non-entrepreneurs.

Particularly in the context of innovative entrepreneurship, individuals must make decisions **based on a very limited basis of available and accessible information** (Koellinger, 2008). So, whenever individuals pursue highly innovative businesses, a high level of risks and uncertainty is to be expected. Hence, it requires a high level of self-confidence to make decisions under these circumstances. In fact, individuals that are overly confident handle difficult activities, forecasts with high uncertainty, and tasks with deficient feedback particularly well. These aforementioned tasks are highly relevant for the management of an innovative business. Additionally, Koellinger (2008) suggests that specifically unemployed individuals or individuals with an income below average are more likely to start highly risky and uncertain businesses, such as innovative ones rather than imitative ones. The underlying logic is that such individuals seek high risk and uncertainty, as they do not have much left to lose, but have significantly more to gain instead.

According to Boudreaux et al. (2019), another important aspect that is linked to risk propensity is the fear of failure, which explains how individuals deal with uncertainty. Before starting a venture, individuals usually assess and evaluate the future outcome of their decision. If the likelihood of a positive outcome is relatively small, individuals tend to have doubts about themselves and their abilities, which will negatively impact their behaviour. Failure is often associated with negative emotions, such as humiliation and guilt, which can have a harmful impact on the individual's self-confidence. Consequently, individuals will do their best to avoid failure and the negative feeling around it. Especially in light of high entrepreneurial failure rates, the fear of failure can heavily impede, discourage, and decrease the probability of entry into opportunity-motivated entrepreneurship. Also, individuals have trouble splitting their entrepreneurial failures from their personal ones, as both personal and entrepreneurial identities are to some extent linked to one another.

### **Resource-based Antecedents of Innovative Entrepreneurship**

Besides demographic and psychological antecedents of innovative entrepreneurship, resource-based antecedents also play a highly relevant role. That is, the availability and accessibility of important resources from social networks, stakeholders and institutions heavily affect an individual's decision to establish an innovative business, as well as the maintenance and expansion thereof (Block et al., 2016).

In the following, resource-based antecedents in the forms of human-, social-, and financial capital will be elaborated within the context of innovative entrepreneurship.

According to Marvel and Limpkin (2007), *human capital* encompasses two central concepts, namely education and experience. While education includes formal education starting with primary school to university, experience itself includes work experience and any other learning on the job, as well as any nonformal kind of education, such as training. Koellinger (2008) and Marvel and Limpkin (2007) recognize that an individual's high level of education paired with deep knowledge acquired through extensive experience are relevant antecedents for an individual to enter innovative entrepreneurship.

To further elaborate, the role of education and knowledge as part of an individual's human capital is widely researched within the scope of antecedents of innovative entrepreneurship. Many researchers, including Block et al. (2016), Del Bosco et al. (2021), Koellinger (2008), Marvel and Limpkin (2007) and Shane (2003) agree on the crucial role of education. Accordingly, an individual is more likely to enter innovative entrepreneurship if the individual previously attained a higher level of education (ibid.). The drive to pursue a higher level of education usually results from the curious and smart nature of the individual (Koellinger, 2008). A higher level of education imparts individuals with the necessary knowledge of the current state of science and technology. Furthermore, education teaches individuals to identify, analyse and solve problems, which has the potential to lead to the formation of new knowledge. With that being said, a higher level of education is linked to creativity and a high chance to discover innovative business ideas, that are built on already available inventions.

In addition to education, Marvel and Limpkin (2007) recognise that both, depth and breadth of experience also contribute to an increase in an individual's human capital. However, they further emphasize that depth of experience is positively associated with radical innovation. Furthermore, previous work experience has proven to have a considerable impact on an individual's alertness to opportunity recognition and exploitation (Shane, 2003). That is because individuals acquire knowledge and competencies, that enable them to create a business strategy and gather necessary resources more easily.

With regard to *social capital*, many researchers, including Bandera and Thomas (2017), Bönnte et al. (2007), Kim and Lee (2022) and Xie and Lv (2016) agree on the significance of a solid social network, as well as the availability, accessibility and utilization of social capital for the creation and expansion of businesses. According to Kim and Lee (2022), social capital can be described as the entirety of all available resources to an individual or group, that are gained through social networks. Social capital encompasses financial resources, as well as useful information and knowledge for entrepreneurs (Bönnte et al., 2007; Kim and Lee, 2022). It is based on the interconnection between different persons and communities and is enhanced by the notion of trust (Kim and Lee, 2022). Therefore, social capital is provided by persons and communities, that include different formal and informal communities and societies within one's social environment, as well as family and friends (Bönnte et al., 2007; Dheer, 2018; Kim and Lee, 2022). In this regard, Audretsch and Lehmann (2005) and Audretsch and Link (2019) underline the facilitated acquisition of new resources, skills and knowledge gained through the creation of formal and informal social networks with other firms in the same region, as described as the knowledge spillover theory of entrepreneurship. Accordingly, interaction and communication among closely located companies with strong and highly advanced knowledge shall enable spillover of knowledge and information to other companies and thus foster learnings that can be beneficial for new business opportunities. Hence, the utilization of social capital may also allow entrepreneurs to overcome market entry barriers and gain competitive advantages over competitors in the market (ibid.). However, the effect of this theory on the establishment of innovative businesses is still under debate, as some researchers did measure a significant impact on the number of new innovative establishments (Audretsch and Link, 2019), while others did not (Del Bosco et al., 2021). Especially Xie and Lv (2016) note social capital as a relevant antecedent for the creation of an innovative business by technology entrepreneurs. The availability and accessibility of social capital also support the potential entrepreneur with the recognition of business opportunities and the assembly of relevant resources. Furthermore, social capital can positively affect the company's survival rate and overall success (Bandera and Thomas, 2017; Kim and Lee, 2022). Bandera and Thomas (2017) and Del

Bosco et al. (2021) further mention one source of social capital that is highly significant for and particular to innovative entrepreneurs. That source is incubators, that support innovative entrepreneurs in the establishment of a venture and exploitation of an innovative business opportunity by providing various kinds of operational and strategic assistance, including financial capital, relevant business contacts, training and workshops, as well as infrastructure and offices. Incubators are able to provide such a supportive atmosphere and valuable external resources by leveraging their social network with other players in the business (Del Bosco et al., 2021).

Moreover, researchers, such as Blanchflower and Oswald (2007), Block et al. (2016) and Xie and Lv (2016) acknowledge the role of *financial capital* as a vital antecedent of innovative entrepreneurship. Financial capital in the form of equity and loans can be provided by formal institutions, such as banks, as well as informal sources, such as family and friends (Dheer, 2018). Other sources of financial capital are incubators (Bandera and Thomas, 2017; Del Bosco et al., 2021). With regard to innovative entrepreneurship, a sufficiently large amount of financial capital is often necessary for the creation of such highly innovative technology-based ventures (Block et al., 2016; Xie and Lv, 2016). That is attributed to the exploratory nature of and high level of novelty and uncertainty at the core of these ventures (Block et al., 2016; Xie and Lv, 2016). Therefore, limited availability or accessibility to sufficient financial resources act as significant barriers to individuals' entry into innovative entrepreneurship (Blanchflower and Oswald, 2007; Block et al., 2016).

## **2.2. Theoretical Analysis of Migrant Entrepreneurship**

Numerous industrialized metropolitan and developed cities have turned into gathering spots for individuals from different countries, and cultures (Sahin et al., 2006). In the previous years, these cities have received a vast inflow of culturally diverse individuals (Baycan-Levent and Nijkamp, 2009; Brixy et al., 2013). This explains the cities' openness toward international and multicultural communities. Accordingly, these individuals are referred to as migrants. Baycan-Levent and Nijkamp (2009), define migrants as "persons who have been outside their country of birth or citizenship for a period of 12 months or longer". Dheer (2018) emphasizes that immigrants as opposed to migrants move to the destination country for permanent stay and attain legal authorisation to do so.

However, it needs to be noted that the terminology of migrants and immigrants are used interchangeably as synonyms throughout scientific literature (Baycan-Levent and Nijkamp, 2009; Dheer, 2018; Rametse et al., 2018; Sahin et al., 2006). This approach is adopted for the thesis as well.

In the context of mass migration, especially during the middle and end of the 20<sup>th</sup> century, many individuals from labour-intensive countries of Asia, Africa and South America migrated into capital-rich countries of North America and Europe in order to fulfil the countries' need for low-cost labour (Baycan-Levent and Nijkamp, 2009). Most migrants were able to find an occupation in different sectors and industries of the host country's labour market, depending on their level of skills and desired wage (Baycan-Levent and Nijkamp, 2009; Sahin et al., 2006). Once that market for low-cost labour was oversaturated, migrants needed to look for alternatives to earn a living (Dheer, 2018). This was not easy for migrants in the new host country. So, one of the most commonly chosen and observed approaches by migrants to obtain employment in the host country was self-employment, in the form of entrepreneurship (Baycan-Levent and Nijkamp, 2009; Dheer, 2018; Rametse et al., 2018; Sahin et al., 2006). This frequent phenomenon of entrepreneurial activities by migrants is called "migrant entrepreneurship" (Baycan-Levent and Nijkamp, 2009). In derivative of the definition of migrants and entrepreneurship, migrant entrepreneurship may be described as the procedure, whereby migrants

“identify, create and exploit economic opportunities” to establish new ventures in their host country (Dheer, 2018), as well as, as “business activities undertaken by migrants of a specific socio-cultural and ethnic background or country of origin” (Rametse et al., 2018).

In the following, the topics of entrepreneurial motives and challenges of migrant entrepreneurs will be presented.

### **2.2.1. Entrepreneurial Motives of Migrant Entrepreneurs**

With reference to entrepreneurial motives in chapter 2.1.1., there are necessity-driven and opportunity-motivated entrepreneurs. Brixy et al. (2013) note that migrants often enter self-employment due to the difficulty of entering wage employment of their choice. This can have multiple reasons. Besides a lack of job qualifications, researchers, including Constant and Zimmermann (2006), Naude et al. (2017), Rametse et al. (2018) and Sahin et al. (2006) agree that migrants are frequent victims of racist and discriminating behaviour in the host country’s labour market and thus are more often pushed into necessity-driven entrepreneurship, due to lack of options in the labour market. There are different types of discrimination, which include structural discrimination, taste discrimination and statistical discrimination, respectively (Naude et al., 2017). An example of structural discrimination involves institutional discrimination with regard to visa requirements. Taste discrimination rooted in language barriers or racial and ethnic stereotyping can have a negative effect on the employment of migrants, and statistical discrimination result from an employer’s lack of information on the migrant (ibid.).

Regarding the discrimination of low educated migrants or migrants with insufficient job qualifications, they often enter necessity-driven entrepreneurship. These necessity-driven entrepreneurs often spot an opportunity in the commercialization of ethnic products in regions with a growing co-ethnic occurrence and within ethnic communities (Rametse et al., 2018). The production and commercialization of products and services within the ethnic community is referred to as an “enclave strategy” (Achidi Ndofor and Priem, 2011). This business opportunity cannot be easily spotted and served by non-ethnic entrepreneurs (Neville et al., 2014). However, Rametse et al. (2018) point out that necessity-driven entrepreneurs often lack opportunity recognition capabilities, education, and financial capital that restrain them from sustainably operating and further developing their business. Only occasionally are migrants able to expand from their ethnic markets into the mainstream one, using their language and entrepreneurial competencies (Dheer, 2018).

Regarding the discrimination of highly educated migrants, Saxenian (2002b) observed that highly skilled and educated Asian migrants were not able to get promoted to a managerial position in Silicon Valley, despite their sufficient qualifications. She refers to this obstruction as an invisible “glass ceiling”. In fact, discriminatory behaviour and cultural barriers often impede migrants from advancing their careers in the labour market, in spite of a higher level of human capital (Nazareno et al., 2019). An additional problem is the deficient credit system of overseas-obtained degrees in host countries. Institutions of host countries may struggle with the transferability and recognition of university or college degrees, that were obtained outside of the host country (Brixy et al., 2013; Dheer, 2018). Therefore, both discriminatory behaviour in the labour market, as well as problematic recognition of overseas-obtained degrees can have severe effects on migrants’ career options and choices in the labour market of the host country. As a result of both problems, migrants are often overqualified and undervalued by companies in the host country (Dheer, 2018; Mestres, 2010). This often leads to migrants’ entry into innovative entrepreneurship.

However,, as a result of the implementation of restrictive migration policies in the 21<sup>st</sup> century, only a controlled number of highly skilled, experienced, and educated individuals with transnational relationships have been allowed to migrate into capital-rich countries. These migrants often voluntarily leave their wage employment after the recognition of a promising business opportunity and the intended exploitation thereof in the host country. When spotting opportunities, the cultural background of migrants may be advantageous to them, due to their ability to compile ideas from diverse socio-cultural contexts. Besides serving markets with low entry barriers and economies of scale, a large share of individuals often migrates to the host country with the intention of starting technology-advanced, service-oriented, or creative, high-growth ventures in non-ethnic segments as opportunity-motivated entrepreneurs (Dheer, 2018; Neville et al., 2014). Such opportunity-driven business is often linked to innovation (Block et al. 2016; Fairlie and Fossen, 2018). As such, they often seek growth and expansion (Fairlie and Fossen, 2018). Furthermore, the sale of products and services on the mainstream market is referred to as a “dominant strategy” (Achidi Ndofor and Priem, 2011).

So, along with the growth of migrant communities in the host country, there has been a characteristic shift in their employment preference and behaviour over the years. While there is a considerable amount of migrant entrepreneurs leading ethnic businesses, a large share of migrant entrepreneurs is now active in the mainstream market (Mestres, 2010).

### **2.2.2. Challenges of Migrant Entrepreneurship**

Researchers recognised that migrants may face specific constraints and limitations when wishing to enter entrepreneurship, as opposed to natives of the host country (Mestres, 2010). The host country’s environment and regulations play vital roles in migrants’ aspirations and actual pursuit of starting their own venture (Naude et al., 2017).

A host country’s legislative system may impede the implementation of entrepreneurial undertakings by migrants (Naude et al., 2017). For instance, one of the biggest challenges migrants have to face is the host country’s visa regulations and classifications, which regulate what individuals can enter the country, under what conditions, for which occupation and for what length of time (Nazareno et al., 2019). Thus, obtaining an appropriate visa can be tricky for the migrating individual. For instance, Naude et al. (2017) point out, that in some countries, like The Netherlands, migrants with a work visa are only allowed to work for their current employer, strictly prohibiting them from starting a venture on their own next to their fixed employment. In some other countries, proof of certain qualifications and credentials, which might be difficult to obtain, may be required to attain a specific visa (Brixxy et al., 2013).

Besides challenging regulations, the unfamiliarity with the host country’s business environment and conduct of business due to lack of information and experience may also impede migrants’ decision to start a business (Rametse et al., 2018).

Additionally, Constant and Zimmermann (2006) and Hart and Acs (2011) agree on the role of language proficiency as a central determinant of migrants’ success in the host country in terms of earnings. Facing language barriers may negatively impact migrants’ capability of recognising business opportunities, reaching native customers and managing the host country’s regulations and policies (Hart and Acs, 2011). So being proficient in the host country’s language facilitates the entry and management of a business.



With reference to the previous chapter 2.2.1., migrants are frequent victims of discrimination in the host country, which may either prevent migrants from pursuing their dream of entering entrepreneurship or push migrants into necessity-driven entrepreneurship, which would have preferred ordinary wage employment instead (Naude et al., 2017). Elaborating on the former, researchers found out that aspiring migrant entrepreneurs frequently face difficulties in the form of discrimination when trying to obtain financial aid (Hart and Acs, 2011; Naude et al., 2017). Consequently, credit constraints negatively impact migrants' aspirations and implementation of their own ventures (Mestres, 2010).

Furthermore, the profitable commercialisation of products and services offered by migrant entrepreneurs might be obstructed by discriminating behaviour by potential customers (Nathan and Lee, 2013).

### **2.3. Theoretical Solutions on Antecedents of Migrant Entrepreneurship**

Based on intensive literature research on migrant entrepreneurship, many factors can motivate migrants to enter entrepreneurship by starting a business. The role of antecedents in this context is of particular importance.

In the following, relevant antecedents of migrant entrepreneurship will be elaborated from a micro perspective, followed by a description thereof from a macro perspective.

#### **2.3.1. Antecedents of Migrant Entrepreneurship on a Micro Level**

The core of this thesis focuses on revealing relevant antecedents of innovative migrant entrepreneurs. In order to do so, characteristics and attributes that enable migrant entrepreneurs to start a business, need to be thoroughly and comprehensively identified and examined. With reference to the comprehensive model of immigrant entrepreneurship by Dheer (2018), antecedents will be examined according to three categories, namely demographic, psychological, and resource-based antecedents, including human, social and financial capital.

#### **Demographic Antecedents of Migrant Entrepreneurship**

The unique background of each migrant is an important factor that influences the migrant's probability of entering entrepreneurship (Mestres, 2010). These individual backgrounds encompass various demographic antecedents of migrant entrepreneurship, such as age, gender, marital status and children, ethnicity, as well as the length of residence in the host country (Dheer, 2018).

There is a clear agreement among researchers concerning entrepreneurial tendencies by gender (Dheer, 2018). Accordingly, many scholars (Brixy et al., 2013; Constant and Zimmermann, 2006; Mestres, 2010) agree that men are noticeably more likely to start a business than women are. The share of all male entrepreneurs in OECD countries amounts to 70 per cent (Mestres, 2010). There are various possible reasons to explain this inclination. One possible explanation by Mestres (2010) is related to the sector and industry that migrant entrepreneurs are commonly occupied in. One example is the construction sector, which already has a scarce share of employed women, to begin with. Another possible theory is introduced by Dheer (2018), who believes that men assume greater responsibility and obligation in the household to earn money and provide for the family. In fact, the inclination towards entrepreneurship is particularly high for married male migrants (Constant and Zimmermann, 2006; Dheer, 2018). While Constant and Zimmermann (2006) found that young children discourage male migrants from entering self-employment, Dheer (2018) discovered that a

higher number of older children are a driver for entrepreneurship, as they provide a source of cheap labour and assistance to the business. Additionally, the likelihood of entering entrepreneurship increases considerably for those children, whose parents started a venture themselves (Blanchflower and Oswald, 2007; Brixy et al., 2013; Dheer, 2018). That is because parents are often considered role models by their children. This function role also applies to entrepreneurial activities (ibid.).

However, it needs to be noted that women, both migrant and native, are equally less likely to enter and equally more likely to exit entrepreneurship, as in the case of Germany (Brixy et al., 2013; Mestres, 2010). Neville et al. (2014) also discovered that female owned ventures negatively affect business growth performance, as they underperform other ventures.

While the research on entrepreneurial tendencies by gender is clear, research on the impact of age as a demographic antecedent is inconclusive (Dheer, 2018). Some researchers, such as Mestres (2010) argue that entrepreneurial intentions are more prominent among middle-aged migrants, including males above the age of 35 years. Mestres' (2010) reasoning behind this observation is that migrants need sufficient time to collect necessary experiences and resources, including human, social, and financial capital in order to successfully enter self-employment. On the contrary, other researchers maintain that younger migrants have a higher tendency to enter entrepreneurship (Li, 2001). Brixy et al. (2013) point out, that younger, as opposed to older individuals, are more likely to enter entrepreneurship, regardless of migrant or native origin. However, they add that the difference between ages is negligible, as the probability to start a venture only decreases by 0.8 per cent if the age was increased by 10 years. Thus, they imply that there is neither a significant relationship between migration status and age nor between age and entrepreneurial intention.

Besides gender, the length of residence in the host country also has a significant impact on migrants' decision to start a business (Baycan-Levent and Nijkamp, 2009; Dheer, 2018; Mestres, 2010). Accordingly, a longer period of time spent in the host country is necessary and allows migrants to acquire skills and knowledge, as well as resources, human, social and financial, in the host country, that are crucial for the establishment of a business (Dheer, 2018). Additionally, it allows migrants to get more familiar with and integrate more seamlessly into the new social, political, and economic environment of the host country, which in return facilitates the entrance into entrepreneurship (Baycan-Levent and Nijkamp, 2009). By this logic, the residence time in the host country is directly linked to age, as migrants who had stayed longer in the host country are consequently older. Mestres (2010) uses this relation to explain why migrant entrepreneurs are more likely to be older than younger. However, while a period of approximately 10 to 20 years in the host country has a beneficial impact on the acquirement of entrepreneurial skills and knowledge in the host country and thus on the likelihood of starting and owning a business, Dheer (2018) and Wang (2015) discovered that a stay of fewer than 10 years and more than 20 years will lead to the opposite outcome of unlikely entry into entrepreneurship. This correlation between the length of stay in the host country and the inclination to enter entrepreneurship can be described curvilinearly (ibid.). In fact, two third of migrant entrepreneurs in OECD countries have stayed in the host country for more than 10 years (Mestres, 2010).

