ICT Platform to Promote and Support Transnational Diaspora Entrepreneurships

Case of Senegalese Diaspora in Italy

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Degree Project: 30 HE credits
Degree Subject: Computer and Systems Sciences
Degree Level: Master
Term: Spring 2017
Supervisor: Henrik Hansson
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Abstract

There are millions of people living outside their countries of origin and every year the number increases. These migrants have potentials in developing their own country of origin by supporting co-development through financial, social and commercial activities. Information and communication technologies (ICTs) can be used to facilitate the diasporas’ activities to accelerate the co-development. In the past few decades, there has been an increase interest on this topic among the scholars. DiasporaLink is one such project, that investigates, evaluates and facilitates transnational diaspora entrepreneurship (TDE). This research paper was conducted in connection with DiasporaLink’s work package 7: ICT as a facilitator of TDE. This thesis addresses differences in countries and societies based on the accessibility of ICT resources and the context of cooperative activities. Accordingly, researchers examine the ICT tools and activities used in the context of the Senegalese diaspora living in Italy and see how these tools can be organized as an intra-corridor platform to further facilitate and promote the TDE. The study follows Strauss & Corbin's grounded theory approach. Data was collected from Senegalese diasporas in Italy, using semi-structured, in-depth individual interviews with a theoretical sampling method. The findings concluded that the most appropriate front-end tools for the intra-corridor platform between Senegal and Italy are WhatsApp, Facebook and SMS with voice command and with the use of French, Italian and Wolof languages. The findings also revealed that the back-end technology could be facilitated by software such as Joomla. However, the responsibility of financial services should be taken by an institute with a secured proprietary system, such as a bank or a money transfer service company.

Keywords
Transnational Diasporas Entrepreneurships, Information and Communication Technology, ICT, Diaspora, Senegalese, Italy, Senegal, Co-development, Cooperation
## Acknowledgements

We would like to express our sincere gratitude to our thesis supervisor Henrik Hansson who advised, assisted and guided us throughout this study. And, sincere gratitude to Interactive Management for Development Cooperation (IMDC) and EASA Consulting & Solutions for providing support and informants during this research data collection.

<table>
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<th>Background</th>
<th>Diasporas are minority groups of migrant origin, residing in host countries but maintain a strong sentimental relationship with their countries of origin (COO). They can be recognized as political and cultural bridges between the host and the COO that contribute to socio-economic development of their countries, by way of remittances, direct investments and knowledge sharing etc. These diasporic activities have the opportunity of improving further with the use of ICT tools.</th>
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<tr>
<td>Research Problem</td>
<td>Every country has a different situation in terms of needs and accessibility to technologies. A corridor between one host and COO can uniquely diverge from other corridors. For example, some countries ban certain ICT tools which restrict some activities, there are different preferences of ICTs from country to country, there are problems with ICT infrastructure and also there are computer literacy level differences.</td>
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| Research Questions | This research examines how ICTs can be combined and used to sustainably support the Transnational Diaspora Entrepreneurship (TDE) through a specific corridor, in this case the Senegalese diaspora in Italy, by answering following questions.  
1. What are the popular ICT tools and services used to promote and support intra-corridor TDE and trade?  
2. How can these ICT tools and services be intertwined in a single platform for all TDE stakeholders to use? |
<p>| Methodology | Strauss &amp; Corbin's grounded theory approach was determined as the relevant methodology for this research. The data were collected using semi-structured, in-depth individual interviews. 5 Senegalese diaspora individuals, 6 Senegalese diaspora organizations and 5 non-diaspora organizations in Italy were interviewed until the theoretical saturation point was reached and until there were sufficient data to answer the research questions. |</p>
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<th>Results</th>
<th>Four main themes and few major and minor categories emerged from the analysis of data:</th>
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<td></td>
<td>1. Tools used; WhatsApp, Facebook, SMS, smart-phones, feature phones, three main languages (French, Italian &amp; Wolof) etc.</td>
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<td></td>
<td>2. Financial services; Remittances via Western Union &amp; Ria, Microfinance loans and Insurances etc.</td>
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<td></td>
<td>3. Diaspora community services; newsletters, web sites, cultural and religious event, residency renewals and passport renewals etc.</td>
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<td>4. Networking &amp; coordination; Skills/capacity building (training &amp; mentoring), advocacy and assistance in financial difficulties etc.</td>
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| Discussion | The results from this research can be intertwined to create a model, that could develop an ICT platform to support TDE activities. The platform should consist of French, Italian and Wolof languages. However, a voice command is also an important feature here since many of them are illiterate. The front-end of the platform should consist of the familiar ICTs of the Senegalese diaspora in Italy: WhatsApp, Facebook and SMS. Where the responsibility of back-end technology of the financial services should be taken by a bank or another financial institute such as The Western Union or Ria with a secured proprietary system. Open-source content management systems such as Joomla or other accessible social media such as Facebook can be used for other services. During this research, some organizations, such as Interactive Management for Development Cooperation and EASA Consulting & Solutions, were interested in the research results to develop the ICT platform to facilitate the Senegalese TDEs in Italy. |
# Table of Contents

1. **Introduction** ............................................................................................................. 2  
   1.1 Background .................................................................................................................. 2  
   1.2 Research Problem ....................................................................................................... 3  
   1.3 Aim and Objective ...................................................................................................... 4  
   1.4 Research questions .................................................................................................... 5  
   1.5 Limitations .................................................................................................................. 5  

2. **Extended Background** ............................................................................................. 5  
   2.1 Diaspora and Relationship building ........................................................................ 6  
   2.2 Diaspora and Remittances ....................................................................................... 6  
   2.3 Diaspora as a bridge to Global Economy ................................................................... 7  
   2.4 Diaspora and New Knowledge ................................................................................ 8  
   2.5 Bottom-up Approach ............................................................................................... 8  

3. **Methodology** ............................................................................................................. 9  
   3.1 Research Strategy ...................................................................................................... 9  
      3.1.1 Chosen Research Strategy .................................................................................. 9  
      3.1.2 Alternative Research Strategy ........................................................................ 10  
   3.2 Data Collection and Sampling Method .................................................................... 10  
      3.2.1 Chosen Data Collection Method ....................................................................... 10  
      3.2.2 Alternative Data Collection Method .................................................................. 11  
   3.3 Data Analysis Method ............................................................................................... 12  
   3.4 Research Ethics ......................................................................................................... 13  
   3.5 Validity and Reliability ............................................................................................. 12  

4. **Results and Analysis** ............................................................................................... 13  
   4.1 Used and Available Tools to Facilitate TDE ......................................................... 15  
      4.1.1 Android Smartphones, WhatsApp and Facebook ........................................... 15  
      4.1.2 2G Feature Phones ......................................................................................... 15  
      4.1.3 Spoken Languages .......................................................................................... 16  
      4.1.4 Available TDE Tools but not Used ................................................................. 16  
   4.2 Financial Services ..................................................................................................... 17  
      4.2.1 Secure but Overcharged Remittances ............................................................ 17  
      4.2.2 Microfinance ................................................................................................... 18  
      4.2.3 ‘Mutuelle’ ........................................................................................................ 19  
      4.2.4 Commerce in Groups .................................................................................... 19  
   4.3 Diaspora Community Services ............................................................................... 19  
      4.3.1 News Sharing ................................................................................................. 20  
      4.3.2 Municipality Services ..................................................................................... 20  
      4.3.3 Social and Cultural Services .......................................................................... 20
4.3.4 Consular Services ........................................................................................................21
4.4 Networking and Coordination .......................................................................................22
4.4.1 Skills and Capacity Building .....................................................................................22
4.4.2 Common Needs and Feelings .....................................................................................22

5. Discussion ........................................................................................................................24
5.1 ICT Platform to Promote and Support Senegal/Italy TDEs ...........................................25
  5.1.1 The Platform Front-end Familiar Technologies ......................................................25
  5.1.2 Requested TDE Services: .......................................................................................26
  5.1.3 Secure Proprietary and Open-source Back-end Services ......................................27

6. Conclusion ..........................................................................................................................28
6.1 Future Research ..............................................................................................................30

References ...........................................................................................................................31

Appendices ............................................................................................................................34
  Appendix A: Informed Consent Letter ..............................................................................34
  Appendix B: Interview Questions - Senegalese Individuals ...........................................36
  Appendix C: Interview Questions - Senegalese Organizations .......................................38
  Appendix D: Interview Questions - Non-Senegalese Organizations ...............................40
  Appendix E: Reflections ....................................................................................................43

List of Figures
Figure 1: The interactions between Senegalese individuals, Senegalese and non-Senegalese organizations in Italy ..................................................................................................................24
Figure 2: ICT platform process for intra-corridor TDE activities between Italy and Senegal ..............................................................................................................................................25

List of Tables
Table 1: Themes, with their major and minor categories, resulted from interactions between the Senegalese diasporas in Italy ........................................................................................................13
Table 2: Senegalese TDE platform front-end process with stakeholders for each service .................................................................................................................................................26
Table 3: TDE platform services descriptions with the suggested back-end technologies ....27
Table 4: Typology of Diaspora Entrepreneurship (Elo, 2013) .............................................30

Abbreviations
COO : Country of Origin
ICT : Information and Communication Technology
TDE : Transnational Diaspora Entrepreneurship
EU : European Union
MTO : Money Transfer Operator
1. Introduction

1.1 Background

Globalization has not only allowed free mobility of capital and goods by removing national boundaries, but has also supported free movement of people across borders (Daly, 2004). These population who migrate to other countries, who maintain strong sentimental and material links with their countries of origin (COO) and have a strong desire to return back are recognized as diasporas (Sheffer, 1986, cited in Agunias & Newland, 2012). Transnationalism is another concept that is often used with the diaspora. According to Faist (2010) it is used to refer to the durable ties across borders, such as communities and also group and organizational activities that go beyond national boundaries. These are the social relationships that connect their host and the COO. Formation of diaspora occurs due to many factors, and based on these factors scholars have identified different types of diasporas: victim, labor, imperial, trade and deterritorialized diasporas (Cohen, 2009). These common migration patterns between a COO and a host county is called a migration corridor (Achtenhagen, Henoch & Luong 2015). To specify two designated locations at each end of a given migration corridor, the term intra-corridor is used. Depending on these diasporas’ motivation, they migrate for different purposes such as financial gains, emotional reasons, social-status or political reasons. Despite the motivation behind the migration, the main aim of these diaspora is to achieve a better quality of life. However, some theorists such as Grubel & Scott (1966) and Bhagwati (1970) have argued (cited in Docquier and Rapoport, 2012) that this process (especially the migration of skilled workers) could lead to brain-waste phenomenon, where they mostly work in low skilled jobs in the host country, while it costs their COO a highly skilled worker leading to brain-drain phenomenon.

With the brain-waste phenomenon, most diasporas are forced to seek alternative ways to provide necessities to their families, such as undertake business activities or entrepreneurship. Since there are various obstacles such as language barriers and labor laws, it prevents them from accessing the job market in the host country (Elo, 2016; Kaveh, 2015). These diasporas and their descendants who establish entrepreneurship linking the host and their COO are recognized as intra-corridor diaspora entrepreneurs or Transnational Diasporas Entrepreneurs (TDE) and they are often motivated in investing in their COO to contribute to economic development and also to provide opportunities to their families back home (Riddle, Hivrnak & Nielsen, 2010). These investments or the contributions varies from money remittances, foreign direct investment (FDI), technology, skills and knowledge that they make available to their COO (Wei & Balasubramanyam, 2006). In addition to these contributions, diaspora entrepreneurship also consists of activities for instance: mentoring, training and venture capital in their COO. This trend of migrants or the TDE contributing to the development of their COO is called co-development (cooperation for development).

