

The Role of Online Social Networks in the Wellbeing of Highly Skilled Migrants: A Case-study of an Online Forum for Russian-speaking Migrants in the UK

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University, for the award of Doctor of Philosophy

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DECLARATION

I hereby declare that the work presented in my thesis was carried out by myself at the Edinburgh Napier University. This thesis in part or whole has not been published or submitted anywhere else for any other degree.

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ABSTRACT

This study aims to investigate the role of online social networks in highly skilled migrants' wellbeing. The research focused on Russian-speaking migrants in the UK. It was designed around a case study of a Russian-speaking online forum for migrants in the UK. The literature on migration, wellbeing, integration, social networks and social media were researched to establish a conceptual framework and position the study within a larger field of research. A mixed-methods approach was used, employing literature review and primary research to collect and analyse data from an online forum scrape and an online survey. The forum was scraped for a period of 12 months and analysed using social networks and statistical analysis in R. An online survey was administered via social media and analysed using statistical analysis in SPSS. Ethical issues regarding online social media data research have been considered and addressed.

The findings suggest that there is no direct link between online networks and migrants' life satisfaction. However, there is evidence that online networks play a role in wellbeing through links with integration and social support. Online networks contribute to integration through providing information support to improve migrants' knowledge of host communities; and emotional/affirmation support to affirm their socio-cultural identities. The findings revealed that migrants with links to the host country reported higher levels of wellbeing, whereas migrants with stronger links to the home country reported lower levels of wellbeing. These results indicate that migrants' wellbeing and integration is strongly linked to developing bridging social capital in the host country. Online social networks can be instrumental in this. The study will contribute to knowledge on migration, online networks, social support and the ethics of online research. It will inform academics, practitioners and the wider public on the role of migrants' social networks in their wellbeing.

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Glossary of Acronyms

CMC – Computer Mediated communication

FSU – Former Soviet Union

HSM – Highly Skilled Migrants

SNA – Social Network Analysis

UGC – User Generated Content

OECD – Organisation of Economic Co-operation and Development

EU – European Union

UK – United Kingdom

HSMP – Highly Skilled Migrants Programme

1 INTRODUCTION

1.1 *Introduction*

This chapter presents the aims and objectives of the study. It introduces the background to the study through a synopsis of the literature review on migration, migrants' wellbeing and online social networks. It provides an overview of the research approach and ethical considerations involved in the research design. The chapter also presents the structure of the thesis with a brief outline of all the thesis chapters.

1.2 *Aim and Objectives*

The aim of this study will be to explore the role of online social networks in the wellbeing of highly skilled migrants. At the time of expanding economic migration to the UK and the rising number of migrants in local communities, it is important to understand how migrants could better adjust to life in the host country and become productive members of local communities.

The study is designed around highly skilled migrants from the Former Soviet Union (FSU) countries, with Russian as a native language, who have come to settle in the UK. The research is built around a case study of an online forum for Russian-speaking migrants in the UK.

The study objectives, outlined below, are achieved through employing literature review and primary research. They focus on the following tasks:

- Critically review current literature to create a conceptual framework that could help migration stakeholders to: explore social factors that have an impact on migrants' wellbeing; and b) investigate capabilities of online networks to provide social support for migrants
- Carry out primary research on highly skilled migrants in the UK to examine how migrants' online forums can play a role in their wellbeing
- Put forward recommendations for different immigration stakeholders to further improve migrants' wellbeing

This study aims to fill existing gaps in social research and investigate if online forum social networks can help migrants to improve their wellbeing and integration in the host country. The research focuses on identifying the social factors important for migrants' wellbeing and investigating how online networks can provide support for them. The study results will offer recommendations on how migrants' integration and wellbeing can be improved through participation in online social networks.

1.3 *Why highly skilled migration is important*

The phenomenon of international migrants is a common feature of many people's lives in the world, where international migration has been growing rapidly over the last few decades. According to the United Nations report on worldwide migration in 2017, the number of international migrants has reached 258 million in 2017, up from 220 million in 2010 and 173 million in 2000 (UN, 2017).

However, international migration is not just growing, but also evolving, as it is becoming more skilled due to transformations in both supply and demand around the world (Iredale, 2000). Many developed countries have opened their borders to highly skilled workers, which has had an impact on the growing number of skilled migrants (Dequiedt and Zenou, 2013). The percentage of OECD migrants with higher education has increased by 28% for men and 20% for women between 2008 and 2014, whereas the share of low skilled migrants decreased by 15% for men and 4% for women (OECD, 2017). As highly skilled migration has been growing in its importance to the world economy and national policies, it is all more important to better understand all of its aspects, including the wellbeing of highly skilled migrations (Regets, 2001; Iredale, 2001; Castles, 2002; Czaika and Parsons, 2017).

Growth in skilled migration also stems from the process of internationalisation of large employers, changing corporate business structures and local labour markets that all have had an effect on shaping economic migration (Salt, 1992). Recently the impact of human capital flowing into host countries through international skilled migration has been viewed as highly positive (Shachar, 2006; Mahroum, 2000). The demand for skilled workers has been constantly growing due to ageing population, business needs and existing gaps in public service provision (Iredale, 2000; Docquier and Rapoport, 2007; Scott, 2006; Khadria, 2008). Globalisation and transnationalism, as well as internationalisation of education and professional training, resulted in greater transferability of human capital, increasing possibilities for professional mobility and

human migration (Teichler, 2004; Schiller et al. 1992; Iredale, 2001; Castles, 2002; Kou and Bailey, 2014). Highly skilled migrants have become more mobile and are changing their patterns of migration to include ‘globe-trotting’ professionals, that construct their careers out of multinational blocks (Portes, 2000 (Glover et al., n.d.); Kou and Bailey, 2014; Bauernschuster et al., 2014).

The choice of the highly-skilled migrants’ group for this study is shaped by the recent macro-economic and socio-political events that have highlighted the need for more research in this area. The choice of the host country for the research is influenced by the socio-economic and political developments, including Brexit, which may see the UK leaving the European Union. At the time of the potential post-Brexit expansion of immigration from over-seas countries to the UK, it is particularly important to ensure that new economic migrants become productive members of local communities and warrant their smooth social and labour market integration in the host country. In the 21st century, the UK set out to compete with other developed countries for the best brains and talent on the world labour market, making it an important study case for expanding knowledge on skilled migration.

1.4 Why Russian-speaking Migrants in the UK were chosen

The Russian-speaking migrants are chosen for this study due to a number of reasons, including: a high proportion of highly skilled workers amongst Former Soviet Union (FSU) migrants in the UK; shortage of existing research on this migrant group; the possibility of migration growth from the FSU countries in the post-Brexit period; access to data sets in the migrants’ native language.

There have been a number of studies of highly skilled Russian-speaking migrants in countries such as Germany, Israel, Finland and some others (Isurin & Riehl, 2017), however, there has not been extensive research for this ethnic group in the UK (Benson-Ria and Rawlinson, 2003; Koskela, 2010; Al-Haj, 2015; Ryazantsev, 2015; Remennick. 2017). Previous literature discussed the issues of Russian diaspora in the UK, Russian-speaking migrants’ self-identification, their online presence construction and ‘folk linguistics’ in the UK (Morgunova, 2006, 2008, 2013; Kluichnikova, 2015). However, this research area is still far from being fully saturated and will benefit from further research.

The current study aims to contribute further knowledge to fill the identified gaps in research on Russian-speaking migrants' wellbeing, social support and online social networks in the UK.

1.5 Wellbeing of Highly Skilled Migrants

Studying wellbeing in the context of highly skilled migrants is timely and important. In a time of growing international migration, national multiplicity becomes a fundamental part of post-industrial Britain, where social policy principles include commitment to diversity, social inclusiveness and multiculturalism (Crowley and Hickman, 2008). While the importance of wellbeing has been recognised as a marker of public health for general population (Cummins et al., 2003; Forgeard, 2011; Conceição and Bandura, 2008), it is important to establish how minority groups, such as migrants, fair in it. Conversely, better wellbeing of migrants can warrant better integration and social cohesion, providing two-fold benefits for both migrants and local communities (Spoonley et al., 2005; Cheong et al., 2007).

Wellbeing is difficult to define and measure, as it comprises a range of various implications and variables (Diener, 1984; Ryff, 1989; White, 2008; Dodge et al., 2012; Thomas, 2009). The emphasis is often placed on ability to fulfil goals (Foresight Mental Capital and Wellbeing Project, 2008); happiness (Pollard and Lee, 2003) and life satisfaction (Diener and Suh, 1997; Seligman, 2002). The effect of social support is also prominent in combating stress of migration and improving migrants' wellbeing (Bobowik et al., 2015).

The social factors, identified in the existing literature, will be tested through this study's primary research for the case of an online forum for Russian-speaking migrants in the UK.

Thus, this study focuses on three main factors: life satisfaction, integration and social support in relation to migrants' wellbeing, which are now introduced.

1.5.1 Life Satisfaction

Life satisfaction has been considered a vital part of migrants' wellbeing and a measure of migration success (Kahneman et al., 2004; De Jong and Steinmetz, 2006; Austin, 2007). Literature suggested, that possible predictors for migrants' life satisfaction were integration, social capital and social support from both migrants' home and host

communities (Ng et al., 2005; Berry, 1997, 2005; Lirio et al., 2007; Tharmaseelan et al, 2010).

1.5.2 Integration

Integration, including labour market participation, social support, and access to social capital, plays a significant role in life satisfaction and migrants' wellbeing (Pio, 2005; Safi, 2010; Herrero, Garcia, 2011).

Integration has been found to be the most beneficial for migrants' wellbeing amongst four main models of acculturation including assimilation, separation and marginalisation (Berry, 1997; Berry, 2003; Pio, 2005; Phinney et al., 2001). The focus of this research will be on integration and its links to wellbeing (Vermeulen and Penninx, 2000; Snel et al., 2006; Koopmans, 2010; Bakker et al., 2014).

Principle component analysis is used to combine the online survey questions, related to integration, into one variable, which is then correlated to life satisfaction and other factors affecting wellbeing.

1.5.3 Social support

Social support plays an important role in migrants' wellbeing. The literature suggests that it is positively correlated with fair health in migrants (Finch and Vega, 2003), is important for their mental health, and has a positive impact on successful integration (Simiche et al., 2003; Furnham and Shiekh, 1993; Ward et al., 2005; Ryan, 2008).

Social support is described as the functional content of relationships and is often categorized into four main types of supportive behaviours or acts: information support, emotional support, affirmation and instrumental support. This study investigates the social support available to migrants offline and online, and how it can play a role in their wellbeing.

1.5.4 Social Networks

Wellbeing is also linked to social networks that have traditionally played a significant role in migration. Social networks have historically played a vital role in enabling migration, as they provided informational and instrumental support, including moving costs, accommodation and employment (Borjas, 1987). Many researchers believed that the chances of successful migration were much higher if they had established social ties

between the source and the destination (MacDonald and MacDonald, 1964; Borjas, 1987; Massey et al., 1993; Gurak and Caces, 1992; Curran and Saguy, 2001). The development of online social media has had a significant impact on the way migrants connect to others and have been reshaping barriers to migration (Dekker and Engbersen, 2014). This study focuses on online social networks to continue research in this emerging field of migration.

1.6 Migrants' Online Social Networks

In recent decades, advancements in technology and transport have reduced barriers of distance and time, offering new opportunities for communication and connecting people regardless of their geographic location, race, gender, age or social status (Lee, 1967; Hiller and Franz, 2004; Bay, 1995; Rheingold, 1993; Wellman and Gulia, 1999). The social networks centre of gravity has been shifting from common place (important for face to face networks) to common interests, which are not bound by location (Van Alstyne and Brynjolfsson, 1996; Ryan, 2011; Dekker et al., 2016). As technological progress made online social ties possible, it opened up new opportunities for migrants to deal with their migration challenges, including information finding and dispersion of their social networks (Hiller and Franz, 2004; Poros, 2001; Ryan et al., 2008; Dekker and Engbersen, 2014). It has potentially had a transforming impact on migration experiences through opening up new ways to maintain 'old' and 'new' social networks, facilitate bridging social capital and latent ties, accelerate information sharing and expand social capital (Dekker and Engbersen, 2014; Komito and Bates, 2011; Wei and Gao, 2017).

A lot of research has been conducted on migrants using social media to connect with home social capital via voice over IP services, such as Skype, FaceTime, etc., or to link in with their existing social networks worldwide, like Facebook, Twitter, Instagram, etc. (Dekker and Engbersen, 2014; Wei and Gao, 2017). The increased online connectivity has made a positive effect on migrants' wellbeing (Hiller and Franz, 2004; Ryan et al., 2008; Komito and Bates, 2011; Dekker and Engbersen, 2014; Wei and Gao, 2017). However, the role of migrants' online forums and connections with other migrants received less attention. The issues of developing bridging social capital through online forums, as well as forums' impact on migrants' integration and wellbeing, still remain under-researched (Binder and Sutcliffe, 2014). They are investigated in this study.

1.6.1 Online Forums

Online forums are a type of social media that offer an online platform to exchange asynchronous electronic messages that are open to the public and can be archived, making content accessible to all (Im and Chee, 2006). Online forums are based on creating new social capital online, which is centred on shared interests or shared characteristics of the users. Online forums have attracted a lot of research attention in the areas of health, e-learning, consumer products, deliberative democracy and others (Frengut et al., 2009; Cheung et al., 2009; Prendergast et al., 2010; Garrison, 2011; Moore et al., 2011; Stromer-Galley and Wichowsky, 2011). However, the area of online forums for migrants has not been extensively researched. It is intended that this study will help to fill the knowledge gaps about how migrants use online forums for migrants and what benefits they can draw from them.

1.7 Research Approach

The methodology is based on the post-positivist approach with an objectivist stance. This methodology is the most fitting for the study as it is based on hypothesis derived from existing theories, but also generates new knowledge uncovered through emerged findings.

As the basis of post-positivism lies with the notion that observations play as important part as theory if not more, they become the basis for developing correlations (Bryman and Bell, 2011; Willis et al., 2007; Ritchie, 2013). The epistemological position of the study is rooted in the notion that it includes elements of both deductive and inductive strategies (Bryman and Bell, 2011), allowing the research design to reflect that, borrowing from both inductive and deductive methods.

Post-positivism introduces the importance of subjective reality into conventional positivism and permits the fusion of quantitative and qualitative approaches to research (Samdahl, 1999). Post-positivist methodology is particularly fitting for studies of human behaviour, which takes an online form in this project (Henderson, 2011).

The choice of mixed methods helps to provide an innovative perspective on the study's research question. The study is split into three stages and include 1) exploratory semi-structured interviews with pre-migrants, 2) social networks analysis of an online migrants' forum and 3) an online survey of Russian-speaking highly skilled migrants in the UK. The study is based on sequential mixed methods approach, where the inductive

method is used to conduct semi-structured interviews and online forum analysis. The findings are used to design the questions for the online survey, including egocentric networks, using the deductive method approach.

1.7.1 Exploratory Semi-Structured Interviews

At the start of the research there was a definite need to identify how highly skilled migrants use online social media in migration. As literature suggested, online social media has been widely used amongst migrants (Dekker and Engbersen, 2014). Exploratory semi-structured interviews were conducted with pre-migrants to define if and how Russian-speaking migrants use online social media for migration. The outcomes of the interviews highlighted that online forums are often used by migrants. Thus, the decision was made to explore this issue further and focus on the role of online forum in migrants' wellbeing.

1.7.2 Forum Analysis

Online forums used by Russian speaking migrants in the UK are identified and explored. The most active online forum was chosen as a case study for this research, due to its popularity amongst migrants and the highest level of activity in comparison to other forums. The data from that online forum was collected through web scraping technique for the period of 12 months. The collected data is analysed using statistical analysis and Social network analysis (SNA) to produce results regarding the social networks composition on the forum and its use by forum participants.

1.7.3 Online survey

A survey was conducted amongst Russian speaking migrants in the UK to explore the level of their wellbeing. The analysis of the data is used to determine how the level of their social integration and access to social support is correlated to life satisfaction and wellbeing. The analysis also examines correlations between migrants' wellbeing and their use of social media.

The wellbeing and life satisfaction questions in the survey is harmonised with the EU Quality of Life survey 2012. The results of the survey are compared to the results of the EU Quality of Life Survey to establish any similarities with other UK respondents. The survey analysis focuses on identifying the factors that play a significant role in migrants' wellbeing.

1.7.4 Ethical Considerations

Although analysis of online data is a fairly new phenomenon, there has been a long-standing debate about the ethical side of it, with the main focus on the establishing how to treat an online forum – as a public or as a private space. This can usually be established through the fact if the registration is required or not (Eysenbach and Till, 2001). Thus, if the information is available from a web-space that is accessible without registration or a request to join, it is usually considered that the users of the forum are aware that the information they post, is publicly available (Vayreda and Antaki, 2009; Horne and Wiggins, 2009; Tabor and Milfont, 2011). However, even if the information is public, posters' identities must be protected, thus the usernames are changed for the purpose of quoting, and users are given numbers. The personal details of the posts are also altered to avoid identification (Edinburgh Napier University Code of Ethics, Eysenbach and Till, 2001; Vayreda and Antaki, 2009; Horne and Wiggins, 2009; Tabor and Milfont, 2011).

Overall, the ethical stance in this study is devised in line with the Edinburgh Napier University Ethics committee, which grants permission for the data collection, and the volume of other recognised academic work in the field of ethics and data protection.

1.8 Thesis structure

The thesis is divided into eight chapters. The first chapter of this study focuses on a general introduction presenting highly skilled migrants, migrants' wellbeing and online social networks. The chapter includes the aim and objectives, research approach and the structure of the thesis.

The Second Chapter "Literature Review on Migration" sets out the "research landscape" for the study and review existing literature on the topic of migration.

The Third Chapter "Literature Review on Wellbeing, Acculturation, Social Networks and Online Social Networks" discusses the existing literature on wellbeing, integration, social networks and social support as well as social media.

Both literature review chapters provide the theoretical framework for the study and help to construct the conceptual framework for this research, placing it in the wider context of existing knowledge.

The Fourth Chapter "Methodology" explores research approaches and mixed research methods, applied in the study. The methodology for this research is based on the positivist

approach with an objectivist stance. The study is split into two stages and will be based on sequential mixed methods approach, including content analysis of the online migrants' forum and an online survey of migrants, including egocentric social networks. The social networks analysis findings inform the online questionnaire design.

The Fifth Chapter "Ethical Considerations" discusses ethical considerations that have arisen in social media research. It provides justification for the methods used and describe provisions to secure no harm to the participants.

The Sixth Chapter "Analysis of Exploratory Interviews and Online Forum" includes the analysis of exploratory interviews and online forum data. The exploratory interviews were conducted to test the study's hypothesis devised on the basis of literature review.

The online forum data was collected with scraping software that recorded all activity on the forum for a period of 12 months. The social network connections on the forum are analysed using social network analysis (SNA) in R. The discussion topics data are analysed using statistical analysis in R.

The Seventh Chapter "Online Survey Analysis" provides the analysis of the data collected through an online survey administered through social media outlets amongst Russian-speaking migrants in the UK. The data is analysed using SPSS. The results from both online forum and online survey datasets are analysed to establish if there are any links between migrants' wellbeing and online forum networks.

The discussion of the findings followed by conclusions, limitations, contribution and recommendations are presented in the Eight Chapter "Discussion and Conclusions".

The results of the study are intended to inform the academic community, policy makers, civil servants and wider public about the ways to improve wellbeing amongst migrants and help them to better integrate into local communities. The study will hopefully contribute to knowledge about the role of online social media and computer mediated communication in social support exchange and the impact they may have on migrants' life satisfaction, integration and wellbeing.

1.9 *Summary*

The present chapter sets out the aims and objectives of the study. It identifies the gaps in the existing literature, particularly in the areas of the highly-skilled Russian-speaking migrants in the UK and online forums for migrants. It outlines the mixed-method

approach to the research design of the study and considers ethical implications of the online data research. It provides an overview of each chapter of this thesis and outlines the topics for discussion as well as application of the results. The next chapter provides an overview of the migration issues.