Lastly, many researchers examined the relationship between different countries and the propensity of entering entrepreneurship and detected a positive correlation between both factors (Dheer, 2018). Thus, the place of birth represents a highly relevant antecedent to migrant entrepreneurship. In fact, researchers found that the percentage of entrepreneurs in total employment does not also differ by

country of origin, but by region of origin (Brixy et al., 2013; Mestres, 2010). Reasons for this observation are rooted in the unique characteristics and traits of individuals in that region. To be precise, there are regional disparities in level and kind of abilities, as well as disparities in availability and accessibility of resources, including education and wealth. Another factor that heavily affects individuals' decision to enter entrepreneurship is an already high number of established entrepreneurs in the region of origin. As it is a common and familiar practice to build a livelihood in the migrant's region of origin, migrating individuals will likely adopt that behaviour and start a business in the host country themselves.

### **Psychological Antecedents of Migrant Entrepreneurship**

Besides demographic antecedents, scholars also identified psychological and socio-cognitive factors as motivational antecedents of migrant entrepreneurship (Dheer, 2018; Middermann, 2020). As previously established in chapter 2.1.3., these motivational factors are also triggered by migrants' needs, wants, beliefs, expectations, goals, and aspirations (Boudreaux et al., 2019; Dheer, 2018).

For migrants as well, there are economic, social, and psychological motives that increase their tendency to enter entrepreneurship. Besides intrinsic aspects, such as social recognition and a sense of independence, the financial prospect of above average earnings seems to have a high impact on migrants' decision to enter entrepreneurship (Brixy et al., 2013; Constant and Zimmermann 2006; Dheer, 2018; Sahin et al., 2006). That is because migrants' earnings from their business often exceed their earnings from wage employment (Brixy et al., 2013).

Concerning chapter 2.1.3., a high level of proactiveness and self-efficacy is deemed a vital antecedent of innovative entrepreneurship. Yet, it equally applies to migrant entrepreneurship. As migrants are often confronted with challenging market conditions and an uncertain environment, as well as with limited occupational upward mobility, personal risks and stress, self-belief and self-efficacy are of high importance for migrants to start a business, especially an opportunity-motivated one (Poblete and Mandakovic, 2021). So, not only do self-efficacy and proactiveness positively impact the entry into opportunity-motivated entrepreneurship, but it also positively impacts their entrepreneurial actions and success (Boudreaux et al., 2019).

Resulting from a high level of perceived self-efficacy and proactiveness, migrants tend to exhibit a strong ability to recognise promising business opportunities (Middermann, 2020; Poblete and Mandakovic, 2021). In fact, Hart and Acs (2011) and Vandor and Franke (2016) claim that migrants are more alert to opportunities than natives are. Evidence of this claim is that migrants were already able to recognise and exploit the opportunity to migrate to another country for personal advantages or an improvement in living. This commonly includes the improvement of education and employment (Hart and Acs, 2011). In principle, the entire process of migration can be regarded as a self-selection mechanism that divides individuals according to their capability of recognizing opportunities. Therefore, migrants that left their home country for the purpose of pursuing perceived opportunities are considered to demonstrate stronger opportunity recognition capabilities in comparison to most people that stayed within the borders of their home country. Ultimately, Hart and Acs (2011) argue that migrants can identify opportunities easily, as the underlying logic of recognizing the opportunity to migrate can be transferred and applied to the context of starting a new business. This strong opportunity recognition capabilities are further enhanced through the multicultural experience of migrants, that they collect in their home and host country (Vandor and Franke, 2016).

There are many business opportunities for migrant entrepreneurs in the market of the host country, especially ones, those migrant entrepreneurs can more easily identify than non-migrant entrepreneurs (Dheer, 2018). Such opportunities may include niche or co-ethnic business opportunities in the local community of the host country (Dheer, 2018; Rametse et al., 2018). The likelihood of recognizing co-ethnic business opportunities depends heavily on the level of co-ethnic presence and product preferences in the host country. Logically, a sufficiently large base of potential customers for ethnic products and services is required (Rametse et al., 2018). For the identification of such, migrant entrepreneurs highly benefit from their capability of speaking the languages of co-ethnic customer groups (Dheer, 2018). This allows migrant entrepreneurs to understand the consumer product and service preferences of all customer groups. Such, co-ethnic advantages can boost migrant entrepreneurs' capability of recognising business opportunities in the host country, which can be highly beneficial, especially for potential expansions of ventures.

Similar to the recognition of business opportunities, migrant entrepreneurs also hold a significant advantage over native entrepreneurs, when exploiting these opportunities (Hart and Acs, 2011). Naturally, the exploitation of the selected market always depends on the availability and accessibility of resources, as well as the environmental conditions of the host country. In general, migrant entrepreneurs often have easier and greater access to cheaper resources and are also more dedicated to working longer hours, if necessary (Dheer, 2018). Furthermore, migrant entrepreneurs may bear lower opportunity costs in comparison to native entrepreneurs, particularly when those migrants already faced discriminatory difficulties in getting promoted in their previous careers (Hart and Acs, 2011). Under these conditions, migrants tend to have less at stake when assuming the risks of entrepreneurship. The positive risk-taking attitude is common for migrant entrepreneurs (Boudreaux et al., 2019; Brixy et al., 2013; Poblete and Mandakovic, 2021). One example of such behaviour is the self-selection to migrate, that in its entirety, indicates a significant amount of self-confidence and willingness to take risks (Hart and Acs, 2011; Neville et al., 2014). Consequently, the experience of migration further increases migrants' tolerance toward risk (Dheer, 2018). In fact, Constant and Zimmermann (2006) and Neville et al. (2014) describe migrants as dynamic and hardworking risk takers, who characteristically tend to become entrepreneurs more often than any other group. Additionally, migrants as entrepreneurs also have a tendency to implement more aggressive strategies than natives do (Poblete and Mandakovic, 2021).

Moreover, self-efficacy and risk propensity also play an important role in the type of entrepreneurship to follow, whether that is an innovative or an imitative approach. Accordingly, migrant entrepreneurs need to exhibit a particularly high tolerance towards risks and uncertainty, as well as a very strong perception of self-efficacy and self-belief in their capabilities in order to pursue innovative entrepreneurship (Poblete and Mandakovic, 2021). Consequently, migrants perceive the potential difficulties of entrepreneurship as less harmful and risky, more manageable, and feasible in the new environment. However, if perceived self-efficacy is low, migrant entrepreneurs tend to follow imitative strategies instead (ibid.).

### **Resource-based Antecedents of migrant entrepreneurship**

According to scientific articles on the topic of migrant entrepreneurship, not only do demographic and cognitive antecedents have a significant impact on migrants' decision to enter entrepreneurship but so do resource-based antecedents (Dheer, 2018; Middermann, 2020). Potential migrant entrepreneurs have to arrange vital resources that are necessary to start, maintain and expand a

venture. These vital resources can be categorised into three major groups: human, social, and financial capital. Dheer (2018) points out that all three types of capital have a distinct connection with each other. Accordingly, migrants who obtained a high level of human capital only rarely use social capital provided by family, friends, and their ethnic community. Additionally, migrants with high human capital can more easily obtain financial capital from formal institutions, such as banks. However, migrants with little human capital often rely more heavily on social capital provided by their social network in order to start a venture. In this context, Naude et al. (2017) emphasize the vital role of supplementary sources of capital for migrant entrepreneurs. Furthermore, human and social capital affect migrant entrepreneurs' choice of strategy, namely enclave or dominant strategy (Achidi Ndofor and Priem, 2011).

In the following, resource-based capital in the forms of human-, social-, and financial capital will be elaborated on within the context of migrant entrepreneurship.

The role of *human capital*, which encompasses different aspects, such as education, knowledge, experiences, competencies, and skills of the migrating individual, is commonly researched within the scope of antecedents of migrant entrepreneurship (Baycan-Levent and Nijkamp, 2009; Dheer, 2018). Accordingly, research on the role of human capital as an antecedent for entering migrant entrepreneurship is not consistent. While some researchers (Le, 2000) argue that a high level of human capital grants migrants easy access to the common labour market, which negatively affects their tendency of entering entrepreneurship, others (Kontos, 2003) have found that migrants with a lower level of human capital, especially with low proficiency in the host country's language, may not be capable of accumulating all necessary resources or may fail to pass the host country's policies for establishing a business. However, even if these migrants would succeed to enter entrepreneurship, their venture would likely be of slow growth, and it would most probably only serve a small niche in the ethnic community. That is why Mestres (2010) encourages low-skilled migrant entrepreneurs to acquire more human capital first before starting their venture.

Nevertheless, the majority of researchers (Brixy et al., 2013; Hart and Acs, 2011; Mestres, 2010; Nazareno et al., 2019; Sahin et al., 2006; Saxenian, 2002b) agree, that a high level of human capital leads to a high likelihood of entering migrant entrepreneurship.

Even though migrants with a high level of human capital are easily able to find and secure a job in the common labour market, there is a high probability that they will be confronted with some form of discriminatory attitude and behaviour in their career at some point, see chapter 2.1.1. (Constant and Zimmermann, 2006; Naude et al., 2017; Rametse et al., 2018; Sahin et al., 2006). A frequent consequence is that highly educated migrants tend to leave their undervalued wage employment in order to enter self-employment in the form of entrepreneurship. This may explain why migrant entrepreneurs are often more educated and more experienced in various jobs and sectors than native entrepreneurs (Mestres, 2010). In fact, Mestres (2010) estimates that closely 30 to 40 per cent of migrant entrepreneurs hold a university degree across almost all OECD countries. Migrants' high level of education may act as an important antecedent when having to deal with the host country's regulations and institutional requirements, as well as when acquiring necessary resources, as it facilitates the common understanding of certain procedures in order to obtain business ownership (Dheer, 2018).

Additionally, migrants, who obtained a university degree in Science, Technology, Engineering, and Mathematics (STEM) studies are more likely to start high growth and highly innovative ventures for

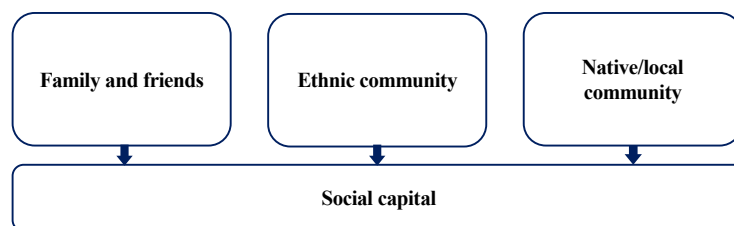
the mainstream market than university-educated migrants from any other field (Hart and Acs, 2011; Nazareno et al., 2019). The ambition and probability of entering entrepreneurship in form of an innovative business are further enhanced through strong technological know-how, high proficiency in the host country's language and solid managerial competencies (Dheer, 2018). Therefore, Hunt (2010), Mestres (2010), Neville et al. (2014) and Sahin et al. (2006) discovered, that migrant entrepreneurs gain strong competitive advantages from their access and obtainment of highly valuable and rare human capital, which in return positively impacts their venture performance. It can thus be concluded that positive effects are mostly generated by highly skilled migrant entrepreneurs (Mestres, 2010).

Moreover, Achidi Ndofor and Priem (2011) revealed, that human capital also influences migrant entrepreneurs' choice of strategy. Though the level of education could not be clearly determined as an influencing factor on strategy, instead it was discovered that prior professional experiences have a significant impact. Accordingly, migrant entrepreneurs with previous experiences in management were inclined to follow a dominant strategy, whereas migrant entrepreneurs with previous experiences in entrepreneurship were inclined to follow an enclave strategy. A possible explanation might be that migrant entrepreneurs with previous entrepreneurial experiences want to take advantage of the market segmentation within a niche opportunity.

Researchers all agree on the importance of *social capital* that allows migrants to enter, sustain and succeed in entrepreneurship (Dheer, 2018; Rametse et al., 2018). Social capital can be understood as advantages gained through one's social group or network.

A migrant's social network is based on interactions between migrants, return migrants and natives in home and host country, which leads to the formation of a connection among members within the network (Dheer, 2018). Therefore, the activity of networking within the host- but also the home country of migrants is crucial for building a co-ethnic support structure and for getting access to important entrepreneurial resources, including contacts and talented employees (Hart and Acs, 2011; Rametse et al., 2018). Furthermore, a unique characteristic of migrant networks is their cultural dimension that impacts members' morals, mindset, and actions. Researchers like Dheer (2018), Hart and Acs (2011), Nathan and Lee (2013), Neville et al. (2014), Ozgen et al. (2012) and Rametse et al. (2018) also emphasize that migrant entrepreneurs tend to involve themselves in international trade and export more often than native entrepreneurs do. Migrants also have easier access to international markets (Nathan and Lee, 2013). Ozgen et al. (2012) point out that "fast internationalizers" exceed domestic companies and "slow internationalizers" in their innovativeness.

Dheer (2018) acknowledges three key sources of social capital, namely friends and family, ethnic communities, and the society of the host country, see Fig 2.



**Fig. 2.** Sources of social capital

The former source of social capital i.e., family, extended family, and friends is deemed to be a particularly strong relationship, that is built on trust (Dheer, 2018). In fact, family, and extended family tend to offer altruistic advantages and information more often than any other social group due to their genetic tie to the entrepreneur. As a solid source of social capital, they provide low-cost labour with the dedication to work longer hours and access to financial resources, which enables migrant entrepreneurs to conduct business with more flexibility (Rametse et al., 2018). Additionally, family and extended family can provide solidarity to migrant entrepreneurs and are considered to be easier to manage than other groups. However, frequent problems of the family supported businesses include the recruitment of new employees, monetary constraints, and compliance with the host country's labour policies (Dheer, 2018; Rametse et al., 2018).

The second source of social capital i.e., ethnic communities are particularly useful for migrant entrepreneurs with weak human capital and little to no contact with family or friends. As a supplementary source to friends and family, ethnic communities can provide financial and labour support, counsel and guidance, as well as information about promising business opportunities. Sahin (2006) partly attributes the success of migrant ventures to the role of social resources as a promising source of labour. Rametse et al. (2018) agree that migrant entrepreneurs tend to hire co-ethnic individuals because of their reliance and language proficiency in both ethnic and the host country's language. Furthermore, Hart and Acs (2011) point out that high-tech migrant entrepreneurs occasionally utilize their social capital to recruit and hire new employees through networks with co-ethnic individuals and through ethnic professional associations and alumni clubs in the host and home country. However, the level of support, resources and benefits from ethnic communities vary across different cultures and depend on cultures' level of trust and bond within their communities (Dheer, 2018). If the cultural bond within that ethnic community is strong, migrant individuals tend to strongly count on that ethnic bond for more help. This level of support is reflected in the prominent presence of ethnic businesses in host countries, such as of Chinese businesses in the US. Due to the strong ethnic bond, social capital also does not necessarily have to be acquired locally in the host country but can also be acquired transnationally from the home country (ibid.).

Concerning the findings by Achidi Ndofor and Priem (2011), social capital enables migrants greater access to specific resources, which in return will have an impact on the selected strategy of migrant entrepreneurs. To further describe the relation, migrant entrepreneurs' close bond with co-ethnic entrepreneurs influences their choice of strategy due to ethnic resources that are provided by co-ethnic entrepreneurs. These ethnic resources include business opportunities and contacts, which positively influence migrant entrepreneurs to follow an enclave strategy. This effect is further enhanced when migrant entrepreneurs strongly identify with their ethnic community (ibid.). Based on the strong bond within that community, migrant entrepreneurs may access even more ethnic resources for their pursuit of an enclave strategy.

The latter source of social capital i.e., the native society of the host country may offer financial support and valuable information to migrant entrepreneurs (Dheer, 2018). Furthermore, social capital provided by the host country may facilitate the acceptability of migrants' businesses in the host society. As previously established, social capital grants migrants greater access to certain resources, which will have an effect on migrant entrepreneurs' choice of strategy (Achidi Ndofor and Priem, 2011). Within this context, migrant entrepreneurs, who establish a close relationship with native entrepreneurs outside their ethnic community, get access to resources that are not linked to the ethnic

community. Hence, social capital from natives outside the ethnic community is positively linked to a dominant strategy.

Lastly, *financial capital*, including equity and loans, is deemed to be a crucial antecedent of migrant entrepreneurship, as the availability thereof facilitates the process of starting a venture immensely, whereas a lack thereof drastically impedes entrepreneurial plans (Dheer, 2018; Mestres, 2010). Therefore, the better the access and availability of financial capital, the more likely migrants will enter entrepreneurship (Rametse et al., 2018). This is especially the case for innovative high-growth ventures that depend on sufficient financial capital to start and sustain (Dheer, 2018). However, in cases of insufficient supply of financial capital, migrant entrepreneurs tend to establish smaller businesses that are rather labour-demanding and catered for customers of smaller market segments, such as restaurants (Dheer, 2018).

Formal institutions, that provide financial capital to individuals are banks (Dheer, 2018). However, it is extremely challenging for migrants to receive financial capital from banks, as they often face difficulties with language barriers, their unfamiliarity with the host country's regulations and practices or discrimination towards them (Ram et al., 2003). Consequently, the behaviour of migrant entrepreneurs can be significantly affected by credit constraints (Mestres, 2010). Under these conditions, family, friends, and ethnic communities act as supplementary or informal sources of financial capital and provide their personal and family wealth to migrant entrepreneurs (Dheer, 2018; Rametse et al., 2018).

### **2.3.2. Institutional Antecedents of Migrant Entrepreneurship on a Macro Level**

As determined in the previous chapters, socio-cognitive resources are key antecedents that have an impact on migrants' decision to enter entrepreneurship in the form of self-employment. However, equally as important to socio-cognitive resources is the environmental condition under which these decisions are made. The underlying principle is that economic institutions have a direct and substantial impact on economic results, such as on market players' profits and revenues. This means that economic institutions heavily impact individuals' economic incentives through perceived economic rewards and expectations about future economic outcomes (Acemoglu et al., 2005; Boudreaux et al., 2019). Thus, the institutional context of migrants' environment controls their resource allocation towards potential entrepreneurial endeavours. For example, migrants with high socio-cognitive resources, such as alertness to promising business opportunities and strong self-efficacy, are unlikely to engage in any entrepreneurial activities if institutional barriers to the creation of a venture are high and if the predicted profit in this specific institutional context is lower and more uncertain than the expected return from alternative job options (Boudreaux et al., 2019; Williamson, 2000). In the same manner, migrants with similar socio-cognitive resources are more likely to engage in entrepreneurial activities if institutional barriers to the creation of a venture are low and if the predicted profit in this specific institutional context is higher and more certain than the expected return from alternative job options.

Therefore, institutional factors in migrants' home and host country may facilitate or impede potential migrant entrepreneurs' intention and effort to tackle demanding tasks and gather necessary socio-cognitive resources for their entrepreneurial undertakings, including opportunity recognition, the establishment of a venture and the management thereof (Nazareno et al., 2019; Wood and Bandura, 1989). So, while socio-cognitive resources may represent positive key factors that can drive



entrepreneurial activities, their impact can be repressed in less favourable environments and institutional contexts (Acemoglu et al., 2005; Boudreaux et al., 2019).

It is important to acknowledge, that entrepreneurial activity can be suppressed and constrained by limited economic freedom, excessive, cumbersome, and arbitrary government regulations on the business, credits, and labour, as they increase unpredictability and decrease expected economic returns. Similarly weak property rights and an unstable banking system discourage entrepreneurial activities, regardless of migrants' level of socio-cognitive resources. The impact of some factors remains inconclusive.