In the past few decades, there has been an increased interest on diaspora and TDE among the scholars due to its effects on the international economy. DiasporaLink (http://www.DiasporaLink.org) is one such project. It investigates, evaluates and also facilitates TDE. DiasporaLink is a four-year exchange project among 25 universities and research
institutes in EU, USA, Africa and Asia. This thesis is a contribution to the ongoing DiasporaLink program, more specifically to its work package 7 (ICT as a facilitator of TDE).

When looking into the history of the diaspora phenomenon, it can be traced back to thousands of years. In fact, its roots can be traced back even to the Babylonian exile era in the beginning of 586 BCE. In the early days, this notion of diaspora was in close affinity of religion; longing for the lost homeland. Further in the Septuagint, diaspora was used as the technical term to interpret Jewish existence far from the ‘Promised Land’ (Vasques, 2013; Baumman, 2013). However, it is evident that with time the denotation of the term has changed. According to Frelick et al. (2016) after the second World War, many people were forced to flee from their COO and to seek refuge due to wars, conflicts, natural disasters and persecution. And today the civil war in Syria and other wars and conflicts such as Yemen, Libya, Afghanistan and Sudan leads thousands of people to seek refuge in other countries. According to UNFPA” in 2015, 244 million people, that is 3.3% of the world's population, lived outside their COO.” Further according to UNHCR (2016), by the end of 2015, the number of people who were forcibly displaced worldwide was estimated as 65.3 million. According to Frelick et al. (2016), European Union (EU) is one of the most popular destinations for these migrants, due to the economic and political stability of the countries, other than the United States and Australia.

In the EU, Italy is one of the countries that acts as a bridge between Europe and Africa due to its geographical position, as Rosa (2016) stated “an appendage of Europe jetting into the Mediterranean.” Even though according to Tandian (2010), migration is not a new activity to Senegalese and their migration activities can be traced back even to the pre-colonial era, Italy became an important destination to Senegalese diaspora after the 1990s. This migration corridor or the migration path (from Senegal to Italy), assists them to escape poverty and find employment in tourism and in other industry (Gerdes, 2007). Senegal is a developing country, situated on the western coast of Africa with a rich French colonial heritage and today, Senegalese diaspora community in Italy is the biggest among sub-Saharan African diaspora communities (Gasparatti,2011). There are many reasons for migration of Senegalese to Italy. One of the reasons is the high level of poverty which affects 46% of the population (the GDP has fallen from 7.0% in 2015 to 6.5% in 2016) (World Bank Senegal Overview Report 2017, April 20). Further, according to The World Bank Poverty & Equity report (2017) almost 38% of the Senegalese population lives below the poverty line ($1.90 a day). Another reason as identified by The Global Trends (n.d) is that “Senegal depends heavily on foreign assistance, which in 2000 represented about 32% of overall government spending”.

1.2 Research Problem

With today’s refugee crisis and with many seeking asylum in the EU, countries in the EU are having difficulties in coping with large influx of refugees and on the other hand with the huge number of other migrants that they are receiving. Further it appears that the problem might surge in the future. Mason (2015) stated that there is a huge challenge for Europe regarding refugees and they need a new set of rules on how they process; internal travel within Europe, a new social consensus about who can and can’t come, where they are going to live and work and eventually EU needs a massive economic stimulus.

With this crisis, the EU has realized that in order to solve the migrant problem, it is important to improve the conditions of migrants and their COO through cooperation and co-development.
Rutherford (2015) stated that Philippe Douste-Blazy (the UN Under-Secretary-General), has suggested a tax on financial transactions to raise funds to help alleviate the extreme poverty in developing countries, which could reduce migrants fleeing to other countries. There are even incubator services for migrants to create new businesses such as IntEnt (Riddle, Hivrnak & Nielsen, 2010), which focuses on bridging the two worlds by empowering diaspora.

These commitments from EU towards the development of the developing countries, mobilized resources to create funds and opportunities for the diasporas as they constitute an asset to develop their COO. The TDEs which combine all forms of activities such as: remittances, the most stable form of financial aid (Kapur, 2003; Stojanov & Strielkowski, 2013), direct investments, microfinance and knowledge transfer, are considered an important opportunity to enhance the co-development.

In this co-development, ICTs play an important role in the context of the TDE activities. With the expansion of ICTs in the developing countries, there are many possibilities on how diaspora can use the technology to support their COO. Mobile phones for instance, are not only used to communicate and share information but also used for money transfer and transactions between the host and COO (Kikulew et al., 2014). Social networks such as Facebook, Twitter, YouTube and Weblogs have also been used by diasporas to share knowledge and generate awareness among the people in the COO (Storck, 2011).

The problem is however that every country has a different situation in terms of needs and accessibility to technologies (Schware, 2005; Rogers, 2010). A corridor between one host and COO can uniquely diverge from other corridors. For example, some countries ban certain ICT tools which restrict certain activities. There are different preferences of ICTs from country to country. There are problems with ICT infrastructure and also there are computer literacy level differences. Considering Sinegal, it “is one of the ten countries in Africa where over half of the adults are illiterate” (UNESCO office in Dakar, 2017). Global Internet Maps shows that there is only a 20.9% Internet usage in the country. According to Poushter (2016, Feb 22), the rate of smartphone penetration in the country is 19% and other cellphone ownerships are 63%. Research also shows that 75% of these smartphone users in Senegal use social networks, which include Facebook and Twitter.

Furthermore, depending on both the host and COO, the diaspora interaction with different stakeholders can differ from activities and tools used (Peters, 2003; Cullen, 2001). Therefore “One size fits all” approach simply doesn’t work and there are also very few research conducted focusing on diasporic activities and ICT on a single corridor between both host and home country (Achtenhagen, Henoch & Luong 2015). Thus, the problem this thesis addresses is the differences in countries and societies based on the accessibility of ICT resources and the context of cooperative activities.

1.3 Aim and Objective

Considering the above factors, this research examines which ICT tools can be used and how they can be combined to sustainably support the TDE through a specific corridor, in this case the Senegalese diaspora in Italy.

The aim of this research is to find the interactions between the relevant stakeholders who are involved in the TDEs and see how their interactions can be combined to create a sustainable
ICT platform which both the stakeholders from the host country and COO can contribute in co-development.

### 1.4 Research questions

The aims and objectives of the thesis lead to following research questions:

1. What are the popular ICT tools and services used to promote and support intra-corridor TDE and trade?
2. How can these ICT tools and services be intertwined in a single platform for all TDE stakeholders to use?

### 1.5 Limitations

Although this study was carefully prepared and reached its aims, there were some unavoidable limitations. At the outset, the time limitation to conduct this research and lack of resources filtered out some participants. This research only considered interview participants who are mainly based in Italy. The time and scope of this study did not allow for further research on Senegalese diaspora of other countries, and the interactions between the stakeholders in host and COO. There should be data collected from the COO such as the impacts of co-development coming from the diaspora in Italy. As these data cannot be analyzed or collected until such a platform is created, the effectiveness of the platform also cannot be fully understood until it is created. Furthermore, this research was only analysed qualitatively. For more impact, a quantitative research could bring about more information on a number of specific ICT tools used by the stakeholders and their preferred user interface in order to create the desired ICT platform. What is more, while this research looked at participants from different social statuses and regions in Italy, it did not differentiate based on age and gender. Also, some respondent showed lack of interest in participating or answering the interview questions. This delayed the data collection as the researchers were required to find replacement participants and also resulted in missing out on additional data from Senegalese diasporas residing in other countries and money transfer operators (MTO) that are available in Senegal such as Wari and Orange Money.

### 2. Extended Background

An abundant number of researches have been done in the area of ICT facilitating diaspora contributions to their COO and the use of social media and other technologies in order to stay in contact with each other, as exemplified by Oiarzabal (2012), Minto-Coy (2011), Majeed (2016), Signo (2012) and Achtenhagen, Henoch & Luong (2015). There is also research on Senegalese diasporas and their role in the development of the Senegal and its economy, such as Hannaford (2016), ITPCM International Commentary (2014) and Tandian & Bergh (2014). However, existing research concerning how ICT tools can be used to promote Senegalese TDE and socio-economic development in Senegal are scant (Brignol, 2015; Tandian, 2010). Further,
most of these researches have been conducted on diasporic activities either in their home country or in their host country. According to Achtenhagen, Henoch & Luong (2015), there are very few research studies focused on the single corridor between the host and home country.

2.1 Diaspora and Relationship building

There are many attempts in the past to determine the contentious term 'Diaspora' with its characteristics for example, Clifford (1994), Vertovec (1997) and King & Christou (2011) are a few. King and Christou's (2011) three fundamental features of diaspora; “a scattering from the homeland mostly due to a tragic event such as war or another force such as poverty, a sense of belonging to a group which protects the ethnic identity and a strong desire to return to the homeland” are helpful in understanding this term. Sheffer (cited in Agunias & Newland, 2012) has also recognized these characteristics and states that modern diasporas are ethnic minority groups of migrant origin residing and acting in host countries but maintaining strong sentimental and material links with their COO/homeland. With these strong connections that the diasporas have with the home country, there are many potential contributions to their COO. For instance, money remittances repatriated to their home country, foreign direct investment (FDI) in the home country, undertaken by diasporas and the technology and know-how that diasporas make available in the home country (Wei & Balasubramanyam, 2006). Over the last few decades, worldwide communication networks have improved tremendously with the outstanding development of the ICTs and Internet-based applications (Achtenhagen, Henoch & Luong, 2015). Therefore, today it does not take much time and effort for diasporas to maintain transnational relations as was in the early days. Instant messaging applications that allow free phone calls such as WhatsApp, Viber, IMO and Skype are fundamental in making these cross-border interactions simple and economical (Brignol, 2015). Adding to this, Tandian (2010) also stated that Senegalese migrants were less affected by the geographical distances as a result of ICT tools. The author further stated that they are able to communicate frequently with families as well as manage family situations remotely without the burden of long distance telephone charges. Confirming that even in Senegal, ICT tools are popular method of communication and connecting people.

2.2 Diaspora and Remittances

Apart from helping migrants to maintain transnational relationships, ICT also offers them the opportunity to be involved in social and economic activities in their home countries. These activities include speedy remittances to home country through online or mobile money transfer, connecting these remittances to banking systems and microfinance branches to productively use them for value creation etc (Achtenhagen, Henoch & Luong, 2015). These remittances while being a stable form of financial aid, result in improving the standard of living of the families of migrants who live in the developing home country. (Kapur, 2003; Stojanov & Strielkowski, 2013). These remittances could finance the basic consumption needs, health and education of the children in poor families, while providing the basic capital for small entrepreneurial activities in other households. Cisse (2011) reports that a survey which has been conducted in 2004, has shown that remittances towards Senegal have increased the average per
capita expenditure of the Senegalese households by almost 60%, thus reducing nationwide poverty by almost one-third.

It is evident that most diasporas contribute to the economic progress in the home country by way of remittances. According to the World Bank, the global remittances flow in the year 2014 were around $592 billion. The report further stated that the developing countries received $431 billion from the total $592 billion, evidencing that diasporas from developing countries have a great influence in the economic flow of their home countries. Additionally, it also stated that Sub-Saharan Africa has a $34.5 billion inflow and Senegal has received $1.6 billion, becoming one of the top recipients in Sub-Saharan Africa (World Bank, 2016 p 37). According to Global Trends (n.d), it is also evident that diaspora is one of the most important aspects of Senegal's economy. In Fact, the report stated that around 32% of the government's expenditures in the year 2000 were on foreign assistance funds. The policy brief 7 of Migration, Gender and Social Justice: Connecting Research and Practice Networks (2013) also stated that Senegalese migrate to EU since the late 1980s for the opportunities of professional and personal development as well as to alleviate the daily economic struggle of their families through remittances sent homeward.

According to Cisse (2011), Italy has the highest remittance contribution towards Senegal from the EU. The remittances are transferred through both formal money transfer operators (Money Transfer Operators (MTO), post office and banks) and through informal channels (made directly by migrants, sent through relatives or friends). Cisse (2011) also states that MTOs lead the remittance market in Senegal, due to long waiting times, due to long delays in delivering the money and also due to significance distance to banks and post offices. The author further states that Western Union dominates the MTO market in Senegal with 73% market share, followed by Money Gram with a 22% market share in 2009.