2 LITERATURE REVIEW ON MIGRATION

2.1 *Introduction*

Migration in different shapes and forms has always been a part of the world's economic development and redistribution of human resources. The nature of migration has been changing throughout the centuries, responding to supply and demand of labour. Great Britain has witnessed migration throughout its history. However, it became a particular feature of government administration in the 20th century with the introduction of border controls and immigration policies that have been shaping its labour force profile ever since.

The second half of the 20th century has seen a significant change in the nature of net migration in the UK and it became the key issue of the UK politics since the 1990-ies. The emerging shift from lower skilled to highly skilled migrants, development in technology of transport and communications have had an impact on how migrants use their social capital and social networks to achieve wellbeing and contribute to the success of their migration. This study analyses the impact of social networks on wellbeing of migrants and the role of online social media in delivering social support.

This chapter provides an overview of the existing literature on migration, social networks and social capital, as well as online social media and wellbeing of migrants.

2.2 *Migration*

Migration is broadly defined as a temporary or permanent change of residence (Lee, 1966; Gardener, 1991). However, migration, as a spatial movement of humans, encompasses a wide range of diverse characteristics that account for its heterogeneous nature. When humans, individually or in groups, move from one geographic location to another, their migration histories vary widely depending on their personal characteristics, resources, reasons, aims, trajectories and intervening obstacles (Borjas, 1989; Castles et al., 2013; Ho, 2011; Massey et al., 1993).

Theorising migration has proved to be a challenge (Castles et al., 2013; King, 2012). Throughout the history of this discipline, scientists attempted to explain migration, looking at a variety of variables that may have an impact on it. It included sociological, physiological, geographical, political, environmental, religious, cultural and other factors,

and offered a range of perspectives, but somewhat failed to produce a general coherent theory that can account for all variations of migration (Petersen, 1958; Massey et al., 1993; Arango, 2000; King, 2012; Castles et al., 2013, Arango, 2017).

The current theoretical frameworks include a string of separate theories and models that are outlined below, which, however, are not connected in a consequent sequence, building upon previous contributions (Arango, 2000; Arango, 2017). This highlights the point that there is no one universal theory of migration (Arango, 2000, King, 2012; Castles et al., 2013; Arango, 2017). Existing theories are not mutually exclusive, but rather should be viewed as complimentary (Massey et al. 1993; Todaro and Smith, 2006; Faist 2000; Portes 1999) and can offer a thorough analysis, approached from multiple viewpoints, which, if systemised, can provide a well-rounded conceptual framework for the current research study.

2.3 *Migration Theories*

Many migration theories stem from the works of Ravenstein (1885), that were further developed to encompass new conceptual trends, reflecting on socio-economic developments and technological progress (Young, 1928; Stouffer, 1940; Zipf, 1946; Lee, 1966; Todaro, 1969; Todaro, 1978; King, 2012; Castles et al., 2013).

In the 20th century, regional economic improvements coupled with advancements in transport and communications became important factors in driving migration, thus pushing scholars to concentrate their efforts on analysing migration behaviors in relation to economic incentives (Young, 1928; Petersen, 1958; Stouffer, 1940; Zipf, 1946; Lee, 1966; Todaro, 1969; Arango, 2000; King, 2012; Castels et al., 2013). The initial theories, grounded in historical structural approach, tied migration with economic growth, which treated individuals as passive agents that were ‘little more than passive pawns in the play of great powers’ (Arango, 2000, p. 27). This approach suggested that macro-economic conditions were the only motivators of migration and presented one level systems (Castles and Kosack, 1973; Skeldon, 2002; Castles et al., 2013, King, 2012).

Such view had been heavily criticised by modern scholars for being one-dimensional and lacking scope to account for multiple motivating factors (Castles et al., 2013; King, 2012; de Haas, 2010; Arango, 2000). Migration motivators are explored further in Section 2.7.4. Motivation, on page 55.

A range of theories that examined migration from multiple points, including socio-economic, political, environmental, psychological, family and others, have been summarised here through a multi-level theoretical framework, described below.

2.3.1 Multi – Level Theoretical Framework

Further theorisations attempted to pay more attention to meso- and micro-economic scenarios, conceptualising the role of communities and households, as well as examining the role of individual agents (Massey et al., 1993; Castles et al., 2013). It became evident that every level had its role in migration processes but required a full multi-level approach to explain the notion (King, 2012; Castles et al., 2013). Thus, a multi-level system has been proposed to better understand causalities and correlations of migration. It groups existing theoretical approaches into macro, meso and micro levels, and allows the creation of a multi-dimensional conceptualisation of migration (Brettell et al., 2014; Castles et al., 2013; Stark and Bloom, 1985). Some examples of theories, grouped by analysis levels, are presented below (see Table 1. Multi-Level Theoretical System).

Table 1. Multi-Level Theoretical System

Analysis Level	Agents	Examples of theories
Macro level	Countries and nations Historical-Structural Models (King, 2012)	Macroeconomic Neoclassical theory Theory of intervening opportunities (Stouffer, 1940) Inverse distance law (Zipf, 1946) Push-pull theory (Lee, 1966) Neo-Marxist theory (Myrdal and Sitohang, 1957; Petras, 1981) Dual market theory (Piore, 1979) World systems theory (Wallerstein, 1979, 2011) Globalisation theory (Sassen, 1991) New International Division of Labour (Froebel et al., 1980)
Meso level	Social Systems	Social Capital Approach (Lin, 2017) Social Networks Theory (Milgram, 1960; Granovetter, 1983) Cumulative Causation (Myrdal and Sitohang, 1957; Kaldor, 1978) New Economics of Labour Migration (Stark and Bloom, 1985)
Micro level	Individuals	Microeconomic Neoclassical theory Push-Pull theory (Lee, 1966) Model of economic self-interest Behavioural models Decision making theory Self-selection theory Satisfaction theory International Immigration Market

Some theories include the multi-level approach, such as Neoclassical Theory which include macro and micro-levels.

This research study is anchored in the micro-level approach, as highly skilled migrants migrate with certain human and social capital, as well as economic and cultural capital, that they have gained through education and work experience. The availability of such capital empowers migrants and offers them more opportunities to act as independent agents (De Jong and Gardner, 2013). However, it cannot be completely devolved from macro- and meso-levels, as they both play a role in socio-economic, political and community environment around highly skilled migrants.

2.3.2 Macro – level Theories

Macro-level theories outline the global migration trends and engage with the macro-level reasoning behind migration phenomenon, including “nature of labour markets, inequality, interstate relationships and migration policies” (Castles et al., 2013, p. 46). Macro-level theories advocate structural approach based on correlations between human migration and economic development, which are caused by national/regional differences in supply and demand for labour (Massey et al., 1993). Those theories put emphasis on political, economic and social factors in each country or region triggering either an inflow of migrants or an outflow of native population (de Haas, 2010; Castles et al., 2013). The movement of labour from labour-rich to labour-poor countries is closely mirrored by the reverse flow of capital (Massey et al., 1993). Both flows make an impact on resources in home and host countries (de Haas, 2010). However, providing an overarching concept for migration causality, the macro-level approach fails to offer flexibility in establishing the role of migration for local communities and households, or for individual migrants (de Haas, 2010; Castles et al., 2013). Macro-level theories also fail to explain why not all workers migrate when the macro-economic conditions are right, as well as why migration patterns differentiate between structurally similar countries (Arango, 2000).

2.3.3 Meso – Level Theories

Meso-level theories focus on a community level, seeing migration as a “risk-sharing behaviour of families or households” (Castles et al., 2013, p. 38). This conceptual approach advocates that migration decisions are taken by “not individuals, but large units of related people – typically families or households – in which people act collectively not only to maximize expected income, but also to minimize risks and to loosen constraints associated with a variety of market failures, apart from those in the labour market”

(Massey et al., 1993, p. 436). Meso-level theories discuss the concept of credit (capital) and risk (insurance) markets for households involved (Stark and Bloom, 1985; Stark and Levhari, 1982; Stark, 1984, 1991; Castles et al., 2013), as well as place importance on remittances (Stark, 1980; Massey et al., 1993; Castles et al., 2013) and on networks and social capital (Massey et al., 1993; de Haas, 2010, Castles et al., 2013). With economic determinants at the core, meso-level approach usually deals with not complete poverty, but relative deprivation, helping to explain migration in developing communities (de Haas, 2010; Massey, 1987; Castles et al., 2013). The criticism of meso-level approach involves lack of attention to individual characteristics, such as gender, age, generation and intra-household inequalities. This approach treats migrants as passive agents, which has been disproved by many scholars (Castles et al., 2013; de Haas and Fokkema, 2010).

2.3.4 Micro – Level Theories

Micro-level approach looks at individual units, focusing on migrants as active agents in the decision-making process (De Jong and Gardner, 2013). Micro-level theories consider migrants as “rational actors, who decide to move on the basis of a cost-benefit calculations, maximizing their income” (Castles et al., 2013, p. 29), which need to be high enough to offset tangible and intangible costs of migration (Arango, 2000). Therefore, micro-level approaches advocate that migration decision making is an “individual, spontaneous and voluntary act, which rests on the comparison between the present situation of the actor and the expected net gain of moving, and results from a cost-benefit calculus” (Arango, 2000, p. 285). The individual benefits-maximising approach also examines migrants’ investment in their human capital and the returns they receive on it as a result of migration (Sjaastad, 1962; Borjas, 1989; Arango, 2000; King, 2012). The criticism of micro-level theories involves matters around structural underpinning of population flows (Arango, 2000; Castles et al., 2013). Access to information is another issue of concern, as in some concepts migrants are considered to be in possession of ‘abundant information about their options’ (King, 2012, p. 12), which has been challenged by other authors (Massey et al., 1993, King, 2012, Castles et al., 2013).

The biggest challenge for theoretical migration scholars is how to connect these levels, presenting an overarching theory for population movements (Arango, 2000; King, 2012). The multi-level structure makes it apparent that no one approach can explain migration causalities (King, 2012). The need to combine a micro-perspective with its macro-counterpart was initially provided by the neoclassical theory (Todaro, 1969, 1976; Arango, 2000). However, global developments post 1970-ies have demonstrated that

there are more factors to consider than just financial incentives, as “migratory reality became not very congenial with the neo-classical world” (Arango, 2000, p .286).

The meso level was ‘built’ on the works of social networks theories and social capital approaches (Granovetter, 1973; Arango, 2000; King, 2012; de Haas, 2010; Castles et al., 2013). It has been credited for bringing together micro and macro perspectives of migration. The ‘crucial meso level’ is positioned between “micro and macro formulations of migration, helping to move beyond the impersonal mechanics of gravity and push-pull theories of migration and to connect individual and socio-structural reasons for migrating” (King, 2012, p. 21; Goss and Lindquist, 1995; Faist, 1997). Many scholars believed that social “networks constitute an intermediate, relational level that stands between the micro level of individual decision-making and the macro level of structural determinants (Faist, 1997), thus contributing to bridge a gap that is one of the major limitations in migration thinking” (Arango, 2000, p. 285). Indeed, migration networks on both meso and micro levels provide shared benefits for communities and individuals in terms of social capital, information sharing and redistribution of resources (Faist, 1997; Massey et al., 1998; Arango, 2000). Set in the structural paradigm of global development, social and human capital concepts begin to offer an insight into the complex phenomenon of migration.

2.4 *Typology of Migration*

As described earlier, humans started to migrate many centuries ago (Brettell, 2013). Throughout its history migration has developed in many ways and into many types, as people moved around the world (Petersen, 1958). From Roman conquests to industrial revolution, from rural to urban communities, from developing to developed countries – migration has taken many routes and forms. Types of migration can be distinguished by migrants’ characteristics, destinations, duration, regularity, regulations and many other factors. The boundaries of such classifications are often blurred and interlinked, as migrants move between categories in response to changing nature of their migration (King, 2012).

Migration typology is often presented as a system of dichotomies (King, 2002; Cohen, 1996; King 2012):

- Internal - International
- Temporary - Permanent

- Regular - Irregular
- Voluntary - Forced

2.4.1 Internal – International

Internal versus International migration refers to national and international movements of people, where national migration is within one country, whereas international migration implies crossing borders (Massey et al., 1993). Some scholars argue that the divide is blurred as borders, that are required for international migration, can change (Former Soviet Union, Former Yugoslavia, etc.) (King, 2012). Internal migration is more numerous than international however the latter attracts more interest from researchers (King and Skeldon, 2010). International migration is often sequenced or interleaved with internal migration, as migrants' pathways are varied and may contain movements both outside and within their destinations (King, 2002; Skeldon, 2006; King and Skeldon, 2010).

2.4.2 Temporary – Permanent

Temporary versus permanent migration distinguish between migrants who migrate for shorter periods and those who come to settle in the host country/area. Temporary migration is classified by duration, frequency and seasonality (Bell and Ward, 2000). Temporary or permanent migration can be shaped and limited by governmental policies in order to manage labour migration (Goldstein and Goldstein, 1991, Ruhs, 2006). Those restrictions are often linked to the skills level or types of professions in immigration policies (Ruhs, 2006). They pursue specific goals to address the labour market landscape in the host country with a view to, for example, limit the stay of lower skilled workers (agricultural seasonal workers), or attract professionals in shortage categories (Iredale, 2001).

2.4.3 Regular – Irregular

Regular and irregular categories reflected the legal status of migrants (Massey and Coluccello, 2015). However, migrants' status can change over time due to changes in national immigration policies as a result of political events (e.g. EU enlargement in 2004 provided all Polish migrants with a valid UK working visa; Brexit may introduce new regulations) or over a long period of time. In some countries, irregular migrants can become regular through immigration amnesty. The rules vary from country to country

and examples include domestic workers in Italy (2009); employed illegal migrants in Spain (2004); UK petition for immigration amnesty (2018). On the other hand, regular migrations if they overstay their immigration visa, may become irregular.

2.4.4 Voluntary – Forced

Voluntary migration usually implied economic migration following a conscious decision. However, even voluntary migration may in some interpretation be forced – by economic factors, climate change, social and political developments (Reuveny, 2007). It has been argued, that population mobility should be viewed on a continuum scale, ranging from totally voluntary to totally forced migration, as very few decisions can be defined as completely forced or voluntary (Hugo, 1996; Laczko and Aghazarm, 2009).

Forced migration usually constitutes migration from zones of conflict or crisis, when people are forced to flee or move away from their home (South and Jlliffe, 2015). The distinction between the two is especially obvious in historic migration, like slavery, religious and ethnic cleansings (Segal, 1993) and modern examples, like UK pensioners, migrating to Spain (King, 2002). However, normally, the boundaries between forced migration or displacement and voluntary migration are indistinct in individuals' lives (Marino and Lazrus, 2015). Cases of forced migration can sometimes be blurred, as families, communities or individuals make voluntary decisions, based on external circumstances (Marino and Lazrus, 2015). The voluntariness of migration can be judged on both sending and receiving sides, often conflicting with each other, as in some cases, forced migration may be viewed as voluntary and linked to irregular migration, lacking the humanitarian response it requires (Massey and Coluccello, 2015).

Thus, it is apparent, that those categories cannot be strictly divided into binaries. King (2002) argues, that recently “relatively new forms of migration have been derived from new motivations (the retreat from labour migrations linked to production), new space–time flexibilities, globalisation forces, and migrations of consumption and personal self-realisation” (King, 2002, p. 90). He proposed the following four types of migration (King, 2002; p. 92), described in Table 2. Migration Types:

Table 2. Migration Types

Type of migration	Description
Free will migration	“Migrants, who set out to satisfy largely non-economic life-choice ambitions ± for a better education, or to retire to a pleasant scenic or climatic environment.”
Economic migration	“Migrants who are encouraged or ‘pushed’ to migrate by life circumstances, such as ‘economic migrants’ seeking to avoid unemployment and very low incomes by seeking better-paid jobs abroad.”
Induced migration	“Migrants who are more or less compelled to migrate by circumstances which are largely beyond their control ± extreme poverty, famine, environmental crisis, political chaos, inter-ethnic tension, etc.”
Forced migration	“People who are forced to migrate by others and who therefore have no control over their decision to move, for example, slave migrations, refugees fleeing to save their lives, extradition, abduction, forced repatriation, or children taken abroad by their parents.”

2.4.5 Emerging types of migration

Some scholars argue, that the impact of global development to date has prompted a move away from neoclassical theories of production markets and financial incentives (Iredale, 2001; King, 2002; Castles and Davidson, 2000; Papastergiadis, 2013). As pointed out by King (2002, p. 89), the assumption that all migrants are uneducated, “poor, uprooted, marginal and desperate”, migrating in need of a better income, has been proved false. As global migrants become more educated and economically secure either in their home countries or as a result of migration, their needs move up the Maslow Pyramid (Maslow et al., 1970). As reflected by King (2002), it becomes obvious that the new age migrants do not solely focus on financial gains, but on other needs as well, such as self-improvement, environment, aesthetics, security, socio-political believes and relationships (King, 2002). Reflecting on the impact of globalisation, King (2002) offers new categories for migration typology, including:

- Skilled professional migration
- Student migration
- Independent female migration
- Retirement migration
- Hybrid tourism migration

- Relationships migration
- Migration of crisis

Some of these types are embedded in the life choices, such as hybrid tourism migration, some in life cycles, such as retirement migration and student migration; some represent different stages of migration processes, such as student migration that may result in skilled professional migration, whereas some deal with gender impact (King, 2002).

Focusing on highly skilled migrants as the subject of this study, we will examine the field of highly skilled migration next.

2.5 *Highly Skilled Migration*

International migration is evolving, as some are becoming more skilled due to transformations in both supply and demand around the world (Iredale, 2001), whereas others are being forcibly displaced through conflicts and humanitarian refugee crisis in 2015/2016 (OECD, 2017). The process of internationalisation by large employers and the evolution of corporate business structures have been shaping migration flows to meet their needs (Salt, 1992; Iredale, 2001; Ruhs and Anderson, 2010). The internationalisation of education and professional skills has been supporting the trend through boosting supply of skilled workers, increased student mobility and promoting globalisation and transnationalism (Teichler, 2004; Schiller et al. 1992; Iredale, 2001; Castles, 2002; Kou and Bailey, 2014).

When businesses wish to attract professionals that would drive the economy forward (e.g. IT specialists, scientists, etc.), and governments are keen to cover existing gaps in service provision (e.g. nurses, care workers, etc.), the demand for human capital is constantly growing (Iredale, 2001; Docquier and Rapoport, 2007; Scott, 2006; Khadria, 2008).

In the climate of globalisation, with recent enlargements of the EU in 2004, 2007 and 2013, introduction of GATS (General Agreement in Trade in Services) by WTO (World Trade Organisation) in 1995, many industrial countries are trying to outbid each other in an effort to attract highly skilled migrants (Iredale, 2001; Shachar, 2006; Mahroum, 2000). Many developed countries have legally opened their borders to a limited quota of highly skilled migrants through designated migration programmes (Salt, 1997; King, 2002; Guellec and Cervantes, 2002), which has resulted in the growing number of skilled migrants abroad (Dequiedt and Zenou, 2013).

In the decade between 1990 and 2000, the total number of foreign-born individuals legally residing in the OECD member countries has increased by 1.4, with a larger increase for highly-skilled migrants ($\times 1.64$) than for low-skilled migrants ($\times 1.14$) (Docquier and Marfouk, 2004, from Dequiedt and Zenou, 2013). The number of foreign-born populations in OECD countries have increased further from about 7.7% of the adult residents in OECD countries to 10% in 2009 (Freeman, 2006; OECD, 2011).

The total stock of migrants, not just recent arrivals, in some OECD countries appear to be more educated than the natives including in the UK, Spain and Portugal. The share of college graduates among recent immigrants exceeding the educated proportion among native workers virtually in all OECD countries (Docquier, et al., 2014).

Di Maria and Lazareva (2012) commented that over the last two decades the share of highly skilled migrants in the total number of migrants has increased dramatically. Docquier and Marfouk (2006) estimated that during 1990–2000 the number of foreign-born workers with tertiary schooling living in OECD member countries increased by 63.7%, while for unskilled migrants the increase was only 14.4% over the same period. This trend continued in 2000-2010, which is supported by the immigration statistics of the OECD countries (OECD, 2013).