Researchers acknowledge the existence of various institutional factors as key antecedents that enable and promote entrepreneurial activities by migrants and other individuals (Dheer, 2018). In this context of positive factors, Miller et al. (2022, p. 12) first introduced the concept of “economic freedom”, which can be summarised as “individual autonomy, concerned chiefly with the freedom of choice enjoyed by individuals in acquiring and using economic goods and resources.” McMullen et al. (2008) discovered that economic freedom positively influences migrants' and other individuals' decisions to engage in entrepreneurial activities. According to Miller et al. (2022), there are twelve aspects of economic freedom, which can be grouped into four categories, namely “rule of law”, “government size”, “regulatory efficiency” and “market openness”, see Table 2.

**Table 2.** Categories and aspects of economic freedom

Categories of economic freedom	Aspects of economic freedom
Rule of law	<ul style="list-style-type: none"> <li>• Property rights</li> <li>• Judicial effectiveness</li> <li>• Government integrity</li> </ul>
Government size	<ul style="list-style-type: none"> <li>• Tax burden</li> <li>• Government spending</li> <li>• Fiscal health</li> </ul>
Regulatory efficiency	<ul style="list-style-type: none"> <li>• Business freedom</li> <li>• Monetary freedom</li> <li>• Labour freedom</li> </ul>
Market openness	<ul style="list-style-type: none"> <li>• Trade freedom</li> <li>• Investment freedom</li> <li>• Financial freedom</li> </ul>

(Based on Miller et al., 2022)

The first category, namely rule of law consists of property rights, juridical effectiveness and government integrity. Especially property rights and government integrity were proven to impact migrants' and other individuals' decisions to create their own businesses (Miller et al., 2022). Regarding property rights, many researchers including Acemoglu et al. (2005), Aidis et al. (2012), Estrin et al. (2013), McMullen et al. (2008) and Williamson (2000) agree that the existence and enforcement of property rights within a country play a key role in motivating migrants and other individuals to enter self-employment and invest in physical and human capital as well as resourceful technologies. Secure property rights provide more certainty on future economic outcomes, such as profit and revenues, that migrant entrepreneurs can expect (Estrin et al., 2013; Williamson, 2000). McMullen et al. (2008) emphasize that intellectual property rights are particularly important to opportunity-motivated entrepreneurs as opposed to necessity-driven entrepreneurs, due to their

innovative nature. Regarding juridical effectiveness, it ensures a proper legal framework that defends the rights of citizens against violations. The fulfilment of such is vital for economic growth and varies significantly between developing and developed countries. Furthermore, government integrity addresses systematic corruption in the form of bribery, embezzlement, and others (Miller et al., 2022). Aidis et al. (2012), Estrin et al. (2013) and Miller et al. (2022) mention corruption as an informal institutionalised factor that impedes entrepreneurial aspirations.

The second category, namely government size encompasses tax burden, government spending and fiscal health (Miller et al., 2022). Addressing the first aspect, governments charge certain fiscal expenditures for the entrepreneurial activities of businesses and entrepreneurs in the form of taxation. This can impact an individual's aspiration to enter entrepreneurship. For example, low tax rates may incentivise migrants and other individuals to pursue entrepreneurship, as only a small fraction of revenues would be redistributed to other individuals, who did not bear the entrepreneurial risks for the revenue generation (ibid., Aidis et al., 2012). Furthermore, opportunity-driven entrepreneurs are less sensitive to changes in taxes than necessity-driven ones (McMullen et al. 2008). This can be explained by their difference in motivation and profit margin. While opportunity-driven entrepreneurship often results from the usage of innovativeness to exploit a new market niche and thus usually benefits from high-profit margins, necessity-driven entrepreneurship usually follows an imitative approach with a lower profit margin (Schumpeter and Opie, 1934). Moreover, government spending, which is funded through taxation and always implies opportunity costs, may involve investments in infrastructure and public goods, as well as research and human capital of individuals, which also include accelerator programs, that support young start-ups in their early stages (Miller et al., 2022). This is highly relevant for opportunity-driven entrepreneurs of highly innovative ventures, as they can improve entrepreneurs' human capital, as well as provide social capital and financial capital for their entrepreneurial activities. Fiscal health addresses governments' "financial management of resources", which is documented in the government's budget. Thus, weak management thereof due to the accumulation of debt can negatively impact individuals and the respective country. That is because fiscal health contributes to sustainable economic growth and economic freedom (ibid.).

The third category, namely regulatory efficiency includes business freedom, monetary freedom and labour freedom (Miller et al., 2022). In its essence, business freedom allows entrepreneurs to create and lead their ventures without unreasonable interference from the government. Monetary freedom enables longstanding value and wealth accumulation through monetary policies that ensure stable currencies, combat inflation, and keep market prices stable (ibid.). That is highly relevant, as aspiring entrepreneurs deeply value stability and the trustworthiness of necessary information for the decision-making process of entering entrepreneurship (Boudreaux et al., 2019). Hence, the facilitation of market pricing and inflation control has a positive impact on migrants and other individuals' decisions to enter entrepreneurship (McMullen et al., 2008). Labour freedom includes freedom from wage and price control policies, which allow individuals to seek opportunities for employment. However, the related wage and price policies introduced by governments may put entrepreneurs in a disadvantageous position of having to manage and steer the business towards success, while having lost partial control of these two important factors of their business. Therefore, wage and price policies seem to impede entrepreneurial activities as the wages represent a large share of production or service costs and prices represents the company's benefit, against which those costs need to be offset. This is particularly relevant to opportunity-motivated entrepreneurship (ibid.).

The fourth element, namely market openness includes trade freedom, investment freedom and financial freedom (Miller et al., 2022). Trade freedom allows international trade without any hindrances or interferences by governments, whereby the opposite is the restriction of international trade through the implementation of tariffs, trade barriers and export taxes by governments. This can have a considerable impact on migrant entrepreneurs' entrepreneurial performance and profitability. Investment freedom enables the foundation for an effective investment ecosystem, that fosters overall entrepreneurial activities and productivity through transparency. As it allows investment in all kinds of businesses and therefore, further fosters innovation, it is of high significance to innovative migrant entrepreneurs. Financial freedom ensures the accessibility of an efficiently operative financial system, that provides savings and credit services among others (Boudreaux et al., 2019; Miller et al., 2019; Naude et al., 2017).

#### 2.4. Conceptual Model for Antecedents of Innovative Migrant Entrepreneurship

Based on the literature findings mentioned in previous chapters, a summary of those findings in the form of a conceptual model was created. This conceptual model shows relevant antecedents that foster migrant entrepreneurs to conduct innovation, according to the project aim, see Fig. 3.

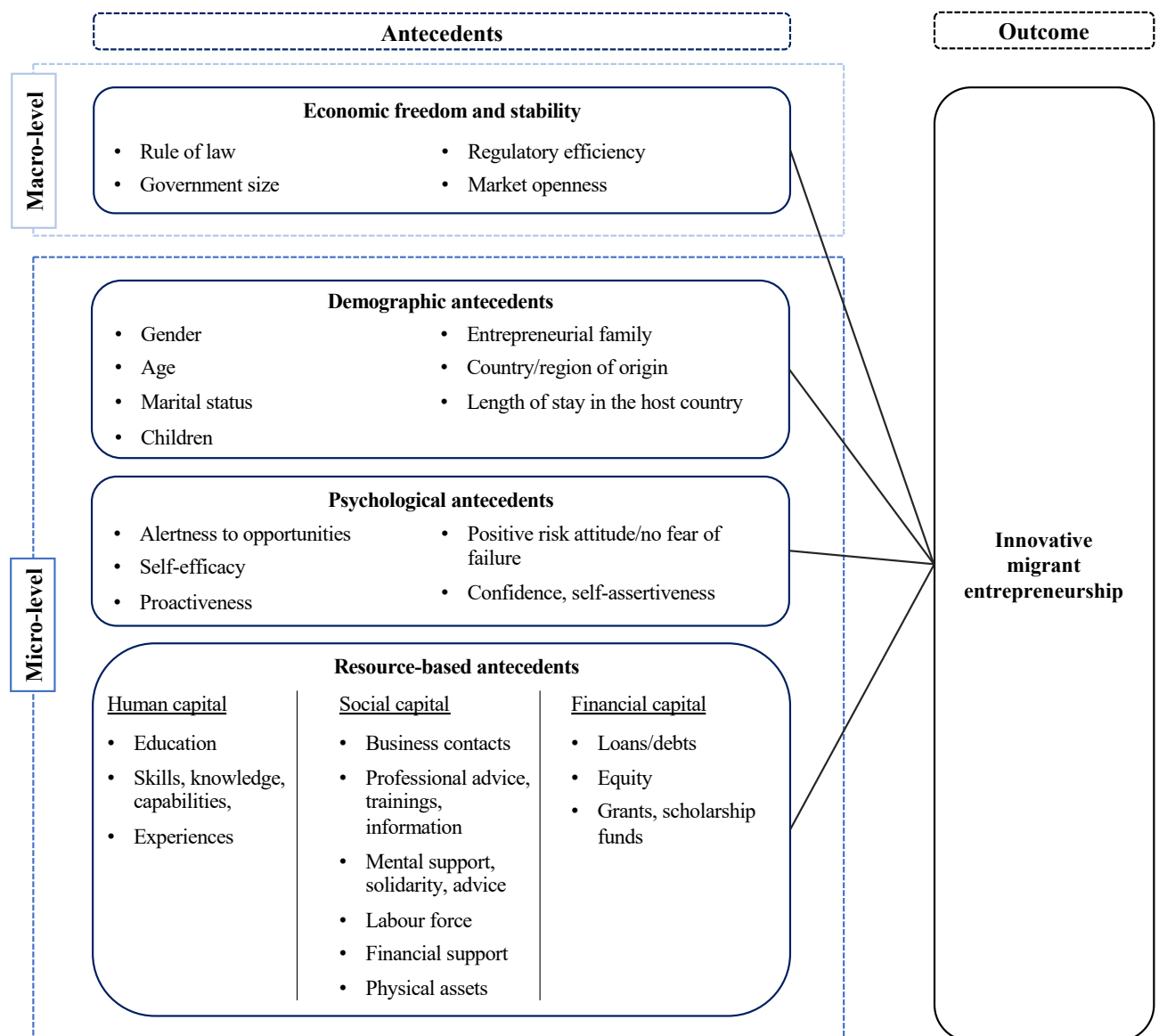


Fig. 3. Conceptual model for antecedents of innovative migrant entrepreneurship

Based on research findings, there are several antecedents on the micro and macro level (see on the left) that can lead to migrants' decision to enter innovative entrepreneurship (see on the right).

With respect to the structure by Dheer (2018), antecedents on a micro level can be divided into **demographic, psychological, and resource-based factors**.

Accordingly, **demographic factors**, such as the *gender* (Brixy et al., 2013; Xie and Lv, 2016), the *marital status* and the *number of children* (Constant and Zimmermann, 2006; Dheer, 2018), presence of an entrepreneurial family (Blanchflower and Oswald, 2007; Brixy et al., 2013), the *length of stay in the host country* (Baycan-Levent and Nijkamp, 2009; Mestres, 2010) and the *country/region of origin* (Brixy et al., 2013; Mestres, 2010) of migrants may have a strong positive impact on their entrepreneurial aspirations and behaviour and therefore may act as antecedents for migrants to establish an own innovative business. Furthermore, the role of *age* as an antecedent to innovative entrepreneurship remains inconclusive and is therefore further explored (Bönte, 2007; Dheer, 2018; Lévesque and Minniti, 2006).

Besides demographic antecedents, **psychological antecedents**, including *self-efficacy*, *proactiveness* (Middermann, 2020; Rametse et al., 2018), *alertness to opportunities*, *a positive risk attitude* and *confidence* (Koellinger, 2008) are deemed vital characteristics of innovative migrant entrepreneurs. Especially the role of *self-efficacy* (Middermann, 2020; Poblete and Mandakovic, 2021), *alertness to opportunities* (Boudreaux et al., 2019; Hart and Acs, 2011) and a *positive risk attitude* (Neville et al., 2014; Vandor, 2021) are highlighted in this context.

Researchers, such as Dheer (2018) and Middermann, (2020) determined easy access and sufficient availability of three main types of capital, including **human capital**, **social capital** and **financial capital**, as key antecedents of innovative migrant entrepreneurship. The former type of capital, namely **human capital** is based on the level of *education*, *competencies*, and *knowledge*, as well as *experience*, that the potential migrant has acquired (Marvel and Limpkin, 2007). A high level of human capital is positively associated with and considered an antecedent of migrants' entry into innovative entrepreneurship (Koellinger, 2008; Marvel and Limpkin, 2007; Nazareno et al., 2019; Saxenian, 2002b). The second capital, namely **social capital**, refers to entrepreneurial advantages, that potential migrant entrepreneurs can gain from their social network (Del Bosco, 2021; Bandera and Thomas, 2017). Such advantages may include *information on business opportunities* and *advice* from friends and family, as well as local and ethnic communities (Hart and Acs, 2011; Kim and Lee, 2022; Rametse et al., 2018). Lastly, access and availability of **financial resources** are fundamental for the start, maintenance and expansion of a business. Without financial capital, such as *equity*, *loans* or *scholarship funds*, any entrepreneurial activities would not be possible (Blanchflower and Oswald, 2007; Block et al., 2016; Rametse et al., 2018).

On the macro level, Aidis et al. (2012), Bourdreaux et al. (2019), Estrin et al. (2013), McMullen et al. (2008) and Miller et al. (2022) emphasise the importance of **economic freedom and stability**, reflected in the categories of *rule of law*, *government size*, *regulatory efficiency* and *market openness* as a fundamental framework for any entrepreneurial activity and antecedents for migrants to start innovative businesses. Especially factors, such as *property rights* of **rule of law**, *government spending* of **government size**, *controlled inflation* of **regulatory efficiency** and *financial markets* of **market openness** (Naude et al., 2017) are highlighted to determine the disposition of migrants to enter innovative entrepreneurship.

### **3. Research Methodology**

With reference to the research question “What are relevant antecedents that motivate migrant entrepreneurs to conduct innovation?”, as previously mentioned in the “Introduction”, the research methodology, including the research strategy and design, as well as the sampling process including the case selection will be elaborated. Lastly, the process of data collection and analysis will be presented in the following.

#### **3.1. Research Strategy, Design, and Methods**

With reference to the research matter, which encompasses the identification of relevant antecedents of innovative migrant entrepreneurship, studies on that topic are rather scarce and underdeveloped, as elaborated in chapter 1.1. (Dheer, 2018; Vissak and Zhang, 2014).

For the purpose of creating a comprehensive conceptual model on relevant antecedents of innovative migrant entrepreneurship, a theoretical analysis of innovative entrepreneurship, see chapter 2.1., as well as a theoretical analysis of migrant entrepreneurship, see chapter 2.2. were presented. This was followed by the presentation of theoretical solutions on antecedents of migrant entrepreneurship in chapter 2.3. On the basis of literature and the application of a deductive approach, a conceptual model in alignment with the research question and aim was developed, see chapter 2.4.

In order to test and validate the proposed model for its applicability, a qualitative research approach was assessed to be the most suitable and reliable methodology. Accordingly, qualitative research enables the provision of in-depth and detailed information about unexplored topics (Atkinson and Delamont, 2010). Furthermore, it provides an inductive approach to the relationship between theoretical knowledge and empirical study, whereby the main goal is to create a theory, understand the concept and ultimately solve a problem (Doz, 2011). As it is descriptive and exploratory in nature, it aims at understanding subjective perspectives and experiences. Within the subject of this thesis, qualitative research aims at offering a more comprehensive understanding of the subjective experiences of migrant entrepreneurs. In alignment with the research problem, exploring and discovering the experiences of migrant entrepreneurs from their perspective is essential to discovering antecedents thereof.

The underlying principle of a deductive research approach for this thesis was chosen in order to develop an initial model based on literature research and validate the proposed model by qualitative data collection and corresponding analysis with the use of the case study methodology, see Fig. 4. The aim was to analyse and evaluate antecedents of innovative migrant entrepreneurs on a case-by-case basis and to validate the elements of the proposed model for its applicability. The case study methodology allows broad data collection and understanding of case interviewees and start-ups by the usage of semi-structured interviews in combination with secondary data. Secondary data as an additional source of information ensures triangulation and consistency of data throughout the research (Carter et al., 2014). This data was gathered by desk research prior to the interviews in order to prepare and customise more specific questions related to the interviewee and the respective start-up. Accordingly, common sources for the secondary data were the start-up’s website, press releases and articles, as well as LinkedIn profiles of the respective start-up and interviewee.

The semi-structured interviews were conducted in the form of open-ended questions in order to reveal detailed information on the interviewee’s antecedents in the context of the thesis topic (Atkinson and

Delamont, 2010). Therefore, a comprehensive interview guideline was created on the basis of the research findings and elements of the conceptual model, see Appendix 1.

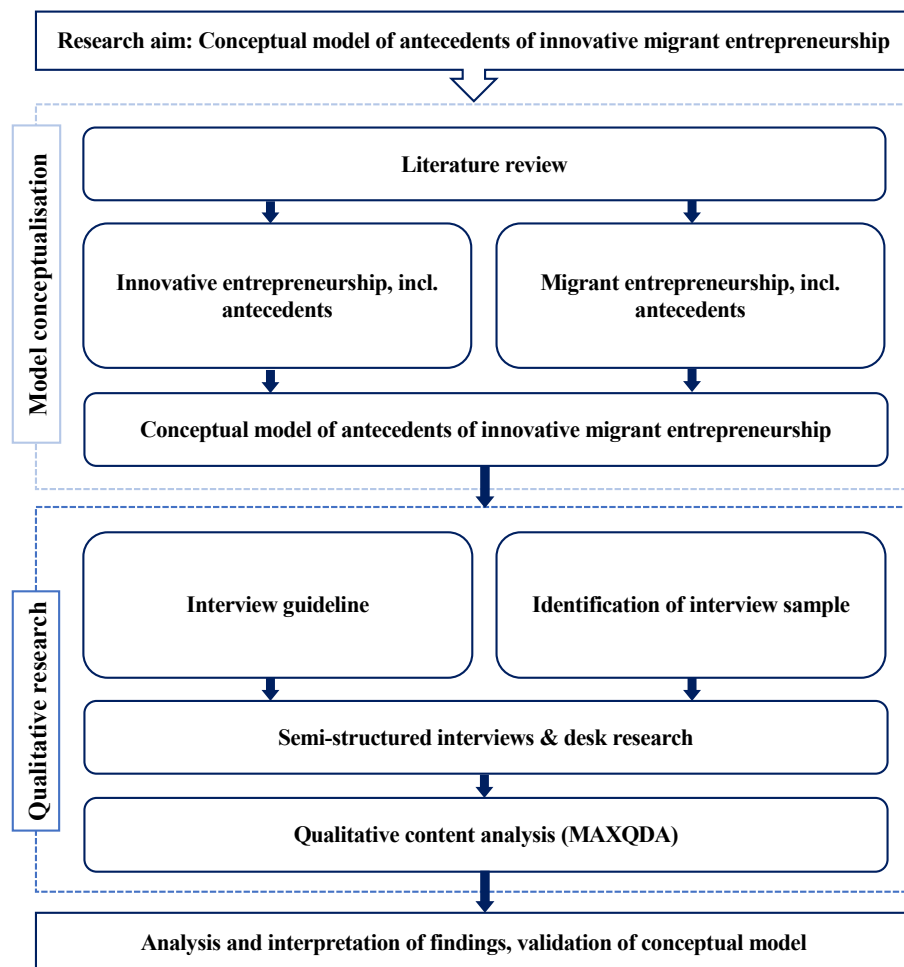


Fig. 4. Research design

### 3.2. Sampling and Case Selection

With regard to the validation of the proposed model and the project aim, the selection of samples is highly important (Doz, 2011; Fusch and Ness, 2015). Therefore, selection criteria need to be determined. Based on previous literature findings, a demographic, geographical, and venture-specific focus for the sampling of potential interviewees was set. Firstly, it needs to be considered that the research subject of this thesis is migrant entrepreneurs. Thus, the identification of individuals with a different country of origin than where they currently reside and conduct their business is needed for the target sample. In order to examine and assess the impact of demographic factors on migrants' decision to enter entrepreneurs, the sampling of different genders and ethnicities was taken into consideration. Secondly, a geographical focus was set to facilitate accessibility to potential interviewees and cultural familiarity by the author, as well as to ensure comparability across the sample cases. In this case, the geographical context is limited to Germany. This has the advantage that the interview can be conducted in either the native language of the author, that is German or in English, depending on the preferences of the interviewee. Thus, it minimalizes the error of distortion or misinterpretation due to language barriers. Thirdly, the target sample is also limited to migrant entrepreneurs who founded innovative start-ups as opposed to imitative ventures, due to the nature of the thesis subject. Innovation related to technology was the preferred selection.