2.3 Diaspora as a bridge to Global Economy

In addition to these remittances, diasporas play an important role in promoting trade and tourism in their home countries. Besides the formal trade barriers such as transportation costs, international trade and transactions there are also disrupted with "border effects" such as information costs and cultural boundaries. However, as Combes, Lafourcade & Mayer (2005) stated, operating social networks across the borders will alleviate these issues. Common cultural ties also assist in developing trust, allowing the business transactions to proceed. However, it is challenging and not an easy task to introduce and establish exotic goods and new tourist destinations into the international market. Yet immigrants import goods such as food items, clothing etc from their homelands. Via this 'ethnic' or 'nostalgia' trade, the homeland merchants have the opportunity to go beyond and tap into other markets. Here the diaspora population act as a bridge to broader markets. (Newland & Taylor, 2010).

Despite this, some academics have argued that after effect of migration is a 'brain drain', that educated and skilled citizens of a country leave for better socio-economic conditions (Grubel & Scott, 1966; Bhagwati, 1970; cited in Docquier and Rapoport, 2012). Others argue that this could gain innovative ideas, personal connections or enhanced skills back to the homeland from the returnees as 'brain circulation' (Saxenian, 2005). On the other hand, this 'brain drain' could also act as a 'brain bank' and help the innovators who stayed behind in the homeland to access valuable and useful knowledge that they acquire abroad (Agrawal, Kapur, McHale & Oettl,
For instance, The IPTCM international commentary (2014) stated in Kebemer region in Senegal a group of women has created a fruits and vegetables processing and conservation facility with the help of migrated women in Mantova Italy. Another group of women from Outside of Dakar, collaborate with some Senegalese migrants in Turin Italy, in processing, packaging and sale of cereals and other food products. These actions are examples of the role that diaspora associations can play in triggering development in local communities, by acting as brain banks.

Unfortunately, however, often these qualified migrants become unemployed or find less qualified jobs in the host country, leading to 'brain waste'. Further, while self-employment or entrepreneurial activities seem to be a solution for brain waste, usually these activities are limited to local markets or to a "village economy" and cater to a very limited population. ICTs can however resolve this issue by connecting village economies to the global economy and create socio-economic value by allowing diaspora to pool their resources in a migration corridor (Achtenhagen, Henoch & Luong, 2015).

### 2.4 Diaspora and New Knowledge

Engagement and ability to stay connected is one of the realities that the diaspora has got to experience with technological development. Further according to Minto-Coy (2011), diaspora also acts as vectors of innovation, by introducing new technological devices and new technologies (use of telephones, computers, the Internet) in their home countries. They also bring different views, resources and capabilities from around the world to their COO, that brings out better solutions and better outcomes, and result in the socio-economic developments. With the assistance of ICT networks, this digital knowledge flow towards home countries become effortless. The increasing number of diaspora network websites and forums such as South African Network of Skill Abroad (SANSA), the Digital Partner (DP) or the Digital Diaspora Network (DDN) have eased the process of information exchange and knowledge sharing between diasporas and their counterparts in their home countries (Achtenhagen, Henoch & Luong, 2015).

### 2.5 Bottom-up Approach

Normally the development of urban or rural areas is done at the national level, by preparing policies and providing necessities. However, according to Wickramanayake (1994), this national level approach has not been a success when compared to addressing a local problem with collaborative efforts of stakeholders in the local area. Islam (2015: p 302) also stated that “if local level implementers are not given the freedom to adopt the program to local conditions it is likely to fail”, since a person who connects with the situation could see the issues and could have better judgment than the policy makers. Therefore, when recognizing the ICT tools and activities to be used in the proposed platform, in the context of the Senegalese diaspora living in Italy a bottom-up approach was considered. Which could lead to development with a higher degree of sustainability, that the society uses the information, resources and knowledge they acquire to meet their prevailing needs while ensuring that there are sufficient resources left for future generations: a society that adjusts continuously to achieve their socio-economic needs.
Therefore, this paper contributes to the understanding of the mechanism as to how and which ICT tools can be used to promote Senegalese TDE and trade by focusing on both ends of the migration corridor: Italy and Senegal with a bottom-up approach.

3. Methodology

There are many different methods and ways to collect the required data to identify the ICT tools and to identify how they can be used to promote and support TDE and trade. However, it is important to determine the best appropriate method since it affects the results and concludes the findings.

3.1 Research Strategy

The research strategy is the plan that is created to achieve a specific goal (Denscombe 2010). In this study, it is to achieve the research aims. Which are to find the interactions between the relevant stakeholders who are involved in the TDEs and see how their interactions could be combined to create a sustainable ICT platform which both the stakeholders from the host country (Italy) and COO (Senegal) can contribute in co-development.

This study seeks to understand people's lives and explore real life situations, which require a great deal of interaction between the researcher and the individuals. Therefore, a qualitative approach where data is examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge; was determined as appropriate (Strauss & Corbin, 2008). Further, researchers were open minded and did not have any theories/hypothesis to experiment on, but were determined to start with empirical data as the starting point. Which is the basis of grounded theory. According to Johannesson & Perjons (2014) grounded theory does not start with a hypothesis to be tested but instead with data from which a theory can be generated.

Therefore, considering the suitability and feasibility of the research strategies, Grounded Theory with a qualitative approach was chosen as the appropriate research strategy.

3.1.1 Chosen Research Strategy

Grounded theory was chosen as the appropriate research strategy for this study. However, the researchers debated between the two popular approaches to grounded theory: the classical approach of Glaser and the systematic procedures of Strauss & Corbin (Creswell, 2006). Glaser's or the original approach is a discovery resulted from data, which relied on empiricism, while Strauss & Corbin’s approach is a method of verification. Therefore Strauss & Corbin’s approach espouses more unbiased data collection process, with technical procedures (Khan, 2014). Further, while Strauss & Corbin stated that the absolute essentials for the grounded theory are induction, deduction and verification, Glaser stated that grounded theory is inductive only. Glaser's approach has a less structured data analysis method than Strauss & Corbin's approach. Glaser's has two types of coding processes: substantive and theoretical, where Strauss & Corbin describe three coding processes: open, axial and selective cording (Cooney, 2010).
Considering these factors and further since the researchers already had a research question in mind, Strauss & Corbin's grounded theory approach was determined over Glaser's grounded theory approach as the relevant strategy to be adopted in this research.

3.1.2 Alternative Research Strategy

Further, when exploring other research strategies phenomenology and case study appeared to be suitable in this situation.

Phenomenology focuses on understanding the perceptions, perspectives, feelings and emotions of people in a particular situation. This method describes people's' experiences and helps to see things through the eyes of others. However, it lacks the scientific rigour since it focuses too much on description, rather than on analysis and explanation (Johannesson & Perjons, 2014: Denscombe 2010). Therefore, this method was viewed as unsuitable for this research study.

The case study approach focuses on one instance of a phenomenon to be investigated, and it offers a rich, in-depth description and insight of that instance. However, in order to get rich knowledge about the instance, it is needed to get data from different methods. Also, case studies explain “why” aspects, rather than “what” (Denscombe 2010). For that reason, case study was considered as an ineligible method.

Accordingly, the researchers presumed that the grounded theory approach is well suited, since the situation required investigating a social problem that the people can adopt to and develop a new theory accordingly. As Simmon (2016) stated, this theory also avoids making assumptions and instead adopts a more neutral view of the human action in a social context (cited in Engward, 2013).

3.2 Data Collection and Sampling Method

Creswell (2014) describes three different research methods to a research study; quantitative, qualitative and mixed method. While quantitative research focuses on quantifying the problem with numerical data, the qualitative approach focuses on gaining a deeper understanding into the question using unstructured or semi-structured techniques. Mixed method is a combination of both these approaches. In order to answer the research questions in this research study, a qualitative approach was determined as appropriated, since a more comprehensive understanding could be gained from this research method.

3.2.1 Chosen Data Collection Method

Interviews with individual participants are the most commonly used methods for data collection in grounded theory research (Foley & Timonen, 2014; Johannesson & Perjons, 2014). On the other hand, this research study needed to get a deeper understanding of the phenomena. By conducting interviews, interviewer gets the opportunity to ask additional questions at appropriate times and develop the conversation to get a deeper understanding on the view of the participant. It is easier to get an open and honest conversation via interviews. It also allows looking into the world of participants, to see the world from their perspective and in doing so make discoveries that will contribute to the development of empirical knowledge (Strauss & Corbin, 2008). According to Randolph (2008), interviews are an excellent method of collecting deep knowledge about an event.
Considering above factors it was decided that semi-structured, in-depth individual interviews as the appropriate data collection method for this research study. Further, this method has the potential of finding out information that a respondent would normally not reveal in other methods, such as the questionnaire.

The data collection was conducted using theoretical sampling method, which is the common method in grounded theory (Johannesson & Perjons, 2014). In this method, the sample is not determined at the beginning as the other methods, but appear gradually during the entire research. This method involves in searching the transcripts for emerging categories that characterize the narrative and seem significant. It decides what data to collect next and where to find them, in order to develop a theory as it emerges (Lawrence & Tar, 2013).

Taking the above factors to consideration, six diaspora organizations (two from north of Italy, two from south of Italy and two from the central part of Italy) were selected for initial interviews. A board member was interviewed from each of these organizations and they were requested to recommend few diaspora individuals/members and also non-diaspora organizations that they trade with, for the interviews. Correspondingly few individuals and few organizations were recommended. However, researchers were succeeded in interviewing only 16 individuals (5 Senegalese diaspora individuals and 5 non-diaspora organizations apart from those 6 diaspora organizations that were chosen earlier), due to lack of interest shown by the participants in participating in the interviews. Gender equality in interviewees was another issue that this research faced. There was only one female participant, who was in her thirties and all the others were male participants and were over 40 years old. Yet the researchers were able to meet the theoretical saturation point and also find adequate data, in order to answer the research questions.

Interviews and data collection process took place from January to end of April 2017, and all the interviews were conducted in Italian and face-to-face except the non-diaspora organizations, which were conducted via telephone. Even though the researches had three preliminary sets of questions for three groups (individuals, diaspora organizations & non-diaspora organizations), additional questions were asked during the interviews in order to clarify interviewees’ perspective and to get a better understanding about his/her views.

3.2.2. Alternative Data Collection Method

The data collection for grounded theory can be done in multiple ways and also can be incorporated with observational methods, as with other qualitative approaches (Foley & Timonen, 2014). However, in this context observation is not a practical method to be incorporated and also could raise ethical concerns. Group interviews are also suited for grounded theory approach and it is a common method, since it could enable participants who are reluctant to be interviewed on their own, to share their views and respond to other members’ ideas in the group. However, since the subjects or the interviewees were geographically dispersed and due to the challenges in finding a time that is suitable for every member, individual interviews were favored.
3.3 Data Analysis Method

Even though in traditional qualitative approaches, the data analysis was done after collecting all the data, in grounded theory the data collection and analysis proceed simultaneously (Lawrence & Tar, 2013; Engward, 2013). Therefore, the data analysis of the research study began as soon as data collection started, in January. This process continued until the theoretical saturation point was reached and until there was sufficient data to answer the research question (Johannesson & Perjons, 2014). The conversations were recorded during the interviews and after each and every interview they were translated from Italian to English and was transcribed. These transcribed data were then analysed. During the analysis phase, three level of data coding were performed; open, axial and selective coding. All of the analysis was done manually and no softwares were used.