2.5.1 *Theorising highly skilled migration*

Theoretical underpinnings of skilled migration are based on the movement of human capital, “with highly skilled workers moving from capital-rich to capital-poor countries in order to reap high returns on their skills in a human capital-scarce environment, leading to a parallel movement of managers, technicians, and other skilled workers” (Massey et al., 1993, p. 433). At the time of globalisation and exchange of trade, goods and investment, the importance of human capital circulation through international skilled migration, has been widely accepted (Glover et al., 2001).

However, migration is not homogeneous and the differences between skills levels should be clearly acknowledged (Massey et al., 1993). Due to their skills and access to information, highly skilled migrants may move in different patterns than lower skilled workers (Iredale, 2001; Massey et al., 1993). There is also not sufficient recognition of differences along the axes of gender, race, ethnicity, class, nationality and citizenship (Salt, 1997; Iredale, 2001; Man, 2004; Ruhs and Anderson, 2010).

Iredale (2001) in her seminal work “The migration of professionals: theories and typologies” offered a system of 5 typologies of skilled migration (see Table 3. Typology of skilled migration by Iredale (2001):

Table 3. Typology of skilled migration by Iredale (2001)

Categories of professional migration	Definition	Types	Examples
By motivation	Type of circumstances that led to emigration of skilled workers from their home country or attracted them to immigrate to the host country	Forced exodus Ethical emigration Brain Drain Government induced Industry led	Forced exodus of Jewish scholars and scientists from Germany in 1933; Exodus of Soviet Jews from former USSR; Thai graduates’ reluctance to return to home country due to oppressive regime; State programmes to attract the best “qualified” immigrants when employers are the major force behind skilled labour selection and migration (Iredale, 2001)
By nature of source and destination	“Originating in less developed or more developed countries and moving to more developed or less developed destinations” (Iredale, 2001, p. 17)	“The largest movement of skilled labour is from less developed countries to post-industrialised countries” (Iredale, 2001, p. 17)	Post-industrialised and oil-rich countries attract skilled migrants; Return migration to Asia, Latin America and Africa; Outmigration from industrialised nations to developing and other developed countries.
By channel or mechanism	Ways of finding and securing employment in the host country	Internal Labour Markets Corporate promotions International recruitment Ethnic networks recruitment Internet recruitment	The internal labour markets of MNCs (Findlay and Gould, 1989; Iredale, 2001) Companies with international contracts that move staff to service their offshore work (Iredale, 2011, p. 17) International recruitment agencies that handle large numbers of self-generated flows Small recruitment agents or ethnic networks Recruitment by other mechanisms, such as the Internet

Categories of professional migration	Definition	Types	Examples
By length of stay	Whether stay in the host country is time limited or permanent	“Permanent or circulatory/temporary”; Governments preferences towards temporary and reluctance to grant permanent status.	Temporary – business visitors Semi-permanent - “Skilled transients” – highly mobile professionals/managers Permanent - Skilled settled migrants
By mode of incorporation	Ways of incorporation of migrants into host economy depending on reception at the destination	‘Handicapped’ or ‘disadvantaged’ reception when migrants face unfavourable official reception and may end up deskilled or unemployed ‘Neutral’ – incorporated into the primary market at an appropriate level ‘Advantaged’ – when due to political, social or economic factors they experience upward mobility to positions of professional and civic leadership” (Iredale, 2001, p. 19)	‘Handicapped’ is most common for permanent migration. Migration of people is separate from migration of skills (Iredale, 2001, p. 19) With internationalisation of education and training, better levels of incorporation of migrants.
National/international profession (to be further researched)	“The nature of the profession is an important factor in explaining flows” (Iredale, 2001, p. 20)	To be further researched	

Iredale (2001) noted that five typologies outlined in Table 3. Typology of skilled migration by Iredale (2001) do not fully explain the notion of skilled migration, thus she proposed the sixth one. However, even the proposed typology does not fully explain the phenomenon of skilled migration and further theorisation is needed.

When applying general migration theories to skilled migration, it emerges that none of them singularly explain this concept, as macro theories provide the context, but do not incorporate the networks and individual motivations; the micro theories fail to offer the contextual underpinning; meso theories mainly focus on community networks (Iredale, 2001). Many researchers believe that skilled migration need to be seen as an aggregate of all three (Iredale, 2001; Goss and Lindquist, 1995).

There is still a debate on what are the main drivers of highly skilled migration. Consideration should be given to whether the states regulate migration through

immigration laws, or businesses create demand for jobs, or higher return on skills calculus drive workers to migrate (Ruhs and Anderson, 2010). Some believe that the economics of labour markets is the main driver for migration (Ruhs and Anderson, 2010), however other scholars state that highly skilled migrants needs have evolved from purely financial, thus are no longer governed by economic gains alone, but by a complex subset of individual reasons (Mahroum, 2000; King, 2002). Many agree, that immigration policies do not drive migration as such, but act as a constrictor, for example, limit migration through immigration policies; or an enabler, for example enable migrants to migrate without job offers through points-based immigration policies (Canada, UK, Australia) that) (Ruhs and Anderson, 2010).

On the macro level, there has been a strong demand for highly skilled migrants in the developed countries, that are keen to attract skills and knowledge to further their economic development (Mahroum, 2000; Iredale, 2001, Guellec and Cervantes, 2002, Boeri, 2012). As the developed countries are departing from the idea of self-sufficiency in their professional labour job markets, professions become internationalized, although to a different extent (Iredale, 2001). The demand is especially high at the high-end job range (business and finance), as employers are looking for the best they can find on the labour markets (Ruhs and Anderson, 2010). At the lower end occupations (often in the public sector), where the spending on wages is limited thus making those jobs unpopular with native workers due to low wages or prestige (such as nurses, teachers, care workers, domestic workers, etc.) (Iredale, 2001; Glover et al., 2001; Ruhs and Anderson, 2010). Ruhs and Anderson (2010) suggested that “in the UK, some employers openly acknowledge that the wages and employment conditions they offer for low-skilled work are considered unacceptable to most local” (Ruhs and Anderson, 2010, p. 29).

There is also a high demand for workers in highly skilled industries with human capital shortages, for example information, communication and technology (ICT). The latter being fast growing and professionally less regulated, thus allowing easier intake of foreign workers (Ruhs and Anderson, 2010).

The micro level push and pull factors can be varied depending on profession and personal circumstances of migrants (Mahroum, 2000).

The transnationalisation of higher education hugely increased mobility amongst labour force (Iredale, 2001). The internationalisation of education has become a significant enabler of highly skilled migration. It has occurred in a number of ways: growth in the

number of foreign students studying onshore in developed countries; growth in the number of foreign students studying at home for qualifications offered by education providers from developed countries; and by institutional collaborations between education providers in developing and developed countries (Iredale, 2001, p. 9). The reasons behind the internationalisation of education are the realisation that knowledge and education are commodities that can be traded and exported for profit. On the other hand, consumers of education in developing countries see it as an investment into potential migration success and increased chance of earning interest on their investment through better paid career at home or abroad. The accreditation is also driven by employers who are looking for better trained workforce. It also allows the harmonisation of training which may enable a more international framework for professionals (Iredale, 2001). As a result, on the macro-level, developing nations raise their level of education, whereas developed nations receive better trained workforce. On the micro-level, the investment into human capital can only be a positive development for workers in both developing and developed countries.

Offshore and onshore higher education programmes, offered by the developed countries, provide an opportunity to receive internationalized standards of education, as well as in some cases language skills and the knowledge of local political, economic and social systems (Iredale, 2001; Phillips and Stahl, 2001). As a result, highly skilled workforce is getting more mobile. Moreover, some highly skilled migrants have been changing their patterns of migration and now include ‘globe-trotting’ professionals that construct their careers out of multinational blocks (Portes, 2000; Glover et al., 2001; Kou and Bailey, 2014). However, for some the idea of finding ‘a second home’ is more attractive and those migrants look for countries that can offer better conditions for permanent migration (Shachar, 2006).

Di Maria and Lazareva (2012) noted that over the last decades, an increasing number of developed countries have put in place different programmes to encourage the influx of only the most talented, skilled individuals from developing countries (ILO, 2006). As a consequence, ‘the world has witnessed a dramatic modification in the composition of the pool of migrants moving from developing to developed countries’ (Di Maria and Lazareva, 2012, p. 938).

National immigration policies can shape migration by introducing quarters and specific parameters for migrants. The main destination countries, such as the UK, the US, Canada, Australia increased quotas and introduced new immigration programmes to allow highly

skilled migrants to come (Guellec and Cervantes, 2002). According to the Organisation for Economic Co-operation and Development (OECD) (2017) one in four migrants in the G20 countries had tertiary education in 2015. As a result of selected programmes destination, the United States, Canada and the United Kingdom, hosted two thirds of highly educated migrations in all of G20 countries, with 77% increase in the number of highly skilled migrants in these countries from 2000/01 to 2010/11, reaching close to 20 million in total (OECD, 2017). The biggest growth was in the UK during this period (OECD, 2017). Currently in the UK, 1 in 2 migrants have higher education, as opposed to 1 in 4 native workers (Rienzo, 2013).

Migration policies are designed to address the needs of national economies and offer flexibility to mirror changes in economic demand (Iredale, 2001; Shachar, 2006). When competing with other countries for highly skilled labour, migration programmes can offer more favourable conditions to different categories of migrants, thus raising destination attractiveness by creating extra incentives for migration, for example less qualifying years for citizenship, etc. (Shachar, 2006).

An example of this, was the Highly Skilled Migrant Programme (HSMP) in the UK, which operated from 2002 until 2008. It allowed highly skilled migrants to enter the UK without an offer of employment and look for work when in the country. Successful migrants could qualify for settlement after 4 years in the UK. However, it was later changed to 5 years and subsequently the programme was closed in 2008 (Cerna, 2011). It allowed for more flexibility in attracting highly skilled workers, however in real life presented challenges in terms of employment and integration. This programme enabled overseas migrants to migrate to the UK, including from the Former Soviet Union (FSU) countries.

2.5.2 Types of highly skilled migrants

Highly skilled migrants are usually defined as foreign-born workers with tertiary education level or equivalent, i.e. a university degree or post-secondary training (Salt, 1997; Beine et al, 2007) or extensive/equivalent experience in a given field (Iredale, 2001). Highly skilled migrants include ‘highly skilled specialists, independent executives and senior managers, specialized technicians or tradespersons, investors, business persons, “keyworkers” and sub-contract workers’ (OECD SOPEMI, 1997, p. 21), also referred to as “human resources in science and technology (HRST)” (OECD, 2008; Mahroum, 2000). The literature suggests that this category includes professionals,

business executives, accountants, engineers, consultants and the personnel of international organisations, who have been grouped into “professional, managerial and technical specialists” (Salt and Stein, 1997, p. 484; Salt, 1992; Findlay and Gould, 1989), as well as “sports stars and entertainers” (King, 2002, p. 98). Many researchers have also pointed out that students often transition into skilled migrants, especially if studying abroad (King, 2002; Piper and Roces, 2004).

Thus, on the basis of the reviewed literature, highly skilled professionals were grouped into the following categories:

- Technocrats (employed professionals)
- Entrepreneurs (self-employed businessmen)
- Persons of exceptional talent (artists, sports stars, people of talent or faith)
- Students (a precursor for skilled migration)

2.5.2.1 Technocrats

Technocrats are migrants that are employed in organisations, including managers, professionals, business consultants and administrators (Salt and Stein, 1997; King, 2002; Ruhs and Anderson, 2010; Anderson, 2010). The industries that have a relatively high percentage of migrant workers include: information and communications technology (ICT) sector, finance, hospitality and caring industries (Ruhs and Anderson, 2010). Due to the demand for technocrats in almost all developed countries, some developed countries offer points-based systems, which are designed to hand-pick the best and the brightest, based on their skills, experience and age (Anderson, 2010, Cerna, 2011). Although technocrats are usually in demand, for some there are issues of deskilling and downward occupational mobility when in the destination country (Man, 2004, Creese and Wiebe, 2012).

2.5.2.2 Entrepreneurs

Another category of highly skilled migrants is entrepreneurs that aim to establish their own business in the host country. This category faces more challenges than technocrats as there are more barriers to labour market success. Barnes and Cox (2007) suggested that in addition to the issues of the long-term viability of some of the sectors attracting migrant

entrepreneurs, there are barriers to initial start-up that include ‘language, access to finance, knowledge of legal and other bureaucratic requirements and conventions, and limited social contact outside the migrant community’ (Barnes and Cox, 2007, p. 217).

Barnes and Cox (2007) proposed that migrant businesses fall into two broad categories: the first is to supply the needs of their co-ethnic market; the second is to provide for customers from a wider market. Breaking out of the co-ethnic market is difficult in some cases because of the language and the cultural sensitivity of the offering (Barnes and Cox, 2007, p. 217). This is a pressing issue for highly skilled migrant entrepreneurs if they want to establish themselves fully. In order to be able to compete with the ‘native’ businesses, they have to overcome the barriers described above or offer added value to their services. Migrant entrepreneurs face more difficulties in establishing their business initially, but due to their drive and higher sense of commitment they can excel and outperform their peers (Barnes and Cox, 2007).

2.5.2.3 Persons of Exceptional Talent

Highly skilled artists include artists, sportsmen and entertainers. They usually face less ethnic constraints and find application for their skills according to the demand for their work (King, 2002). It has been characterised as “a very varied group, frequently moving internationally, often for short periods. Others may, in effect, become permanent migrants” (Salt, 1997, p. 7). To

2.5.2.4 Students

Many scholars point out that studentship abroad can be a strong precursor to highly skilled migration (King, 2002). However, students were not considered a part of skilled migration, and only recently attention has begun to be paid to this phenomenon (Piper and Roces, 2004, p. 124). Internationalisation of education standards and transnationalism in higher education systems coupled with improvements in communication and faster information flows has had a considerable positive impact on students’ mobility (OECD SOPEMI report, 2001; Piper and Roces, 2004; King, 2002).

It is now acknowledged that “student flows represent a form of migration of qualified labour and also a precursor of subsequent migrations” (OECD, 2001, p. 93). In some destination countries, such as the United States and Australia, “it is an easy and

straightforward process to swap a student visa for a work permit” (Piper and Roces, 2004, p. 126; OECD, 2001). However, immigration rules differ from country to country.

Thus, although not being directly part of the labour market, many students acquire transnational human capital while studying abroad (internationalised skills, language, knowledge of the local socio-economic and political systems, etc.). Although students are not considered labour migrants while they are studying, they are likely to become highly skilled migrants if they stay in the host country after their studies (King and Ruiz-Gelices, 2003; Findlay et al, 2012).

2.6 *The Impact of Personal Factors on Migration*

2.6.1 *Language skills*

Language skills are very important for migration, and play a significant role in human capital transfer, employability and integration (Adsera and Pytlikova, 2015). Language, alongside cultural factors, can influence the choice of destination countries (Iredale, 2001). Migration rates increase with higher proximity between native and destination languages, and with English at destination, which may attract even more migrants, weakening the need for other foreign languages (Adsera and Pytlikova, 2015). Brucker and Defoort (2009) found that a common language has a positive impact on the self-selection for migrants. Notably, migrants with English language skills in particular are more likely to migrate (Adsera and Pytlikova, 2015). As destination language skills help shift barriers for human and social capital transfer, they can improve chances of successful migration for skilled migrants (Brucker and Defoort, 2009).

Language of the destination country has been found to be very important for migrants’ integration, labour market participation and earnings (Chiswick, 1991, Berman et al., 2003, Chiswick and Miller, 2002). The return on language skills is especially apparent for highly skilled migrants in employment (Berman et al., 2003). Skilled migrants are often aware of the importance of the destination language and acquire language skills purposefully, often alongside higher/professional education (Iredale, 2001). For highly skilled migrants, language proficiency is one of the prerequisites for entry visa, so many of them possess language skills on entering the country (Chiswick et al., 2006).

2.6.2 Age

It has been noted that mobility rates are likely to vary across different migration age groups. Sjaastad pointed that ‘age is significant as a variable influencing migration and must be considered in interpreting earnings differentials over space and among occupations’ (Sjaastad, 1962, p. 93). He suggested that older people are less likely to migrate as the return on their investment will not be as high due to less years in employment and closer retirement. Molho (2013) confirmed that ‘mobility rates are likely to vary across different population groups, e.g. according to age, since older individuals have a shorter time horizon over which to enjoy the benefits from migration, and this theoretical expectation conforms with observed behaviour’ (Molho, 2013, p. 529). The negative relationship between an individual's age and the probability that he or she will choose to migrate has been substantiated by Gallaway (1969) and Schwartz (1976).

However, Goss and Paul (1986) pointed out that while more experienced older workers have fewer years to accrue the benefits from a move, the higher premium they receive for moving will more than offset their relatively shorter work life. Goss and Paul (1986) also argued that since a worker can be expected to acquire more general skills with greater years of work experience, the more experienced worker should prove to be more geographically mobile, *ceteris paribus* (Goss and Paul, 1986).

However, on average, younger people are by far the more migratory group (Hansen and Niedomysl, 2008). One of the main reasons is that they are more desirable candidates for labour markets in the receiving countries (Faist, 2010). They are also more likely to be self-selected thanks to their up to date training, language skills, higher returns on migration and lesser pecuniary and non-pecuniary costs, as there are lesser ties to cut. In many developed countries’ migration programmes, extra points are given for young working age.

2.6.3 Gender

Female labour migration has increased considerably in the last few decades and has become more complex and varied (Kofman and Raghuram, 2006). However, the role of women in migration have been neglected and obscured for a long time, despite them being a significant part of human migration (Pedraza, 1991, Kofman, 2000, Kofman and Raghuram, 2006).

In skilled migration, women were often overlooked, as it mostly focuses on high ranking professions that are male-dominated, whereas woman migrants usually become involved in welfare occupations, e.g. education, health and social care (Kofman, 2000). Moreover, it was often “wrongly assumed that wives cease to work once married or that they simply seek employment as a supplement to family resources” (Piper and Roces, 2004, p. ix), thus not being a part of skilled migration. The recent concept of feminisation of international migration implies that “women play an increasingly significant role, both quantitatively and as social actors, in most types of migration, which even more importantly recognise the increased agency and independence of women in migration flows and systems” (King et al., 2006, p. 250).

There are several perspectives on conceptualising female migration, including macro, meso and micro level of analysis. According to the patriarchal model of macro-level analysis, women are being pulled to immigrate by men, as men immigrate in search of economic advancement and bring women with them as their partners (Hagen-Zanker, 2008; Hiller and McCraig, 2007; Pedraza, 1991; Whitaker, 2005). Meso-level perspective suggests that the decision to immigrate is reached via bargaining within the household, where men and women negotiate with one another in order to arrive at a family decision that is beneficial for the household as a whole (e.g. Fischer et al., 1997; Mincer, 1978; Stark and Bloom, 1985; Rahman, 2007). Some researchers believe that from a micro-level perspective, women may be relatively autonomous in making decisions about migration (e.g. Hiller and McCraig, 2007; Tabor and Milfont, 2011). Ultimately, a combination of all three approaches would offer a better explanation for female migration.

Women have been traditionally perceived as part of family migration, which was considered secondary to labour migration, and mainly seen as dependents or trailing partners (Piper and Roces, 2004). Female migration was also considered more in the realm of a lower-skilled labour market, catering for domestic labour and caring jobs that migrant women were involved in (Kofman and Raghuram, 2006). At the beginning of 2000-s female migration to Europe was described as ‘sex, marriage and maids’, which included “migration and trafficking of sex-workers, international bride trade, and the migration of domestic and care workers” (King, 2002, p. 97; Kofman et al., 2005). The domestic work and caring jobs were one of the main employment categories for female migrants (King, 2002). Marriage migration was another common route, presenting itself in different combinations, - either through finding a partner when abroad, or looking to

marry into more socio-economically stable country, or migrating as a family, etc. (Piper and Roces, 2004).