Sample interviewees were first identified by the use of personal and distant networks, start-up initiatives and support programs in Germany, migrant start-up initiatives and support programs in Germany, as well as targeted LinkedIn search. With the use of publicly available data on LinkedIn, the official website of the targeted start-ups, start-up initiatives or any other official program, the suitability of case interviewees was carefully examined and assessed according to the aforementioned and predefined criteria (Creswell and Poth, 2018).

### 3.3. Data Collection and Analysis

According to the predefined requirements for the case selection, potential interviewees were then approached and contacted via e-mail, phone, LinkedIn, and other means of communication. For the comfort of the interviewee, a brief outlook of interview questions, based on the interview guideline, was provided by request in advance. In addition to interviews, secondary data on interviewees and antecedents was collected via internet desk research. Altogether, five interviews with the start-up's migrant founder or co-founder were conducted, see Table 3. All five start-ups develop innovations related to technology.

To ensure safety during the ongoing Coronavirus disease 2019 (COVID-19) pandemic, as well as convenience for and accessibility to the interviewees, all interviews were conducted online via video call. Furthermore, permission to record the video session was requested and given before the interview in order to properly document the interview and its insights. In parallel, the anonymity of interviewees was communicated and guaranteed. At the beginning of the interview, a brief introduction to the topic of migrant entrepreneurship was given and any open questions of the interviewees were answered. All interviews were conducted in English. The interviews were conducted between March 18 to April 13, 2022 and lasted between 35 minutes to 1 hour and 15 minutes. For further information, see Table 3.

**Table 3.** Overview of interviews and data collection

Case interview	Interviewee position	Location of interview	Date of interview	Interview duration
Alpha	Co-founder	Online via video call	18/03/2022	1h10mins
Bravo	Co-founder	Online via video call	22/03/2022	35 min
Charlie	Founder	Online via video call	24/03/2022	1h15mins
Delta	Co-founder	Online via video call	08/04/2022	1h8mins
Echo	Co-founder	Online via video call	13/04/2022	1h8mins

Once all interviews were conducted, anonymised transcriptions of the interviews were created. Afterwards, data from the interview transcriptions and secondary data from desk research were imported to the software MAXQDA to initiate the qualitative content analysis. Once the data was registered in the software, it was then coded according to the elements of the conceptual model and common themes identified within. In order to validate the model, extracted text based on important quotes from the interviews and relevant information from desk research, was used. The extracted text is referencing the original document and the position of the data.

The interviews were conducted in an ethical manner by ensuring that interviewees' participation was on a voluntary basis. Furthermore, the anonymity and data protection of all interviewees and the respected start-ups were guaranteed.

## 4. Research Findings on Antecedent of Innovative Migrant Entrepreneurs and Discussion

### 4.1. Introduction of Innovative Case Start-ups

In the section below, an introduction of each case start-up, including the year of foundation, operating location and industry of the case start-ups, as well as the innovative business idea will be given. An overview of case start-ups is shown in Table 4.

**Table 4.** Overview of case start-ups

Case start-up	Founded	Location	Sector/industry
Alpha	2021	Hamburg (DE)	Health/tech
Bravo	2020	Berlin (DE)	Health/tech
Charlie	2019	Hamburg (DE)	Software/tech
Delta	2020	Munich (DE)	Health/tech
Echo	2020	Hamburg (DE)	Logistics/tech

In the following chapter, the innovative business of each case start-up is presented.

**Start-up Alpha** was founded at the beginning of 2021 by interviewee Alpha along with two other co-founders in Hamburg, Germany (Alpha\_Transcript, Pos. 3). Start-up Alpha operates in the health/tech sector and offers “a blood-based habit and living solution [...] with focus on vegan and vegetarian lifestyles” built into an app for smartphone users in German-speaking countries (Alpha\_Transcript, Pos. 3,13). Start-up Alpha’s app enables the client to build a healthy lifestyle with sustainable habits by providing personalised recommendations based on the client’s blood results (Alpha\_Doc1). The recommendations themselves are drawn from an “evidence-based” database, that is grounded on at least “four large scale studies” (Alpha\_Transcript, Pos. 11).

To further describe the process, the start-up developed a “short biomarker quiz” to collect relevant information on the client, that will be utilized to give personalised recommendations on relevant analytes to get tested on (Alpha\_Transcript, Pos. 3, 9). Based on this suggestion, the client can get his or her blood tested by an external party. Once the client receives the blood result report, he or she can upload the results on start-up Alpha’s app and receive “instant” personalised lifestyle, supplement and food suggestions on how to optimize his or her analyte values, performance and lifestyle (Alpha\_Doc1; Alpha\_Transcript, Pos. 9). All steps within the process, except for the upload of the report file, are automated.

Though start-up Alpha recognises “several players in the market”, the start-up claims to be the only company that provides one comprehensive solution to the problem (Alpha\_Transcript, Pos. 9). The start-up’s marketed “key propositions” encompass the “biomarker quiz”, the personalised and “evidence-based” recommendations for clients with a “specialised lifestyle”, as well as the quick, easy and semi-automatised process (Alpha\_Transcript, Pos. 11).

**Start-up Bravo** was incorporated in 2020 by interviewee Bravo along with four other migrant co-founders in Berlin, Germany (Bravo\_Transcript, Pos. 3, 7). The start-up operates in the health/tech sector and aims to “assist[ing] micro movements [...] in the direction of haptics” (Bravo\_Transcript, Pos. 3). As such, the start-up develops textile-based surfaces for the interaction between humans and machines in the form of robotic fabrics with embedded fluidics (Bravo\_Doc1) and claims to be “the first expert [...] in robotics fabrics [...] that [has] a completely new approach to the future of smart textiles and robotics” (Bravo\_Transcript, Pos. 5). To elaborate, the start-up “develop[s] fluctuators for the machine directions [...] that can shrink and expand and create a stiff and flattened [...] shape



[...] by putting fluidics in between layers of fabrics, [which] create movements” (Bravo\_Transcript, Pos. 3). A “unique” aspect that emphasizes the innovativeness of this technology and clearly differentiates it from other competitors in the market is that the start-up’s “fluctuators are fully autonomous” (Bravo\_Transcript, Pos. 5). Inspired by “how nature is structured and can perform movement”, the start-up utilizes that understanding in order to mimic and apply this to their innovative technology (ibid.). Therefore, “[their product] doesn’t have motors of batteries from a technology point of view” and “use[s] the movement of the body” instead. The current customer basis of this start-up includes “the compression garment industry [...] for medical sports devices and mobile industries for surfaces, that change shape” in Germany (Bravo\_Transcript, Pos. 3).

**Start-up Charlie** was founded at the end of 2019 by interviewee Charlie in Hamburg, Germany. The start-up “is a [software as a service] product [which] aim[s] to deliver the best sounding text to speech software on the market” (in the following “TTS”) (Charlie\_Transcript, Pos. 3). Currently, start-up Charlie offers “26 languages and 73 different voices” (Charlie\_Doc1). Moreover, this TTS technology is primarily used for the production of “articles, audiobooks, video voiceovers and podcasts” and serves customers in the publishing industry in Germany (Charlie\_Transcript, Pos. 3). With the distinction of its high-quality TTS sound, start-up Echo intends to “make German newspaper live a bit longer by innovating the business model” (Charlie\_Transcript, Pos. 35).

**Start-up Delta** was founded in 2020 by interviewee Delta along with two other co-founders in Munich, Germany (Delta\_Transcript, Pos. 3). The start-up operates in the health/tech sector and commercialises a “smart ring that measures all the vital signs and signals like heart rate, spiritual elevation” for the big categories of “mindfulness, stress, activity and recovery” (Delta\_Transcript, Pos. 3; Delta\_Doc1). The measured data is then transferred and synched regularly with a mobile device via the Android or iOS app (Delta\_Doc1). The aim of this product is to impart personalized health insights, based on one’s habits and lifestyle. By implementing a data-driven approach and predictive analytics, the app provides users with health recommendations on how to optimize their physical and mental health (ibid.). However, as the ideas of interviewee Delta do not align with his co-founders anymore, interviewee Delta recently split up from the rest of the start-up (Delta\_Transcript, Pos. 3).

Now, case interviewee Delta is in the process of establishing two other innovative start-ups. One start-up in planning will “commercialize technology”, that utilises “artificial intelligence” and “proprietary algorithms” based on his research on cancer and other respiratory diseases, while the other start-up in planning will “offer financial services without company, [but] a blockchain”, utilizing interviewee Delta’s “blockchain patent” (Delta\_Transcript, Pos. 3, 5).

**Start-up Echo** was founded in 2020 by interviewee Echo along with two other co-founders in Hamburg, Germany (Echo\_Transcript, Pos. 3, 7). Start-up Echo operates in the logistics/tech sector and “develop[ed] a security system for parked trucks” as a response to “2.2 million euros of theft, that is happening [yearly] in the logistics sector (Echo\_Transcript, Pos. 3; Echo\_Doc 1). In detail, the start-up developed a “particular [radar]sensor technology [that] detect[s] human movement and [determines] if this particular person is a threat for the truck at that particular [...] time”. If this human movement is categorised as a threat, an “acoustic alarm” is initiated, so that “the person still has a chance to move away from the surroundings of the truck”. If the “acoustic alarm” did not deter the hostile person from complying, the client will be informed via “a message [of] the location of the truck” and the location of the hostile person. If requested, the police will be called afterwards (Echo\_Transcript, Pos. 3)

Though the start-up recognises, that there are competitors in the market aiming at tackling the same problem, it also points out that start-up Echo's approach "with [...] sensors" is unique in the market (Echo\_Transcript, Pos. 3). In the future, start-up Echo plans to "implement machine learning and [artificial intelligence] into the product, so that it would be perfect to address [theft of truck loads] in the market" (ibid.). The current customer basis of this start-up encompasses primarily "logistics companies because their products are under threat". However, the customer basis could potentially be extended to insurance companies (Echo\_Transcript, Pos. 5).

## 4.2. Case Analysis of Antecedents of Innovative Migrant Entrepreneurs

In this chapter, a presentation of all five case interviewees will be given. This presentation includes an elaboration of relevant antecedents of innovative migrant entrepreneurs on a micro and macro level per case interviewee.

### 4.2.1. Start-up Alpha

Introducing interviewee Alpha's *demographic* profile, he is the 27-year-old male co-founder of start-up Alpha. He is originally from India and has been living in Germany for three years. Furthermore, he points out that he was inspired by his *social surroundings* in India, as well as his *entrepreneurial family* to pursue entrepreneurship (Alpha\_Transcript, Pos. 31).

With regard to *psychological* antecedents, interviewee Alpha highlights the ability to *recognize opportunities*, "*navigate*" risks, and *show confidence, proactiveness* and *self-efficacy* to be important factors. He also mentions "*the spirit*" to enter entrepreneurship as a vital factor. Though interviewee Alpha did not specifically discover the idea behind start-up Alpha himself, he *stayed alert to and recognized the opportunity* and value behind co-founding the start-up, based on personal issues, that made him "connect to the problem" and based on "complementary skills" that would facilitate the collaboration and process of "creat[ing] a new product or service" along with his partner (Alpha\_Transcript, Pos. 7). In addition, interviewee Alpha acknowledges the "*element of risk involved*" that comes along with entering entrepreneurship (Alpha\_Transcript, Pos. 19). In consideration of one's "economic situation", interviewee Alpha notes that one has to factor in a certain period of time before a start-up generates revenues, as well as the risk of complete failure of the venture. In Alpha's opinion, a "mechanism [...] to navigate this risk" is crucial (Alpha\_Transcript, Pos. 25). In his opinion, risk, stress and reward are interconnected (Alpha\_Transcript, Pos. 29). Accordingly, entrepreneurs face "risks" and "challenges every day" (Alpha\_Transcript, Pos. 23). If dealt with successfully, it feels rewarding. If not, it feels frustrating (Alpha\_Transcript, Pos. 29). He refers to it as a "good kind of stress", that enables him to "learn" and that "keeps [him] on edge [and] aware" (Alpha\_Transcript, Pos. 23). With regard to proactiveness, interviewee Alpha notes that "cultivat[ing] that mindset" of "handling multidisciplinary work" is a key prerequisite to entering entrepreneurship (Alpha\_Transcript, Pos. 25). That includes *proactively undertaking tasks*, outside of one's area of expertise (Alpha\_Transcript, Pos. 23). Furthermore, interviewee Alpha is of the opinion that "*self-efficacy* might play a bigger role than *confidence*" (Alpha\_Transcript, Pos. 41). He differentiates between two types of confidence as an entrepreneur, namely the confidence to "start" a company and the confidence to "govern [...] macro tasks" that are part of a company's daily business (Alpha\_Transcript, Pos. 37). While he showed *confidence to establish start-up Alpha*, he claims that confidence to manage tasks was "non-existence" at the beginning but "fostered over time and over several tries" by having developed "structures [...] mechanism" that made him "very adept" to the

tasks demanded (Alpha\_Transcript, Pos. 35). In his opinion, self-efficacy is crucial for situations when an entrepreneur has invested a lot of time into a problem but ends up being “stuck”. In these situations, an entrepreneur must have *self-efficacy* to “*strike everything off and start fresh*” (Alpha\_Transcript, Pos. 41). Interviewee Alpha further emphasizes, that the most important psychological antecedent is “*to have the drive*” and “*that spirit of starting something of your own*” (Alpha\_Transcript, Pos. 47). Additionally, Alpha states that an entrepreneur “*ha[s] to find some way to make it work*” (Alpha\_Transcript, Pos. 27). This can be linked to an *iterative mindset* and approach to working as an entrepreneur.

**Resource-based antecedents**, including *human, social and financial capital*, will be presented in the following.

Starting with **human capital**, interviewee Alpha attended university in India and graduated with his *bachelor’s degree* in IT communication (Alpha\_Transcript, Pos. 43). He then attended university in Germany and graduated with a *master’s degree* in global innovation management. Within his master’s degree, he took a break to complete an *internship* at a company (Alpha\_Transcript, Pos. 47). Reflecting upon his *education*, he claims that “education helped [him] a lot”, though he states that he does not consider it a “prerequisite to entrepreneurship” (Alpha\_Transcript, Pos. 43). In his opinion, education “institutionalizes”, “teaches” and “fosters” skills, especially “soft skills” and how to “socialize” (Alpha\_Transcript, Pos. 45). While he considers *job experience* to be useful in terms of “developing skills” and getting more “efficient and competent at the task at hand”, interviewee Alpha considers the “*right team*” and even more so, the ability to “*manage people*” the “biggest prerequisites” to entrepreneurship (Alpha\_Transcript, Pos. 43, 45, 49, 73).

Regarding **social capital**, interviewee Alpha claims that no social group, neither family nor friends, nor any community helped him to start start-up Alpha (Alpha\_Transcript, Pos. 61). Though, interviewee Alpha mentioned that his friends and family could have supported the start-up financially (Alpha\_Transcript, Pos. 63). Instead, start-up and interviewee Alpha benefitted from participating in an accelerator program that provided the start-up and its founders with “several mentors”, that “*groomed*” and helped them to “creat[e] a more resilient pitch deck” (Alpha\_Transcript, Pos. 57). Furthermore, the accelerator program offered them the possibility to participate in a wide range of *different workshops* and provided them *access to “an extensive network of people”*, that would further assist start-up Alpha. *Assistance and consultation* provided to start-up Alpha could range from tax consultants to lawyers (ibid.).

Concerning **financial resources**, interviewee Alpha states that “money definitely plays a really big role” and “nothing happens without money” (Alpha\_Transcript, Pos. 63). Accordingly, “having savings” would be advantageous for starting a business, however, interviewee Alpha did not have any (ibid.). Therefore, interviewee Alpha and all other co-founders “*did bootstrap* for a while” and got employed for a *part-time position* at other companies in order to sustain themselves and pay for start-up Alpha’s maintenance, such as rent (Alpha\_Transcript, Pos. 65). This allowed start-up Alpha to spend all the *funding provided by the accelerator program* on product development. With additional *funding provided by “investors” and a local bank*, start-up Alpha is now in the position to cover costs for the company’s maintenance and product development so that its founders can work on start-up Alpha’s products full-time (Alpha\_Transcript, Pos. 57, 67).

On a **macro level**, interviewee Alpha considers any “*strong economy*”, including “any developing country” to be “good enough” to start a business (Alpha\_Transcript, Pos. 79). He acknowledges that he does not have “control over the nation’s economic stability” and recognizes the *risk of inflation*.

The formation of start-up Alpha happened to be in Germany “because [he] was there” (Alpha\_Transcript, Pos. 75). He adds that Germany’s “*infrastructure*”, *governmental programs* and “*bodies*” provide relevant and *helpful resources and expertise* to new founders, including interviewee Alpha (Alpha\_Transcript, Pos. 81).

***In summary***, interviewee Alpha agrees on the considerable impact of elements constituting the conceptual model on his decision to enter entrepreneurship, including *demographic, psychological and resource-based antecedents* on a micro level and *economic freedom and stability* on a macro level. Accordingly, interviewee Alpha believes that his *family and social environment in India* had a strong impact on his decision to enter entrepreneurship when analysing *demographic antecedents*. He also acknowledges the importance of *psychological antecedents* for his entrepreneurial aspirations, highlighting the aspect of the ability to “*navigate*” *risks, identify opportunities, demonstrate confidence, proactiveness and self-efficacy*, as well as create a mindset of “*find[ing] some way to make it work*”. Additionally, he underlines the significance of having “*the drive*” to pursue entrepreneurial endeavours. Regarding *resource-based antecedents*, he believes in the significance of available and accessible *financial capital*, especially *grants* provided by accelerator programs and *social capital* in terms of *business contacts* and *professional advisory* offered by experts and mentors of the accelerator programs. Though he considers his high level of education to be “helpful”, he does not consider it a “prerequisite” to entrepreneurship. Instead, he emphasises the capability of *managing people* to be more significant than a high level of *education or working experience*. Furthermore, interviewee Alpha particularly acknowledges the *supporting infrastructure* of Germany on a macro level.

#### **4.2.2. Start-up Bravo**

Introducing ***interviewee Bravo***’s demographic profile, he is the 34-year-old male co-founder of start-up Bravo. Interviewee Bravo is originally from Columbia and has been living in Germany for five years. He is married to a German man and is currently in the process of applying for German citizenship (Bravo\_Transcript, Pos. 19). Bravo discloses that his decision of entering entrepreneurship was “biased”, because “*all [family members] have been entrepreneurs*” (Bravo\_Transcript, Pos. 23). With regard to gender, he believes that “*being male [...] brings certain biases and opportunities [in] certain industries*” (Bravo\_Transcript, Pos. 23). He also notes that start-up Bravo operates in a “male-dominated industry” (ibid.). As a male entrepreneur in the industry, this is often met with “respect” from accelerator programs, whereas “female founders” face “a lot of biases when they present themselves” as entrepreneurs (ibid.).

With regard to ***psychological*** antecedents, interviewee Bravo recognises the importance of *alertness to and recognition of opportunity, a risk positive attitude*, as well as the *mindset of “getting things done”*. Interviewee Bravo demonstrated his *opportunity recognition capabilities* when creating start-up Bravo. After having worked and received “good feedback on the technology” of start-up Bravo, he and his co-founder recognised the potential opportunity and success of this idea and decided to further develop it and “apply for some acceleration programs” to establish start-up Bravo (Bravo\_Transcript, Pos. 3). Linking business opportunity to his migration background, interviewee Bravo emphasizes that “*com[ing] from a different life [...], from a different place*”, facilitates the process of “*think[ing] outside of the box*” (Bravo\_Transcript, Pos. 21). Furthermore, interviewee Bravo recognises himself as “a risk taker [...] more adventurous, [who] love[s] to open new opportunities” (Bravo\_Transcript, Pos. 25). He believes that “being an entrepreneur is very, very

risky” and one “need[s] to feel *very comfortable with [...] risk taking*” (Bravo\_Transcript, Pos. 21). While he acknowledges that moving away from his home country without speaking the host country’s language “already” put him in “a very uncomfortable situation”, entering entrepreneurship was an “additional” weight (Bravo\_Transcript, Pos. 21). Nevertheless, he believes that the challenges related to moving away from his home country “facilitated the mindset of an entrepreneur” (ibid.). Another psychological factor he believes to be important as an entrepreneur is following the *mindset and practicality [of] getting things done*” (Bravo\_Transcript, Pos. 27). Accordingly, it’s not about creating the “perfect” product at the moment, but rather about creating a product, that is “good enough” for now.