Open coding describes empirical data however, it was not enough to get a deep understanding on the subject (Johannesson & Perjons, 2014). In this stage, an inductive approach was used to generate as many ideas as possible from early data, for instance: the ICT tools diasporas use, financial services they prefer, community services and networking. However, with continues data collection and simultaneous analysis, coding became selective or focused (Engward, 2013). Therefore, in axial coding level most important codes were identified and categorized under groups, such as communication methods and devices used etc under the use of ICT tools category (see table 1). In the final or the selective coding stage, main codes and categories were focused and the relationships between them were identified (Johannesson & Perjons, 2014).

Memo writing was also conducted throughout the data collection and analysis process. The ideas about events and categories and their relationships were written and also drawn as diagrams. Keeping track of reflections after interviews were important, to avoid getting overwhelmed by the quantity of data to be analyzed. These notes and diagrams also assisted the researchers in keeping structure and to gain an understanding about relationships between the themes and categories.

3.5 Validity and Reliability

In a qualitative research study, the use of appropriate methods and research strategies are considered as the validity of the research (Leung, 2015). It questions whether the methodology is relevant, whether required outcome could be gained from the research question and also whether the final results are valid for the context etc. In this research study, the researchers did not have any theories or a hypothesis. They were open minded and was determined to start with empirical data as the starting point. Therefore, the grounded theory approach was the right strategy for this study. The research needed to get an in-depth understanding of the environment, hence data collection by means of a qualitative method was a relevant choice. Accordingly, data collection via individual interviews were relevant in this research. In conclusion, the research strategy and data collected method of the study were validated.

According to Leung (2015), the reliability of a qualitative study is challenging, since participants’ experiences, emotions and feelings could change from time to time. Therefore, analysis is done of data collected by way of interviews, might not provide the most reliable results. However, in this study the interview questions were closely examined to ensure the
relevance and also the collected data was not altered in anyway. With these actions, the researchers expected to provide reliability to the research to some degree.

3.4 Research Ethics

The researchers expected to conduct their study in a way that protects the interests of the participants. As Khan (2014) stated, even though research ethics are important in both quantitative and qualitative research, in qualitative research approaches it’s more important since it tends to intrude in participants’ lives. Therefore, as Denscombe (2010) stated, the researchers ensured that the participation of this study remains anonymous, data that collected was treated as confidential, participants were informed about the nature of the research and their involvement and also ensured that it was a voluntary participation.

Further, the study did not investigate any controversial ethically sensitive topics. Participants were informed via a consent form, about the purpose of the study and that they are free to withdraw from the participating and refrain from answering any questions due to any reasons at any time.

4. Results and Analysis

When the interviews on how to promote and support TDEs with the Senegalese residing in Italy and the relative stakeholders were analysed, four main themes emerged from the data: (1) Tools used; (2) financial services; (3) diaspora community services; (4) and, networking and coordination (See Table 1). These themes then are intertwined to create a platform to promote the TDE activities. These are now discussed in further detail.

<table>
<thead>
<tr>
<th>Themes</th>
<th>Major Categories</th>
<th>Minor Categories</th>
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<tr>
<td>Tools used and available to facilitate TDE</td>
<td>ICT communication and knowledge sharing services</td>
<td>WhatsApp</td>
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<td>ICT Devices</td>
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| **Available but not widely used TDE tools** | Auxfin/UMVA BASE  
Mida  
Fondo per l’Africa Migrant Venture |
| Languages | French  
Italian  
Wolof |
| **Financial Services** | Remittances  
Secure money transfers  
Western Union  
Ria |
| **Microfinance** | Loan  
Microcredits  
Common credit cards |
| **Insurances** | Repatriation of deceased  
Integrative healthcare |
| **Commercial** | Accumulation plans and investments  
Mutual insurance |
| **Diaspora Community Services** | News  
Information – Websites  
Information – TV  
News – WhatsApp groups  
News - Newsletters |
| Municipality services | Civil registry  
Residency renewals |
| Social & cultural services | Family mutual help  
Cultural and religious Event |
| Consular services | Passport renewals |
| **Networking & Coordination** | Skills/capacity building  
Training  
Mentoring  
Mapping of skills  
Knowledge transfer |
| Feelings/desires/feedback | Trust  
Security  
Return to Senegal  
Opportunities/Offers  
Coordination  
Advocacy  
Cooperation  
Social inclusion  
Financial difficulties  
Migration issues  
Division problem |
4.1 Used and Available Tools to Facilitate TDE

There are several ICT tools used by the Senegalese diaspora in Italy for communication and seeking information. While there are many available tools that can be useful for the diaspora’s activities, only a few emerged from the research as having been used.

4.1.1 Android Smartphones, WhatsApp and Facebook

One of the most important question in this research is to find out which of the ICTs, the Senegalese diasporas are most familiar with. Smartphones, particularly with the Android operating system, are the most widely owned by the Senegalese in Italy. They also use WhatsApp application for communication as stated by multiple interviewees:

- Interviewee Individual diaspora 3:
  Everyone owns a smartphone. All my Senegalese friends own a smartphone. I have a WhatsApp group with 200 members.

- Interview Senegalese Organization 1:
  All the members in our federation use smartphones. We communicate with WhatsApp group.

Facebook is also widely used to get information and for knowledge sharing. Most of the Senegalese organizations have Facebook pages to post their news as evident in the interview extracts below:

- Interview Senegalese Organization 2:
  We have a Facebook page to share news of our activities.

There is also a Senegalese private owned satellite TV channel, Diaspora 24 (http://diaspora24tv.com/), broadcasted from Italy which aims to promote the Senegalese community integration. It can also be viewed online through dedicated mobile apps.

4.1.2 2G Feature Phones

However, there are large number of people who still use the second-generation GSM feature phones as one interviewee stated:

- Interviewee Individual diaspora 2:
  I own a Nokia. I don’t own a smartphone. I’m not interested in owning a smartphone because I only use phone for phone calls and send messages.

According to another interviewee the reason many still use the feature phones is because of affordability and lack of ICT literacy:

- Interviewee Individual diaspora 1:
  I still use the old phones because smartphones are expensive and I rather save money to buy other things than buy a smartphone. Also, I don’t use internet that much because I’m not into technologies.

There is a difference between the old (pre-year 2000) and the new (after year 2000) Senegalese migrants in terms of education and technology literacy. According to few interviewees, the migrants who came to Italy between the 1980’s and 1990’s were mostly uneducated and lacked technological knowledge. Whereas the new migrants who came in the late 2000s are all educated and brought their own smartphones from Senegal. The only difference is how they are accommodated. The old migrants who came in late 20th century had better opportunity to get residency as Italy was better equipped and resourceful for new migrants, but not so much in
later years when the migrant influx increased due to political instability in Libya. One interviewee clearly demonstrated this:

Interviewee individual diaspora 2:

You know, people from my generation didn’t know these technologies. We came here to work only. The new ones now are all went to schools, have smartphones and dress up well. But, they are in the streets because they came here to have fun. They think Europe is fun. They came without any idea what to do. We the older generation we all have the goal to make money. They don’t. It was easier for us to get (migration) papers because Italy before didn’t have migration problems. Now it’s much more difficult due to a lot of them cross the Mediterranean from Libya. A lot of the new ones go home after they find difficulties when they reach here.

The use of ICTs among the Senegalese diaspora in Italy can be clearly seen by the time of their arrival in Italy and their age instead of their economical statuses. This could be due to popularity of ICT and mobile phones in Senegal and incorporating them in their education system after the year 2000 (Fall, 2007).

4.1.3 Spoken Languages

With the ICT tools mentioned above, it is important to know which of the different transnational stakeholders’ spoken and written languages are used in one TDE corridor. When asked about the language used to communicate between the diasporas, they use both French and Wolof, the local Senegalese language, and Italian to the Italians. However, one interviewee described the difference in the usage between the languages:

Interviewee non-diaspora organization 3:

French is the official language in Senegal, and Wolof is the common language. Most Senegalese speak Wolof but only the educated speak French. When we send announcements to the diaspora we use French because it’s the official language. But not all can read French, or read at all.

According to some respondents, moreover, French is the texting language but Wolof language is the most spoken language among Senegalese. This language is the most dominant and used when communicating between Senegalese diaspora in Italy and their families in Senegal. It is important to note also that some Senegalese stakeholders only speak Wolof or both Wolof and French and the Italian stakeholders speak only Italian. This will create a communication gap between the TDE stakeholders.

4.1.4 Available TDE Tools but not Used

When asked the non-Senegalese organizations about the available tools and platforms to support the diasporas entrepreneurship, some listed few tools such as:

- UMVA by Auxfin (http://www.umva.org/), an online platform to facilitate financial activities;
- Bureau d'appui aux senegalais de l'extérieur (BASE), an information desk office based in Milan to support and provide guidelines on socio-economic integration to the Senegalese diaspora in Italy;
- Migration for Development in Africa (MIDA), the prerequisite program to BASE;
- Fondo per l’Africa, the Italian fund to support the diasporas country of origin to stop the migration influx.
- E4Impact (http://e4impact.org/), an Italian initiative to support sustainable entrepreneurship to some African countries where Senegal is among them.
However, all the Senegalese interviewees, especially the owners of diaspora organizations, did not or knew vaguely about these tools as most of them complained about the lack of support from external parties:

Interview Senegalese Organization 2:
We got no support from anyone. Neither from NGOs nor from the government.

Interview Senegalese Organization 1:
We only coordinate with the local municipality as they provide us with venues for our activities.

According to one interviewee, the support only goes to the few Senegalese organizations that are either connected to or known to the government and NGOs, or have years of active experiences in Italy:

Interview Senegalese Organization 3:
The (Italian) government can only fund or support organizations that are active for many years and that can participate in contests.

One interviewee explained in detail the reasons for lack of support from the government and other institutions to the diasporas:

Interviewee individual diaspora 2:
Most of the active Senegalese organizations are in the northern Italy because that region is mostly populated by the Senegalese but also the richest region. It is easy for them (the Senegalese organizations) to get support and create unions because most of them can afford to pay for memberships. There also another reason why the government don’t support most of organizations because most of them are registered but do not do anything. They just wanted to get money from members. They cannot be trusted.

Nevertheless, the mentioned tools are not widely known among the Senegalese diaspora due to lack of communication between them and the non-Senegalese stakeholders. Or, the vast number of inactive Senegalese organizations and limited resources make it difficult for non-Senegalese organizations to inform and support all of them.

### 4.2 Financial Services

The most significant way of promoting TDEs is through financial activities and services. In this research, the financial services which the Senegalese diasporas used or was interested in were identified as follows:

#### 4.2.1 Secure but Overcharged Remittances

All the interviewees agree that most of the Senegalese residing and working in Italy either legally or not transfer money to their relatives in Senegal. The most used MTS companies are Western Union and Ria because they are the most trusted and available MTSs as stated by most interviewees:

Interviewee individual diaspora 1:
I send money through Western Union because it is the most trusted one. They are costly but I don’t mind.

Interviewee individual diaspora 2:
I send money through Western Union or Ria, because they are secure and easy to transfer and receive money. My family don’t need to travel long distances.
Interview Senegalese Organization 1:

I send money to my family in Senegal of course. And I use western union, or Ria. I use them because they are safe and my family receive money in no time. They are very efficient.

When the interviewees asked if they know other ways to transfer money and preferences, most of them said that there are many ways to transfer money but one interviewee mentioned about the common preferences:

Interviewee individual diaspora 2:

I prefer if there is an alternative to Western Union or any multinational that use the profits of our money transfers to contribute in developing Senegal, or any African nation. It bothers me, but not just me but all of us (Senegalese), that these profits go to the multinationals instead to our countries. I would love if some of that money go to the development of our countries. We send a lot of money, you know.

One organization tried to create an independent remittances program for the Senegalese diasporas, but they faced difficulties:

Interview Senegalese Organization 1:

We tried to start a remittances program where some the money transfers can be used as a fund to create projects back home in Senegal, but it requires a lot of work and we are not equipped nor have time to do it.

The Senegalese diaspora is aware of the importance of trusted and secure financial transactions and they prefer to pay a fee to ensure secure transactions. However, none of the interviewees mentioned about informal ways of transactions.