However, female migration has been changing as women migrants become more independent and more skilled (Iredale, 2005). According to OECD figures, migration is higher amongst educated women and 'brain drain' is more pronounced for women than for men. In many countries of origin, the share of tertiary educated women who were living outside their country of birth was higher than for men (OECD-UNDESA, 2013).

Student migration amongst women have grown considerably over the last decades through the rise of higher education access for women and transport and communication (Piper and Roces, 2004), which has subsequently increased female skilled labour migration. "When women graduate from a university abroad, they might stay on because employment opportunities are opened up to them and often also because of marriage. With increasing internationalisation of tertiary education, growing numbers of marriages occur between foreign students/graduates" (Piper and Roces, 2004, p. 126).

Thus, different types of migration can have an impact on female migration. As a result, there is a lot of evidence that highly skilled women make migration decisions autonomously and successfully migrate achieving professional success in the host country (King, 2002).

Female migration is also presented with challenges of de-skilled, re-skilling, re-domestication, depletion of human capital and downward social mobility (Kofman and Raghuram, 2006; Boyd and Pikkov, 2005; Man, 2004; Anthias et al., 2012). Such de-skilling and depreciation of educational and cultural capital may often result from non-recognition of educational qualifications and non-accreditation, as well as lack of language proficiency, less local knowledge and shortage of social networks in the destination country. All those factors contribute to a reduction in social mobility for female migrants (Anthias et al., 2012). Female migrants are also more likely to accept de-skilling and downward social mobility and expect to work harder than natives. However, they tend to develop strategies of professional reorientation through local professional training or new locally acquired professions. As a result, after a period of time after arrival many manage to close the deskilling gap (Anthias et al., 2012).

2.6.4 Education and Skills

Researchers have found a positive relationship between skill possession and geographic mobility (Long, 1973). Many authors implied that economic migrants tend on average to be more able, ambitious, aggressive, entrepreneurial, or otherwise more favourably selected than similar individuals who choose to remain in their place of origin (Chiswick, 1999, p. 181). Chiquiar and Hanson (2002) emphasised that migrants are usually young and educated with moderately high level of schooling. Chiswick (1999) proposed that migrants tend to be favourably “self-selected” for labour-market success. Molho (2013) also identifies uncertainty and attitudes to risk as important factors that affect migration decision making.

Education was also defined as one of the significant factors in shaping migration behaviour. A few authors suggested that the higher the level of education the more likely workers are to migrate due to the desire to capitalize on their skills and receive better return on their education (Massey et al., 1998). Bowles stated that ‘the derivative of the net migration rate with respect to the present value of the income gain from moving is a positive function of years of schooling. This result suggests that part of the monetary return to schooling arises because people with more education adapt more successfully to economic disequilibria’ (Bowles, 1970, pp. 361-362)

Becker (1975, 2009) identifies two types of skills acquired by the worker through on-the-job training. These include transferable (general) and non-transferable (specific) skills. Specific skill acquisition is defined as training that increases the marginal productivity of the worker more in the training firm than other firms (Becker, 1975, 2009), whereas acquisition of general skills provides an opportunity to transfer skills from one company to another.

Goss and Paul (1986) also noted that the highly skilled find their services in demand in other firms and are able to advance their careers through a change in employers, which increases the probability of a geographic move.

De Maria and Lazarova (2012) suggest that the possibility of migration may influence the education and training of potential migrants, thus affecting the types of skills that agents choose to acquire. The increase in the possibility of migration for (certain types of) skilled workers may change both the level and the composition of human capital in their source country and affect further migration streams (De Maria and Lazarova, 2012).

Family-related as well as other factors are also likely to be important for migration (De Jong, 2000; Kofman, 2004; Rahman, 2007; Black et al., 2008; Ryan and Sales, 2013).

2.7 Cost-Benefit Analysis of Migration Decision-making

The neoclassical economic theory posits that rational self-interested agents make a decision to migrate wherever the expected present value of total benefits is greater than the total costs of migration, subject to information constraints (Massey, 1987; Bardsley and Hugo, 2010; De Jong and Gardener, 2013; Ryan and Sales, 2013; Balaz et al., 2016).

Macro-economic theorists suggest that the transnational economic landscape is shaping migration flows and influence migration decision making through wages and employment opportunities differentials in sending and receiving countries (Brettell and Hollifield, 2014; Arango, 2017). Dual labour market theory (Piore, 1979) and world-system theory (Wallerstein, 2011) offer a macro-economic view on migration when world economic structures are influencing migration flows and decision-making of migrants (Massey et al., 1993; Castles et al., 2013; Brettell and Hollifield, 2014)

Meso-economic theorists argue that it is the household units that are driving migration, where ‘providing for family’ and ‘risk-minimisation’ are significant factors in decision-making (Brettell and Hollifield, 2014). According to New Economic Theory, households and families send workers abroad “not only to improve income in absolute terms, but also to increase income relative to other household, and hence, to reduce their relative deprivation compared with some reference group” (Massey et al., 1993, p. 438).

Neoclassical microeconomic theory (Sjaastad, 1962; Todaro, 1969, 1976; 1978; Todaro and Maruszko, 1987; Massey et al., 1993) takes individuals as decision making units and argues that international migration is based on individual choice, supported by the Todaro’s model that suggests that migrants always act in their self-interest (Harris and Todaro, 1970; Brettell and Hollifeild, 2014). Following positive self-selection, individual rational actors migrate because a cost-benefit calculation leads them to expect a positive net return from their migration (Constant and Massey, 2003; O’Reilly, 2013; Brettell and Hollifield, 2014).

According to Massey (1987) migration costs include the direct costs of moving (out-of-pocket expenses), opportunity costs (income foregone while moving), and psychic costs (the psychological burden leaving familiar surroundings and adapting to a new culture

and language). The total benefits include those that are pecuniary (higher earnings) and non-pecuniary (familial and cultural ties, better climate, sentimental attachment to the area, etc.) (Massey, 1987; Castles et al., 2013; Brettell and Hollifield, 2014).

However, in many cases decision making process is based on not purely and solely financial calculations. International migration is conceptualized as a form of investment in human capital. People choose to move to where they can be most productive, given their skills, but before they can capture the higher wages associated with greater labour productivity they must undertake certain investments, which include the material costs of travelling, the costs of maintenance while moving and looking for work, the effort involved in learning a new language and culture, the difficulty experienced in adapting to a new labour market, and the psychological costs of cutting old ties and forging new ones (Massey et al., 1993; Castles et al., 2013; Brettell and Hollifield, 2014).

Calculating the exact costs of migration are impossible due to their complex compositions, the individual nature of agents and due to information uncertainty. However, every migrant attempts to estimate the incurred costs and perceived benefits of the process in order to make the right decision, assuming decisions are made rationally (De Jong, 2000; Haug, 2008; O'Reilly, 2013; Brettell and Hollifield, 2014).

2.7.1 Pecuniary Benefits and Costs

According to the neoclassical theory of migration that was first established by Ravenstein in 1880-s the major causes of migration are economic. Some scholars stated that migration can *only* happen if it is economically profitable for the potential migrants (Roy, 1951; Borjas, 1987). This could be the case for some groups of migrants, especially those who primarily aim to increase their earnings through moving. Financial incentives remain a strong push and pull factor especially for poorer households and lower skilled migrants. (Angelucci, 2015). Although their significance is limited outside of the poorest home countries and many authors believe migration decision making is based on a complex system of macro, micro and meso socio-economic and political drivers (Yang, 2003; Dao et al., 2018).

The critical point for migration decision-making is to estimate the net return on migration, when the benefits of migration are offset by financial costs, including the loss of earnings in the home country, the required investment, the estimation of employment probability in the host country and the period of time before they can achieve returns.

According to Borjas (1987) net returns in each future period are estimated by taking the observed earnings corresponding to the individual's skills in the destination country and multiplying these by the probability of obtaining a job there to obtain "expected destination earnings." These expected earnings are then subtracted from those expected in the community of origin (observed earnings there multiplied by the probability of employment) and the difference is summed over a time horizon from 0 to N , discounted by a factor that reflects the greater utility of money earned in the present than in the future. From this integrated difference the estimated costs are subtracted to yield the expected net return to migration (Borjas, 1987; Massey et al., 1993).

Potential migrants need to evaluate if their skills, education and human capital level is enough to offset the cost of moving. Many scholars believed that the level of skills is directly linked to the moving costs, which are also key to the positive self-selection (Chiswick, 1999; Constant and Massey, 2003). If migration costs are fixed or tend to decline with the skill level of individuals (Brucker and Trubswetter, 2007, Chiquiar and Hanson, 2005; Grogger and Hanson, 2011), then the predictions of the Roy-Borjas model (Roy, 1951; Borjas, 1987) can be easily reversed. Brucker and Defoort (2009) also advocated that higher moving costs and higher immigration barriers are associated with a favourable skill bias of the migrant population.

The probability to increase earnings through migration is becoming higher due to the demand for highly skilled labour and the closing gap in education and skills between home and host countries. If the Roy-Borjas model highly skilled migrants seemed to get the worse deal when moving abroad (in comparison to lower skilled migrants), recently globalisation has made it possible for highly skilled migrant to transfer their skills internationally and increase their earnings. Due to globalisation in education and rising demand for skills, wages inequality has been reducing for highly skilled workers, thus making it more attractive for them to migrate (Baldwin, 2006; Martins and Pereira, 2004).

2.7.2 Information Uncertainty

The Borjas (1987) theory on calculating the costs of migration would be true but only in case a migrant has the correct information about full costs of migration, including wages in the receiving country and wages in the sending country. This, however, is very unlikely, as it is seldom that information is available on the costs of migration (as it is hard to estimate non-pecuniary costs) and often migrants cannot exactly predict their actual market value in the receiving country (Chau and Stark, 1999; Bertoli, 2010).

The information constraints can present a considerable barrier to estimating the true value of return to migration. Bertoli (2010) argued that the 'informational structure that underlies most of the theoretical representations of the decision problem that would-be migrants face, assumes either explicitly or implicitly, a perfect knowledge of foreign wages before migration occurs (Bertoli, 2010, p. 91). He claimed that if only domestic wages are known for certain, the theoretical predictions with respect to migrants' self-selection in unobservable qualities may change.

Katz and Stark (1987) suggested a model of asymmetric information, which suggests that even if potential migrants know their true productivity and their employers in the origin country have, over time, learned each worker's true productivity, employers in the destination country cannot differentiate among high ability and low-ability migrants (Katz and Stark, 1987; Chau and Stark, 1999;). Employers in the home country pay wages in accordance with each worker's true productivity, while employers in the host country pay wages according to the expected (average) productivity of their migrant workers. High-ability migrant workers will experience a smaller wage differential and higher forgone earnings than low-ability migrant workers will, and therefore they will have less incentive to migrate. Chiswick (1999) cautioned that if employers can never detect true ability differences among migrant workers there would be adverse selection. He suggested that the increase in low-ability migration relative to high-ability migration could potentially drive down the expected wage of migrants in the destination, further discouraging high-ability migration (Chiswick, 1999, p. 183).

In the current labour market, migrant can access information on wages through online information resources, thus removing geographical and social capital barriers. Such technological developments can have an impact on the level of migrants' information uncertainty, as many migrants perform information searches before they make a decision to migrate and during migration (Dekker et al., 2018). Migrants use the Internet and social media for their information searches on jobs, wages, housing, education, qualifications and many other topics connected to migration (Hamel, 2009). Some researchers believe that such information may influence their decision making regarding if and where to migrate (Dekker et al., 2018). Thus, the Internet has had an effect on information uncertainty regarding pecuniary costs of migration. It has also had an impact on the non-pecuniary costs of migration through online social media. The non-pecuniary factors in migration are discussed below.

2.7.3 Non-Pecuniary Benefits and Costs

Financial incentive is not the only reason individuals migrate. People also move for “noneconomic” reasons, including the desire to accompany or join family members (‘tied movers’), escape from real or perceived threats to their freedom or safety because for their class, religion, race or other characteristics (‘refugees’), and ideological (including religious) reasons. The favourable self-selectivity for labour-market success would be expected to be less intense among those for whom migration is based primarily on factors other than their own labour market success.

However, even in the case of highly skilled migrants who are more likely to migrate if they can obtain better return to education and skills elsewhere, financial reasoning is not the only the force behind their intention to move. Some scholars argue that non-monetary reasons are highly important instigators of migration especially among well-educated international movers (Winchie and Carmant, 1989). Some authors go further and believe that highly skilled migrants migrate for many reasons *but* financial. As a lot of highly skilled workers are already well rewarded in their countries, financial incentive may not be the strongest reason to leave their home country. Molho (2013) reinforced this argument stating that not only monetary but a whole variety of economic, social and environmental factors are affecting migration decisions, thus breaking with the early emphasis on wage differentials alone and purely labour market related influences.

Human capital approach to migration has been developed as a response to theoretical models that predominantly focused on the economic costs of migration and argued that migration costs include not only economic costs (real resources) but also non-economic ‘psychic’ costs and pointed out that ‘migration cannot be viewed in isolation; complementary investments in the human agent are probably as important or more important than the migration process itself’ (Sjaastad, 1962, pp. 92-93).

In the application of human capital approach to geographical mobility individuals measure the costs and benefits of a move and undertake the move if the net present value is positive (Bowles, 1970).

Todaro’s model of economic self-interest (1969) stated that migrants act in self-interest, be it economic or non-economic costs of migration. Hence their consideration would be twofold: the move has to be financially attractive, but also offer non-economic benefits, such as career development, safer environment for their families, better education for

their children, better health care, better retirement conditions, cleaner environment or other social and psychological aspects of life that they cannot obtain at home.

The non-pecuniary costs can also be considerable for potential highly skilled migrants. The older and the more experienced migrants are, the higher their 'psychic' costs would be, including cutting ties with the community of origin, losing their professional community position, difficulties with language, long distance relationship with their family, etc. Interestingly, the effects of a strong social network and desirable location characteristics on individual migration decisions are more important for highly skilled migrants than the effect of wage or housing cost differentials between the destination and the origin (Michaelides, 2011).

The recent developments in the Internet communications offered migrants an opportunity to keep in touch with their family and friends in their home country, as well as to connect to other migrants in the host country through online social media. This undoubtedly had an effect on the non-pecuniary costs of migration (Dekker et al., 2014; Dekker et al., 2018).

2.7.4 Motivation

There has been an ongoing debate about motivations to migrate for highly skilled migrants. For a long time the main theory used to understand motivation to emigrate was the so-called 'deficiency model'. The premise of this model is that potential migrants have fewer personal and social resources than the general population (Littlewood and Lipsedge, 1989). They are maladjusted and suffer social failure and adversity in their countries of origin (Odegard, 1932). According to this model, 'every migratory movement is motivated by the migrant's feeling of some kind of insecurity and inadequacy in his original social setting' (Eisenstadt, 1954, pp. 1-2).

However, application of the deficiency model to the modern migrants is not proving to be successful anymore. Often, those who choose to emigrate, and especially highly skilled migrants, are precisely the individuals with the greatest personal resources, human capital and flexibility (Tartakovsky and Schwartz, 2001). This has led to calls for replacing the deficiency model with a broader theory of emigration, which will recognize not only the weaknesses and deficiencies of some emigrants but also the strengths and abilities of others (Tartakovsky and Schwarz, 2001).

Schwartz devised the theory of values (Schwartz, 2012; Sagiv, 2011) which is another approach that has tried to explain motivations to migrate. It specifies a comprehensive set of ten motivationally distinct types of values, the relationship between them being complex, leading to connection between some and contradiction between others. The ten motivations were: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, security.

Tartakovsky and Schwartz (2001) later proposed three theoretically distinct motivations to emigrate: preservation, self-development and materialism. These are independent motivations that may simultaneously influence any potential emigrant to some degree. Thus they provide a more complex, multidimensional approach to motivation for migration than the earlier deficiency model as well as the single bipolar dimensions in the literature, such as pull and push factors. These authors believe that these motivations relate to values, group identifications, subjective wellbeing and economic situation. Other attitudes to consider are social networks, political attitudes, and personality variables (such as thrill-seeking, introversion) and age, education, religiosity.

The link between motivations to migrate and the structural theory of basic human values (Schwartz, 2012) suggested a fourth motivation, tentatively labelled idealism by Tartakovsky and Schwartz (2001). It expresses self-transcendence, the fourth higher-order value. This is a motivation to build a utopian society for one's community. This motivation should correlate positively with self-transcendence values and negatively with self-enhancement values.

It is important to note that motivations will vary depending on the type of migrants (refugees, family, highly skilled, etc.) and on the characteristics of their home country (well-developed or less-developed). Tartakovsky and Schwarz (2001) believe that the observed associations of the motivations to emigrate with basic values should hold across contexts. However, other associations of the motivations are doubtless more context-bound. For example, materialism motivation would probably be less important among refugees, and self-development motivation less important among elderly emigrants, however materialism and self-actualisation will be important for highly skilled migrants. The relations of motivations to emigrate are very variable, thus it is important to understand the socio-historical context and group characteristics of the potential migrants (Tartakovsky and Schwarz, 2001).

The Tartakovsky and Schwarz approach are loosely based on the Maslow pyramid (Maslow et al., 1970) which is still very instrumental for the analysis of highly skilled migration motivations. In 1970 Maslow outlined a motivational hierarchy consisting of five categories of human needs arranged in ascending order:

- physiological basic needs satisfied by such stimuli as food and sleep
- security need for a safe environment free from immediate threat
- social affiliative and love needs
- a desire for social acceptance
- esteem, need for enhancement and acceptance of self
- self-actualization, striving for full realization of unique characteristics and potentials

The key notion in the model is that as a need category lower in the hierarchy becomes satisfied, its determination of behaviour diminishes, and the next higher need category becomes important. Although this hierarchy has been devised for all human behaviour, it is remarkable how well it fits the analysis of migration motivations. Some have argued that the need hierarchy may unfold over a lifetime (Deci et al., 1975; Wahba and Bridwell, 1976). Indeed, migrants' needs become more sophisticated as they establish themselves in the host country.

According to Maslow (1970) as well as other humanist writers, such as Fromm (1975; 2014) and Rogers (1961), man has an essential striving toward growth that is prevented only by socio-cultural conditions from reaching fulfilment (Cofer and Appley, 1964). Thus, according to this theory, highly skilled migrants who may find themselves on the fourth or fifth level of the Maslow Pyramid, will be striving to reach the next stage of self-actualisation through looking to reach their full potential elsewhere. Hence, the reason for highly skilled migrants to migrate can be drawn from dissatisfaction in their source country and they would be driven not only to increase their wages and return to education and skills, but also improve their life satisfaction level through the achieving higher realisation of their potential.

2.8 *FSU Highly Skilled Migrants*

There was very little internal and international migration in the USSR due to the legal restrictions on movement of the population (Andrienko and Gureev, 2005). At the start of 1990's "the state of emigration drastically increased in Russia with annual outflow that exceeded 100,000 people", including researchers and engineers, which was made possible due to the 1991 Law on Employment, that stipulated the right of Russian citizens to take employment abroad (Gokhberg and Nikepelova, 2002, p. 177).

The recent outmigration from the former Soviet Union (FSU) started after the collapse of the USSR, with the introduction of the law in 1989, which allowed Jews to leave the country (Gokhberg and Nikepelova, 2002). Considerable numbers of ethnic Jews and Germans moved from the FSU to Germany, Israel and some to the US on the basis of their ethnic heritage (Dietz, 2010; Gokhberg and Nikepelova, 2002; Isurin and Riehl, 2017). From 1990 to 1999 Germany admitted about 1.63 million ethnic Germans and 120,000 ethnic Jews (Dietz, 2010; Isurin and Riehl, 2017). From 1990 to 1997 Israel admitted over 710,000 Russian Jews (Cohen and Hsieh, 2001). In 2015, "the Russian Federation had the third largest population of its citizens living abroad in the world", counting over 10 million (IOM, 2017, p. 68).

Emigration to the United Kingdom was not numerous before 1990, as there was only a very small number of Russian migrants in the OECD countries, including in the United Kingdom (Gokhberg and Nikepelova, 2002; Byford, 2012; Morgunova, 2013). However, since the early 1990s the flow of migrants from the FSU to the UK has increased dramatically, with some migration reports citing over 300,000 Russian speaking migrants (Byford, 2012; IOM, 2007).