**Resource-based antecedents**, including *human, social and financial capital*, will be presented in the following.

Starting with **human capital**, interviewee Bravo attended university in Columbia and graduated with his *bachelor’s degree* in business administration (Bravo\_Transcript, Pos. 29). Afterwards, he focused on *working* in marketing and product development in the automotive industry. Later on, he graduated with a *double master’s degree* in innovation & design from a university in Argentina and Germany (Bravo\_Transcript, Pos. 31). While interviewee Bravo considers *education* to be important to him in terms of “how [he] is approaching” entrepreneurship, using the “right tools” to do so (Bravo\_Transcript, Pos. 33), he considers *working experience* to be even more important, as he learned to “solv[e] new situations, creat[e] new products” on the job and make data-driven decisions, based on “a deep understanding of approaching new and strange things” (Bravo\_Transcript, Pos. 35). He also emphasises the importance of “*balance [...] of the team*” (Bravo\_Transcript, Pos. 25). That is because he considers himself to be a “person-oriented innovator”, while he considers the rest of the team to follow “a scientific approach, very sequential thinking, very rule following” (ibid.).

Regarding **social capital**, interviewee Bravo recognises the *emotional support* from his German husband, as well as his *assistance* on tasks related to legal affairs to be very important (Bravo\_Transcript, Pos. 23, 37). Furthermore, he mentioned having built a “strong” support system within his rugby team, that *consults* him on issues. He also underlines the supporting “network” gained through “partners of [his] team members”, that enabled start-up Bravo to establish “*contact to investors*”, that would *consult the team* on “concrete questions about resources or how to deal with finances” (ibid.). Additionally, start-up Bravo participated in two accelerator programs, that he claims “were really important to [them]” (Bravo\_Transcript, Pos. 39). The first program provided *expertise and counsel* on the start-up idea itself. The second program provided mentors, that enabled start-up Bravo to *expand its network and communicate more efficiently*.

Concerning **financial resources**, interviewee Bravo states that “financials play a huge part”, especially in a start-up that works with physical assets (Bravo\_Transcript, Pos. 41). That is why it is “important to dedicate time to the project” to deliver a pitch of the start-up idea, which convinces investors to invest financially. Start-up Bravo has won *multiple grants* in the past and is now “raising [their] *first equity round of funding*” (ibid).

On a **macro level**, interviewee Bravo praises Germany, especially Berlin as “the *perfect place to start something creative*” (Bravo\_Transcript, Pos. 45). He believes that it is the space within Europe, that allows start-up Bravo to explore innovation and new ideas. He strongly emphasizes his “love” for Berlin’s *culture and opportunities* within (Bravo\_Transcript, Pos. 47). Furthermore, he also appreciates the *facilitated access to investors and institutions* in Germany, that “help [start-up Bravo] to connect and extend to new programs and new frameworks and new directions” (Bravo\_Transcript,

Pos. 47). He considers the *easy access to institutions and “relevant professors and companies”* to be “unique” (Bravo\_Transcript, Pos. 45). Furthermore, he also states that establishing start-up Bravo in his home country would not have been “made sense” due to the innovative nature and high expenses thereof (Bravo\_Transcript, Pos. 47).

***In summary***, interviewee Bravo recognises the relevance of the elements of the conceptual model, including *demographic, psychological and resource-based antecedents* on a micro level and *economic freedom and stability* on a macro level, on the decision to enter entrepreneurship. From a *demographic perspective*, his *family* influences his decision to establish his own venture. Regarding psychological antecedents, he acknowledges the weight of *opportunity recognition, a risk positive attitude*, as well as the *mindset of “getting things done”* to enter entrepreneurship. Regarding *resource-based antecedents*, he supports the significance of obtainment of *human capital*, available and accessible *financial capital*, in the form of *grants* provided by government programs and *social capital*, with regard to *mental support* offered by his social environment, as well as *professional counselling* provided by experts and mentors of the accelerator programs. Obtained *business contacts* through accelerator programs and other networks play an essential role, too. On the macro level, Bravo highly appreciates Berlin’s *culture, prospects and opportunities* within, as well as the *access and support to vital institutions* and expresses the creation of start-up Bravo to be influenced by it.

#### 4.2.3. Start-up Charlie

Introducing case interviewee Charlie’s *demographic* profile, he is the 38-year-old male founder of start-up Charlie. He is originally from Russia and has been living in Germany for 15 years. Currently, he is in the process of attaining German citizenship (Charlie\_Transcript, Pos. 25). Born to parents of “educators”, interviewee Charlie describes Russians to be “very stability-oriented”, who do not favour entrepreneurship for its uncertainty (Charlie\_Transcript, Pos. 9). Regarding gender, he considers it to be “a *privilege to be white, to be male*” and points out that entrepreneurship elevates his “social status”, especially when interacting with women. This positively affects his esteem and plays a role in his decision to pursue entrepreneurship (Charlie\_Transcript, Pos. 29).

With regard to *psychological* antecedents, interviewee Charlie mentions the ability to *recognise opportunity, a “risk-friendly” attitude, self-assertiveness and self-reflection* to be relevant factors. In addition, interviewee Charlie underlines the adoption of a *mindset* that incorporates a start-up’s *iterative way of thinking and working*. Psychologically, the *feeling of fulfilment* gained through entrepreneurship plays a relevant role and is reflected in his motivation and productivity (Charlie\_Transcript, Pos. 31). Interviewee Charlie recognizes the “*real opportunities [...] throughout [his] career*” in “the scholarships in the universities all the way to the support that you get as a young startup” (Charlie\_Transcript, Pos. 35). Accordingly, as a high school pupil in Russia, he *seized the opportunity* to learn German for the prospect of winning scholarships, that would financially support his parents and allow him to travel to Germany (Charlie\_Transcript, Pos. 9, 11). He continued to finance his university studies with scholarships and further used his experience of “winning scholarships” to then apply for “accelerators, incubators”, that financed the beginning of start-up Charlie (Charlie\_Transcript, Pos. 35). Moreover, he recognized *the business opportunity* of start-up Charlie, based on identified “cultural differences” in the utilization of Amazon’s Alexa by American and German customers. While Americans “were much more open to Alexa in the US”, Germans “were scared to open this ear inside [their] living room to the American company” (Charlie\_Transcript, Pos. 53). Case interviewee Charlie believes it “was easier to see these cultural

differences” because he is neither American nor German. Using this knowledge, he identified the main function that “customers love about [Alexa]” and created the “text-to-speech solution” for start-up Charlie (Charlie\_Transcript, Pos. 51, 53). He *connects risks to opportunities*, as he could not have accepted the risk of starting start-up Charlie without recognizing the opportunities provided by scholarships and accelerator programs (Charlie\_Transcript, Pos. 35). While moving to Germany with little knowledge of the language could be considered “very risky”, interviewee Charlie considers the risk of living in Russia significantly higher, regardless of what occupation he pursued in Germany (Charlie\_Transcript, Pos. 33). In light of the current Ukrainian war and the consequences thereof, interviewee Charlie considers the *risk of entrepreneurship* in Germany and living in Russia to be “incomparable”. He associates entrepreneurship with “good stress” and “uncomfortable[ness]” at most, but “not a risk” (Charlie\_Transcript, Pos. 31). As “it is impossible to be on the street” as an entrepreneur, interviewee Charlie claims to be even “*more risk friendly*” because of it. Furthermore, he claims that “be[ing] an entrepreneur is less risky” than being a wage employee because employees face risks of losing their job due to decisions out of their reach and control, such as budget cuts, whereas this issue is directly linked to the performance of the entrepreneur and he or she has all the information related to the issue (Charlie\_Transcript, Pos. 31). As opposed to self-efficacy, interviewee Charlie is of the opinion, that “*self-reflection*” represents a key psychological antecedent (Charlie\_Transcript, Pos. 49). On the one hand, *self-reflection* is important because, it is expected of him to “do all the jobs well” as the start-up’s founder and CEO, even though “nobody told [him] how to do those jobs” (Charlie\_Transcript, Pos. 47). He considers the process of self-reflection a “strain” on himself, but still an aspect to “embrace” (ibid.). On the other hand, he also “ha[s] to *be assertive*” when meeting potential customers, whom he has to convince. Assertiveness allows interviewee Charlie to “react to the customer [and] the customer requirements in a much more flexible fashion” (ibid.). Additionally, he mentions that one needs to establish the *mindset of working in an “iterative process”* (Charlie\_Transcript, Pos. 49). This means that one has to accept that a product within a start-up “has to be perfect, but not today” (ibid.)

***Resource-based antecedents***, including *human, social and financial capital*, will be presented in the following.

Starting with ***human capital***, interviewee Charlie attended university in Russia and Germany with German literature and social studies as his major and IT as his minor and obtained a *diploma*, as well as a *PhD* (Charlie\_Transcript, Pos. 9). Interviewee Charlie believes that *education* and *work experience* both “are important” (Charlie\_Transcript, Pos. 59). His *PhD* had a “huge impact on [his] life” in terms of “status and durability and perseverance” and enabled interviewee Charlie to “use the intellectual level” to connect aspects and solve problems, as he recognizes that education is “never a direct application” of knowledge (Charlie\_Transcript, Pos. 57). Before pursuing the establishment of his own company, interviewee Charlie also collected *several years of working experience*, which allowed him to learn the necessary hard skills, as well as to understand how a German company “works from the inside”, including its company culture (Charlie\_Transcript, Pos. 59). (Charlie\_Transcript, Pos. 27). He also emphasizes that he is *managing his employees* a clear majority of the time as opposed to working on start-up Charlie’s actual product (Charlie\_Transcript, Pos. 65). Regarding ***social capital***, interviewee Charlie highlights the significance of single individuals, such as his mentor, therapist and investors for his entrepreneurial journey. For instance, his mentor *consults* him on “professional questions” related to people management of start-up Charlie. Furthermore, he receives *mental support* from his therapist and mentor (Charlie\_Transcript, Pos. 65).

Concerning *financial resources*, interviewee Charlie states that money is important in order to operate start-up Charlie and pay his wage for his bills (Charlie\_Transcript, Pos. 35). However, he does point out that “not much money” is needed as the “cost of living is comparatively cheap” in Germany (Charlie, Pos. 37). Once an individual has the “basic idea” for his or her company, he or she can *apply for “free money of accelerators or incubators or some start-up programs”* (Charlie\_Transcript, Pos. 35, 37). “Winning these *scholarships* [and] accelerator programs” enabled interviewee Charlie to work full-time for start-up Charlie (Charlie\_Transcript, Pos. 35).

On a *macro level*, interviewee Charlie sees a huge advantage in Germany’s *accelerator and incubator programs*, that support young start-ups (Charlie\_Transcript, Pos. 35). Additionally, he notes that Germany’s *governmental economic relief payments* during the COVID-19 pandemic saved start-up Charlie from bankruptcy, which he considers “a winning factor in all these regulations” (Charlie\_Transcript, Pos. 43). Besides that, “*right of ownership*” and “*property rights*” play a significant role for interviewee Charlie (Charlie\_Transcript, Pos. 45). As opposed to Germany, those rights are “non-existent” in his home country Russia and the government can arbitrarily “nationalize buildings” (ibid.). Furthermore, he mentions the “attractiveness” of the “*continental law system*”, which allows the settlement of legal cases before the court date, as it saves “time and money” (Charlie\_Transcript, Pos. 45). Also, he considers the “*German work ethics*” to be a “hidden gem”, that he identifies with and highly appreciates (Charlie\_Transcript, Pos. 41).

*In summary*, interviewee Charlie acknowledges the considerable weight of the elements of the conceptual model, including *demographic, psychological and resource-based antecedents* on a micro level and *economic freedom and stability* on a macro level on the decision to pursue entrepreneurship. While he points out to feel privileged because he is *male and white*, entrepreneurship elevated his esteem and status, especially when interacting with women. Concerning *psychological antecedents*, he considers *opportunity recognition, a “risk-friendly” attitude, self-assertiveness, self-reflection, self-fulfilment* from the occupation as an entrepreneur and an *iterative mindset* to be highly relevant for the entrance and management of entrepreneurship. Regarding *resource-based antecedents*, he highly supports the obtainment of *human capital*, available and accessible *financial capital*, in the form of “*free money*” provided by accelerator and incubator programs, as well as the provision of *social capital* in the form of *professional advice* and *mental support* from his mentor and therapist, for the establishment of a venture. Furthermore, secure *right of ownership, property rights, the continental law system* and *governmental support* are aspects he considers relevant for antecedents on a macro level.

#### 4.2.4. Start-up Delta

Introducing the *demographic* profile of interviewee Delta, he is the 38-year-old male co-founder of start-up Delta and has previously founded several other start-ups (Delta\_Transcript, Pos. 3, 13). He is married and a father of three children. Furthermore, he is originally from Romania and has been living in Germany for two years. Moreover, he emphasizes that “*having children* had a strong impact” and gave him the motivation to pursue entrepreneurship (Delta\_Transcript, Pos. 23). That is because his daughter required medical treatments, which would have exceeded his financial means at that time (Delta\_Transcript, Pos. 21, 75).

With regard to *psychological* antecedents, interviewee Delta recognises the importance of *opportunity recognition, comfortable risk-taking, self-confidence, charisma and curiosity*, as well as



*resilience* to enter entrepreneurship. Besides utilizing different “ideation techniques”, interviewee Delta trusts in gathering information and inspiration through “systematic research”, meeting friends to “exchang[e] ideas and topics”, building “a more diverse network” and “learning German” to *identify opportunities* and *assess the associated risks* (Delta\_Transcript, Pos. 35, 37, 39, 41). He further states that he is “playing the statistical manner, this startup game”, in which he “expect[s] that most of [his ideas] will fail”, though he believes, that “one will make it up for the rest of the effort and time and money” (Delta\_Transcript, Pos. 3). Moreover, he believes *self-efficacy* to be important, knowing and using his capabilities (Delta\_Transcript, Pos. 45). However, he is “very practical” and would “hire” someone else if he believes the other person to be more “efficient” (ibid.). Interviewee Delta also emphasizes the importance of a high level of *confidence*, as too much self-doubt paired with a high level of entrepreneurial risk may lead to failure (Delta\_Transcript, Pos. 53). Additionally, interviewee Delta mentions “*curiosity*” and “*resilience*” to be highly relevant for pursuing entrepreneurship (Delta\_Transcript, Pos. 25). The former, he exhibited through his PhD and interest in “science and research”, while the latter he learned through his daughter’s disease. He further notes that “*charisma*” is a vital antecedent of entrepreneurship, as it helps to convince investors (Delta\_Transcript, Pos. 31).

**Resource-based antecedents**, including *human, social and financial capital*, will be presented in the following.

Starting with **human capital**, interviewee Delta attended university in Romania, where he graduated with a *diploma* and *PhD*, both in computer science (Delta\_Transcript, Pos. 59, 61). Since his second year of university, he has *worked* in various positions and environments (ibid.). While he considers *education* to not have played an important role for him personally, he acknowledges the importance of *working experience* to establish an IT start-up (Delta\_Transcript, Pos. 65). He is of the opinion that, obtaining a diploma only “show[s] that [one] is competent in this field” (Delta\_Transcript, Pos. 69). He also notices that “people in Germany fall for the PhD”, where he is regarded with a higher status, whereas no one “cares” in America (Delta\_Transcript, Pos. 73).

Regarding **social capital**, interviewee Delta states that he has a “global network” which enables him to “*find business partners*” more easily (Delta\_Transcript, Pos. 77, 79). As previously mentioned, he also socializes with other people to “*exchang[e] ideas and topics*” (Delta\_Transcript, Pos. 37). However, he generally prefers to “work on [his] own” or hire “professional services” since he does not like “asking for favours, because [he] ha[s] to return the favour at some point” (Delta\_Transcript, Pos. 77, 79). Besides that, he finds support in his wife, that “*consults [him] all the time*” (Delta\_Transcript, Pos. 81).

Concerning **financial resources**, interviewee Delta states that “one of the most important roles [is] money” (Delta\_Transcript, Pos. 83). In his previous endeavours, he “use[d] [his] *own money*” or “*investor money*” to finance his businesses (Delta\_Transcript, Pos. 85). He mentions that “getting money from somebody means you lose ownership in the company” (Delta\_Transcript, Pos. 83). In his opinion, giving away shares of revenue is the best option to satisfy investors as opposed to giving away equity or taking on a loan.

On a **macro level**, interviewee Delta “see[s] a lot of *potential in the German market*” and considers Germany to be a *strong and dominating country* within the European Union (in the following “EU”) (Delta\_Transcript, Pos. 107, 111). Additionally, he deems it a “pity not to start something [in Germany] and not benefit from” various “*government programs*” that provide support, such as financial help during COVID-19 (Delta\_Transcript, Pos. 113). Besides the advantage of a *strong*

*health system* for his daughter (Delta\_Transcript, Pos. 15), the “*image*” and “*perception*” of Germany as a “serious and strong” country plays a considerable role for interviewee Delta. According to him, the image in the context of a *company’s incorporation* and *intellectual property* conveys “*credibility*” to “partners” (Delta\_Transcript, Pos. 115).

***In summary***, interviewee Delta agrees on the favouring impact of the elements of the conceptual model, including demographic, psychological and resource-based antecedents on a micro level and *economic freedom and stability* on a macro level on the decision to enter entrepreneurship. From a demographic point of view, his daughter’s illness motivated him to enter entrepreneurship. Interviewee Delta identifies opportunity recognition, comfortable risk-taking, self-confidence, charisma and curiosity, as well as resilience to be vital psychological antecedents of innovative entrepreneurship. Regarding resource-based antecedents, he believes in the significance of human capital, specifically in the form of working experience, as well as available and accessible financial capital and social capital in terms of an international network for the exchange of information. On a macro level, he praises Germany’s infrastructure, as well as reputation within the EU, which he considers highly beneficial for the incorporation of a company and patent application.

#### 4.2.5. Start-up Echo

Introducing the ***demographic*** profile of interviewee Echo, she is the 31-year-old female co-founder of start-up Echo. Furthermore, she is originally from India and has been living in Germany for the past seven years. Based on assumptions from her previous working experience, interviewee Echo initially feared being “intimidated” and “dominated” as a *female entrepreneur* by her male co-founders (Echo\_Transcript, Pos. 31, 35). However, this assumption was quickly refuted upon meeting them (Echo\_Transcript, Pos. 31). Nevertheless, one key factor for entering entrepreneurship as a female co-founder of start-up Echo is the sake of *promoting “equal opportunities”* and thereby “showing people that, yes, a female can also be equal” (Echo\_Transcript, Pos. 35). Within her family and her social environment, as well as master’s graduates, that migrated from India to Germany, no one showed interest in pursuing entrepreneurship (Echo\_Transcript, Pos. 13, 17).