4.2.2 Microfinance

When asked about other financial services that are used or preferred, the interviewees explained their interests in loans, micro-credits and common credit cards:

Interview Senegalese Organization 1:

We have a common credit card where our members can use one common credit card owned by one of us to purchase things online and they can pay back with cash.

Interview Senegalese Organization 3:

We provide loans to our members in case they needed financial support.

Interview Senegalese Organization 4:

Microcredits is very common among Senegalese, that’s why you will find people lending money to someone who needs to purchase something or pay for something.

However, one interviewee explains that a solid centralized financial system needs to be put in place to increase and secure financial services:

Interview Senegalese Organization 3:

It will be better if there’s one secure system where all the diaspora can use and put money into like a bank to better finance bigger projects.

Like mentioned before, the Senegalese diaspora prefer a secure system to enable their financial activities, but need a centralized system which can add value and increase funding to their projects and activities.
4.2.3 ‘Mutuelle’

Interestingly, some interviewees from Senegalese organizations showed interest in starting a mutual insurance service or what they call from the French word *mutuelle*, in Italy:

Interview Senegalese Organization 3:

In France, there is something called ‘mutuelle’ where people can put money to this fund and if something happen like losing a job or something you can take some money from this fund until you get a new job.

Interview Senegalese Organization 4:

We want to start a ‘mutuelle’ to support Senegalese or others to support them in services like repatriation of deceased, integrative healthcare for example to support maternity assistances, and accumulation plans and investments…We are planning to do this.

The mutual insurance concept is not known in Italy but the Senegalese diaspora got this from their knowledge of other countries such as France where mutual insurance is very common.

4.2.4 Commerce in Groups

Some interviewees talked about their interest in commercial activities mainly for group purchases and crowdfunding:

Interviewee individual diaspora 2:

Many of us do commercial and trade activities. Most of us started selling Senegalese products or accessories in the streets. We also send items to Senegal to sell.

… Sometimes we collect money from different people to purchase something. We call this ‘gruppo di acquisto’ (purchase group). For example, I have the opportunity to buy big quantity of rice for cheap price and I can gather people to put money so we can buy this quantity then everyone can have their share.

Interviewee individual diaspora 1:

Some of us need to buy an equipment or something to do work but it’s too expensive. So one thing we do is we give him money from all of us so he can afford to buy this item or items and he can give money back once he receive his pay.

One organization mentioned about the commercial procedures that the diaspora can benefit from:

Interviewee non-diaspora organization 3:

The diaspora community need to be informed about the procedures in doing commercial activities. There are programs such as Bureau d'appui aux senegalais de l'extérieur, or BASE, an initiative created by the Senegalese government and IOM to help the Senegalese and non-Senegalese to do businesses. They can provide procedures and information to support the diaspora.

Commercial activities such as mentioned above are very common among the Senegalese as they are very supportive among each other. However, even though they are numerous in Italy, these interactions and support come only in small communities where they reside. Further quantitative research is needed to see the extend of its reach.

4.3 Diaspora Community Services

There are other services that the Senegalese diaspora utilize between themselves. Here are the services under their categories:
4.3.1 News Sharing

All the Senegalese diaspora organizations based in Italy share activities or event news through their newsletters, WhatsApp groups and or Facebook pages. The interviewees explained this when they were asked about their usage of social network:

Interview Senegalese Organization 1:
We have WhatsApp group with over 200 people and we share news with them. They are all members of our association.

Interview Senegalese Organization 2:
We have a Facebook page where we post news of our association and we share events and activities that we do.

Interview individual diaspora 1:
All these organizations share their news over Facebook or WhatsApp. That’s how people know what is happening.

They also mention that they seek news from other websites as one interviewee stated:

Interview Senegalese Organization 3:
We look for news from websites like ‘Seneweb’ or other Facebook pages.

News sharing and activities information sharing is a vital part of most of the Senegalese diaspora organizations.

4.3.2 Municipality Services

Another common thing they all share is going to municipalities for services like residency renewals or other civil services. Surprisingly, when asked about the Italian government involvement and support to the diaspora the only institution mentioned was the municipality of their location as these interviewees explained:

Interview Senegalese Organization 2:
We do cooperation with the local municipality when we need them for some service like renew residency for example.

Interview Senegalese Organization 3:
The municipality help us in some stuff. They even provide us with venues when we want to gather people for an event.

Municipalities in Italy play an important rule for migrants because they to a large extent handles the administrative paper work for migrants and non-migrants.

4.3.3 Social and Cultural Services

All the Senegalese organizations in Italy are also created to facilitate community integration by organizing social and cultural events. They organize religious events such as for breaking the fast feast holiday after the Islamic month of Ramadan and social events with traditional music. They also try to engage with local Italian communities to participate in their events to raise awareness of Senegalese culture and tradition as explained by this interviewee:

Interview Senegalese Organization 3:
We organize religious and cultural events to engage with the local community so they can learn about our culture but also an opportunity to gather because nowadays everyone is busy with their lives and these events make us closer.
Some resourceful Senegalese organizations organize trips to Senegal for Italians in order to sensitize them to Senegalese conditions and promote development and charity projects for Senegal as explained by this interviewee:

Interview Senegalese Organization 4:
We organize touristic trips to Senegal for the Italians. One reason is we promote tourism in Senegal but also, we make them visit poor villages to make them feel sensitive towards the conditions there, so we hope when they come back they feel the need to help our country by supporting development there or charity projects.

Some Senegalese diaspora try very hard to promote their culture to Italians by organizing events in Italy and trips to Senegal. However, not so much is done from the Italian side to promote integration between the local communities and the diaspora. Yet, one Italian NGO has an interesting approach similar to the tourism trips by some of the Senegalese organization:

Interviewee non-diaspora organization 2:
One of our most popular programs is to organize trips for the youth to visit and work in the field as photographers in some countries in Africa, South America and Asia. It consists of charging these youth for trips in the field of our work to learn photography by a very professional photographer who works with us for many years. They take pictures and we use these pictures to document our work in the field, and in the same time these young people enjoy these trips. It’s part vacation and work. These youths learn a lot about the cultures where they go and that helps them to understand the situations in the field.

Social and cultural services such as to promote integration between the diaspora and the local communities are considered important, mostly by the diaspora but also by NGOs who know the context of integration.

4.3.4 Consular Services
Most of the Senegalese in Italy have connections with the Senegalese embassy and consulate to ask for consular services. Interestingly, since the Senegalese are scattered all over Italy there are several consulates and the diaspora schedule and organize trips to Senegalese consulates for consular services as explained here:

Interview Senegalese Organization 4:
When we need to renew our passports, we organize trips to Milan and we hire a mini bus to go there.

Consulate:
Usually to avoid overcrowding in the consulate, we facilitate things by asking a focal point who is usually the president or owner of the Senegalese association to collect several passports from his members and he comes here with all these passports or paperwork for us to renew or issuing. This way is way too organized. Obviously, we only ask a trusted focal point who is known by us and registered in our newsletter.

There are several consular services beside passport renewal and issuing where the Senegalese diaspora ask for. One of the most popular one is the repatriation of deceased and certificates issuing. Some of these consular services are directly requested not by the diaspora but by lawyers as this interviewee explained:

Consulate:
Some services we do directly with lawyers who asks for tax return for legal aids or permits to go back in Senegal for some Senegalese who are in trouble. We communicate with them usually by fax or email. These are easy processes.
The Senegalese embassy and consulates play an important role for the Senegalese diaspora for consular services but also commercial and entrepreneurship. The consulates provide to the Senegalese and non-Senegalese with assistance in economic affairs. While, the Senegalese Ministry of Foreign Affairs and IOM came up with a program by opening an office in Milan to promote entrepreneurship especially in land management in Senegal through the provision of technical and financial services (UNCCD, 2016). According to some respondents this program expired and got extended for few months. No information on how long it will last.

4.4 Networking and Coordination

Many of the answers from the interviews conducted in this research showed that the respondents have a need to improve communication and dissemination. All their requests seemed to indicate a lack of networking and coordination between the different groups who are involved with the Senegalese diaspora in Italy. These groups are the individual Senegalese, the Senegalese organizations and the non-Senegalese organizations that deal with the diasporas.

4.4.1 Skills and Capacity Building

Most of the respondents clarified the need of capacity building through advocacy, trainings and mentorships. Both the Senegalese organizations and NGOs emphasized the importance of trainings and knowledge transfer:

Interviewee Senegalese Organization 3:
As a federation that consists of several organizations, we can organize training courses and seminars to strengthen the capacities of associations and disseminate information especially for the issue of immigration.

Interviewee non-diaspora organization 1:
There are some tools and organizations that are available for the diasporas to support their activities. Nevertheless, the diaspora need to be trained to conduct such activities.

Interview individual diaspora 1:
There are some Senegalese who are educated, have work experience and lived in Italy for many years. They can provide mentorship sessions to the Senegalese people who are in need of learning skills.

One NGO suggested to create a map of skills for the diasporas:

Interviewee non-diaspora organization 1:
There should be a database of skilled migrants where it is easy to locate skilled people and give them opportunity of work.

These respondents recommended that the diaspora need to be trained and have skills, also they need to be mapped in order to be searchable. According to them, this will facilitate entrepreneurship and trade.

4.4.2 Common Needs and Feelings

Most of Senegalese in Italy still have a strong sense of belonging to their country of origin as all the Senegalese interviewees clearly marked the importance of going back to Senegal once they feel ready:

Interview individual diaspora 1:
Of course, I want to go back to Senegal. I don’t want to be here forever. Even though I have a family here I want to go back to Senegal.

Interview individual diaspora 2:

I want to go back to Senegal one day. I can’t go back now because I have to bring something with me there like money or business.

Interviewee non-diaspora organization 1:

We all want to go back to Senegal. I don’t know anyone who doesn’t want to go back for good. Maybe some don’t who are married to Italians but most of them they want to go back there.

However, most of them feel they are marginalized in Italy and they blame on lack of cooperation and inclusion. For this reason, some of their activities promote social inclusion as these interviewees explained:

Interviewee Senegalese Organization 3:

We support all of our members (associations) to conduct their activities by strengthening them through advocacy, cooperation and coordination because we share the same goals, which are to integrate Senegalese community and feel secure.

Interviewee Senegalese Organization 3:

There is a problem of division, secular division, in our communities. Italians are scared of migrants nowadays because they don’t understand us. That is why associations like our it is very important to promote social inclusion.

Most of the Senegalese diaspora feel the gap between them and the Italians, either be individual or organizations. There is an evident lack of communication between them. According to them, better communication channels between the two will strengthen their TDEs and other activities.

In overall assessment of the results, the interactions between all the stakeholders can be visualized in detail in Diagram 1. This can help to identify the stakeholders’ needs and preferences to their TDE activities.

23
5. Discussion

The results of this research showed how the TDE stakeholders, at least in the case of Senegalese diaspora residing in Italy, can interact between each other. They speak mainly French and Wolof between Senegalese, and Italian with the Italian counterparts. They mainly use smartphones with WhatsApp and Facebook apps to communicate and share information, with exceptions of few who still use old feature phones for convenience. Also, they interact with each other on financial, networking and community activities (for more in details see Figure 1).

Based on their interactions, an ICT platform can be created to facilitate and promote their TDE activities by combining the themes from research results.
5.1 ICT Platform to Promote and Support Senegal/Italy TDEs

The results from this research can be intertwined to design a model to create an ICT platform which facilitates TDE activities (See Figure 2). The model of the platform is discussed in further detail.

![Figure 2: ICT platform process for intra-corridor TDE activities between Italy and Senegal.](image)

### 5.1.1 The Platform Front-end Familiar Technologies

The user interface of the platform (front-end) will consist of the familiar ICTs of the diaspora. In the case of Senegalese diaspora in Italy the favorable ICTs are WhatsApp, Facebook and SMS. Based on the research results, most of the interviewees use these technologies and speak French, Italian and Wolof. These languages can be written in Latin alphabet; hence they are easy to text via instant and SMS messages services.