Russian speaking migrants in the UK have mainly arrived in greater numbers due to the HSMP (Highly Skilled Migrants Programme), which run between 2001 and 2008, and due to the expansion of the EU in 2004, which enabled citizens of some former USSR republics to come to the UK. Although their nationality is not the Russian Federation, Russian is still their native language. Therefore, citizens of Ukraine, Belarus, Moldova, and the Baltic States, as well as other FSU countries, use Russian for communicating with each other.

Some researchers state that there may be between 300,000 and 400,000 Russian-speaking migrants in the UK (Byford, 2012; Morgunova, 2013). The Office of National Statistics

indicates that there was officially 59,000 Russian-born and 28,000 Ukrainian-born in the UK in 2017, which is a considerable increase from 14,000 Russian-born in February 2001. In 2017, according to the Office of National Statistics, there were more women than men migrants in the UK (Russian-born 22,000 (37%) men and 37,000 (63%) women; Ukrainian-born 11,000 (39%) men and 16,000 (57%) women). Amongst them, only 39,000 had Russian nationality (14,000 men and 25,000 women) and 17,000 (6,000 men and 11,000 women) had Ukrainian nationality, meaning that 37% of Russians (36% men and 32% women) and 39% of Ukrainians (45% and 31% women) had British nationality (ONS, 2017). Thus, it is evident that there are more female than male Russian-speaking migrants in the UK.

Most of the Russian migrants have tertiary education. A large proportion of Russian immigrants in Israel were highly educated, about 60%, as opposed to 30% to 40% of native Israelis (Cohen and Hsieh, 2001). However, many FSU migrants suffered substantial downward occupation mobility and deskilling due to low language proficiency and skills that were not robust substitutes for local skills (Cohen and Hsieh, 2001).

Russian migrants in the UK were initially very highly skilled and consisted of scientists and engineers, however, as the requirements for migration were relaxed migrants from a broader pool of professions gained access into the UK. Some of them experienced deskilling, due to non-validation of their degrees, insufficient level of language skills and lack of social and professional networks. However, employing coping strategies, such as local degrees, professional reorientation, small business development, etc. helped migrants to close the gap over a period of time. Notably, the levels of unemployment appeared to be low (Markova and Black, 2008).

2.9 Success of Migration and Wellbeing of Migrants

The success of migration is largely judged by the satisfaction migrants achieve in their host countries, hence making wellbeing an important measure of successful migration (Austin, 2007; Kahneman et al., 2004). This is particularly relevant for migrants, when the costs of migration have to be justified with achieved benefits, as potential migrants base their decision on ‘an assessment of the anticipated future stream of benefits and costs (both monetary and psychic) as a consequence of migration’ (Molho, 2013, p. 529).

There are several possible predictors of migrants' success. Firstly, accumulating social capital should increase with length of time in the host country (Ng et al., 2005). Secondly, the acculturation strategies adopted by migrants as they interact with their new cultures can facilitate new career opportunities (Berry, 1997). These strategies vary in two basic dimensions, assimilation to the new culture and retention of the home culture (Berry, 1997). Thirdly, the social support available to migrants from both their own cultural communities and from the host community can increase their social capital and affect their level of satisfaction (Lirio et al., 2007; Tharmaseelan et al, 2010). Migration success is also strongly connected to social networks that play an important role in wellbeing, life satisfaction and their assimilation process (Safi, 2010).

2.10 Summary

This chapter explored the issues of migration and provided a discussion on migration theories and migrants' typology to outline the background for the issues that migrants face on their migration journey. The chapter focused on the highly skilled migrants and explored the impact of personal factors on their migration, as well as the cost-benefit analysis of migration. The FSU highly skilled migration were discussed to help better understand the profile of the case study migrants' group in this research. The issues of successful migration and its' relevance to wellbeing were investigated to help provide the background for the framework of migrants' wellbeing. The next chapter explores the issues of migrants' wellbeing, acculturation, social networks, social support and online social media in relation to migration.

3 LITERATURE REVIEW ON MIGRANTS’ WELLBEING, ACCULTURATION and SOCIAL NETWORKS

3.1 *Introduction*

The previous chapter has outlined a number of traditional theoretical approaches to migration that have been dominant throughout the history of research on this topic. The growing trend of shifting from lower skilled to highly skilled labour suggests that further knowledge is required to understand how skilled migrants build their transnational sociocultural identities and achieve better wellbeing in the host country. The importance of social wellbeing within the context of human migration cannot be underestimated, as migration is “one of the main processes that have contributed to the culturally pluralistic nature of many nations” (Li and Chong, 2012, p.31).

Wellbeing is one of the significant factors for national socioeconomic development. It is particularly important for migrants as it is linked to their integration, life satisfaction and labour participation in the host country. Wellbeing is also linked to social support and social capital, that have traditionally played a significant role in migration. Recent developments of computer mediated communications prompted expansion of social networks into online domain, where online social media has had a considerable impact on the way people connect with each other. It has potentially had a transforming impact on migration experiences through opening up new ways to maintain old and new social ties, facilitate bridging social capital and latent ties, accelerate information sharing and expand social capital.

As this study aims to explore the effects of online social networks on migrants’ wellbeing, this chapter examines the existing literature on wellbeing, acculturation, social networks, social support and online social media. The literature review in this Chapter informed the research design of the study and facilitated the interpretation of findings achieved through empirical research.

3.2 *Wellbeing*

3.2.1 *Introduction*

Wellbeing is often used as a barometer of satisfaction with life (Cummins et al., 2003) and an integral part of a country's economic and social development, alongside its national GDP and other socio-economic factors (Cummins, 2002; Forgeard, 2011; Conceição and Bandura, 2008). On the national level, the World Health Organisation proposed the definition of quality of life¹ that is widely used to measure countries' living standards:

“An individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment” (World Health Organisation, 2018).

Thus, on a micro-level, wellbeing is an integral part of a human's life. On a macro-level, it is considered as an important socio-economic indicator of national public health alongside other economic and social development measures (Cummins, 2002; Forgeard, 2011; Conceição and Bandura, 2008). On a meso-level, wellbeing is interlinked with social cohesion and human environment. They are especially important for migrants due to their effects on both local and migrant communities (Spoonley et al., 2005; Cheong et al., 2007).

This section explores the literature on the concept of wellbeing, its application to the post migration adaptation of migrants, wellbeing measuring frameworks, significant predictors of wellbeing and wellbeing in Russia.

3.2.2 *Defining Wellbeing*

Wellbeing as a social construct is not easy to define or measure, as it may include different indicators and variables (Diener, 1984; Ryff, 1989; White, 2008; Dodge et al., 2012; Thomas, 2009). In the absence of clear guidance and “blurred and overly broad definitions” (Forgeard et al., 2011, p. 81), this “intangible, difficult to define and even

¹ <http://www.who.int/healthinfo/survey/whoqol-qualityoflife/en/>

harder to measure” (Thomas, 2009, p. 11) construct, has been a challenge to conceptualise and determine (Dodge et al., 2012).

Historically, there are two approaches to understanding wellbeing: the *hedonic* tradition, which encompasses constructs such as happiness, positive affect, low negative affect, and satisfaction with life (Bradburn, 1969; Diener, 1984; Kahneman et al., 2004; Lyubomirsky and Lepper, 1999); and the *eudaimonic* tradition (from Aristotle’s idea of Eudaimonia), which is embedded in positive psychological functioning and human development (Rogers, 1961; Ryff, 1989; Waterman, 1993). Another modern approach has evolved recently to see wellbeing as a multi-dimensional construct (Diener et al., 1999; Michaelson et al., 2009; Stiglitz et al., 2009; Dodge et al., 2012). Although its multi-faceted nature can better capture this notion, it may also lead to an overly wide diversity of dimensions, which have been explored in numerous theories proposed over the years (Jung, 1933; Rogers, 1961; Maslow, 1968; Bradburn, 1969; Buhler, 1968; Riff, 1989; Dodge, 2012).

Ryff (1989) called wellbeing a positive psychological functioning and noted a number of theories that underpin wellbeing, including formulation of individuation by Jung (1933); Jahoda’s (1958) positive criteria of mental health; Erikson’s (1959) psychosocial stage model; conception of maturity by Allport (1961); model of the fully functioning person by Rogers (1961); Neugarten’s (1968) description of personality change; Buhler’s basic life tendencies that work toward the fulfilment of life (1935; 1968) and Maslow’s concept of self-actualization (1968). They have all become the foundation for critical thinking around wellbeing as a construct and the basis for more inclusive modern definitions (Ryff, 1989).

One of the first theories was suggested by Bradburn (1969) who investigated how people coped with everyday life and considered physiological wellbeing, or happiness, as a factor of primary importance (Bradburn, 1969). His concept was built on Aristotle’s idea of Eudaimonia, which is translated as wellbeing, and the belief that it should be the overarching goal of all human actions (Dodge et al., 2012). Bradburn based his concept on the juxtaposition of positive and negative effects, such as:

“an individual will be high in psychological well-being in the degree to which he has an excess of positive over negative affect and will be low in well-being in the degree to which negative affect predominates over positive” (Bradburn, 1969, p. 9)

As the concept of wellbeing was developing, some researchers sometimes used it interchangeably with quality of life or life satisfaction, whereas some claimed that wellbeing is much wider notion of individuals' perception of their life. Forgeard et al. (2011) noted that 'some researchers have preferred to ignore the multifaceted nature of wellbeing and equate it with one construct (often life satisfaction), leading to the unfortunate omission of other important aspects of wellbeing' (Forgeard et al., 2011, p. 81).

Dodge et al. (2012) argued that:

"A narrow emphasis on quality of life cannot adequately help us to define wellbeing, indeed, it would seem that quality of life appears to be a dimension of wellbeing rather than an all-embracing definition" (Dodge et al., 2012, p. 224).

Ryff (1989) also claimed that the notion of life satisfaction does not capture wellbeing holistically, as "despite its more enduring, long-term quality, it has failed to monitor such features of well-being as autonomy, personal growth, and positive relations with others" (Ryff, 1989, p. 1077).

A list of variables that act as building blocks for wellbeing was suggested by Ryff (1989) and included "self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life and personal growth" (Ryff, 1989, p. 1072).

But many researchers also believed that wellbeing assessment was personal to each individual, thus their subjective opinion was paramount. In 1978 Shin and Johnson developed a definition of "a global assessment of a person's quality of life according to his own chosen criteria" (Shin and Johnson, 1978, p. 478; Dodge et al., 2012). The concept of subjective wellbeing is explored next.

3.2.3 Subjective Wellbeing

Many scholars started to distinguish between different types of wellbeing, such as economic, social or personal wellbeing (Diener and Suh, 1997). Diener and Suh (1997) developed those ideas further, looking at personal wellbeing, and defined the concept of 'subjective wellbeing' (SWB) as:

"Subjective well-being, which consists of three interrelated components: life satisfaction, pleasant affect, and unpleasant affect. Affect refers to pleasant and

unpleasant moods and emotions, whereas life satisfaction refers to a cognitive sense of satisfaction with life” (Diener and Suh, 1997, p. 200).

SWB includes three components: the presence of positive affect (happiness), cognitive dimension (life satisfaction) and absence of negative affect (Diener et al., 2002; Bak-Klimek, 2015). The two main theories of SWB include top-down and bottom-up approaches (Compton and Hoffman, 2012; Diener, 1984). As described by Bak-Klimek et al. (2015):

“According to the top-down model, individual differences in well-being are affected by broad personality and dispositional factors such as personality traits, locus of control and self-esteem (Diener and Biswas-Diener, 2000). In contrast, the bottom-up model states that individual differences are the result of life experiences and circumstances such as income, education and marital status (Diener, 1984). Empirical evidence indicates that well-being is the by-product of both sets of factors (Diener et al., 1999)” (Bak-Klimek et al., 2015, p. 162)

Thus, subjective wellbeing was largely based on the notion of personal effects, such as happiness. However, Shah and Marks (2004) believed that wellbeing encompasses more than just happiness, but an overall ‘good life’ – “a flourishing society, where citizens are happy, healthy, capable and engaged – in other words with high levels of well-being” (Shah and Marks, 2004, p. 2). Those authors described wellbeing as:

“well-being is more than just happiness. As well as feeling satisfied and happy, well-being means developing as a person, being fulfilled, and making a contribution to the community” (Shah and Marks, 2004, p. 2).

Ryff (1989) supports this idea and claims that the emphasis on happiness is short-term, and more weight should be given to “more enduring life challenges such as having a sense of purpose and direction, achieving satisfying relationships with others, and gaining a sense of self-realization” (Ryff, 1989, p. 1077). According to Ryff (1989) wellbeing should be viewed over longer term, rather than measured by short term indicators.

Thus, overall, wellbeing emphasises ability to fulfil goals (Foresight Mental Capital and Wellbeing Project, 2008); happiness (Pollard and Lee, 2003); life satisfaction (Diener and Suh, 1997; Seligman, 2002); personal development and positive relationships with others (Ryff, 1989). Wellbeing also incorporates individual’s perception of their current

situation and their aspirations (Felce and Perry, 1995; Dodge et al., 2012). The notion of wellbeing equilibrium, challenges and resources is explored next.

3.2.4 Wellbeing Equilibrium

The idea of an equilibrium of wellbeing has been popular with scholars who attempted to examine the impact of life events on people's sense of wellbeing. The set-point theory or the dynamic equilibrium theory of wellbeing suggests that there are links between personality, life events, wellbeing and ill-being (Headey and Wearing, 1989; Dodge et al., 2012). The essence of the theory is that "individuals tend to return to a baseline of happiness even after major life events" (Dodge et al., 2012, p. 226). The construct of a subjective wellbeing has been introduced to explain that "for most people, most of the time, subjective well-being is fairly stable. This is because stock levels, psychic income flows and subjective well-being are in dynamic equilibrium" (Headey and Wearing, 1991, p. 49 in Dodge et al., 2012, p. 226).

The 'stable stocks' (or personality characteristics/personality types) were the base point for wellbeing, which was then affected by other factors, such as social background, social networks, and further influenced by life events, leading to either positive or negative affect and life satisfaction (Dodge et al., 2012).

This model was later developed by Cummins et al. (2002), who proposed a Theory of Subjective Wellbeing Homeostasis, where 'equilibrium' was replaced by 'homeostasis' and 'life events' by 'challenges' (Dodge et al., 2012). The stronger the challenges, the less individuals can cope with them, the lesser level of wellbeing they can achieve.

3.2.5 Wellbeing Challenges and Resources

Challenges were needed to stimulate personal development, which was a corner stone of wellbeing. A theory by Csikszentmihalyi (2015) suggested a link between skills and challenges that affected wellbeing, where high challenges and low skills resulted in anxiety, whereas high skills and low challenges resulted in boredom, and the flow channel in between was the most conducive of wellbeing, which can be linked to dynamic equilibrium theory of wellbeing (Csikszentmihalyi, 2015; Dodge et al., 2012).

Dodge et al. (2012) further developed that and suggested a simplified concept of wellbeing definition, which focused on three key areas:

“The idea of a set point for wellbeing; the inevitability of equilibrium/homeostasis; and the fluctuating state between challenges and resources, proposing a definition of wellbeing as the balance point between an individual’s resource pool and the challenges faced” (Dodge et al., 2012, p. 230).

This concept included resources (psychological, social physical) at one end and challenges (psychological, social and physical) at the other end with wellbeing in between – the lesser the resources, the harder the challenges and vice versa (Dodge et al., 2012).

This construct suggested that life events played a considerable role in personal wellbeing, triggering the challenges and resources available to the person. Migration as a life event presents considerable challenges and requires substantial resources, thus making the concept of wellbeing equilibrium particularly relevant for migrants, who involve sufficient resources to deal with challenges of migration. Wellbeing for migrants is discussed below.

3.2.6 Wellbeing for Migrants

Wellbeing is an integral part of migration and plays an important role in migrants’ life post-migration (Austin, 2007; Kahneman et al., 2004). Recently wellbeing has become a better measure of a successful society, shifting the focus from economic affluence to personal fulfilment of one’s goals, social participation and satisfactory quality of life. It has also taken more prominence in migration research (Helliwell and Putman, 2004; Cough and McGregor, 2007; Wright, 2011; De Jong et al., 2002; de Haas, 2009).

For migrants, the concept of wellbeing is extremely important. Individual agents battle with challenges, that they encounter in post-migration stage, and employ limited resources to cope with stress in the host country (Ryan et al., 2008). The balance between migration challenges and available resources can differ between individual migrant and should be accessed through empirical observations and measuring their individual wellbeing. The next sections explore migration challenges and resources in relation to wellbeing; wellbeing equilibrium for migrants; and wellbeing factors and measures that are used to assess migrants’ wellbeing.

3.2.6.1 Migration Challenges and Wellbeing

Migration has been recognised as one of the most significant stressful life events (Bhugra, 2004; Bak-Klimek et al., 2015). Migrants are presented with multiple challenges, such as

language barrier, new cultural norms, loss of social, familial and support networks, as well as deskilling, underemployment and discrimination (Khavarpour and Rissel, 1997; Sim et al., 2007; Thompson et al. 2002; Weishaar, 2008; Bak-Klimek et al., 2015). This can sometimes result in psychological distress, such as anxiety and depression (Griffin and Soskolne, 2003; Huan and Spurgeon, 2006; Lindert et al., 2009; Sharma and Jaswal, 2006; Bak-Klimek, 2015).

Migration is and can be a very stress-inducing phenomenon (Brugha, 2004). Many studies on happiness and wellbeing amongst migrants have found empirical evidence that both internal and international migrants can be unhappy and dissatisfied (Bartram, 2011; Knight and Gunatilaka, 2010; Safi, 2009; Stillman et al., 2015). According to WHO (2001) “migration usually does not bring improved social well-being and instead may result in increased risk of mental disorders” (WHO, 2001 in Stillman et al., 2015, p. 79).

The concept of culture shock, originally proposed by Oberg (1960), describes the challenges faced by migrants when settling in a new and different to them community that requires adjustment. Adler (1977) suggested that adjustment can be seen as a recovery process when migrants gradually move back up the hierarchy toward self-actualization, which involves people overcoming insecurity, overcoming loneliness and overcoming self-confusion, in other words, recovering from the migration stressor (Oberg, 1960; Adler, 1977, Zhou et al., 2008). It is important that migrants have sufficient resources to help them through that journey.

However, migrants often experience financial and employment pressures, language barriers, integration challenges, loss of culture, reduced social support in new communities (Fu Keong Wong and Song, 2008; Schweitzer et al., 2006; Carswell et al., 2011). The reduction in social and human capital resources can also have an adverse effect on migrants’ wellbeing (Ryan, 2011).

There is a lot of evidence that even as migrants improve their economic wellbeing, their subjective wellbeing can still lag behind, as their aspirations grow alongside their financial capabilities, but their achievements fail to match those of native peers, as pointed out by Stillman et al. (2015):

“Even though there may be gains in material well-being by moving to where incomes are higher, happiness and other components of subjective well-being may be reduced by migration. (Knight & Gunatilaka, 2010).

The reason, suggested in the literature, for such apparent contradiction is the “adaptation theory”, which states that that happiness not only depends on income but also on aspirations (Knight and Gunatilaka, 2010).

Stillman et al. (2015) noted that migration may raise migrants’ aspirations moving achieving goals further out of reach thus reducing their wellbeing:

“Even though there is a rise in absolute incomes, the aspirations of migrants may have risen by even more when they observe the high incomes in their new environment, and these unmet expectations cause frustration and reduce subjective well-being.” (Stillman et al., 2015, p. 90)

Conversely, some researchers argue that economic migration is linked to personal values and personality traits as well as to certain expectations of achieving broader life goals (De Jong et al., 2013; Wright, 2011).

Some researchers believed that the reason for that could be the personality of migrants, as “previous research is not able to rule out selectivity biases, whereby unhappy people are more likely to migrate” (Stillman et al., p. 90).