With regard to ***psychological*** antecedents, interviewee Echo mentioned the ability to *recognise opportunity*, a *positive risk-taking attitude*, the demonstration of *proactiveness*, *self-efficacy*, *confidence* and *empathy* to be vital factors. She further expresses her feeling of “satisfaction” gained through entrepreneurship as crucial factor for her decision to enter entrepreneurship. Though interviewee Echo may not have discovered the business idea behind start-up Echo herself, she did show *proactiveness* in *looking for an opportunity* and “challenge”, that was not “a regular employment” (Echo\_Transcript, Pos. 27). Upon discovery of her co-founder’s job advertisement, she did *recognize and seized the opportunity* of starting this company along with them, based on her technical expertise and team fit (Alpha\_Transcript, Pos. 29). Along with this opportunity, she also acknowledged the *risk of entering entrepreneurship* as “a foreigner in a foreign country” (Echo\_Transcript, Pos. 13, 21). She notes that risk can be considered a “big game changer”, whereby she determined financial risk linked to opportunity costs as the main factors, that negatively impact the decision of entering entrepreneurship (Echo\_Transcript, Pos. 19). Although she would earn a higher salary at regular employment and face limited risks, she recognizes that “the *satisfaction* wouldn't be there” (ibid.). Though recognizing the risk of failure, she “wanted to experience something new” and thus pursued entrepreneurship (Echo\_Transcript, Pos. 21). Moreover, interviewee Echo voices that *proactiveness* is “very important” (Echo\_Transcript, Pos. 43). While

interviewee Echo did not consider herself to be proactive at the beginning, she was inspired by her co-founder's proactiveness and "learned" to be more proactive (Echo\_Transcript, Pos. 45). Furthermore, she acknowledges the significance of *confidence* and *self-efficacy*. Accordingly, she sees confidence in "try[ing]" to start a venture, even if it fails, as well as confidence in "approach[ing] others" and "ask[ing] for help" (Echo\_Transcript, Pos. 41). Additionally, interviewee Echo emphasizes the importance of another psychological antecedent, namely *empathy* (Echo\_Transcript, Pos. 35). As a "leader", she wants to show that she can be "empathetic and equally strong" to make employees feel "valued" and to enable "personal" and "company growth" (Echo\_Transcript, Pos. 37).

**Resource-based antecedents**, including *human, social and financial capital*, will be presented in the following.

Starting with **human capital**, interviewee Echo attended university in India and graduated with a *bachelor's degree* in engineering (Echo\_Transcript, Pos. 9). She then attended university in Germany and graduated with a *master's degree* in automotive software engineering. After her bachelor's studies, she *worked* at different start-ups and companies (Echo\_Transcript, Pos. 9, 53, 57). While she considers *education* to be important for theoretical and technical knowledge, she considers *working experience* to be even more important for practical application as well as the improvement of soft skills, learning "how to be a team player" and holding accountability for tasks (Echo\_Transcript, Pos. 51, 57). During her employment, she was able to observe how a start-up and company operate. This helped her to determine "what kind of business [she] want[s] to set up so that that [her] employees would be comfortable in [her] company" (Echo\_Transcript, Pos. 37). With start-up Echo, she wanted to "turn the tables" (Echo\_Transcript, Pos. 23). She states that *working experience* had a "bigger impact" on her decision to start her venture than *education* (Echo\_Transcript, Pos. 57).

Regarding **social capital**, interviewee Echo states that her family "*encouraged* her" to pursue her entrepreneurial endeavour. That is why her family provides "*emotional [and] financial support*" (Echo\_Transcript, Pos. 17, 23, 63, 65, 67). Moreover, she also receives "*emotional support*" from her friends, with whom she shares "any challenges that [she is] facing in [her] workspace" (Echo\_Transcript, Pos. 63).

Concerning **financial resources**, interviewee Echo underlines that money plays a "very very important role", as even the most "brilliant idea" would not work without it (Echo\_Transcript, Pos. 69). Especially as a "hardware start-up", they need to invest money into the materials and hardware, aside from maintenance (ibid.). Thus far, start-up Echo received *two "government grants"*, that are linked to the achievement of the start-up's "milestones" (Echo\_Transcript, Pos. 67, 71). While most of the financial capital is spent on the start-up itself, there are some cases when it was not sufficient for its intended operation and the founders had to supplement with *money provided by their families* (Echo\_Transcript, Pos. 67).

On a **macro level**, interviewee Echo considers Germany "*a land of opportunities*, especially in technology-related [affairs]" (Echo, Pos. 9, 79). She believes that Germany's *governmental "support"*, including various programs enabled her to pursue entrepreneurship, whereas she believes that she would not have gotten "enough support from external sources" in India (Echo\_Transcript, Pos. 79). Additionally, she mentions "*economic equality*" in Germany as an aspect that might have played a role in her decision (Echo\_Transcript, Pos. 85).

**In summary**, interviewee Echo recognises the significance of the elements of the conceptual model, including *demographic, psychological and resource-based antecedents* on a micro level and *economic freedom and stability* on a macro level, on the decision to enter entrepreneurship.

Referencing *demographic antecedents*, she was driven to enter entrepreneurship because she wanted to demonstrate her competency as a *female leader*. Furthermore, interviewee Echo mentions the ability to *recognise opportunity, establish a positive risk-taking attitude, demonstrate proactiveness, self-efficacy and confidence*, as well as *empathy* to be vital psychological antecedents for innovative entrepreneurship. The factor of “*satisfaction*” also plays a relevant role in her entrepreneurial consideration. Regarding *resource-based antecedents*, she is of the opinion that *human capital* and the availability and accessibility of *financial capital*, particularly *grants* provided by accelerator programs, as well as *social capital* in the form of *business contacts, professional advisory* and *mental support* is crucial for the establishment of an own venture. Moreover, Echo underlines the role of *government support programs* and *prospects* within Germany as a decisive factor for her to create a venture.

### 4.3. Comparative Analysis of Antecedents of Innovative Migrant Entrepreneurs

In the following, a comparative analysis of all five interview cases is conducted in correspondence to the elements of the introduced conceptual model. The proposed conceptual model for antecedents of innovative migrant entrepreneurs encompasses elements on the micro and macro level. Within this analysis, similarities and differences between cases, as well as peculiarities of single cases are presented. To further highlight the findings, an overview of selected quotes by case interviewees related to the elements of the conceptual model is depicted and summarized in tables. Some quotes may also be grouped into subcategories according to commonly identified themes within the model element.

#### 4.3.1. Antecedents of Innovative Migrant Entrepreneurs on a Micro Level

Antecedents on the micro level are comprised of demographic, psychological and resource-based antecedents. The latter can be further broken down into human, social and financial capital. A comparative analysis of all listed elements will be presented in the following.

#### Demographic Antecedents of Innovative Migrant Entrepreneurs

Comparing demographic profiles, see Table 5, it can be noted that four out of five interviewees are male, and all interviewees range between the age of 27 and 38. Furthermore, three out of five interviewees are married, while two are single. Only one interviewee has children. Two interviewees are from India, whereas the other three interviewees originated from different countries, including Columbia, Russia and Romania. The length of stay in Germany as the host country ranges from two to 15 years.

**Table 5.** Overview of case interviewees’ demographic profiles

Case interviewee	Gender	Age in years	Marital status	Number of children	Ethnicity	Host country	Residence in host country in years	Interview Sources
Alpha	Male	27	Single	-	Indian	Germany	3	Alpha_Transcript, Pos. 15
Bravo	Male	34	Married	-	Columbian	Germany	5	Bravo_Transcript, Pos. 3, 9, 11, 13, 15, 17
Charlie	Male	38	Single	-	Russian	Germany	15	Charlie_Transcript, Pos. 9, 13, 15, 17, 19

Case interviewee	Gender	Age in years	Marital status	Number of children	Ethnicity	Host country	Residence in host country in years	Interview Sources
Delta	Male	38	Married	3	Romanian	Germany	2	Delta_Transcript, Pos. 13
Echo	Female	31	Married	-	Indian	Germany	7	Echo_Transcript, Pos. 9, 11

Looking at the impact of demographic factors on interviewees' decisions to conduct innovative entrepreneurship, certain similar themes are described by various interviewees, see Table 6.

**Table 6.** Selected extraction for the element of demographic antecedents

Sub-category	Quotes
Gender	“Being a male, I think it brings certain biases and opportunities [...] when you are trying to apply for acceleration programs with this industry, you are very respected. It's [...] a male-dominated industry [...] I know a lot of female founders that find it risky [...] face a lot of biases when they present themselves” (Bravo_Transcript, Pos. 23)
	“[...] it is a privilege to be white, to be male [...] social status definitely plays a role. [...] it gives you a couple of positive points, even in the like male-female interaction. [...] that plays a role” (Charlie_Transcript, Pos. 29).
	“I never saw any female in a top position, actually taking control over people and stuff, being the lead. I mean, it was always a male dominated society” (Echo_Transcript, Pos. 35) “I wanted to take that position [...] showing people that, yes, a female can also be equal. So that was one of the factors that definitely, I had in my head that, I really wanted to be” (Echo_Transcript, Pos. 35).
Children	“just to start the company, only my daughter had an impact” (Delta_Transcript, Pos. 75)
Entrepreneurial family	“[...] my family, it's always been a generation of entrepreneurs. [...] which is also what gave me that drive. It is like, I do want to set up something of my own.” (Alpha_Transcript, Pos. 31)
	“[...] I think that I am a little bis biased because my family, all have been entrepreneurs in my family, so it's like I grew up doing stuff like that.” (Bravo_Transcript, Pos. 23)

Accordingly, interviewees Bravo, Charlie and Echo acknowledge the effect of *gender* on their entrepreneurial journey. While interviewees Bravo and Charlie underline the “privileges” and “biases” that are associated with being a male entrepreneur, interviewee Echo felt the need to prove herself as a female founder and leader in today's “male-dominated society”.

Moreover, interviewees Alpha and Bravo point out the impact of an *entrepreneurial family* as a factor, that influenced their entrepreneurial endeavours. Additionally, interviewee Alpha notes that entrepreneurship is very common in his home country, where he grew up. As the only interviewee with children, interviewee Delta confirmed the impact of his *child's* disease as a reason to enter entrepreneurship.

### Psychological Antecedents of Innovative Migrant Entrepreneurs

Within the element of psychological antecedents, see Table 7, the significance of *alertness to opportunities* and a *positive risk attitude* is recognised and demonstrated by all interviewees. Specifically interviewees Bravo and Charlie point out that having a migration background enabled them to view certain affairs from a different perspective, which can be very advantageous for spotting entrepreneurial opportunities. Furthermore, interviewees also approve of the importance of exhibiting *self-efficacy*, *proactiveness* and *confidence* for entrepreneurship.

**Table 7.** Selected extraction for the element of psychological antecedents

Sub-category	Quotes
Alertness to opportunities	“face this issue so that just made me connect to the problem itself [...] it was the complementary skills [...] I could see us collaborating on a particular subject. There are skills that would be very complimentary, and we could create a new product or service if we wanted to. And I always wanted to do something of my own” (Alpha_Transcript, Pos. 7)
	“we were getting some good feedback about the technology [...] we were applying for some acceleration programs that help us to dedicate more time to the project” (Bravo_Transcript, Pos. 3)
	“When you come from a different life when you come from a different place, it makes a little bit easier to, to think about outside of the box” (Bravo_Transcript, Pos. 21)
	“From the scholarships in the universities all the way to the support that you get as a young start-up here. So those are huge opportunities.” (Charlie_Transcript, Pos. 35)
	“There are opportunities in in the way, that I realized, that cultural differences are there.” (Charlie_Transcript, Pos. 53)
Positive risk attitude/no fear of failure	“Every day's a different problem, and it never seems to end [...] It could also fail, so you need to be okay with that [...] the element of risks certainly plays a role (Transcript Case Alpha, Pos. 23)
	“being an entrepreneur is very risky. So, you need to feel very comfortable with [...] risk-taking. [...] when you [...] move away from home country and you don't speak the language, you are already in a very uncomfortable situation [...] it facilitates the mindset of an entrepreneur” (Bravo_Transcript, Pos. 21)
	“being an entrepreneur is just such a small variable inside of this huge equation [...] Doesn't matter what I do in Germany. It's not comparable to what I would have experienced in Russia. [...] you can go bankrupt. But you paid your social security, so nothing can happen [...] it makes me more risk friendly [...] it's just a bit uncomfortable, but that's not a risk [...] good stress” (Charlie_Transcript, Pos. 33)
	“I tried to do a lot of stuff, different things so out of these different things I expect that most of them will fail. But one will make it up for the rest of the effort and time and money, so I'm playing the statistical manner, this start-up game.” (Delta_Transcript, Pos. 3)
	“I learned not to fear failure.” (Delta_Transcript, Pos. 29)
Self-efficacy	“The risk is one of the factors that could be a big game changer [...] only if you want to take the risk or not play a safe game and want to attempt something new in life and dream big, and you can see the good in whatever is happening [...] We have choices.” (Echo_Transcript, Pos. 19)
Self-efficacy	“not only are you going to fail, but you're going to be in a space keeps you going [...] It takes that you wouldn't do it if you don't have that confidence or self-efficacy [...] self-efficacy might play a bigger role than confidence” (Alpha_Transcript, Pos. 41)
Proactiveness	“from time to time manage other aspects, if you are in a start-up because it's not like you have people for everything Transcript Case Alpha, Pos. 23
	“handling multi-disciplinary work [...] you need to cultivate that mindset” (Alpha_Transcript, Pos. 25)
	“Yes, especially in a start-up [...] proactiveness is definitely very important [...] I realised being a proactive person will also motivate others” (Echo_Transcript, Pos. 43)
Confidence and self-assertiveness	“even as founders, you're always learning from each other [...] as a leader you need to show some protectiveness and motivate your team” (Echo_Transcript, Pos. 45)
	“learning by doing [...] confidence was fostered over time and over several tries. It didn't exist in the first place” (Alpha_Transcript, Pos. 35)
	“you must have confidence to start [...] two types of confidence [...] confidence of making the enterprise run [...] governance of the tasks, if you break it down to macro tasks” (Alpha_Transcript, Pos. 37)
	“you have to be assertive. You have to be sure that your product is innovative. And sometimes, it's like ‘fake it till you make it’. [...] good thing that we are faking so much because it lets us react to the customer, to the customer requirements, in a much more flexible fashion.” (Charlie_Transcript, Pos. 47)
Confidence and self-assertiveness	“if I don't trust, if you're walking on a thin line above the ground, and you look too many times down and you think ‘Can I do this?’ You'll fall.” (Delta_Transcript, Pos. 53)
	“even confidently say that I tried and I failed [...] ask for help, and then improve yourself in the journey [...] approaching others” (Echo_Transcript, Pos. 41)

In addition to the previous subcategories, the interviewees revealed four other themes of psychological antecedents that can be considered relevant, namely *entrepreneurial drive* and *iterative mindset*, as well as *self-reflection* and *empathy*, see Table 8. The first element is built on the inner *entrepreneurial drive* that entrepreneurs express as a strong desire to pursue their entrepreneurial aspirations and that is linked to a feeling of satisfaction. The second element is the development of an *iterative mindset*, that innovative entrepreneurs need to foster. To further elaborate, interviewees Alpha, Bravo and Charlie state that entrepreneurs have to adopt an iterative way of thinking and working, as start-ups have to “get the job done” with a limited number of resources. As pointed out by interviewees Charlie and Delta, the element of *self-reflection* also plays a vital role in entrepreneurship. Interviewee Charlie explains that self-reflection can be a positive and negative aspect of entrepreneurship. As he has to ensure that his start-up performs at its best, reflecting upon and questioning his decisions and actions is important. However, Charlie recognizes that it is straining and difficult to find a balance between questioning his actions enough and too much. Lastly, interviewee Echo highlights *empathy* as a crucial antecedent to entrepreneurship. As a “leader”, she wants to ensure that all her employees feel “valued” and fulfilled by their work.

**Table 8.** Selected extraction for the element of psychological antecedents: Additional findings

Sub-category	Quotes
Entrepreneurial drive	“You have to have the drive to create something of your own [...] the spirit, it is the essence of it” (Alpha_Transcript, Pos. 47)
	“[entrepreneurship] is more fulfilling [...] motivation and with productivity” (Charlie_Transcript, Pos. 31)
	“It's basically the personality.” (Echo_Transcript, Pos. 15)
	“want to attempt something new in life and dream big” (Echo_Transcript, Pos. 19) “satisfaction” (Echo_Transcript, Pos. 21)
Iterative mindset	“if things don't work the conventional way [...] you have to find some way to make it work [...] ease or flow between being super specific about work [...] at the same time you have to look at things from a general point of view” (Alpha_Transcript, Pos. 27)
	“practicality and getting things done. [...] it's not about bringing the perfect combination of things for right now, hundred per cent all the story, but more as something that is good enough to get the method through” (Bravo_Transcript, Pos. 27)
	“it is about scarcity. It is about time, money [...] that creates the solution that needs to happen, because it is needed, not necessarily because you want to push it” (Bravo_Transcript, Pos. 35)
	“You're always changing the engine during the mid-flights. [...] you're always in this unmade, unfinished phase [...] you have to be okay with that [...] you have to admit that it has to be perfect but not today [...] this iterative process [...] you have to establish from the beginning. Nobody teaches you how to do it.” (Charlie_Transcript, Pos. 49)
Self-reflection	“you cannot make strategic decisions with so much self-doubt. [...] I doubt myself [...] it's a positive thing. You have to embrace that. [...] it's a hell of a strain on your self-assessment, because [...] you have to act the part, that you understand what you're doing. And on the other end, it's really hard” (Charlie_Transcript, Pos. 47)
	“to realize how actually limited your resources are. And you cannot do that without self-reflection [...] know how much productivity you can actually achieve” (Charlie_Transcript, Pos. 49)
	“if you can put it out, it's okay. If not [...] a lot of the time saying no, it's better than saying yes and not doing the job properly” (Delta_Transcript, Pos. 51)
Empathy	“I want to show as a leader, that you can be empathetic and equally strong.” (Echo_Transcript, Pos. 35) “I want every employee in the company to be valued and have a personal relationship, because this is a start-up [...] connection with each one of them [...] helping each other in developing personally, and growing as a company together” (Echo_Transcript, Pos. 37)

## Resource-based Antecedents of Innovative Migrant Entrepreneurs

Resource based antecedents include *human, social and financial capital*. During the interviews, all five interviewees acknowledged the impact of all three capitals that facilitated the entrance into and maintenance of innovative entrepreneurship.

The first component, namely **human capital**, includes *education, working experience*, as well as *skills and capabilities*. An overview of the case interviewees' human capital in terms of the level of education and professional experience is summarized in Table 9.

**Table 9.** Overview of case interviewees' human capital: Education and professional experience

Case interviewee	Education	Professional experience	Interview Sources
Alpha	Master's degree	~1.5 years	Alpha Transcript, Pos. 43
Bravo	Master's degree	~ 9 years	Bravo Transcript, Pos. 29, 31
Charlie	PhD	>10 years	Charlie Transcript, Pos. 9
Delta	PhD	> 10 years	Delta Transcript, Pos. 59, 61
Echo	Master's degree	~ 5 years	Echo Transcript, Pos. 9

All interviewees acknowledge the relevance of human capital as an antecedent of innovative migrant entrepreneurs to some extent, see Table 10. While *education* is recognized to have some positive impact on the interviewees' decision to establish and manage an innovative venture, most interviewees recognise a stronger and more important impact of *working experience*. Especially interviewee Delta emphasises associating the obtainment of higher education only with the fulfilment of a formal requirement to show one's competencies. And an elevated status. All other interviewees see some value in their obtainment of education for their entrepreneurial endeavours, even if Alpha does not consider it a "prerequisite". Furthermore, good *people management* and proper *teamwork* were highlighted as relevant competencies of entrepreneurs.