The desired TDE services can also be prompted by voice command tools such as Chatbots. Chatbots are useful user interface technologies for people who are illiterate or seeking faster services by extracting information from knowledge base systems. They can facilitate sharing and disseminating information and events to TDE stakeholders. These can be integrated with both WhatsApp, SMS and even Facebook.

According to multiple sources, it is not recommended, however, to develop dedicated applications as downloads of front-end apps are declining and reached saturation (comScore, 2014; Deloitte, 2014; Google, 2015). Besides, more developers are integrating services such as money transferring and training to existing online platform-as-a-service cloud provider from large tech companies such as Facebook (Boniface et al., 2010). However, these findings are not based on Senegalese or diaspora users and their interactions with ICT may differ.
5.1.2 Requested TDE Services:

All the stakeholders either from the individual diaspora, diaspora and non-diaspora organizations can request financial, diaspora community and networking services using the platform. However, the owner of the service differs depending on the service. For example, for money transferring, the user can request a service but the owner who is responsible for the service is the bank which holds the remittances system. Another example is group purchases which the owner and the service requester are the same because the requester needs to hold responsibility of the service. In Table 2, an example of detailed usage and owner for each service and their stakeholders is shown.

Table 2: Senegalese TDE platform front-end process with stakeholders for each service.

<table>
<thead>
<tr>
<th>Category</th>
<th>Service</th>
<th>Service Owner</th>
<th>Requested (From)</th>
<th>Beneficiary (To)</th>
<th>Front-End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Services</td>
<td>Remittances</td>
<td>Bank</td>
<td>Senegalese (Italy)</td>
<td>Senegalese (Senegal)</td>
<td>WhatsApp; SMS</td>
</tr>
<tr>
<td>Financial Services</td>
<td>Loans</td>
<td>Bank</td>
<td>Senegalese (Italy/Senegal)</td>
<td>Senegalese (Italy/Senegal)</td>
<td>WhatsApp; SMS</td>
</tr>
<tr>
<td>Financial Services</td>
<td>Microcredits</td>
<td>Bank</td>
<td>Senegalese (Italy/Senegal)</td>
<td>Senegalese (Italy/Senegal)</td>
<td>WhatsApp; SMS</td>
</tr>
<tr>
<td>Financial Services</td>
<td>Insurances</td>
<td>Bank; Insurance Company</td>
<td>Senegalese (Italy)</td>
<td>Senegalese (Italy)</td>
<td>WhatsApp; SMS</td>
</tr>
<tr>
<td>Financial Services</td>
<td>Crowdfunding</td>
<td>Bank/User</td>
<td>Senegalese (Italy/Senegal)</td>
<td>Senegalese (Italy/Senegal)</td>
<td>WhatsApp; SMS; Facebook</td>
</tr>
<tr>
<td>Networking &amp; Coordination</td>
<td>Mentoring</td>
<td>Professionals</td>
<td>All</td>
<td>All</td>
<td>WhatsApp; Telephone; Webinar</td>
</tr>
<tr>
<td>Networking &amp; Coordination</td>
<td>Training</td>
<td>Professionals</td>
<td>All</td>
<td>All</td>
<td>WhatsApp; Telephone; Webinar</td>
</tr>
<tr>
<td>Diaspora Community Services</td>
<td>News</td>
<td>All; Platform owner</td>
<td>All</td>
<td>All</td>
<td>Facebook; WhatsApp; SMS</td>
</tr>
<tr>
<td>Networking &amp; Coordination</td>
<td>Offers / Opportunities</td>
<td>All; Platform owner</td>
<td>All</td>
<td>All</td>
<td>Facebook; WhatsApp; SMS</td>
</tr>
<tr>
<td>Financial Services</td>
<td>Group Purchases</td>
<td>All; Platform owner</td>
<td>Senegalese (Italy/Senegal)</td>
<td>Senegalese (Italy/Senegal)</td>
<td>Facebook; WhatsApp; SMS</td>
</tr>
<tr>
<td>Diaspora Community Services</td>
<td>Social &amp; Cultural Services</td>
<td>Diaspora Organizations</td>
<td>Senegalese (Italy/Senegal)</td>
<td>Senegalese (Italy/Senegal)</td>
<td>WhatsApp; SMS</td>
</tr>
<tr>
<td>Diaspora Community Services</td>
<td>Consular Services</td>
<td>Senegalese consulate</td>
<td>Senegalese (Italy)</td>
<td>Senegalese (Italy)</td>
<td>WhatsApp; SMS</td>
</tr>
</tbody>
</table>
Knowing the service owners, requesters and beneficiaries help other stakeholders to join the platform and include their services. These stakeholders can include services and tools that are not known to the diaspora such as UMVA and other tools mentioned in the results of this research.

5.1.3 Secure Proprietary and Open-source Back-end Services

Both proprietary and open-source back-end services need to be implemented in the platform. According to most of the interviewees, they prefer using known, secure and centralized financial services for their activities such as Western Union or Ria. Consequently, it is recommended to have a secure proprietary system, or at least one that belongs to a bank and/or insurance company which takes full responsibility and holds the back-end technology for the financial services.

However, for other services such as diaspora networking, coordination and community services, these can be developed using open-source content management systems such as Joomla, or accessible social media such as Facebook. Furthermore, the diaspora and all the stakeholders themselves can contribute in the creation of the platform for these services by participating in understanding the requirements and decision-making process. One way this can be done, is to invite the stakeholders to the platform prototyping workshops and platform project implementation so they can prompt their needs. This approach will also make the stakeholders feel a sense of ownership of the platform as they contribute to the platform creation process (Swanson & Ramiller, 2004).

In Table 3, a detailed description is shown for each service with the relative back-end technology.

<table>
<thead>
<tr>
<th>Category</th>
<th>Service</th>
<th>Description</th>
<th>Back-End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Services</td>
<td>Remittances</td>
<td>Users can transfer money through auditory or textual methods (e.g. Chatbots) on WhatsApp/SMS.</td>
<td>Bank system</td>
</tr>
<tr>
<td>Financial Services</td>
<td>Loans</td>
<td>Users can ask for loans through auditory or textual methods (e.g. Chatbots) on WhatsApp/SMS.</td>
<td>Bank system</td>
</tr>
<tr>
<td>Financial Services</td>
<td>Microcredits</td>
<td>Users can ask for microcredit loans through auditory or textual methods (e.g. Chatbots) on WhatsApp/SMS.</td>
<td>Bank system</td>
</tr>
<tr>
<td>Financial Services</td>
<td>Insurances</td>
<td>Users can deposit money for mutual insurance services such as: Repatriation of deceased; Integrative</td>
<td>Bank/Insurance company system</td>
</tr>
</tbody>
</table>

Table 3: TDE platform services descriptions with the suggested back-end technologies.
<table>
<thead>
<tr>
<th>Financial Services</th>
<th>Crowdfunding</th>
<th>Users can ask for funding for their TDE projects.</th>
<th>Bank system; e.g. Joomla crowdfunding extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Networking &amp; Coordination</td>
<td>Mentoring</td>
<td>Professionals can publish their mentoring services and contact information.</td>
<td>e.g. Joomla</td>
</tr>
<tr>
<td>Networking &amp; Coordination</td>
<td>Training</td>
<td>Online courses can be published in the platform.</td>
<td>e.g. Moodle</td>
</tr>
</tbody>
</table>
| Diaspora Community Services | News | 1. Users (diaspora organizations) can publish news of their activities.  
2. Diaspora or TDE related news from other sources can be shown in the platform.  
3. All news categories can be sorted by the users (for visualization) | Facebook; e.g. Joomla |
| Networking & Coordination | Offers / Opportunities | Users can publish offers and opportunities such as job opportunities and sale offers. | Facebook; e.g. Joomla |
| Financial Services | Group Purchases | Users take responsibility for publishing and following purchases and distribution of the acquired product(s). | Facebook; e.g. Joomla |
| Diaspora Community Services | Social & cultural services | Social and cultural services are published by the diaspora organizations and NGOs to share on the platform. | Facebook; Knowledge Base System |
| Diaspora Community Services | Consular services | Users can use the platform to facilitate their requests for consular services. | Knowledge Base; e.g. Joomla |
| Diaspora Community Services | Municipalities services | Users can request municipalities services such as civil registrations and residency renewals. | e.g. Joomla |
| Financial Services | Commercial services (procedures) | Users can request commercial service procedures through the application. | Knowledge Base System |

6. Conclusion

Diasporas are minority groups of migrant origin, residing in host countries but maintain a strong sentimental relationship with their COO. They can be recognized as political and cultural bridges between the host and the COO. With the strong links that they maintain and with the strong transnational relationships, diasporas contribute to socio-economic developments of
their countries, by way of remittances, direct investments, knowledge sharing and even by introducing new technologies. These diasporic activities have the opportunity of improving further with the use of ICT tools.

This research study was conducted in connection to DiasporaLink, an ongoing four-year exchange project among 25 universities and research institutes in EU, USA, Africa and Asia. DiasporaLink investigates, evaluates and facilitates TDE. This research study examined how and which ICT tools could be combined and used to sustainably support TDE in a single corridor: Senegalese diasporas in Italy. The study focused on finding the interactions between the relevant stakeholders who are involved in the TDEs and seeing how their interactions can be combined to create a sustainable ICT platform to which both the stakeholders from the host (Italy) and country of origin (Senegal) can contribute in co-development, using Strauss & Corbin's grounded theory approach. Data for this research study was collected from Senegalese diasporas in Italy, using semi-structured, in-depth individual interviews, with a theoretical sampling method.

When considering the first research question (What are the popular ICT tools and services used to promote and support intra-corridor TDE and trade?), the findings concluded that apart from Android smartphones, 2G feature phones are also very popular among Senegalese diasporas in Italy. WhatsApp, Facebook and SMS are the most used ICT services and the results also identified that there are three main languages: French, Italian and Wolof, being used.

Considering the second research question (How can these ICT tools and services be intertwined in a single platform for all TDE stakeholders to use?), the findings concluded that the ICT platform for Senegalese diaspora in Italy should be conducted in French, Italian and Wolof languages. The front-end technology or the user interface of the application should consist of WhatsApp, Facebook and SMS, which are the familiar tools to the expected users. A voice command also appears to be an important feature in the platform since many of these diasporas are illiterate. The results showed that the responsibility of back-end technology of the financial services that are conducted via the platform, should be taken by a bank or another financial institute such as the Western Union or Ria with a secured proprietary system. Open-source content management systems such as Joomla or other accessible social media such as Facebook can be used in coordination and other community services. Further, the importance of following a bottom-up approach with the participation of the diaspora and other stakeholders in the decision-making process of developing the ICT platform was also evident.

Due to time and resource limitations, the study was limited to Senegalese diaspora in Italy and no data were collected from the COO, which is important in analysing the impacts of co-development. On the other hand, a mix method approach with both quantitative and qualitative data could have given more information on ICT tools that are popular among the Senegalese diaspora in Italy. With these limitations, this study brings some suggestions for future research.

6.1 Future Research

The role of diaspora for co-development is a very interesting topic especially in EU where there is concern of migration influx. It is noticeable that similar research will lead to effective ways of accelerating co-development. This research is small in scale and it can be fully conducted if the limitations mentioned in the research limitations are unraveled to better analyze the TDE
stakeholders’ needs and challenges. However, there are other ways to access more information and better analyze the use of ICTs in TDE activities. For example, the creation of this platform can be developed for testing and its impact on the intra-corridor between Italy and Senegal can be understood. Then, a replicate of the platform can be created to test other intra-corridor TDE activities between Italy and a similar country as Senegal. Comparison of the two platforms can be used to evaluate the impact of the platform. Moreover, other corridors might have other services that can be added to the platforms.