Another consideration is the expectations baseline in relation to opportunities available to native communities. Migrants often do not have equal access to benefits and opportunities available to native people (e.g.: no recourse to public funds for some types of visas in the UK; lack of local qualifications, local social networks, etc.), meaning that migrants cannot transfer to the same social and professional level immediately on arrival. Migrants often experience financial and employment pressures, language barriers, as well as challenges of integration, loss of culture, and social support in new communities, which lower their chances of competing with native peers professionally, economically and socially (Fu Keong Wong and Song, 2008; Schweitzer et al., 2006; Carswell et al., 2011).

Migration is without a doubt a stress-inducing phenomenon and the consequences of the move are profound for the actors (Bhugra, 2004). However, there is also evidence that migrants can show particular resilience in the face of migration stressors which allows them to better cope with migration challenges and employ additional resources.

Although migrants’ life satisfaction may often decrease post-migration (De Jong and Steinmetz, 2006), they can also exhibit resilience that allows them to better deal with challenges of migration (Wright, 2012).

3.2.6.2 Migrants' Resources and Wellbeing

Empirical evidence suggests that economic migrants can be healthy, resilient and able to respond positively to the potential health hazards during the process of migration (Bak-Klimek, 2015; Ali, 2002; Ng et al., 2005; Singh and Siahpush, 2001; Stephens et al., 1994).

Highly skilled migrants may display resilience and increased capabilities of coping with the challenge of migration due to factors such as self-selection, community benefit, pre-existing social norms in home countries and other factors (Wright, 2012). The obvious linkages between mobility and human wellbeing suggest that increased individual mobility may lead to acquisition of new capabilities that increase collective social, political and economic freedoms (Brugha, 2004; Wright, 2012; de Haas, 2009).

Difficulties with sociocultural adaptation, including culture shock, have been strongly associated with migration (Furnham, 1986; Black et al., 1991), as mentioned in the section above. Migration makes behavioural demands on an individual (Taft, 1973) and is almost invariably accompanied by various manifestations of emotional disturbance, which Oberg (1960) has termed "culture shock", illustrating the experience of the new culture as a sudden unpleasant feeling that may violate expectations of the new culture and cause one to evaluate one's own culture negatively (Furnham, 1986).

However, more modern thinking on culture adaptation has brought forward concepts of 'culture learning', 'stress and coping' and "social identification", which address cognitive, social and behavioural adaptation of migrants (Zhou et al., 2008). The concept of "culture synergy" better reflects the modern pattern of skilled migrants' adaptation, as it allows migrants to share and borrow between cultures, thus reducing the threat to migrants' identity (Cortazzi and Jin, 1997; Zhou et al., 2008).

3.2.6.3 Balance Between Resources and Challenges

The balance between resources and challenges is particularly relevant for migrants, as they battle with post-migration challenges and have only limited resources to cope with stress in the host country (Ryan et al., 2008).

Wellbeing for migrants is a multilevel, dynamic and value dependent phenomenon (Prilleltensky, 2008). It is not a simple down or upward curve, but a multifaceted process.

One of the views that perceive migration causing subjective well-being to fall, are not straightforward (Stillman et al., 2015). Stillman et al. (2015) reviewed the effects of migration on wellbeing and found complex effects that included:

“Mental health improving but happiness declining, self-rated welfare rising if viewed retrospectively but static if viewed experimentally, self-rated social respect rising retrospectively but falling experimentally, and subjective income adequacy rising. These complex changes in subjective well-being contrast with uniformly large improvements in objective measures such as incomes and expenditures.” (Stillman et al., 2015, p. 91)

The view that migrants’ wellbeing is a composite of various factors has been echoed by other researchers. As pointed out by Bobowik et al. (2015) “immigrants reported especially higher eudemonic well-being: social contribution and actualization, personal growth, self-acceptance, and purpose in life, and lower levels of wellbeing only in terms of positive relations with others and negative affect” (Bobowik et al., 2015, p. 189).

From the micro-economic perspective, many migrants migrate because they want to improve their well-being and they potentially consider the costs of migration challenges at the start of the journey, deciding that benefits will outweigh the costs. Migration can improve livelihoods, security, political freedoms, personal and professional development, but also negatively affect migrants’ wellbeing (de Haas, 2009; de Haas, 2003):

“The more instrumental reason is that the act of migrating – the move to a place offering more opportunities in terms of work, education, political rights, safety, health care – may also give people the capabilities to increase their social, economic and political freedoms, and that the prospect of acquiring such capabilities often strongly motivates people to migrate, even if the act of migrating itself does not positively affect or even decrease their well-being” (de Haas, 2009, p. 22).

Migrants’ wellbeing is highly correlated with socio-economic mobility and integration with the hosts, as both objective and subjective aspects of immigrants’ integration mitigate the effects of acculturative stress (Berry et al., 1987; Wu and Mac, 2012; Bobowik et al., 2015). The effect of social support is also particularly prominent in migration as it helps to combat stress and improve migrants’ wellbeing (Bobowik et al., 2015).

The issues connected to migrants' wellbeing are complex and some scholars believe that it can only be correctly assessed by migrants themselves, as they differ in personality traits, personal circumstances, economic situation, social positioning, cultural background, ethnicity, gender, age and other characteristics (Wright, 2011).

As migrants' wellbeing involves so many factors that can play either a positive or a negative role, the next section provides an overview of wellbeing measuring frameworks that were used in the research design of this study.

3.2.7 Measuring Wellbeing

Measuring wellbeing has not been an easy task for researchers, as theoretical and empirical approaches offer different choices to fit with chosen parameters, but may simultaneously create confusion (Ryff, 1989; Dodge et al., 2012). It has been argued that wellbeing should be measured in more detail to reflect its complexity. A framework that included six aspects was proposed by Ryff (1989, p. 1072), including self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, personal growth.

Several scales have also been proposed to measure the concepts of wellbeing, life satisfaction and quality of life. One of the most known is the Satisfaction with Life Scale (SWLS), which was developed by Diener et al. (1985) and has been widely used by researchers.

Other scales include:

- Satisfaction with Life Scale (Pavot and Diener, 1993)
- Life Satisfaction Scale (Bachman et al., 1967)
- General Well-Being Schedule (GWB) (Fazio, 1977)
- Scale of General Psychological Wellbeing (Ryff, 1989)
- Oxford Happiness Questionnaire (Hills and Argyle, 2002)

Wellbeing and life satisfaction have been also measured in national and international surveys, including OECD, Europe and UK-wide population surveys, World Value Survey and many others.

Alongside a multi-question approach to measuring well-being and quality of life, life satisfaction can also be measured with a single question of how happy respondents feel at the time (emotional component) or how satisfied with life they feel at the time (cognitive component) (Cummins et al., 2002; Zhou et al., 2008).

The choice of measuring approaches depends on the aims and objectives of a study and are reflected in the research design. The current study has used a combination of indicators to measure wellbeing of migrants, building on the literature above and employing questions on their life satisfaction, integration, personal growth, social mobility, social support and other aspects of migrants' life, as well as a single question about respondents' life satisfaction.

Researchers usually choose measuring scales that best fit the purpose of their studies. They may also choose to measure life satisfaction, integration, social mobility, social support and other aspects of migrants' life separately.

The current study has used the frameworks cited above as a guidance to develop survey questions that best fit the research question, aims and objectives of the study. Questions from European and UK-wide surveys were introduced into the online survey to enable comparison of findings with benchmarks for wider population.

The next section explores some of the significant predictors of migrants' wellbeing.

3.2.8 Significant Predictors of Migrants' Wellbeing in Literature

Previous research suggests that the baseline for wellbeing amongst migrants, i.e. the subjective wellbeing equilibrium or homeostasis, are important individual characteristics such as "optimism, resilience or self-esteem are significant predictors of wellbeing" (Bak-Klimek et al., 2015, p. 183). As psychological factors are outside the remit of this study, this section explores what other factors may have an impact on migrants' wellbeing and to what extent.

3.2.8.1 Demographic Factors

Evidence suggests that socio-demographic factors, such as gender or age were not significant predictors of well-being, similar to marital status, income and education (Bak-Klimek et al., 2015, p. 183). Chronological age had a very small correlation with

wellbeing and education produced an even smaller correlation (Argyle, 2013; Bak-Klimek et al., 2015). The correlation between wellbeing and marital status was weak, as was the correlation with income (Diener et al., 1999; Cooper, 1999; Bak-Klimek et al., 2015). Such migration-related factors as length of migration or age at migration did not account for significant variance in previous wellbeing research (Herrero and Fuente, 2011; Kimberley, 2000; Vohra and Adair, 2000, in Bak-Klimek, 2015, p. 183).

3.2.8.2 Integration and Social Support

Previous research suggests that social integration and social support is crucial for migrants' wellbeing, as "feeling connected and supported by others is fundamental to a positive experience of immigration. Social support and integration in the community might help immigrants to not only acquire new resources that may promote well-being but also enhance their chances of coping successfully in difficult life situations, reducing the levels of stress" (Bak-Klimek, 2015, p. 183).

3.2.8.3 Social Capital

There is also a strong link between subjective wellbeing and social capital (Helliwell and Putnam, 2004). They suggested that all forms of social interactions are strongly correlated to wellbeing, including family, friends, work, civic engagement and trust (Helliwell and Putnam, 2004).

"Social capital is strongly linked to subjective well-being through many independent channels and in several different forms. Marriage and family, ties to friends and neighbours, workplace ties, civic engagement (both individually and collectively), trustworthiness and trust: all appear independently and robustly related to happiness and life satisfaction, both directly and through their impact on health. Moreover, the 'externalities' of social capital on subjective well-being (the effects of my social ties on your happiness) are neutral to positive, whereas the 'externalities' of material advantage (the effects of my income on your happiness) are negative, because in today's advanced societies, it is relative, not absolute, income that matters. In that sense, the impact of society-wide increases in affluence on subjective well-being is uncertain and modest at best, whereas the impact of society-wide increases in social capital on well-being would be unambiguously and strongly positive." (Helliwell and Putnam, 2004, p. 1444).

Thus, the impact of the social capital on migrants' wellbeing may even be stronger than the impact of income, financial gains or professional achievements (Helliwell and Putnam, 2004; Helliwell, 2006).

The significant role of social capital in migration is evident and it has been considered by some scholars as "central to migrants' solidarity and cultural continuity" (McMichael and Manderson, 2004, p.88).

3.2.8.4 Intentional Activities

Sustainable Happiness Model (Lyobumirsky et al., 2005) also suggested that personality and intentional activities account for majority of variance in wellbeing (Bak-Klimek et al., 2015), whereas circumstance, even as major as migration, may have an impact at the beginning, which weakens over time:

"Circumstantial factors such as migration and socio-demographic factors are of secondary importance due to "hedonic adaptation" which is people's tendency to adapt to constant circumstances, such as income or marital status (Lyobumirsky et al., 2005). However, there is evidence that circumstantial changes may have a positive effect at the beginning of migration period, but this may erode over time." (Bak-Klimek et al., 2015, p. 183).

Therefore, the dispositional factors and intentional activities (social support) had a strong effect on well-being, while the effects of circumstantial/contextual factors, such as duration of migration, age and gender were very modest and non-significant (Wang, 1998; Bak-Klimek et al., 2015).

The findings of previous research suggest that the levels of wellbeing amongst migrants are in line with the evidence from non-migrant population (Bak-Klimek, 2015), thus making it possible to use wellbeing principles applicable to general population.

3.2.9 Wellbeing in Russia

Due to the socio-economic and political development in the second half of the 20th century, citizens of the USSR and then of the Russian Federation have displayed a downward curve of wellbeing between 1991 and 2001 (WVS, 2014; Diener and Biswas-Diener, 2002; Easterlin, 2009). The collapse of the USSR in 1991 and the devaluation of the national currency 'Rouble' in 1998 have made an impact on the national wellbeing of

Russians. Life satisfaction declined in Russia between the 1980s and 1990s (Saris and Andreenkova, 2001; Easterlin, 2009) and continued to go down after 1991 until 2000s (see Table 4. Life Satisfaction in Russia (World Value Survey) (Easterlin, 2009):

Table 4. Life Satisfaction in Russia (World Value Survey) (Easterlin, 2009)

Year	1988	1990	1993	1995	1998	2006	2011
Life Satisfaction	6.46	5.37	5.05	4.45	4.74	6.09	6.17
Financial Satisfaction	5.81	4.98	3.04	3.30		4.67	4.87
Income Mean		4.72		4.88		5.95	4.25

Life satisfaction in Russia has been connected to the financial satisfaction, which has shown to have a stronger effect on life satisfaction especially in poorer nations (Diener and Biswas-Diener, 2002). In case of Russia, it was noted that even wealthier respondents were more dissatisfied due to unstable conditions than those in countries with a more stable socio-economic political situation (Inglehart and Klingemann, 2000; Diener and Biswas-Diener, 2002).

Thus, depending on the year of migration, migrants from Russia were likely to have had a relatively low life satisfaction in their home country, which would have had an effect on their life satisfaction in the host country with higher life satisfaction index.

In the next section, the concept of acculturation is considered in application to migrants' wellbeing.

3.3 Acculturation

3.3.1 Introduction

For migrants, wellbeing is strongly linked with acculturation, as it has a profound impact on how migrants renegotiate their sociocultural identities and build their new lives after migration (Bhurga, 2004; Berry, 2003; Berry, 2006). Acculturation includes psychological and sociocultural adaptation. Psychological adaptation plays a role in life satisfaction and wellbeing through differences in personality and coping styles. Sociocultural adaptation means the amount of difficulties or concerns experienced by migrants, dealing with daily tasks (Ward and Rana-Deuba, 1999). Both of them have an impact on psychological and emotional well-being (Ward and Rana-Deuba, 1999; Ward, 1996, Ye, 2006). The process of adaptation requires resources to better cope with those

challenges. Migrants' new social networks in the host country and long-distance old social networks in the home country all play an important role in migrants' acculturation, adaptation and wellbeing (Berry, 1997; Ying and Liese, 1991; Ye, 2006). Often migrants have to employ social support as a coping resource (Adelman, 1988; Ye, 2006). This section reviews the issues of acculturation, adaptation, integration and the role of social networks and social support in those processes.

3.3.2 Acculturation

Acculturation is considered as one of the major measures of settling in the country of destination. It is the process when the minority culture assimilates the values of majority culture (Bhurga, 2004; Berry, 2003; Berry, 2006). Bhurga (2004) explains that it occurs when a group or a whole society adapts, voluntarily or per force, the customs, value lifestyle and language of the majority culture.

Migrants are faced with a choice of acculturation strategies when they arrive in any new society. They include assimilation, integration, separation, or marginalization (Berry & Sam, 1997; Tartakovsky and Schwartz, 2001; Berry, 2003; Berry, 2006). Migrants' motivations that led to emigration in the first place are likely to influence the strategies adopted, but the associations may not be straightforward (Tartakovsky and Schwartz, 2001).

“Different elements of preservation motivation, for example, might induce immigrants to assimilate (gaining security through setting in), to remain separate (preserving group identity), or to integrate (seeking a harmonious balance but risking instability that arouses anxiety). Investigating the links between acculturation and motivation to emigrate may yield important insights” (Tartakovsky and Schwartz, 2001, p. 98).

Acculturation is not always a positive and smooth process for migrants, as the pressures to assimilate can often generate strong feelings (Bhurga, 2004). The process of acculturation can occur at both individual and group levels. It requires the contact of at least two autonomous cultural groups and normally lead to change in one or both of them (Bhurga, 2004). The relationship between the preservation of migrants' home culture and adaptation to their host society, “which are conceptually distinct, can vary independently” (Phinney et al., 2001, p. 495).

A two-dimensional model of acculturation, suggested by Berry (1990, 1997), explores the relationship between home and host culture that can manifest itself in four different ways: integration, assimilation, separation and marginalisation.

The four acculturation strategies, including integration, assimilation, separation and marginalisation, differ in their approach to preserving home culture and adapting host culture (Sam and Berry, 2010) (see Table 5. Acculturation strategies):

Table 5. Acculturation strategies

	Preserving home culture	Losing home culture
Adopting host culture	<i>Integration</i>	<i>Assimilation</i>
Rejecting host culture	<i>Separation</i>	<i>Marginalisation</i>

Assimilation is a process by which cultural differences disappear and a few generations later it is difficult to ascertain the differences between the two cultural groups. The process of assimilation is not always beneficial for migrants, as they may lose some or most of their cultural identity (Berry, 1997; Berry, 2006). This makes this model less popular with migrants as it suggests giving up their cultural identity voluntarily (Bhurga, 2004).

Separation implies rejecting the host culture (Berry, 1997). Separation is often associated with the greatest level of social difficulty (Ward and Kennedy, 1994). It is a “distressing type of acculturation for minority individuals without political voice or socioeconomic force” (Rudmin, 2003, p. 8). Deculturation is a process by which the dominant culture denigrates the minority and is characterized by a sense of alienation, loss of identity and acculturative stress and in its extreme form may lead to genocide if imposed by the larger group. When deculturation occurs, the process of migration has not gone well and migrants are dissatisfied with their life in the host country (Berry et al., 1987; Bhurga, 2004; Wu and Mac, 2012).

Marginalisation is a form of rejection, when migrants may reject the process of acculturation and individuals or groups may withdraw from the larger society (Berry, 1997; Bhurga, 2004). When rejection is imposed by the dominant group it may take a

form of segregation, leading to mutual distrust (Bhurga, 2004). Marginalization is usually associated with an intermediate amount of adaptation problems (Ward and Kennedy, 1994).

Integration is seen as a way forward for migrants' adaptation, as it allows them to preserve their national and cultural identity, but also accept values and morals of the host community (Dodge et al., 2001; Snel et al., 2006). Integration is also generally associated with higher levels of overall wellbeing for migrants, than other identity categories, such as assimilation, separation or marginalisation (Phinney et al., 2001; Ward, 2013). It is usually associated with the least amount of social discord (Ward and Kennedy, 1994).

The fourfold theory proposed by Berry (1990, 1997) has been criticised for lacking the explanatory factors and it was suggested that there should be “greater focus on subcultures, dominant group attitudes, or acquisition of cultural skills” (Rudmin, 2003, p. 4). However, the paradigm of the fourfold theory provides a concise framework for this research, with the integration model being particularly useful in underpinning the construction of wellbeing amongst highly skilled migrants. The role of sociocultural adaptation is explored in the next section.

3.3.3 Adaptation

There are two types of adaptation for migrants: psychological and sociocultural. They both affect migrants' acculturation and play a role in psychological and emotional wellbeing (Ward and Rana-Deuba, 1999; Ward, 2013, Ye, 2006; Brisset et al., 2010).

Sociocultural adaptation can be interpreted within social learning paradigm and deals with the amount of difficulties or concerns experienced dealing with daily tasks (Ward and Rana-Deuba, 1999; Ward, 2013, Ye, 2006). The process of sociocultural adaptation requires resources to better cope with those challenges, employing social support as a coping strategy (Adelman, 1988; Ye, 2006). The positive functions of new social networks in the host country and long-distance existing social networks in the home country all play an important role in sociocultural adaptation and migrants' wellbeing (Berry, 1997; Ying and Liese, 1991; Ye, 2006).

Ethnic similarities are associated with better sociocultural adjustment, due to closer cultural distance and psychological and sociocultural adaptation (Babiker et al., 1980; Furnham and Bochner, 1986). Those who relocate with more social and financial resources also find cross-cultural transitions less difficult (Ward and Kennedy, 1999).

Sociocultural adaptation may be easier in more modern or developed countries, as expatriates are generally more content in industrialized, economically developed societies (Torbiorn, 1982).

When migrants are in the host country, their sociocultural adaptation is primarily focused on skills that are required to manage everyday social situations in a new cultural context to achieve a smoother cross-cultural transition (Ward and Kennedy, 1994). It is dependent on the acculturation strategy adapted by migrants, where “separation was associated with the greatest level of social difficulty. Marginalization was associated with an intermediate amount of adaptation problems, and there was no significant difference between integration and assimilation, which were associated with the lowest incidence of social difficulty” (Ward and Kennedy, 1994, p. 340).