**Table 10.** Selected extraction for the element of resource-based antecedents: Human capital

Sub-category		Quotes
Human capital	Education	"For me education helped a lot. But I don't think it's a prerequisite to entrepreneurship [...]" (Alpha Transcript, Pos. 43)
		"[educational institution] teaches you how to be good at a particular skill [...] you socialize, you develop some soft skills, you develop people's skills" (Alpha Transcript, Pos. 45)
		"I think the most important thing for me, for my education was that I didn't have the tools in my mind [... it really influenced me how I was approaching this new chapter" (Bravo Transcript, Pos. 33)
		huge impact on my life [...] not so much [the] intellectual part but [...] this status and, durability and perseverance [...] trust [...] education plays a role, but [...] it's a never a direct application of [knowledge] [...] use your like intellectual level or your perseverance or your connections to solve the problem (Charlie Transcript, Pos. 57)
		"you have to do it. Just because you need this diploma to show that you're competent in this field" (Delta Transcript, Pos. 69)
		"Germany, they all fall for the PhD" (Delta Transcript, Pos. 73)
		"the journey of my master's [...] helped me or made me a better engineer. I can handle the responsibilities that are given to me right now" (Echo Transcript, Pos. 51)
		"Education was helping me, but it was [...] more theoretical" (Echo Transcript, Pos. 61)



Sub-category		Quotes
Human capital	Working experience	“I don't have any job experience.” (Alpha_Transcript, Pos. 47)
		“it plays less of a role than people think it does, education as well as job experience” (Alpha_Transcript, Pos. 49)
		“it's more about the experience [than education]” (Bravo_Transcript, Pos. 35)
		“my work was a lot about solving new situations, creating new products and trying to put a lot of data around those decisions [...] it came from a deep understanding of approaching new and strange things” (Bravo_Transcript, Pos. 35)
		“I think you should at least have some, some level of professional experience and education also. So, both are important.” (Charlie_Transcript, Pos. 59)
		“So, the professional experience plays a huge role. [...] understand how culturally business works here is a huge benefit” (Charlie_Transcript, Pos. 59)
		“I think working experience is more important than education” (Delta_Transcript, Pos. 65)
		“Work experience [...] had a bigger impact because it was more practical [...] I would say work experience rather than education” (Echo_Transcript, Pos. 61)
	Skills, knowledge, capabilities	“[...] dealing with people so I think that's the biggest prerequisite” (Alpha_Transcript, Pos. 45)
		“90 per cent of the time, I'm not working on the product. I'm not working on the business. I'm working on the people, that are in my company.” (Charlie_Transcript, Pos. 65)
“This is a really important lesson to learn [...] be a team player” (Echo_Transcript, Pos. 57)		

The role of **social capital** for the entrance and management of entrepreneurship was unanimously considered to be crucial by all interviewees, see Table 11. To further elaborate, interviewees Alpha, Bravo and Echo particularly highlight the support provided by accelerator programs at the early stage of setting up and operating the start-up, in terms of access to an *extended business network*, *professional counselling* and *training* by personal mentors and experts. Additionally, interviewees Alpha and Echo point out that accelerator programs also assist young start-ups with the provision of *physical assets*, such as office space. Besides business contacts, professional advisory, as well as physical assets, interviewees Bravo, Charlie, Delta and Echo also underline the vital role of *mental support* and *advisory* provided by family and friends, as well as a professional therapist. Social capital in the form of *financial support* is described in Table 12.

**Table 11.** Selected extraction for the element of resource-based antecedents: Social capital

Sub-category		Quotes
Social capital	Business contacts	“accelerator program [...] does put us in touch with the right people [...] the network provided us access to people or opinions that we might need” (Alpha_Transcript, Pos. 57)
		“we get a lot of interesting contact with investors” (Bravo_Transcript, Pos. 37)
		“[acceleration program] helped us expand, making networks” (Bravo_Transcript, Pos. 39)
		“the network that they're providing and also the events that they do, where you can [...] discuss with other start-ups” (Echo_Transcript, Pos. 81)
	Professional advice, trainings, information	“accelerator program [...] several other workshops [...] had several mentors [...] grooming us, creating like a more resilient pitch deck Transcript Case Alpha, Pos. 57)
		“Sometimes answers to concrete questions about resources, or how to deal with finances” (Bravo_Transcript, Pos. 37)
		“[acceleration program] helped us just thinking about the idea [...] some mentors [...] help us to communicate [and] to connect with that association, with that industry” (Bravo_Transcript, Pos. 39)

Sub-category		Quotes
Social capital	Professional advice, trainings	“there are lots of good questions that [Charlie] discussed with mentors [...] all sorts of professional questions that have to do with people” (Charlie_Transcript, Pos. 65)
		“we had the opportunity to collaborate with many other professors in the university, to discuss things, to learn more from them” (Echo_Transcript, Pos. 81)
		“consultants helped us” (Echo_Transcript, Pos. 81)
	Emotional support	“it’s more about the support [...] just the emotional support from having someone [...] rugby team [...] group, where you can meet, where you can ask about how to understand these new things” (Bravo_Transcript, Pos. 37)
		“every entrepreneur should have regular therapy sessions with a psychiatrist. I definitely do. I really like to talk about business, because it's so much self-doubt [...] it's a strain on your self-assessment” (Charlie_Transcript, Pos. 47)
		“meeting face to face in persons and creating business relationships [...] exchanging ideas and topics” (Delta_Transcript, Pos. 37)
		“[Delta and his wife] consult [...] for most of the things” (Delta_Transcript, Pos. 81)
Financial support	“emotional support is always there from my family and friends” (Echo_Transcript, Pos. 63)	
	See Table 12.	
Physical assets	“there's infrastructure for everything [...] work in this coworking spaces” (Alpha_Transcript, Pos. 81)	
	“in the building, it is not just me sitting, but many other start-ups” (Echo_Transcript, Pos. 81)	

Furthermore, all interviewees agree on the significance of **financial capital** to start and maintain a business, see Table 12. At an early stage of the start-up, most interviewees, including Alpha, Bravo, Charlie and Echo financed their start-up through financial support in the form of *grants* and *scholarship funds* from accelerator programs and other government programs. Some interviewees needed to raise additional *equity* through a part-time job, such as interviewee Alpha or through family, such as interviewee Echo. Being at a more advanced stage of the start-up, start-up Alpha and Charlie receive *financial capital from investors*, while start-up Bravo will raise their *first equity round* soon.

**Table 12.** Selected extraction for the element of resource-based antecedents: Financial capital

Sub-category		Quotes
Financial capital	Role of financial capital	“Nothing happens without money [...] money definitely plays a really big role” (Alpha_Transcript, Pos. 63)
		“really important [...] having the materials [...] financials play a huge part” (Bravo_Transcript, Pos. 41)
		“you have to raise less money [...] you have to play a lot free money of accelerators or incubators or some start-up programs” (Charlie_Transcript, Pos. 37)
		“one of the most important roles [is] the money” (Delta_Transcript, Pos. 83)
		“A very very important role. Without money [...] it wouldn't work. Capital is important and you need it for business to go on” (Echo_Transcript, Pos. 69)
	Equity	“did bootstrap for a while [...] we had to look for part time jobs” (Alpha_Transcript, Pos. 65)
		“now we are raising our first equity round of funding” (Bravo_Transcript, Pos. 3)
		“I use my own money” (Delta_Transcript, Pos. 85)
		“I did have financial support from my family” (Echo_Transcript, Pos. 65)
		“sometimes more money is needed, and then it is coming from our pocket” (Echo_Transcript, Pos. 67)

Sub-category		Quotes
Financial capital	Debt/loan	“funded by investors und [name of bank]” (Alpha_Transcript, Pos. 57)
		“he's still my mentor and the investor in [start-up Alpha]” (Charlie_Transcript, Pos. 61)
		“sometimes if it's something that we have to put together, I use investor money” (Delta_Transcript, Pos. 85)
	Grants, scholarship funds	“an accelerator program [...] funded us” (Alpha_Transcript, Pos. 57)
		“we had a lot of grants” (Bravo_Transcript, Pos. 3)
		“get money from the government to start your own company [...] many scholarships that are called accelerators, incubators [...] we're applying for all the necessary accelerators and all the government money [...] most of this money's free” (Charlie_Transcript, Pos. 35)
		“we received a government grant” (Echo_Transcript, Pos. 67)

### 4.3.2. Institutional Antecedents of Innovative Migrant Entrepreneurs on a Macro Level

Based on the model, institutional antecedents on a macro level are captured by the economic freedom and stability of the migrant entrepreneur’s host country.

According to Table 13, the role of economic freedom and stability itself, as well as of all four elements thereof, namely *rule of law*, *government size*, *regulatory efficiency* and *market openness* are recognised by all interviewees. Generally, Germany’s stability and reputation played a considerable role in the interviewees’ decision to establish a venture. Regarding *rule of law*, interviewees Charlie and Delta recognize the German regulatory system in terms of the proper enforcement of the *right of ownership*, *property rights* and *intellectual property rights* to be highly relevant as innovative entrepreneurs. As part of *government size*, all interviewees praise the *access to and support of German government institutions* in the form of social and financial capital. As for *regulatory efficiency*, different aspects of *business freedom*, *labour freedom* and *money freedom* are mentioned. For more information on *market openness* concerning *financial freedom* and *investment freedom*, see Table 12.

**Table 13.** Selected extraction for the element of antecedents on the macro level

Sub-category	Quotes
General	“if it’s a strong economy, it’s good enough [...] any developing country would work (Alpha_Transcript, Pos. 79)
	“you can’t control the nation’s economic stability” (Alpha_Transcript, Pos. 79)
	“stability is one factor” (Delta_Transcript, Pos. 115)
	“credibility of a GmbH versus the credibility of a company from Eastern Europe [...] eyes of the partners [...] image of Germany being serious and stable [...] marketing perception” (Delta_Transcript, Pos. 115)
	“I think a patent in Germany again is an image thing.” (Delta_Transcript, Pos. 115)
Rule of Law	“Germany is a land where economic equality is somehow playing a role [...] everybody is treated equally” (Echo_Transcript, Pos. 85)
	“Germany, it is a land of opportunities, especially in technology related [matters]” (Echo_Transcript, Pos. 79)
	“if you compare Russia and Germany [...] right of ownership [...] property rights. It’s totally non-existent in Russia. [...] a huge win in Germany. If you have some property, it's yours. If you have company, it is yours.” (Charlie_Transcript, Pos. 45)
	“continental law system is a much more attractive [...] English law system in Germany [...] cases are settled before the actual court date [...] huge benefits, not to waste time and money” (Charlie_Transcript, Pos. 45)
	[intellectual property rights] is one factor” (Delta_Transcript, Pos. 115)

Sub-category	Quotes
Government size	“there's infrastructure for everything [...] if you're stuck somewhere there are bodies that can help you out” (Alpha_Transcript, Pos. 81)
	“there are many institutions to help us connect and to extend to new programs and new frameworks and new directions” (Bravo_Transcript, Pos. 47)
	“in Germany [...] there are so many, scholarships that are called accelerators, incubators, [...] this is a huge opportunity in comparison to the states [...] government really supports [entrepreneurship]” (Charlie_Transcript, Pos. 35)
	“government really helps you [...] many institutional instruments [...] government program, they have funding grants and it's a pity not to start something here and not benefit from that.” (Delta_Transcript, Pos. 113)
	“public services at the hospitals is good” (Delta_Transcript, Pos. 125)
	“I started, because I knew the support that you would get from the government for entrepreneurship [...] in Germany. [...] if it was back in India, I don't think I would do that, because the support is not so strong.” (Echo_Transcript, Pos. 79)
Regulatory efficiency	“inflation [...] now might not be the time for somebody to start a business and if they do, it's risky” (Alpha_Transcript, Pos. 79)
	“I couldn't believe how easy it is. There's a list of things you have to collect, and then you go to a notary and then you have a company. [...] and that was so easy to form a company. (Charlie_Transcript, Pos. 34)
	“COVID short-time work” (Delta_Transcript, Pos. 113)
Market openness	For financial and investment freedom, see Table 12.

#### 4.4. Validation of the Conceptual Model for Antecedents of Innovative Migrant Entrepreneurs

In the following, the validity of all elements of the proposed conceptual model will be assessed based on the research findings of the qualitative analysis.

Based on the literature research, the conceptual model for antecedents of innovative migrant entrepreneurs includes **demographic, psychological and resource-based antecedents** on a micro level and **economic freedom and stability** on the macro level.

Accordingly, proposed **demographic antecedents** of innovative entrepreneurship, include *gender, age, marital status, children, length of stay in the host country, country/region of origin* and *entrepreneurial family*. As demographic profiles vary across interviewees, it was not possible to determine the impact of all proposed demographic antecedents by all interviewees, such as the impact of children. While there are demographic factors whose impact is directly mentioned or detectable, such as the impact of growing up in an *entrepreneurial family* on Alpha and Bravo, *children* on Delta, *marital status*, that provided support to Bravo and Delta, and *gender* on Echo, there are also some factors whose impact is not directly mentioned or detectable, such as *age* and the *length of stay in the home country*. In this regard, interviewees Bravo, Charlie, Delta and Echo all emphasise the importance of having collected sufficient human capital in the form of years of education and working experience before entering entrepreneurship. Specifically, Charlie points out to have taken the opportunity to work at a German company for several years not only to understand the operation within a company but also to understand the German culture within. Based on this information, an indirect impact of both, *age* and *length of stay in the host country* is likely. Furthermore, it cannot be

clearly approved or rejected that entrepreneurial aspiration differentiates by *country/region of origin*. Only interviewee Alpha confirms the impact of his social surroundings in India to have encouraged his entrepreneurial undertakings. Therefore, the relevance of these elements is provisionally assumed.

The relevance of all elements of proposed **psychological antecedents**, including *alertness to opportunities*, *a positive risk attitude*, *self-efficacy*, *proactiveness* and *confidence* was confirmed by all case interviewees. Especially the significance of both elements, namely *alertness to opportunities* and *a positive risk attitude* was highlighted. Besides the proposed and accepted psychological antecedents from literature findings, some case interviewees suggested the addition of four other elements of psychological antecedents, that seem highly relevant for the entrance and management of innovative entrepreneurship. These additional elements of psychological antecedents include the possession of an *entrepreneurial drive* and adoption of an *iterative mindset*, as well as the demonstration of *self-reflection* and *empathy*.

According to the first additional element mentioned by interviewees Alpha, Charlie and Echo, namely *entrepreneurial drive*, entrepreneurs should have and express a strong intrinsic motivation to pursue their entrepreneurial aspirations. The second addition to psychological antecedents is the adoption of an *iterative mindset* as an entrepreneur, which was suggested by interviewees Alpha, Bravo and Charlie. To further explain, innovative entrepreneurs should establish an iterative way of thinking and working when approaching the creation of new inventions. Thereby, entrepreneurs should aim at gradual improvements and refinements during the creation of a new product or process, instead of attempting the mastery of such at once. That is of utmost importance due to the underlying principle and nature of a start-up and the limited resources that are linked to it. The third element to be added to the conceptual model includes *self-reflection*, which is vital for steering a company according to interviewees Charlie and Delta. It allows an entrepreneur to question, re-assess and learn from his or her decisions and actions. Interviewee Echo advocates *empathy* as the last element to add to the conceptual model as it is considered to be particularly relevant for successful people management as an entrepreneur and leader.

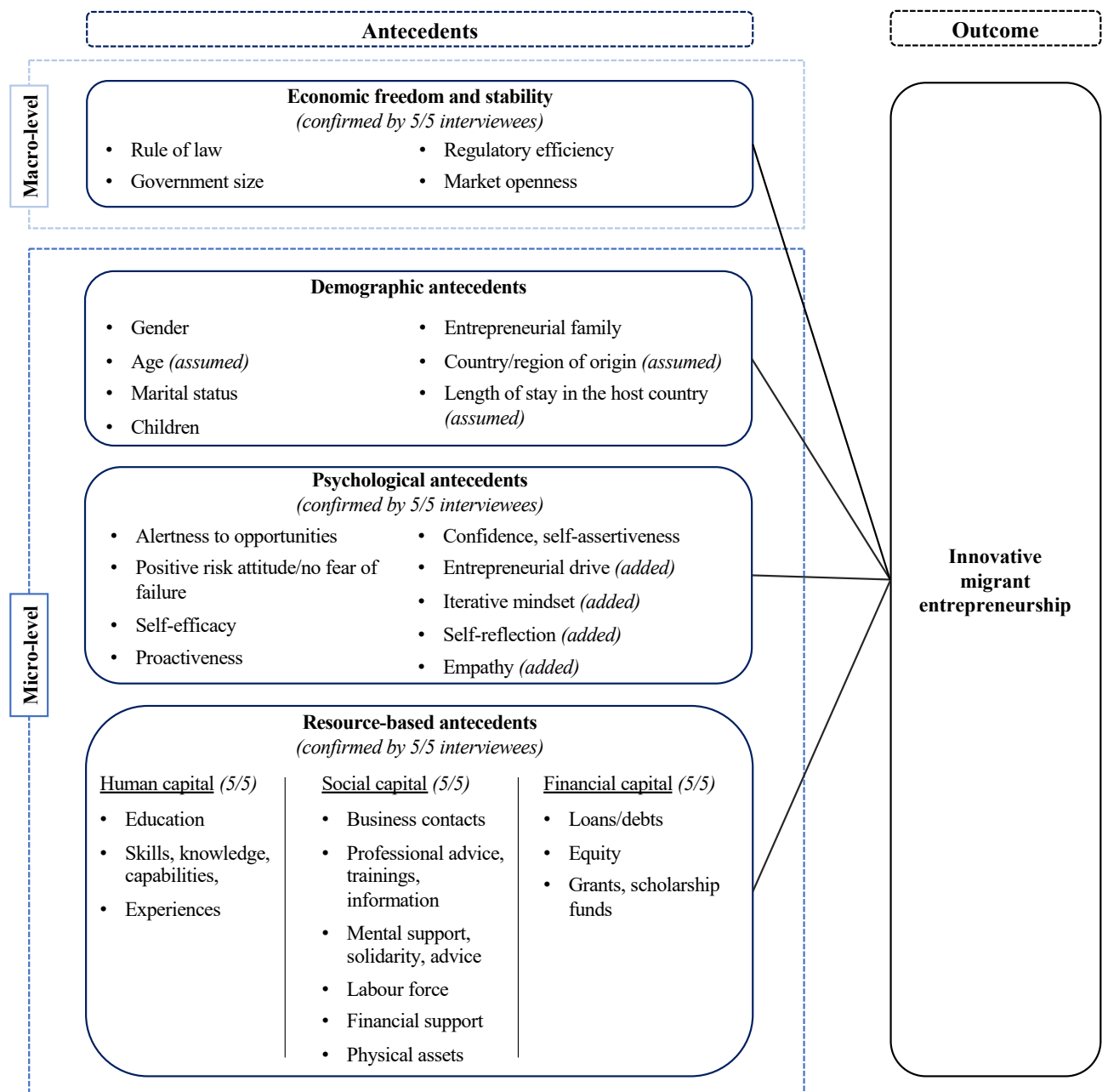
Looking at the first element of **resources-based antecedents**, namely **human capital**, its importance for the establishment of an innovative venture was recognised by all interviewees. Especially the importance of working experience and skills was underlined. Regarding **social capital**, the importance of such for migrants' entrepreneurial endeavours was confirmed by all interviewees. Particularly the significance of *professional advisory* and *business contacts* was highlighted by several interviewees. With respect to **financial capital**, its availability and accessibility often in the form of *grants* for any entrepreneurial undertaking were confirmed to be crucial by all interviewees.

On a macro level, the relevance of **economic freedom and stability**, that create a fundamental framework for any entrepreneurial activity was acknowledged by all interviewees. Some aspects, such as secure *property rights* and *right of ownership* as part of **rule of law** were emphasised by interviewees Charlie and Delta to be of particular relevance for entrepreneurship. **Government size**, specifically *government spending* on entrepreneurship supporting programs, such as accelerators was declared a decisive antecedent to innovative entrepreneurship on the macro level by all interviewees. Moreover, **regulatory efficiency** in terms of *business freedom* for the official establishment of a company and *labour freedom* for the option of short-time work during COVID-19, as well as *monetary freedom* for governments' regulation of inflation were all briefly mentioned to be significant factors for entrepreneurship. Lastly, **market openness** with particular emphasis on

*investment freedom* and *financial freedom* was acknowledged by all interviewees to be important for financing the respective start-ups.

The revised and validated conceptual model for antecedents of innovative migrant entrepreneurs is depicted in Fig. 5. The text included in italics informs about the status of the element and the number of interviewees confirming the relevance of this component of the conceptual model.

**Concluding**, all elements of the conceptual model are deemed relevant for the decision of migrants to enter and maintain innovative entrepreneurship. Relevant elements include demographic antecedents, psychological antecedents and resource-based antecedents, including human capital, social capital and financial capital on a micro level. Four additional elements of psychological antecedents were added to the model and include entrepreneurial drive and iterative mindset, as well as self-reflection and empathy. On a macro level, the relevance of economic freedom and stability is acknowledged to be important, too.



**Fig. 5.** Revised and validated conceptual model for antecedents of innovative migrant entrepreneurs

## 4.5. Discussion

According to the project aim of revealing relevant antecedents that foster migrant entrepreneurs to conduct innovation, certain findings based on the empirical and literature findings can be summarised.