However, not all corridors share similar aspects. Diasporas differ depending on where they come from or where they reside. Not only the host countries can be from the developed country, it can be from the developing countries which nullify some features in the results here. Similarly, not all diasporas’ COO are from the developing countries. It will be useful to create an ICT platform for each typology of diaspora entrepreneurship. Elo (2013) explains in detail on the different typology of diaspora entrepreneurship (see Table 4).

Table 4: Typology of Diaspora Entrepreneurship (Elo, 2013)

<table>
<thead>
<tr>
<th>Country/Location: Entrepreneur</th>
<th>Developing</th>
<th>Emerging</th>
<th>Developed</th>
</tr>
</thead>
</table>

Furthermore, another similar research can look on the fragile states which were affected by war or civil unrest and how ICTs facilitated social entrepreneurship, humanitarian response or TDE in these states. For example, some diasporas reach to help their country of origin by creating civil societies such as in the case of Libya when humanitarian disaster occurred (Basir & Auster, 2016) and social media helped in social change in Egypt (Oh et al., 2015).

As ICTs continue to expand and new applications are developed, diasporas may have new preferences on new technologies. This research paper suggested the use of favorable ICT tools as front-end such as WhatsApp and Facebook, but in the future, this might change. Also, some countries ban specific applications which has some implications on ICT interactions. Yet, the structure of the TDE platform suggested in this paper might not change as these favorable technologies can be replaced by new ones.
References


47. Minto-Coy, I. D. (2011). "Beyond Remittancing": An investigation of the role of ICTs in facilitating and extending the diaspora's contribution to the Caribbean. Canadian Foreign Policy (CFP), 17(2), 129.


Appendices

Appendix A: Informed Consent Letter

Developing an Interactive Platform on Engaging Senegalese Diasporas in International Entrepreneurship and Trade: Activities in Italy and Senegal

Thank you for agreeing to participate in the survey for the project “Developing an Interactive Platform on Engaging Senegalese Diasporas in International Entrepreneurship and Trade: Activities in Italy and Senegal.”

As part of this project, two students from Stockholm University’s Department of Computer and Systems Sciences (DSV-SU), Ayad Babaa and Shasthri Ellelgedara, with the support of the Interactive Management for Development Cooperation (IMDC), are conducting a research among Senegalese diasporas groups and individuals, including non-diasporas institutions and actors who are engaged with Senegalese diasporas in Italy. The goal of the research is to identify the extent and types of existing tools for promoting and supporting diasporas international entrepreneurship and trade at international, national and local levels. The information collected in this research will be used in creating a user-friendly, practical web application for entrepreneurs, traders, trainers, mentors, policy makers and practitioners who are interested in developing and consolidating their diaspora initiatives.

The information provided by you in this interview will be used for research purposes and the development of the web application. It will not be used in a manner which would allow identification of your individual responses.

Anonymized research data will be archived at the Stockholm University in order to make them available to other researchers in line with current data sharing practices.
You are receiving this interview because our research indicates that you are actively engaging the diaspora, particularly the Senegalese diasporas living in Italy.

The term “diasporas” in the context of this research refers to individuals who live and/or work in a country outside of their birth or ancestry, either on a temporary or permanent basis. This broad definition attempts to cover a wider array of individuals, including, but are not limited to, naturalized citizens, the second and subsequent generations of immigrants, permanent residents and temporary migrant workers.

The term “diaspora engagement programs and/or policies” in the context of this research refers to a wide range of activities aimed at protecting and providing services to members of the diaspora and/or utilizing their skills, resources, networks and other contributions that can benefit countries of origin and destination.

This research deals with your programs and policies targeting Senegalese diasporas abroad, mainly in Italy.

This study involves the audio or video recording of your interview with the researcher. Neither your name nor any other identifying information will be associated with the audio or audio recording or the transcript. Only the research team will be able to listen (view) to the recordings.

The tapes will be transcribed by the researcher and erased once the transcriptions are checked for accuracy. Transcripts of your interview may be reproduced in whole or in part for use in presentations or written products that result from this study. Neither your name nor any other identifying information (such as your voice or picture) will be used in presentations or in written products resulting from the study.

By signing this form, I am allowing the researcher to audio or video tape me as part of this research. I also understand that this consent for recording is effective until the following date: ___________. On or before that date, the tapes will be destroyed.

Participant's Signature: __________________________ Date: __________

For questions and clarifications, please contact:

Mr. Ayad Babaa
E-mail: ayadbabaa@gmail.com

Mrs. Shasthri Ellegedara
E-mail: shasthriellegedara@yahoo.com
Appendix B: Interview Questions - Senegalese Individuals

Name (Optional) ______________________________
Age ______________________________
Gender ______________________________
Born in (Location) ______________________________
Marital Status ______________________________
Education Level ______________________________
Education obtained (Location) ______________________________
Address ______________________________
City ______________________________
State/Province/Region ______________________________
Country ______________________________
Postal Code ______________________________
Phone ______________________________
Mobile ______________________________
Email ______________________________

A1. Questions on Locations – Living in Italy
5. Where do you live?
6. How long have you been living in Italy?
7. How often do you go back to Senegal?
8. Are you planning to go back to your country? Do you have a plan? If yes explain
9. Do you have family in Senegal/Italy? Who are they?
10. Did you move back to Senegal at some point then back again to Italy? Explain

A2. Questions on Locations – Living in Senegal
11. Where do you live?
12. How long have you been living in Senegal?
13. How often do you go back to Italy?
14. Are you planning to go back to Italy? Do you have a plan? If yes explain
15. Do you have family in Senegal/Italy? Who are they?
16. Did you move back to Italy at some point then back again to Italy? Explain

A3. Questions on Locations – Living in both Italy and Senegal
17. Where do you live?
18. How long have you been living in Italy/Senegal?
19. How often do you go to Italy/Senegal?
20. Are you planning to settle back to Italy/Senegal? Do you have a plan? If yes explain
21. Do you have family in Italy or Senegal? Who are they?

B. Questions on Activities
22. What do you do as your main activity (study, work, etc.)?
23. Describe what do you do (type of)?
24. How long have you been doing it?
25. Did you get any help from other Senegalese/Italian/organization/government to start your business/study/work and settle down in Italy/Senegal? If yes, how did they help you?

C. Questions on Communication
26. Do you keep contact with other Senegalese that live in Italy/Senegal?
27. Do you have family back in Senegal and if yes, how do you keep contact with them?
28. Which tools do you use to communicate with family/friends/partner/business in Senegal? How do you concretely do it, can you describe the procedure?
29. Which tools do you use to communicate with family/friends/partner/business in Italy?
30. Do you have contacts outside of Italy and Senegal? Do you contact them?

D. Questions on Using Technologies
31. Do you have smartphone or phone?
32. What devices do you use?
33. Do you use Internet? How often?
34. Where do you use Internet (e.g. Home/Library/School)?
35. Do you use Internet/ICT to look for information on Diaspora (e.g. news/business/jobs/health)? Explain
36. How do you feel about using technology?
37. What language do you use when using technology?
38. Do you use devices for payment and/or money transferring? If yes, please explain

E. Questions on Remittances
39. Do you send money back home to Senegal? If yes how often and what methods or institutions do you use?
40. If you send money to Senegal, who receive them? And who benefit?
41. How long does it take and what is the commission? Do you and the receiver both pay commission or how does it work?
42. Is it easier for your family to receive money? Do they have to travel long distance to get it?
43. Do you and your family back in Senegal use credit cards, debit cards or paypal accounts? If yes, how do you and your family feel about these methods? Are they confident in using them? Are those methods popular in Senegal?
44. Are you happy and satisfied with the current money sending methods? Is there any aspect that you think that should be there in the process or do you have any requirements that could improve the process?

F. Questions on Engagement with Diasporas Groups
45. Do you know any diaspora organization? How many? Can you name them?
46. Do you contact them for services? What kind of services? Please explain
47. If you had experience with these diasporas groups, how reliable are they? please rate your experience and explain
48. How do you contact them? By phone/email/web?
Appendix C: Interview Questions - Senegalese Organizations

Name of Organization ______________________________
Organization Address ______________________________

Full Name ______________________________
Position in Organization ______________________________
Age ______________________________
Gender ______________________________
Born in (Location) ______________________________
Marital Status ______________________________
Education Level ______________________________
Education obtained (Location) ______________________________

Address ______________________________
City ______________________________
State/Province/Region ______________________________
Country ______________________________
Postal Code ______________________________
Phone ______________________________
Mobile ______________________________
Email ______________________________

A. Questions on Organization
1. When did your organization start?
2. Where does your organization operate? Where do these activities take place? For instance, are some activities run exclusively from Italy while others take place in Senegal?
3. Why was the organization started?
4. How long have you been working with this organization?
5. Explain your role. How long have you been in this role?
6. How many staff members do you have? Are they paid or volunteers?
7. What are its short/medium/long-term goals of the organization? What are its key challenges/obstacles in achieving them?
8. How does someone become a member of your organization? What is the size of your organization’s membership? Does this membership size consistent, or does it fluctuate?
9. How is your organization financed? Please specify name of individuals, entities or institutions
10. How often do you work with Senegal?
11. Has your office established partnerships with actors, institutions and/or entities to engage your own diasporas living and/or working abroad? If yes, please specify and rate overall success of partnership on a scale 1 to 5

B. Questions on Activities
12. What does your organization do? Could you say more about its core activities?
13. Why have these activities become the focus of your organization? What inspired these activities?
14. Describe what do you do (in the organization)?
15. How long have you been doing it?
16. Did you get any help from other Senegalese/Italian/organization/government to start your activities down in Italy/Senegal? If yes, how did they help you?
17. Are all or some of your programs and policies part of a national development plan or strategy?
18. Please explain the reasons of your most successful and most difficult activities your organizations have done.
19. Does your office collect data on your diasporas abroad? If yes, please specify below what kind of data (i.e. size, location, skill level, etc), frequency of data collection and external partners (i.e. IOM, UNDP, WB, EU, etc) if applicable.
20. Does your office regularly consult with your own diasporas on defining program and policy priorities and on identifying potential areas of collaboration? If yes, please explain the mechanisms for consultation adopted, including frequency.
21. Do you provide technical assistance, professional advice, financial and other types of support to organizations of your own diasporas in order to build their capacity? If yes, please explain
22. How much is the total budget allocated in 2016 to implement the activities

C. Questions on Communication
23. How do the members interact with the organization and with each other? For instance is there an internet platform/ special e-mail/ Facebook page/ physical meetings? Do you keep contact with other Senegalese that live in Italy/Senegal?
24. Do you approach diasporas or they approach you? Explain your methods
25. Which tools do you use to communicate with people in Senegal? How do you concretely do it, can you describe the procedure?
26. Which tools do you use to communicate with diasporas in Italy?
27. Do you have contacts outside of Italy and Senegal? Do you contact them?

D. Questions on Using Technologies
28. Do you have smartphone or phone?
29. What devices do you use?
30. Do you use Internet? How often?
31. Where do you use Internet (e.g. Home/Library/School?)
32. Do you use Internet/ICT to look for information on Diaspora (e.g. news/business/jobs/health? Explain
33. How do you feel about using technology?
34. What language do you use when using technology?
35. Do you use devices for payment and/or money transferring? If yes, please explain
36. How would you characterize the capacity of your office to use new technology such as internet, mobile messaging and other web-based systems to engage with your own diaspora?