Integration is deemed as the best model of acculturation to achieve, as in order to succeed in the socio-cultural adaptation, it is important to adapt the cultural ways of the host society.

“Host national identification appears to exert the critical influence on sociocultural adaptation and to be primarily responsible for facilitating social competence in a new cultural milieu. If it is strong, co-national identification does not affect sociocultural expertise. If host national identification is weak, however, co-national identification, may diminish sociocultural adjustment” (Ward and Kennedy, 1994, p. 340).

This means that if migrants do not feel integrated, their sociocultural adjustment may suffer as a result. The role of integration is reviewed next.

3.3.4 Integration

Integration is one of the options for migrants’ sociocultural adaptation in the host country. It is defined as “an individual’s acquisition and expression of culturally appropriate behavioural skills used to negotiate interactive aspects of a new cultural setting” (Wilson, 2013, p. iii).

Integration is considered as the best model of acculturation for successful migration (Sam and Berry, 2010). One of the important aspects of this process is the adaptation of the cultural ways of the host society, where “host national identification appears to exert the critical influence on sociocultural adaptation and to be primarily responsible for facilitating social competence in a new cultural milieu” (Ward and Kennedy, 1994, p.

340). The familiarity with host culture and strength of co-national identification plays a significant role in the process of integration as if it is weak, it may have a negative effect on sociocultural adjustment (Ward and Kennedy, 1994).

Social integration has been found to be crucial for migrants (Pio, 2005), as it plays an important role in life satisfaction and wellbeing and can have an impact on employment, support networks, friendship groups, and access to social capital (Pio, 2005; Safi, 2010; Herrero, Garcia, 2011). Integration is often a part of a larger scale model of migrants' adaptation in the host country, encompassing a wide range of behaviours, attitudes, and values that change with contact between cultures (Phinney, et al. 2001; Rudmin, 2003).

Integration is also linked to further migration plans. It has been noted that for many migrants established homes in the host country may evoke desire for more grounded lives and decrease importance of mobility (Engbersen et al., 2010; Bygnes and Erdal, 2017). For those migrants, who have stronger social ties within a host society, return migration is also less likely, even regardless of their migration economic success or failure (Snel et al., 2015). This evidence suggests that integration has an impact on migrants' settlement plans.

Three main types of integration are usually distinguished:

- *structural* – the social position of migrants in the host society, particularly in terms of their level of education and position in the labour market (Snel et al., 2006);
- *social* – informal social contacts of immigrants with 'native' people; and
- *cultural* - the extent to which immigrants endorse the host society's prevailing moral standards and values (Vermeulen and Penninx, 2000; Snel et al., 2006; Koopmans, 2010).

This study is concerned with the social integration of migrants in particular. Social integration involves developing social networks in the host country and relies on migrants' social capital, making it an important component for adaptation and wellbeing. The role of social networks in migration is discussed below.

3.4 *Social Networks*

3.4.1 *Introduction*

Social networks have always played a vital role in enabling migration, as they provide information, instrumental and emotional support with the move, including moving costs and assistance, accommodation and employment (Borjas, 1987). The chances of successful migration were much higher if there were established links between home and host communities (MacDonald and MacDonald, 1964; Borjas, 1987; Massey et al., 1993; Gurak and Caces, 1992; Curran and Saguy, 2001).

At the beginning of the 20th century, social networks were instrumental in paving the way for future migrants and facilitating chain migration by helping kith and kin (Wegge, 1998; Boyd, Massey, Castles et al., 2013; Jordan and Duvell, 2003). As “connections were needed to migrate safely and cost-effectively” (Castles, 2002), most migrants used to “follow ‘beaten paths’ and go where their compatriots have already established a bridgehead, making it easier to find work and lodgings and deal with bureaucratic obstacles” (Castles, 2002, p. 1150).

At the end of the 20th century, skilled migrants started following jobs rather than human connections, developing new types of social networks, based on common interests rather than common location. The composition of social networks and their role in migration started to change (Vertovec, 2002).

This chapter explores the significance of social networks for highly skilled migrants, including the changing nature of chain migration, social capital, social ties and social support.

3.4.2 *Chain migration*

Macdonald and Macdonald (1964) first introduced the idea of ‘chain migration’ which they described as ‘that movement in which prospective migrants learn of opportunities, are provided with transportation, and have initial accommodation and employment arranged by means of primary social relationships with previous migrants’ (MacDonald and MacDonald, 1964, p. 82).

The theory of ‘chain migration’ has been widely researched by other authors in the second half of the 20th century, who in the majority supported the theory and deemed ‘chain migration’ as an integral part of the migration process. Boyd (1989, p. 638) maintained

that “family, friendship and community networks underlie much of the recent migration to industrial nations”, thus putting chain migration at the core of migration mechanisms. Massey et al. (1993) acknowledged the role of pre-existing networks in migration development in their review of international migration theories, proposing that migrants’ networks are part of the survival strategy abroad.

Before the introduction of policy restrictions, chain migration was one of the key driving factors for human migration (Wegge, 1998; Tilly, 2015). Chain migration was crucial for the labour movement as over time it encouraged more migration, producing different types of migrants, where ‘later cohorts are distinct from previous cohorts, especially in terms of their ages and their wealth’ (Wegge, 1998, p. 958). Chain migration did not always ensure equality neither in terms of choice of migrants nor available opportunities and were locked into the existing structures of family members at home and employment opportunities abroad (Tilly, 2015). Interestingly, he argued that chain migrants were linked by ties in the home country and not necessarily by connections at the destination, thus they did not necessarily end up in the same location in the host country (Wegge, 1998). This suggests that chain migration networks were made up of bonding social ties with social capital in the home countries.

Thus, chain migration constituted one of the main mechanisms for perpetuating migration and represented one of the main types of migration networks up until the end of the 20th century. In the post-Second World War period the examples of chain migration included migration from West Indies and India to Britain; labour migration from Mexico to the United States; migration from North Africa to France; Ukraine to Canada and the UK; and other examples (Stalker, 1994). Many other countries and regions have formed connections with particular migration destinations that were formed through chain migration. Although other factors were responsible for the initial migration (such as particular recruitment policies), chain migration had been highly instrumental in propagating further migration (Tilly, 2015).

Social networks were the key element of chain migration, playing an important role particularly from a social capital perspective (Stalker, 1994).

3.4.3 Social Capital

The concept of Social Capital (Bourdieu, 1989; Putnam, 1993; Coleman, 2003) has been described by Putnam as:

“By analogy with notions of physical capital and human capital – tools and training that enhances individual productivity – “social capital” refers to features of social organisation, such as networks, norms, and trust that facilitate coordination and cooperation for mutual benefit. Social capital enhances the benefits of investment in physical and human capital” (Putnam, 1993, p. 1-2)

Social capital is made up of social ties. There are two types of ties that people can form – bonding (like us) and bridging (unlike us) (Putnam, 2000). Putnam (2000) argues that bonding networks maybe important for ‘getting by’ but outward looking bridging networks are instrumental in ‘getting ahead’, hence ethnic communities may be a comfortable environment for new migrants, but it is not going to get them far on the career ladder in the host country. For that they need to form bridging connections or weak ties that will broaden their horizons and help them get better jobs (Ryan at al., 2008).

Social ties can be typified depending on the intensity of communication, either into strong ties (friends and family), which are stronger but less reaching, or into weak ties (professional connections, acquaintances and friends of friends) which are more breakable but connect people to bigger variety of social groups (Granovetter, 1973; Putnam, 1993; Coleman, 2003). In social network analysis, strong ties form bonding social capital and weak ties form bridging social capital (Granovetter, 1973; Putman, 2007; Ryan et al., 2008).

3.4.4 Social Capital in Migration

Social capital has been widely used in application to migration to determine the role of social networks in successful migration (Ryan et al., 2008). Some authors see migration as ‘a special case of the development of social networks’ (Eve, 2010, p. 1236). Many sociologists believe that networks can influence decisions to migrate, encouraging and facilitating migratory movement, as well as provide access to various types of support (Haug, 2008; Heering et al., 2004, Ryan et al., 2008; Ryan, 2011). Social capital is of particular importance for highly skilled migrants, as rather than moving towards capital, professional people often move along with it (Stalker, 1994).

Social capital is considered key for skilled migration success, as it provided important resources for migrants (Stalker, 1994; Vertovec, 2002; Haug, 2008). As the nature of skilled migration has been changing from family centred networks to transnational networks of professional (Vertovec, 2002), social capital has become particularly

important for many highly skilled migrants to enable them to succeed (Ryan et al., 2008; Brettell and Hollyfield, 2014).

At the pre-migration stage, social capital can be critical for migration decision making, as “network explanations of migration decisions emphasize the role of social and informational networks as determinants of the decision” whether and where to migrate, as well as for how long (Epstein and Gang, 2006, p. 654). At this stage, social networks are crucial for migration decision making as they play an important part in calculating costs of migration (Massey, 1990; Boyd, 1989; Meyer, 2001, Haug, 2008, Ryan et al., 2008).

At the post-migration stage, social capital may have a particular impact on success of migration (Lirio et al., 2007; Tharmaseelan et al., 2010). Social networks’ importance increases as migrants go through significant adaptation and communication challenges (Berry, 1992, 1997, 2000, 2007), including “culture shock” (Oberg, 1960) and “acculturation stress” (Berry, 1970), which are negatively associated with physical and physiological health and are strongly positively interlinked with migrants’ wellbeing (Berry, 1997; Finch and Vega, 2003).

3.4.5 Migrants’ Bridging and Bonding Social Ties

Social capital in migration has a particular focus on a conceptual pair of bridging social capital (weak social ties) which results from the connection of an individual to the broader social structure, and bonding social capital (strong social ties), which comes from the close binding between an individual and his or her narrow social group (Nannestad et al., 2008; Boyd, 1989; Wasserman, 1994; Massey, 1990; Ryan et al., 2008). Both play an important role in the process of migration (Faist, 2000; Portes, 2000; Nannestad et al., 2008; Ryan, 2011; Harvey, 2008).

Bridging social capital is considered a particularly important factor for migrants’ integration as it provides loose social connections for migrants in the host country (Nannestad et al., 2008). Bonding social capital, that connects migrants to their close networks are often linked to migrants’ home social networks.

It is usually considered that the presence of bonding social capital does not prevent the development of bridging social capital or impede integration (Nannestad et al., 2008).

However, recent research on migrants' social networks highlighted that the role of migrant ethnic social networks in the host country is not straightforward (Ryan et al., 2008). Ryan et al. (2008) questioned the statement that ethnic social networks are readily available and accessible for migrants in the host country, thus making the statement of reduced costs less categorical. Ryan et al. (2008) also argued against the fact that those networks play a solely positive role in migrants' adaptation in the host country, as depending on circumstances of individual migrants they can support or hinder adaptation processes and migration success. Ryan et al. (2008) diversified the role of ethnic and local social networks and argued that both were important for building social capital in the host country.

However, some scholars believe that migrants who maintain strong exclusive ties with co-ethnic groups may become socially disadvantaged (Wierzbicki, 2004). Their immersion in ethnic-specific networks can lead to ghettoization (Griffiths et al., 2005; Ryan et al., 2008). This is supported by other scholars, who suggest that closed bonding networks have been linked with negative social capital, leading to ethnic enclaves and ghettoization, and providing a threat to social cohesion (Crowley and Hickman, 2008; Ryan et al., 2008; Ryan, 2011). Conversely, bridging contact tend to be associated with positive social capital, as well as integration and social mobility (Nannestad et al., 2008).

Modern highly skilled migrants are proving less likely to rely on strong ties but more likely to search for and make use of weak ties (Poros, 2001; Ryan, 2011). Migrants use weak ties to find employment and information about local services, as well as integrate into local community (Ryan et al., 2008).

Weak ties can be divided into *horizontal* and *vertical* weak ties, where horizontal ties are weak ties with other migrants, whereas vertical ties are weak ties with local community of natives (Ryan et al., 2008). Fostering horizontal ties is often instrumental for finding employment, especially in lower skilled sector, whereas fostering vertical ties is important for social adaptation and finding higher skilled jobs (Ryan et al., 2008).

Social capital is also a source of social support that is crucial to deal with challenges of migration (Ryan et al., 2008). Its' role is discussed below.

3.5 Social Support

One of the key functions of social networks is the resources they provide. Although, social ties may serve as channels for social support provision, "not all ties are supportive, and

there is variation in the type, frequency, intensity, and extent of support provided, with some ties providing several types of support, while other ties are specialised and provide only one type” (Berkman and Glass, 2000, p. 145). Granovetter highlights that different kinds of ties generate different resources: ‘weak ties provide people with access to information and resources beyond those available in their own social circle’ (Granovetter, 1983, p. 209). He also points out that “a weak tie functions most effectively when it bridges social distance” (Granovetter, 1983, p. 208).

Social support exchange takes place within the context of social ties and is viewed as “transaction in nature, potentially involving both giving and receiving” (Berkman and Glass, 2000, p. 145). It is typically divided into subtypes, including information, instrumental, emotional, home social networks and appraisal support (House, 1981; Berkman and Glass, 2000), which are described below (see Table 6. Types of Social Support below):

Table 6. Types of Social Support

Support type	Definition	Examples of application to migration
Information support	“provision of advice or information in the service of particular needs” (Berkman and Glass, 2000, p. 145)	If migrants’ networks were the main source of information, “social ties transmitted the information about destination and sources of settlement assistance” and enabled potential migrations better calculate the costs of migration (Boyd, 1989, p. 642).
Instrumental support	“help, aid or assistance with tangible needs such as getting groceries, getting to appointments, phoning, cooking, cleaning or paying bills” (Berkman and Glass, 2000, p. 145) “aid in kind, money or labour” (House, 1981)	The costs of migration are often reduced, as people with pre-existing social networks required less money to migrate than their non-connected counterparts (Wegge, 1998). Migrant networks could provide financial assistance with the moving costs or provide information that can help to reduce them. Social networks are instrumental in assisting with settling in the host country, including support with accommodation, subsistence on arrival, as well as finding employment. As new migrants are likely to face difficulties getting employment, weak ties in the host country offer them a better chance of finding employment (Massey et al., 1993; Rainer and Siedler, 2008; Ryan et al., 2008).
Emotional support	“the amount of love and caring, sympathy and understanding and/or esteem and value available from others” (Berkman and Glass, 2000, p. 145)	As new migrants have few ties in the host community, migration social networks become their circle of friends and bonding ties start to form within their ethnic enclaves as many new migrants settle in their destination country (Ryan et al., 2008; Ryan, 2011).
Home social networks	Specific ties with the social capital in the home country	As many migrants still seek to maintain ties with their home communities, they maintain transnational networks with home country (Ryan et al., 2008) or may start to encourage their friends and family in the country of origin to

		follow their example (Johnston et al., 2006).
Appraisal support	“Help in decision making, giving appropriate feedback, or help deciding which course of action of take” (Berkman and Glass, 2000, p. 145)	It is provided in a form of affirmation, feedback and social comparison that allows migrants to improve their self-confidence, employment and sociocultural adaptation. Appraisal support is crucial for migrants’ wellbeing and integration (Nesdale et al., 1997; Xu and Liang, 2012). It is also called affirmation support.

3.5.1 Social Support in Migration

In application to migration, social support is one of the key aspects of social capital that migrants may draw on (Putnam, 2007, Coleman, 2003; Ryan et al., 2008). They may rely on “practical support and companionship of close friends and relatives for a range of reasons, including language, lack of familiarity of environment” or safety (Ryan et al., 2008, p. 682). Social support for migrants is one of the main mechanisms of coping with stresses of migration (see Table 6. Types of Social Support).

However, access to social support through social networks may be hindered by the fact that migration networks do not remain static, especially if migrants experience social and geographical mobility when in the host society (Ryan, 2007; Ryan, 2011). As migrants often build on social capital from different locations, such as social ties in both home and host countries, as well as potential international ties, their connections are likely to be dispersed (Portes, 1995; Wellman, 2002; Ryan et al., 2008).

“rather than being rooted in specific local formations, such as neighbourhoods, migrant networks may be dispersed over a wide geographical area, including transnational ties” (Ryan et al., 2008, p. 675)

Some researchers suggest that technological progress offers people a new type of social ties that can be found online (Hiller and Franz, 2004; Poros, 2001; Ryan et al., 2008). This is particularly relevant for migrants due to dispersion of their social networks. Online connections with home community have been widely used by migrants over the last decade and have had a positive impact on their wellbeing (Hiller and Franz, 2004; Dekker and Engbersen, 2014; Ryan et al., 2008). The next section explores online social networks and their role in migration.

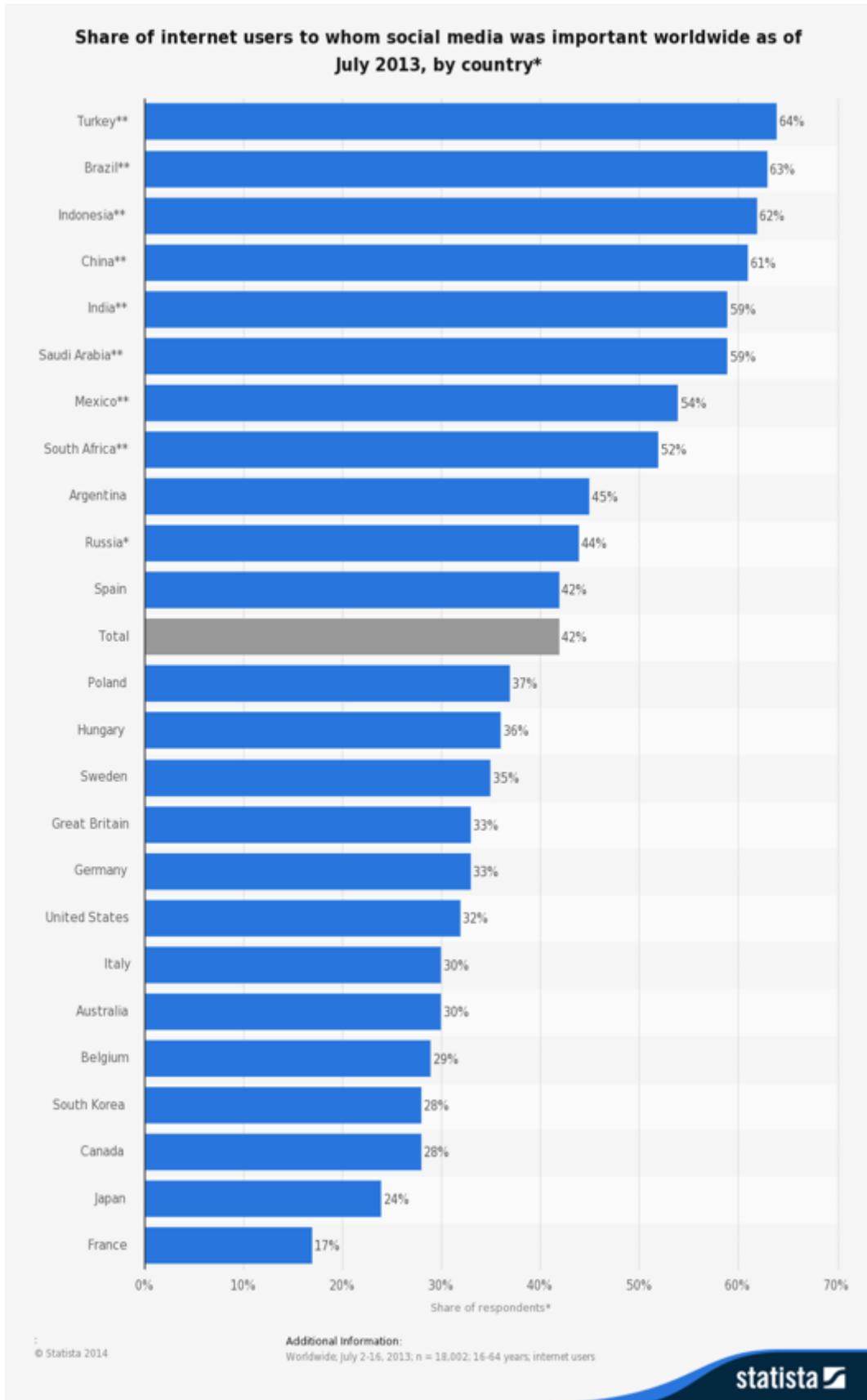
3.6 Online Social Networks

3.6.1 Social Media

Social media as a concept which has appeared in the later part of the 20th century, with 90's online systems creating the foundation for it (D. M. Boyd & Ellison, 2007a; Ellison, 2007). Others tracing it back even further to the introduction of the first online interactions in the 70's (Kaplan & Haenlein, 2010). In 2000s Social media has exploded as a category of online discourse, where people started to create content, share, bookmark and network at a prodigious rate, in parts due to the introduction of a new platform Web 2.0, as well as more accessible and affordable high-speed internet and improvements in mobile access (van Dijck, 2009, (Asur & Huberman, 2010; D. M. Boyd & Ellison, 2007b; Hanna, Rohm, & Crittenden, 2011; Kaplan & Haenlein, 2010). Web 2.0 became the ideological and technological foundation of Social media, allowing for the creation and exchange of User Generated Content (UGC), leading to the creation of a string of Social media websites, such as Wikipedia (2001), LinkedIn (2002), MySpace (2003), Facebook (2004), followed by YouTube (2005), Twitter (2006), Pinterest (2009), Instagram (2010) that have attracted millions of users, reflecting the popularity of social media and the increasing demand for social networking and content sharing (Asur & Huberman, 2010; Alexa.com rankings; Chaffey and Ellis-Chadwick, 2019).