### 4.5.1. Summary of Findings

Consistent with previous studies, this final degree project demonstrates that certain **demographic, psychological** and **resource-based factors** on the micro level and certain **institutional factors** on the macro level impact migrants' decision to enter innovative entrepreneurship. The availability or fulfilment of certain factors, namely antecedents may positively impact migrants' entry into innovative entrepreneurship.

Focusing on antecedents on a micro level, the empirical findings support the literature findings on the impact of certain **demographic antecedents**.

To further elaborate, the empirical findings on the impact of *gender* and an *entrepreneurial family* are in line with the literature findings. Both support the finding that men tend to enter entrepreneurship more often than women (Brixy et al., 2013; Constant and Zimmermann, 2006; Mestres, 2010) and children of entrepreneurial families tend to pursue entrepreneurship more frequently, too (Blanchflower and Oswald, 2007; Brixy et al., 2013; Dheer, 2018). Furthermore, the assumption of the empirical findings on *country/region of origin* is also consistent with literature findings. Both agree that the tendency to engage in entrepreneurial activities varies across countries/regions of origin.

However, literature findings on the impact of *age* are inconclusive, which is also reflected in the empirical findings. Based on individuals' usual stages of life, Bönnte et al. (2007) conclude that successful innovative entrepreneurs most likely belong to adolescent and late-second-career entrepreneurs. Accordingly, adolescent entrepreneurs are often recent university graduates with limited working experience that are eager to start a company with their fresh university knowledge in mind. This can be confirmed by the findings of interviewee Alpha. However, other interviewees belong to the age group of early-second-career entrepreneurs, who have collected working experience through a previous job prior to entering entrepreneurship and are in the process of establishing a family and building a financial safety cushion. However, interviewees Bravo, Charlie, Delta and Echo did stress the importance of sufficient human capital, expressed in years of education and working experience before entering entrepreneurship. Nevertheless, this empirical finding is not consistent with the literature findings.

Linking the empirical findings of *age* to the *length of stay in the host country*, Baycan-Levent and Nijkamp (2009), Dheer (2018) and Mestres (2010) state, that migrants usually require a period of time, usually ten to 20 years to get familiar with the business environment of the host country and gather all necessary resources, before establishing a business. Consequently, migrant entrepreneurs tend to be older. However, this finding can only be confirmed for interviewee Charlie, who has lived in Germany for 15 years. Especially Charlie stresses the importance of sufficient human capital, expressed in years of education and working experience he gathered in the host country before entering entrepreneurship. Other interviewees, including Bravo, Delta and Echo do not fulfil the described condition to this extent, as they all have stayed less than ten years in the host country. Therefore, findings on the *age* and the *length of stay in the host country* remain inconclusive, though an indirect impact on migrants' decision to enter innovative entrepreneurship is assumed. Further research is needed, as noted in chapter 4.5.2.

Regarding **psychological antecedents**, interviewees confirm the relevance of *alertness to opportunities*, *a positive risk attitude*, *self-efficacy*, *proactiveness* and *confidence* for the entrance to innovative migrant entrepreneurship, with special emphasis on the first two traits. This is consistent with literature findings on antecedents of innovative entrepreneurs (Boudreaux et al., 2019; Middermann, 2020) and antecedents of migrant entrepreneurs (Hart and Acs, 2011; Poblete and Mandakovic, 2021; Vandor and Franke, 2016). Resulting from the empirical study, there are four additional psychological antecedents that are important to consider and were not addressed in the author's scope of literature reviews. These include *entrepreneurial drive* and *iterative mindset* as well as *self-reflection* and *empathy*. The possession of an *entrepreneurial drive* suggests the importance of intrinsic motivation to pursue entrepreneurship, while the adoption of an *iterative mindset* addresses the vitality of working and thinking in an iterative way with limited resources in mind. Furthermore, the practice of *self-reflection* allows entrepreneurs to question and learn from their decisions and actions, which is crucial for the success of their ventures. The last addition, namely *empathy* is highlighted to ensure successful people management as a leader.

According to literature findings, resource-based antecedents are comprised of **human capital**, **social capital** and **financial capital** (Dheer, 2018).

Results from the qualitative study support the importance of **human capital** for a successful entry into innovative entrepreneurship. While the importance of a high level of *education* is strongly emphasised in the literature (Hunt, 2010; Koellinger, 2008), interviewees from the empirical study value *working experience* or selective *skills* and *capabilities* significantly more. Furthermore, the relevance of access to and usage of **social capital** in the form of *business contacts*, *professional advisory* and *mental support* is deemed particularly high in the empirical research, that is supported by previous literature findings (Bandera and Thomas, 2017; Rametse et al., 2018; Xie and Lv, 2016). Lastly, the significance of accessible and available **financial resources** is highly stressed in the qualitative study and is in line with the findings from the literature research (Blanchflower and Oswald, 2007; Block et al., 2016; Dheer, 2018).

On a macro level, the empirical study reveals the importance of **economic freedom and stability** in general and specific elements thereof that build the framework for any economic activity and act as antecedents to innovative migrant entrepreneurship. To further precise, the enforcement of *property rights* of **rule of law**, as well as *government spending* in the form of accelerator programs of **government size** are particularly accentuated by two interviewees. Furthermore, different subcategories of **regulatory efficiency**, such as *business freedom* in the context of ease of company registrations, are noted to have facilitated the process of entering entrepreneurship. The necessity of **market openness** regarding *financial freedom* and *investment freedom* is recognized to finance one's company through investors, banks and other institutions or individuals. Referencing previous literature findings (Acemoglu et al., 2005; Boudreaux et al., 2019; McMullen et al., 2008; Miller et al., 2022), the findings of the empirical research are consistent with each other.

**Concluding**, empirical findings on proposed psychological and resources-based antecedents on a micro level and empirical findings on institutional antecedents are fully consistent with the established literature findings on the topic. The addition of four psychological antecedents needs to be substantiated and researched in literature. Furthermore, it is interesting to note that psychological and resource-based antecedents on a micro level and institutional antecedents in terms of economic freedom and stability on a macro level do not vary across ethnicities and countries of origin. Only certain empirical findings on demographic antecedents, such as gender are supported by substantiated



literature studies. Some factors of empirical findings on demographic antecedents remain assumed, such as age, as reflected in the inconsistencies of literature findings.

#### **4.5.2. Limitations and Prospects for Future Research**

Studies and academic research on migrant entrepreneurship, especially in the context of innovation are still at an early stage and the range of advanced research remains limited. Though acknowledging this, it still needs to be taken into consideration that only a small fraction of currently available research was reviewed within the scope of this project. While the primary research focus lies on antecedents of innovative migrant entrepreneurs on a micro level, antecedents on a macro level were not fully elaborated and explored. Therefore, the overall findings on the topic of antecedents of innovative migrant entrepreneurs should be considered of limited significance and hence consumed with caution. Furthermore, it needs to be emphasised that the topic addressed by this project is under the constant influence of the volatile and globalised world, hence new trends and changes need to be closely observed. It is also important to acknowledge the nature of theoretical models, as the proposed conceptual model is solely a highly generalised and simplified representation of the enormously complex context of reality.

Additionally, limitations with respect to the methodology can be detected. Firstly, the low number of sample cases in combination with a high diversity of sample population is not favourable for this analysis. In total, five interviews were conducted, which does not fulfil the principle of saturation, as further relevant information could have been extracted from additional interviews. Moreover, the high diversity within the sample population makes the generalisation of findings problematic. Both issues were especially noticeable for the determination of demographic antecedents, such as age. This may represent an opportunity for future research. Therefore, a higher number of case interviewees of the same demographic parameter, such as country of origin would be recommended for future studies. The study and findings presented in this project should therefore rather represent an initial indication, which can also be further validated by potential quantitative studies in the future. Secondly, interviews for the qualitative analysis were conducted in English, which is neither the mother tongue of any interviewee nor the interviewer. This can lead to expression difficulties and misinterpretations, which need to be taken into consideration. Thirdly, all case start-ups were established shortly before or during the outbreak of COVID-19, which represent extraordinary circumstances. The effect of such on the addressed topic needs to be analysed and evaluated.

Based on the previous chapter 4.5.1. and the limitations mentioned above., there are still aspects within migrant entrepreneurship that are unexplored, underdeveloped or inconsistent, hence additional research is recommended and necessary. Besides research on demographic antecedents as mentioned before, psychological antecedents, including entrepreneurial drive, iterative mindset, self-reflection and empathy might also be an area of interest. It is also of utmost importance to further investigate the process of opportunity recognition by innovative entrepreneurs, specifically to enhance innovative entrepreneurship as opposed to imitative one. On a macro level, research outside of institutional factors might also be a field to explore. On a general level, an area of further research may include female migrant entrepreneurship and migrant entrepreneurs' contribution to innovation in comparison to native entrepreneurs.

## Conclusion and Recommendation

- 1. Despite the recent surge of interest from scholars and policymakers, the literature on migrant entrepreneurship is still underdeveloped and many aspects that go beyond its core principles, such as antecedents thereof are scarcely explored and researched. Moreover, scholars' area of interest in migrant entrepreneurship was more often drawn to necessity-driven as opposed to opportunity-motivated entrepreneurship. Consequently, research on migrant entrepreneurs' degree of innovativeness in comparison to native entrepreneurs is still inconsistent. While some scholars praise migrant entrepreneurs for their highly innovative activities, others claim their innovative contribution to be at the same level as native entrepreneurs.**

Following the mass migration over the past decades, the number of migrant entrepreneurs in the host country has increased significantly, often outnumbering native entrepreneurs. This widespread phenomenon has brought significant benefits to both, the countries of origin and the host countries of migrant entrepreneurs. These benefits are reflected in increased economic development and growth, poverty reduction and an increase in welfare. This phenomenon is not only of interest to researchers but also to policymakers. To further stimulate these developments linked to the growing number of migrant entrepreneurs, policymakers have adopted various supposedly supportive policies over the years. However, these measures are often based on insufficient and poor information, leading to undesirable outcomes. Advanced knowledge gained through additional research enables policymakers to create more substantiated policies to foster migrant entrepreneurship and its benefits.

- 2. On the basis of literature research, relevant fundamental concepts and other important factors of entrepreneurship were identified. These include entrepreneurial motives of individuals, including migrants, types of entrepreneurship in terms of innovative vs. imitative entrepreneurship and challenges of migrant entrepreneurship. Analysing those concepts facilitated the identification of antecedents of migrant and innovative entrepreneurship.**

There are two types of motivational drivers for individuals who aspire to enter entrepreneurship, namely necessity-driven and opportunity-motivated entrepreneurship. The former is defined as individuals that are forced into entrepreneurship for the lack of a better option, while the latter is defined as individuals that choose to enter entrepreneurship after having discovered a profitable business opportunity and wish to exploit it. Entrepreneurship may also vary in the level and category of novelty and innovation of processes, products and services, that individuals introduce to the market. If these entrepreneurial activities encompass a high level of novelty, it is referred to as innovative entrepreneurship. Likewise, if entrepreneurial activities encompass a low level of or no novelty, it is referred to as imitative entrepreneurship. This implies that antecedents of migrants that more often pursue opportunity-driven and innovative entrepreneurship are of interest for this project. However, migrants who aspire to enter entrepreneurship in the host country may face some challenges on their way. Such challenges include difficulties with the legislative system of the host country, such as visa regulations, unfamiliarity with the host country's conduct of business and business environment, language barriers and any kind of discrimination in the host country. This is taken into consideration for the identification of antecedents on the micro and macro level.

- 3. Based on literature findings, the conceptual model for relevant antecedents of innovative migrant entrepreneurship encompasses demographic, psychological and resource-based antecedents, including human capital, social capital and financial capital on a micro level, as well as institutional antecedents in terms of economic freedom and stability on a macro level.**

Based on the literature review of innovative entrepreneurship and migrant entrepreneurship, certain factors that may contribute to migrants' entry into innovative entrepreneurship were identified and analysed. On a micro level, demographic antecedents of innovative migrant entrepreneurs encompass the gender, age, marital status, children, entrepreneurial family, country/place of origin and the length of stay in the host country. Psychological antecedents of innovative migrant entrepreneurs include alertness to opportunities, a positive risk attitude, self-efficacy, proactiveness and confidence. Resource-based antecedents can be further broken down into human capital, social capital and financial capital. Accordingly, human capital includes education, experience and skills, while social capital includes business contacts, professional advice, training, information, mental support, solidarity, advice, labour force, financial support and physical assets gained through or provided by one's social network. Financial capital includes loans/debts, equity and grants, and scholarship funds. On a macro level, economic freedom and stability can be structured according to rule of law, government size, regulatory efficiency and market openness. Overall, these factors were identified as antecedents of innovative migrant entrepreneurship and each corresponds to a component or element of the conceptual model.

- 4. The application of the case study methodology for this project is substantiated on the basis of the incorporation of literature findings on innovative entrepreneurship, migrant entrepreneurship and corresponding antecedents thereof. Based on the components and elements of the conceptual model, the case study methodology enables the evaluation of antecedents via semi-structured interviews in combination with supplementary secondary data analysis.**

The conceptual model itself is based on a literature review of innovative entrepreneurship and migrant entrepreneurship. Applying the case study methodology allowed for the appropriate evaluation of antecedents of innovative migrant entrepreneurs, as well as proper testing and building of theory. To ensure a structured and cohesive approach an interview guideline was created according to the components and elements of the conceptual model. The research context was set to migrant entrepreneurs of innovative start-ups in Germany to ensure comparability of and accessibility to interviewees.

- 5. The conceptual model was tested and validated on the basis of research findings from the comparative analysis of case interviewees on the topic of antecedents of innovative migrant entrepreneurs. Accordingly, the relevance of selective demographic antecedents, all psychological antecedents and all resource-based antecedents, including human capital, social capital and financial capital on a micro level was confirmed. The relevance of economic freedom and stability on a macro level was acknowledged. Demographic antecedents that showed inconclusive findings are age and the length of stay in the host country. Though, an indirect impact is assumed. Moreover, four elements of psychological antecedents were added to the conceptual model, namely entrepreneurial drive and iterative mindset, as well as self-reflection and empathy.**

The empirical study confirms that the components and elements of the proposed conceptual model, comprising selective demographic, psychological and resource-based antecedents, including human capital, social capital and financial capital on a micro level, as well as economic freedom and stability on the macro level, reflect and are consistent with the antecedents of the case interviewees. Therefore, these components and elements of the conceptual model can be validated.

Demographic antecedents that showed inconclusive empirical and literature findings are age and the length of stay in the host country. Though, an indirect impact is assumed. Moreover, four additional psychological antecedents were recognised to be relevant with respect to the underlying topic. These are entrepreneurial drive and iterative mindset as well as self-reflection and empathy. The possession of an entrepreneurial drive reflects the significance of intrinsic motivation to pursue entrepreneurship, while the adoption of an iterative mindset encapsulates the vitality of operating in an agile and iterative way, bearing limited resources in mind. Exercising self-reflection allows entrepreneurs to question and learn from their decisions and actions, which is essential for the successful performance of their companies. Lastly, empathy is emphasised to foster effective people management as a leader.

## **Recommendation**

This study's findings suggest that demographic, psychological and resource-based antecedents on a micro level, as well as institutional antecedents in terms of economic freedom and stability on a macro level, represent relevant determinants of migrants' decision to engage in innovative entrepreneurship. These findings contribute to the current literature gap of scarcely available literature on the underlying topic, that was identified in the previous chapters. Additionally, these research findings address the ill-fitted and ill-informed policies that are supposed to foster migrant entrepreneurship. As such, this study could provide valuable information for the creation of more substantiated policies to foster migrant entrepreneurship and its favourable effects.

Based on these implications on antecedents of innovative migrant entrepreneurs, certain recommendations can be made.

Policymakers could introduce policies that may address migrants' difficulties with the legislative system of the host country, specifically the migration process and visa regulations. In this regard, more transparency and regulatory efficiency are needed. Furthermore, increasing the availability of and accessibility to government programs, that support young start-ups and their migrant entrepreneurs would also increase the number of new migrant entrepreneurs in the host country. Specifically, assistance for the mobility of human capital in the form of language courses and other training would allow migrant entrepreneurs to integrate into the host country's society more seamlessly and allow them to get more familiar with the host country's business environment. This in return will be beneficial for the mobility of social capital and financial capital. Moreover, increasing government spending on such programs would also enable the additional provision of additional social capital, such as in the form of professional advisory provided by mentors, as well as additional financial capital, that is vital for the establishment of innovative ventures. That way, migrants' probability of facing discriminatory behaviour by financial institutions, which would hinder migrants to pursue entrepreneurship, may be avoided.

Overall, these recommendations would enable migrant entrepreneurs easier and faster access to entrepreneurship, which would also benefit the host and home country in terms of economic development and growth, as well as poverty reduction.

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## Appendices

### Appendix 1. Interview Guideline for semi-structured interviews

Indicator		Question	Literature sources	
Introduction		<ul style="list-style-type: none"> <li>Brief introduction of interviewer and summary of the thesis topic and project aim.</li> <li>Ask permission to record interviews and explain the usage of interview data. Clarify anonymity.</li> </ul>		
Company introduction		Introduction of the start-up: <ul style="list-style-type: none"> <li>Year and location</li> <li>Sector/industry</li> <li>Products and services: Can you please highlight what makes your product innovative?</li> </ul>	Koellinger (2008), OECD (2009), OECD/Eurostat (2018)	
Micro-level	Demographic antecedents	Introduction of the entrepreneur: (Gender, age, marital status, children, ethnical background, nationality, length of stay in the host country) <ul style="list-style-type: none"> <li>What demographic factors in your opinion have had an impact on your decision to start your innovative start-up? Why?</li> <li>Can you highlight the most important ones? Why?</li> </ul>	Baycan-Levent and Nijkamp (2009), Bönnte, (2007), Brixy et al. (2013), Constant and Zimmermann (2006), Dheer (2018), Lévesque and Minniti (2006), Mestres (2010), Xie and Lv (2016)	
	Psychological antecedents	<ul style="list-style-type: none"> <li>What characteristics would describe you and other migrant innovative entrepreneurs? How/why?</li> <li>What characteristics does an individual need to successfully start an innovative business? Why?</li> </ul>	Boudreaux et al., (2019), Hart and Acs (2011), Koellinger (2008), Middermann (2020), Neville et al. (2014), Poblete and Mandakovic (2021), Rametse et al. (2018), Vandor (2021)	
	Resource-based antecedents	Human	<ul style="list-style-type: none"> <li>What is your level of education? How did your level of education help you with the establishment of your start-up? Why?</li> <li>What kinds of experiences were most valuable for the establishment of your start-up? Why?</li> <li>Are there any skills or capabilities you think are important to possess when establishing an innovative start-up? Why?</li> </ul>	Koellinger (2008), Marvel and Limpkin (2007), Nazareno et al. (2019), Saxenian (2002b)
		Social	<ul style="list-style-type: none"> <li>How did your social groups or individuals (family, friends, ethnic and native communities) help you with the establishment of your start-up?</li> <li>What kinds of advantages have you gained through your social group or network?</li> <li>How would you evaluate their impact on your decision to start your business?</li> </ul>	Bandera and Thomas, (2017), Del Bosco (2021), Hart and Acs (2011), Kim and Lee (2022), Rametse et al. (2018)
Financial		<ul style="list-style-type: none"> <li>What role do financial means play in starting a business?</li> </ul>	Blanchflower and Oswald (2007), Block et al. (2016),	

			<ul style="list-style-type: none"> <li>• How did you secure financial resources to start a business?</li> </ul>	Dheer (2018), Rametse et al. (2018)
Macro-level	Economic freedom and stability		<ul style="list-style-type: none"> <li>• Where did you identify your business idea/opportunity for your start-up?</li> <li>• Did you start your business in your home country? → If yes, did you consider or worry about any governmental regulations and institutions? → If not, what factors hindered you from starting your business in your home country?</li> <li>• What were the reasons to start your business specifically in Germany?</li> <li>• What governmental regulations and institutions are important to you that impacted your decision to start an innovative business?</li> </ul>	Aidis et al. (2012), Bourdreaux et al. (2019), Estrin et al. (2013), McMullen et al. (2008), Miller et al. (2022), Naude et al. (2017)
	Outro		<p>Thank interviewee and clarify any questions. Ask permission to contact again if further clarification is necessary.</p>	