E. Questions on Remittances
37. Do you send money back home to Senegal? If yes how often and what methods or institutions do you use?
38. If you send money to Senegal, who receive them? And who benefit?
39. How long does it take and what is the commission? Do you and the receiver both pay commission or how does it work?
40. Is it easier for your family to receive money? Do they have to travel long distance to get it?
41. Do you and your family back in Senegal use credit cards, debit cards or PayPal accounts?
   If yes, how do you and your family feel about these methods? Are they confident in using them? Are those methods popular in Senegal?
42. Are you happy and satisfied with the current money sending methods? Is there any aspect that you think that should be there in the process or do you have any requirements that could improve the process?
43. Does your organization offer or planning to offer remittances services to diasporas? If yes, please explain

F. Questions on Engagement with Diasporas
44. Can you tell me some details about the Senegalese Diaspora in Italy? (In terms of socio-economic factors, ethnicity, political aspirations and religion.) Do they have strong connections with Senegal?
45. Do you know any diaspora organization other than yours? How many? Can you name them?
46. Do you contact them for services? What kind of services? Please explain
47. If you had experience with these diasporas groups, how reliable are they? please rate your experience and explain
48. How do you contact them? By phone/email/web?

Appendix D: Interview Questions - Non-Senegalese Organizations

Name of Organization ________________________________
Organization Address ________________________________

Full Name __________________________________________
Position in Organization ______________________________
Age ______________________________
Gender ______________________________
Born in (Location) ________________________________
Marital Status _________________________________
Education Level _________________________________
Education obtained (Location) ________________________

Address ______________________________
City ______________________________
State/Province/Region ______________________________
Country ________________________________
Postal Code ________________________________
Phone ________________________________
Mobile ________________________________
Email ________________________________

A. Questions on Organization
1. When did your organization start?
2. Where does your organization operate? Where do these activities take place? For instance, are some activities run exclusively from Italy while others take place in Senegal/other?
3. Why was the organization started?
4. How long have you been working with this organization?
5. Explain your role. How long have you been in this role?
6. How many staff members do you have? Are they paid or volunteers? permanent or temporary?
7. What are its short/medium/long-term goals of the organization? What are its key challenges/obstacles in achieving them?
8. How does someone become a member of your organization? What is the size of your organization’s membership? Does this membership size consistent, or does it fluctuate?
9. How is your organization financed? please specify name of individuals, entities or institutions
10. How often do you work with Senegalese/Senegal?
11. In what way do your organization collaborate with Senegalese or diasporas in general?
12. Has your office established partnerships with actors, institutions and/or entities to engage Senegalese diasporas living and/or working abroad? If yes, please specify and rate overall success of partnership on a scale 1 to 5
13. Do you have any specific plans to improve these collaborations in near future? what inspired you to make these plans?

B. Questions on Activities
14. What does your organization do? Could you say more about its core activities?
15. Why have these activities become the focus of your organization? What inspired these activities?
16. Describe what do you do (in the organization)?
17. How long have you been doing it?
18. Did you get any help from other Senegalese/Italian/organization/government to start your activities down in Italy/Senegal? If yes, how did they help you?
19. Are all or some of your programs and policies part of a national development plan or strategy?
20. Please explain the reasons of your most successful and most difficult activities your organizations have done.
21. Does your office collect data on diasporas abroad? If yes, please specify below what kind of data (i.e. size, location, skill level, etc.), frequency of data collection and external partners (i.e. IOM, UNDP, WB, EU, etc.) if applicable.
22. Does your office regularly consult with diasporas on defining program and policy priorities and on identifying potential areas of collaboration? If yes, please explain the mechanisms for consultation adopted, including frequency.
23. Do you provide technical assistance, professional advice, financial and other types of support to organizations of diasporas in order to build their capacity? If yes, please explain
24. How much is the total budget allocated in 2016 to implement the activities (for diasporas)

C. Questions on Communication
25. How do the members interact with the organization and with each other? For instance, is there an internet platform/special e-mail/Facebook page/physical meetings? Do you keep contact with other Diasporas that live in Italy/Senegal/elsewhere?

26. Do you approach diasporas or they approach you? Explain your methods

27. Which tools do you use to communicate with people in Senegal/Italy/elsewhere? How do you concretely do it, can you describe the procedure?

28. Which tools do you use to communicate with diasporas in Italy?

29. Do you have contacts outside of Italy and Senegal? Do you contact them?

D. Questions on Using Technologies

30. Do you have smartphone or phone?

31. What devices do you use?

32. Do you use Internet? How often?

33. Where do you use Internet (e.g. Home/Library/School?)

34. Do you use Internet/ICT to look for information on Diaspora (e.g. news/business/jobs/health? Explain

35. How do you feel about using technology?

36. What language do you use when using technology?

37. Do you use devices for payment and/or money transferring? If yes, please explain

38. How would you characterize the capacity of your office to use new technology such as internet, mobile messaging and other web-based systems to engage with your own diaspora?

E. Questions on Remittances

39. Do you send money abroad? If yes how often and what methods or institutions do you use?

40. If you send money to Senegal, who receive them? And who benefit?

41. How long does it take and what is the commission? Do you and the receiver both pay commission or how does it work?

42. Is it easier for people/customers to receive money? Do they have to travel long distance to get it?

43. Do you and your contacts in Senegal use credit cards, debit cards or PayPal accounts? If yes, how do you and they feel about these methods? Are they confident in using them? Are those methods popular in Senegal?

44. Are you happy and satisfied with the current money sending methods? Is there any aspect that you think that should be there in the process or do you have any requirements that could improve the process?

45. Does your organization offer or planning to offer remittances services to diasporas? If yes, please explain

F. Questions on Engagement with Diasporas

46. Can you tell me some details about the Senegalese Diaspora in Italy? (In terms of socio-economic factors, ethnicity, political aspirations and religion.) Do they have strong connections with Senegal?

47. Can you tell me some details about the Diasporas in general in Italy? (In terms of socio-economic factors, ethnicity, political aspirations and religion.) Do they have strong connections with their country?
48. Can you tell the main differences in engagement between Senegalese diasporas and other diasporas living in Italy? If you collaborate with other organizations based abroad, can you tell the main differences between the organizations based in Senegal and elsewhere?

49. Do you know any diaspora organizations in Italy or elsewhere? How many? Can you name them?

50. Do you contact them for services? What kind of services? Please explain.

51. If you had experience with these diasporas groups, how reliable are they? please rate your experience and explain.

52. How do you contact them? By phone/email/web?

**Appendix E: Reflections**

**Reflection - Ayad Babaa**

The study of this research tried to answer a research problem related to the use of information and communication technologies for development (ICT4D) which corresponded to the goals of the thesis course and the Master’s Program. Furthermore, the results of this study would have contributed in a creation of a practical ICT platform which can facilitate the progress of developing countries. In this particular study, the emphasis was to analyze the ICT tools used from the diasporas residing in Europe and their activities as they can largely contribute in the development of their country of origin through financial and other services. This is largely taken from references on using bottom-up approaches which were strongly stated throughout the ICT4D Master’s program courses. However, due to the limitation of the study, only a sample of 16 participants from a single diaspora community, the Senegalese residing in Italy and other stakeholders engaged with their activities, were studied. It would have been interesting to know the opinion from other Senegalese residing elsewhere and in Senegal. Yet, the results were particularly significant as there is an interest in developing an ICT platform from an institution to engage the diasporas for co-development.

This study was done in pairs remotely from each other. Working remotely while one is residing in the country where the study is conducted facilitated some aspects of the research by dividing tasks based on location and accessibility. For instance, I, Ayad Babaa, am residing in Rome Italy where the research sampling was prepared and interviews were conducted mostly face-to-face, and while the other student, Shasthri Ellegedara, is residing in Sweden where she managed secondary data collection and other thesis preparations. Working this way led us focus more on each task and made us think this way will bring better results. Even though we worked independently and remotely, we were constantly in touch via email and Skype calls, and each of us shared their findings and research materials for the other to view and approve on the task. We have worked together in the course “Research Methodology for Computer and Systems Sciences” which made our research method and communication more familiar. We then inform our research supervisor through SciPro platform on our progress.

The planning for the research was well prepared and ahead of time. We identified a very active Senegalese organization based in Rome, Interactive Management for Development Cooperation (IMDC), which supported our research by providing us with interview participants. However, they warned us that many participants may take long to participate in the interviews. As a matter of fact, due to lack of interest and interview delays from some participants which led to time consuming and forced us to cancel their interviews. Overall, the research went on and managed to answer the research questions.
Working on this thesis taught me that there are still opportunities in the international development using innovative approaches. As a diaspora myself, I could relate in this field as I always wanted to use my knowledge and skills in the development of my country of origin but being not an expert on the field of diaspora or migration made me perplexed on using the right approach. Specializing in ICT4D, learning and conducting research related to ICT and international development, combining with being a diaspora I could now say that I can study, analyze and develop innovative ways to improve well beings of my country people and be able to reproduce the same approach for other diaspora communities and their countries of origin. This research gave me an opportunity to conduct a study on a diaspora community which is very keen in accepting our research results to develop a project similar to from our findings. So far, our research gave good impression to them and I am very happy that this soon could be implemented in real life.

Reflection - Shasthri Ellegedara

Our research study corresponds to the goals of the course, since it contributes original research and propose a new ICT platform to facilitate transnational diaspora entrepreneurs. In addition, relevant scientific methods for data collection and for data analysis were selected and applied in the study. Ethical aspects on the research were carefully studied and discussed. Further, an in-depth study on previous literature was conducted and conducted a critical discussion. We also ensured that a proper reference system was used and that the report is written in a professional language.

The process of this thesis, from planning, conducting the research, writing the thesis, peer reviewing to opposing another thesis, has given me an informative experience. This is the first time that I worked with a thesis partner and also on a large scale project, with a limited time period. This taught me planning ahead but be flexible, collaboration, prioritizing and more importantly communication are main aspects to a successful project. Yet, it was not an easy ride, there were many difficulties and doubts. However, I believe that facing those challenges improved my writing and assisted me in selecting appropriate scientific methods, analysing previous scientific research and also reflecting on the ethical aspects.

From the very beginning we created a very detailed time plane and started working accordingly. The first thesis meeting was held in advance in order to carry out the thesis work without difficulties. However, due to difficulties in finding participants for the research, at some points we were unable to achieve timeline goals. Yet, at the end we could execute our tasks faster and could finish the work even before the expected time period. During this period we communicated with the supervisor via SciPro forum whenever we needed any assistance and also to update him about the progress. Regular contacts were also made with Interactive Management for Development Cooperation (IMDC) in Italy, who assisted us in data collection process. The only thing that I could think of changing for better results in this study is allocating more time to data collection process and keep margins for unexpected/unplanned situations.

All the communication between me and my thesis partner were done via e-mail and skype calls due to geographical distance. Even though all the meetings were virtual and we never met, the cooperation and communication between us went very well. During the first few days we planned interview questions independently and then my thesis partner compared and created three sets of questionnaires from these questions. While my partner conducted the interviews, I started searching and analysing relevant previous scientific literature. Even though we wrote
some parts of the report independently, we always discussed and consulted each other on the content and structure. We also frequently gave feedback on one another's work, which helped us in improving our writing.

When conducting the research and writing the report, I also had the opportunity to bring knowledge from my previous studies. “Scientific communication and research methodology” and “Research methodology for computer and system sciences” were very useful in academic writing. I regularly referred these two courses during the research process for guidance. Other than that courses such as “ICT for developing world with focus on technology”, “Understanding ICT for development” and “Case studies for ICT4D projects” helped me understanding how ICT functions, challenges in developing countries when implementing ICT projects, how development projects work and how to select appropriate ICT etc, which gave me a strong foundation and a background which was needed to be success in the current research.

I am indeed satisfied with the final results we achieved. We managed to conduct research in a new research area and also managed to propose a new ICT platform that could facilitate transnational diaspora entrepreneurship. I am also delighted that I could conduct a major research study (on our own) in this selected area, since the masters program I started was also all about eradicating poverty in developing countries using ICT. Which is very important to me personally as well, considering my background (coming from a developing country). With this research I got the opportunity to actually offer new knowledge and insights to the scientific community, rather than just read the course. Which I think is a big achievement. I am also looking forward to publish our work in a scientific journal and to conduct future research in the area, which could assist in development of my home country.