The usage rate of social media has been growing fast since the beginning of the 2000s, attracting over 22% of the world's population, which was 1.61 billion people in 2014 and expected to rise to 3.02 billion by 2021 (USCB, 2013; Statista, 2018). As Figure 1 below suggests, the importance of social media for internet users between the ages of 16 and 64 in 2013 reached the total of 42% worldwide, whereas in some countries it has gained more than 60%. The rate of usage of social media in Russia is estimated about 44% which is just under half of the working age population (Statista, 2014).

Figure 1 Importance of Social Media by country in 2013 (Statista, 2014)



The popularity of social media has been driven by three types of drivers ((Kaplan & Haenlein, 2010):

- technological drivers (e.g., increased broadband availability, hardware capacity, access on mobile devices),
- economic drivers (e.g., increased availability of hardware), and
- social drivers (e.g., rise of a generation with substantial technical knowledge and willingness to engage online)

Those have led to the increase in volume and coverage, promoting the intensity of computer mediated communications between individuals (Hanna, Rohm, & Crittenden, 2011; Kietzmann, Hermkens, McCarthy, & Silvestre, 2011, OECD, 2007). The importance of the role of mobile devices has been highlighted in the expansion of social media use (Anderson and Wolff, 2010; Hanna at al., 2011). Although stationary devices can also provide such opportunity.

3.6.2 Social Media Content

Social media is a resource that consists of highly interactive platforms that are used by individuals and communities to co-create, share, discuss, and modify content, created by users (Kietzmann et al., 2011). Thus, social media content is often referred to as User Generated Content (UGC), which is key to Participative Web. This notion was introduced by Wunsch-Vincent and Vickery (OECD, 2007) to reflect the nature of the new type of web space that has been rapidly gaining popularity amongst the users.

Kaplan & Haenlein (2010, p. 61) apply the term User Generated Content (UGC) to describe “various types of content that are publicly available and created by end-users” and in their view it sums up all ways that people can make use of Social Media.

Although there is no generally accepted definition of UGC, three criteria were identified by OECD (2007) that UGC needs to fulfill in order to be considered as such:

- it needs to be published either on a publicly accessible website or on a social networking site accessible to a selected group of people;
- it needs to show a certain amount of creative effort;
- it needs to have been created outside of professional routines and practices.

Many authors have argued about the purpose of UGC, as it is not straight forward, however there are indications that it generally serves to enable users to share information and communicate between themselves, emphasizing the importance of content and communication between people (DeAndrea, 2012; Valenzuela, Park, & Kee, 2009; Alexander, 2008; Herring et al., 2005; O'Reilly, 2005). As Leung (2009) argues, the web is used as “a platform for service delivery which emphasizes user control, participation and emergent behaviour and can be defined as a way of creating pages focusing on microcontent and social connections between people” (Leung, 2009, p. 1328).

One of the common forms of user-generated content in Web 2.0 is citizen journalism, when web users collect, report, analyse and disseminate the news or information for the benefit of others (Leung, 2009). The purpose of this participation is “to provide the independent, reliable, accurate, wide-ranging and relevant information that a democracy requires. Citizen journalism has the power to break a story and create some attention for that story in the blogosphere” (Leung, 2009, p. 1328). This defines the role of UGC as a tool to deliver the local news efficiently, especially when users are close to or even involved in the process (Thurman, 2008).

Some researchers feel that the emergence of Web 2.0 applications empowered end users and now the ‘audiences, empowered by these new technologies, occupying a space at the intersection between old and new media, are demanding the right to participate within the culture’ (Jenkins, 2006, p. 24). Van Dijck (2009) believes that this has resulted in “a participatory culture which increasingly demands room for ordinary citizens to wield media technologies – technologies that were once the privilege of capital intensive industries – to express themselves and distribute those creations’ (van Dijck, 2009, p. 42).

To fulfil that purpose social media offers a number of platforms to meet the demand for different type of computer mediated communication and user generated content available.

3.6.3 Social Media Platforms

Social media technologies have engendered new ways of interacting, creating hundreds of social media platforms. Those platforms include social networking, text messaging, shared photos, podcasts, streaming videos, wikis, blogs, discussion groups, etc., that consumers are utilizing in to create, modify, share, and discuss Internet content (Hanna et al., 2011; Hansen et al., 2010; Kietzmann et al., 2011).

The definition of social media includes all those internet-based platforms that allow to produce and exchange User Generated Content (UGC) on the basis of Web 2.0 (Kaplan and Haenlein, 2010). Most platform have a similar technical structure (Boyd and Ellison, 2007) which incorporates 3 main elements: social atoms (individual users), social molecules (online communities) and interactions between them (Zafarani, et al., 2014).

Online social media platforms are often called social network sites (SNS), which are defined as “web-based services that allow individuals to: (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (Boyd and Ellison, 2007, p. 211). Although the nature of those connections may vary from site to site (Boyd and Ellison, 2007).

Kietzmann et al. (2011) proposes seven blocks of SNS: identity, conversation, sharing, presence, relationships, reputation and groups. The differences between social media platforms lies in the amount of attention that each SNS gives to one or several of those building blocks (Kietzmann et al., 2011; Zafarani et al., 2014).

Currently, social media offers a variety of platforms providing for a variety of user needs. They include social networks (Facebook or LinkedIn), microblogging (Twitter), photo sharing (Instagram, Flickr, Photobucket, or Picasa), news aggregation (Google reader, StumbleUpon or Feedburner), video sharing (YouTube, MetaCafe), livecasting (Ustream or Justin.TV), virtual worlds (Kaneva), social gaming (World of Warcraft), social search (Google, Bing or Ask.com), instant messaging (Google Talk, Skype or WhatsApp), online chat rooms and online community forums (Kietzmann et al., 2011),.

Many researchers pointed out that there is no established classification of social media platforms, which would be particularly difficult to classify as social media is bound to expand and grow in the future and has to be able to include new emerging platforms (Kaplan and Haenlein, 2010; Hanna at al., 2011; Hansen et al., 2011, Wunsch-Vincent and Vickery, OECD, 2007).

A classification of social media platforms has been suggested by Kaplan & Haenlein (2010) based on theories in two fields: media research (social presence, media richness) and social processes (self-presentation, self-disclosure). They are considered to be the two key elements of Social Media (see Table 7. Classification of Social Media by social presence/media richness and self-presentation/self-disclosure (Kaplan and Haenlein, 2010) below:

Table 7. Classification of Social Media by social presence/media richness and self-presentation/self-disclosure (Kaplan and Haenlein, 2010)

	Social Presence/Media Richness			
		Low	Medium	High
Self-Presentation/ Self-Disclosure	High	Blogs	Social networking sites (e.g. Facebook)	Virtual social worlds (e.g. Second Life)
	Low	Collaborative projects (e.g. Wikipedia)	Content communities (e.g. YouTube)	Virtual game worlds (e.g. World of Warcraft)

The classification is based on the theories of social presence/media richness and self-presentation/self-disclosure, based on theories developed by Short, Williams and Christie in 1976 and Daft and Lengel, 1986. According to (Kaplan & Haenlein, 2010) the higher the social presence, the larger the social influence that the communication partners have on each other's behaviour, thus presuming that the more intensive the stream of UGC, the more impact it will make in terms of information gathering.

Media richness theory, introduced by Daft and Lengel in 1986, is based on the assumption that “the goal of any communication is the resolution of ambiguity and the reduction of uncertainty. It states that media differ in the degree of richness they possess — that is, the amount of information they allow to be transmitted in a given time interval — and that therefore some media are more effective than others in resolving ambiguity and uncertainty. Applied to the context of Social Media, it is assumed that a first classification can be made based on the richness of the medium and the degree of social presence it allows.” (Kaplan and Haenlein, 2010, p. 61)

Thus, based on the classification, presented in Table 7. Classification of Social Media by social presence/media richness and self-presentation/self-disclosure (Kaplan and Haenlein, 2010) (see above), the SNS can be grouped into the following categories:

- Personal websites and blogs
- Communication exchange websites (e.g. Facebook, Twitter, LinkedIn, chat forums)
- Collaborative projects (e.g. Wikipedia)
- Content communities (e.g. Pinterest, Instagram)
- Online gaming communities

- Question answering forums (Agichtein et al., 2008)

The properties of online forums, which are the focus of this research are considered below.

3.6.4 Online Forums

Online forums, or web message boards, offer an online platform for exchanging electronic messages between users (Im and Chee, 2006). The messages are open to the public, unlike emails, and leave an electronic trail. Online forums are different from Facebook, Twitter or Instagram and are usually based on the shared interests or characteristics of the users. They provide the facility of asynchronous interactions, through which participants can join in the discussions at their chosen time. This function makes them different from other online message platforms that require synchronous interactions, for example, chat groups (Im and Chee, 2006). Online forums are often created in pursuit of creating and sharing knowledge embedded in user generated context (Nam et al., 2009).

There are different types of online forums, which can be classified as follows:

- purpose of interaction (i.e. e-learning forums, health forums, consumer forums, political forums, community forums, etc.)
- common user profiles (i.e. students, migrants, parents, programmers, etc.)
- type of communication (i.e. question-answer or discussion forums)

3.6.5 Purpose of interaction

Forums are usually set up to fulfil a specific interactive role. Currently there are a number of purposes that forums can be used for:

- *E-learning forums*: set up to enable discussions on specific learning topics between students and teachers, and students and students. (Garrison, 2011; Moore et al., 2011)
- *Consumer forums*: set up to exchange reviews for products and services, between consumers and consumers or between consumers and companies (Prendergast et al., 2010; Cheung et al., 2009; Frengut et al., 2009)

- *Health forums*: set up to exchange experiences for participants with similar health conditions (Centola, 2010; MacLean et al., 2015; Cohan et al., 2016).
- *Political forums*: set up to exchange views and ideas about political parties and policies (Deng and Wu, 2010; Freelon, 2010; Zhang et al., 2009)
- *Community forums*: set up to exchange view and information for specific communities, i.e. parenting forums, migrants' forums, etc. (Pedersen and Smithson, 2013; Janta et al., 2012).

As online forums are usually set up to facilitate discussions on specific issues or topics, their audience often have common characteristics. For example, there are specific online forums for students (e.g. www.thestudentroom.co.uk); mothers (eg. www.mumsnet.com); migrants (e.g. www.orkut.com); professional communities (eg. www.stackoverflow.com) and many other groups of users.

There are two main types of online forum communications: question-answer forums and discussion forums.

Question-answer forums usually do not require users to register, nor they are password protected. They are often question based and used for information support. Occasionally question-answer forums can serve as an amalgamation of different types of communication. They can offer a platform for exchange of expertise, advice and support (Adamic et al., 2008).

Discussion forums are different in their purpose, security and user types. Their purpose is to provide a platform for discussions, usually around certain topics or amongst a certain group of users, including online forums for e-learning, medical conditions, political deliberations (Thomas, 2002; Wrioth and Street, 2007; Stromer-Galley and Wichowsky, 2011; White and Dorman, 2001). But they can be general purpose, too.

Discussion forums are not always password protected (depending on the level of forum privacy) and are open to the public for viewing. However, they may often require users to create a profile that is password protected to be able to participate in the discussions. Discussion forums do not require users to provide their real identity as they are built around the idea of usernames, ensuring low level of self-disclosure. Their social presence and media richness are also quite low, as it is hard to ascertain the degree of participants'

influence on each other as well as establish to what extent forum information resolves ambiguity. Further research is required to investigate those points.

Previous research has proved that online forums offer many benefits for particular groups (i.e. for medical or physiological condition, online learning, etc.) (Ali et al, 2015; Hwang et al., 2015). It has been reported that online forums can enable effective provision of emotional and informational support (Ali et al., 2015; Im and Chee, 2006).

There are also specific forums for online co-ethnic groups (Lawson, 2016; Harvey et al., 2018). Online ethnic social groups are defined as online groups developed for people who have the same national origin and are currently living in a foreign country (Ye, 2006). They may offer a source of social support for migrants, making it a valuable resource for coping with stresses of migration (Ye, 2006). Online forums for migrants have also been used as a platform to allow identity negotiations and strategic positioning in the post-migration stage (Lawson, 2016). Online forums can also allow building of a network of weak ties that connect co-ethnic migrants with other migrants and their subsequent friendship clusters, which they would not have had access to otherwise, as well as localities where they are based (Granovetter, 1983; Lawson, 2016).

3.6.6 Social Media Trust

The amount and variety of UGC available on the Internet raises concerns about trustworthiness of such information. The issues of trust have been widely debated in relation to Social Media. Trust has been closely connected with user identities on Social Media web sites. According to (D. M. Boyd & Ellison, 2007a) trust is an issue when Social Media users are posting their information online. Research into privacy and lack of awareness of how exposed this information becomes once in the public domain have highlighted issues with social media trust (Tang and Liu, 2015). However, some researchers also found that the degree of trust varies, depending on the type of social media platform, reflecting the differences in the nature of different categories of social media sites and the way they are used (Dwyer et al., 2007; Tang and Liu, 2015; Agichain et al., 2008; Hagar, 2013). Trust and usage goals may affect what people are willing to share – Facebook users expressed greater trust in Facebook than MySpace users did in MySpace and thus were more willing to share information on the site ((D. M. Boyd & Ellison, 2007a; Dwyer, Hiltz, Dwyer, & Hiltz, 2007).

Users create different social media identities for different social media sites and platforms. In an effort to protect their privacy, users tie different identities to the context

of the different social media platforms they use (e.g., hobbies and pictures on Facebook might be different from those on LinkedIn), whereas in some cases, identities remain anonymous (Kietzmann et al., 2011b). Thus, it becomes evident that the alteration of users' identity should have an effect on the level of trust attached to the information online. Moreover, this underlines the statement that all social media sites cannot be grouped together easily when it comes to trust.

In terms of source credibility, research by Ipsos MORI commissioned by Marketing Week (Wang, 2006) of Internet users across Europe showed that blogs are second only to newspapers as a trusted information source, with 24% of respondents considering blogs to be the most trusted source, well ahead of television advertising (17%) and e-mail marketing (14%). Thus, it seems that UGC is still valued by the wider community even though that the identities of the authors are often hidden or altered.

3.6.7 Social Media and Migration

Advancements in technology and transport offered new opportunities for communication and mitigated barriers of distance and time, including the opportunities to conduct targeted information searches, as well as tap into the digital communities and make use of online social media (computer-mediated communications (CMC) (Lee, 1967; Hiller and Franz, 2004; Rheingold, 1993; Wellman and Gulia, 1999). The social networks centre of gravity is shifting from common location (important for face to face social networks) to common interests, which are not location bound (Van Alstynne and Brynjolfsson, 1996; Ryan, 2011; Dekker et al., 2016). This opens opportunities for international migrants to build their social networks across different countries and localities with like-minded people. Geographically separated people, including migrants, can be linked by CMC and get access to interesting and compatible resources, however it can equally divide people into selective groups (Van Alstynne and Brynjolfsson, 1996, 2005).

Using CMC is an obvious way to bridge existing communication gaps (Holmes and Janson, 2008; Van Alstynne and Brynjolfsson, 2005) and exchange social support. As Hiller and Franz (2000, p. 733) argue, 'for migrants using CMC, place and interest can blend in a significant way as the place of origin serves as a defining characteristic. It is not only past memories and old ties that produce a sense of belonging and rootedness in a territorial homeland, but also how new ties can be discovered and nurtured because of a common identity that is based on a former place of residence'. This highlights the

importance of developing new weak and strong ties in the host country, with CMC being one of the convenient ways to do so.

International migrants often maintain a dual frame of reference to form ties in the host country as well as maintain ties that keep them attached to their homelands (Guarnizo 1997, 1998; Smith 2005). The Internet, mobile phones and other information and communications technology have provided new technological resources to sustain such “multi-positionality and allow for the cultivation of ethnic, cultural and national expressions with a global reach” (Panagakos and Horst, 2006, p.117).

The idea of “connected migrants” rather than “disconnected migrants” have been suggested to reflect the changes in technological advancements and changing communication strategies available to migrants (Schrooten, 2012). Online togetherness is another concept that was used to describe the phenomenon of migrants’ engagement with social media (Schrooten, 2012; Bakardjieva, 2003), where passive togetherness (lurking) and active togetherness (posting) are distinguished, but both can contribute to a sense of community.

Those concepts suggest that online social media is used not only for information purposes, but for community formation amongst dispersed migratory individuals and creation of social capital. CMC often allow migrants to maintain links with their social capital at home, whereas online forums in particular offer an opportunity to develop new connections with weak ties that may lead to creation of new social capital in the host country (Granovetter, 1983; Lawson, 2016; Schrooten, 2012). However, the question remains as to how migrants can utilise those weak ties they have created online in real life.

3.6.7.1 Social Media and Social Networks

Many researchers agree that social networks have always been at the centre of the migration process (M. Boyd, 1989; Curran and Saguy, 2001; Iredale, 2001; Liu, 2013; Massey, 1990; Massey et al., 1994; Wegge, 1998) and their role in facilitating migration as well as their impact on decision making has been discussed by many scholars (Bertoli, 2010; Haug, 2008; Liu, 2013; Neto & Mullet, 1998; Palloni et al., 2001). However, much of this information has been about social networks that are accessed through face-to-face communication, whereas for the last two decades or longer social actors were witnessing the development of the internet, which inevitably led to shifting some of the social

networks onto to the computer-mediated communication platform. The new online media has expanded the volume of social networks by allowing people to go online when they fail to get information via physically based relationships, or to go directly to the Internet to the exclusion contact with physical networks (Chung & Buhalis, 2008).

Steinfeld et al. (2008) advocates that the use of such social media website as Facebook results in greater bridging social capital and reduces the barriers to interacting with weak ties for those with lower self-esteem. Their research has shown that young adults in particular use Facebook to maintain large, diffuse networks of friends, with a positive impact on their accumulation of bridging social capital, and ‘although it is tempting to consider those networks as shallow, in reality these connections have true potential for generating benefits for Facebook users. Moreover, online social network services appear to offer important affordances, especially for those who otherwise face difficulties in forming and maintaining the large and heterogeneous networks of contacts that are sources of social capital (Steinfeld et al., 2008, p. 444).

It has been argued that social media is a vehicle to support old ties rather than create completely new ones. For example, social sites like Facebook allow users to maintain weak ties that they have created in real life, rather than meet a lot of new people online (Steinfeld et al., 2008). However, this might differ between generations, as there is a divergence between values and preferences of different generational cohorts (Taneja et al., 2017).

Although it is also important to stress that every social media platform has different goals and some, for example dating sites, are designed to enable introductions of strangers.

3.6.7.2 Social Media and Social Capital

There has been a lot of research into the role of social media in social capital. As it was described in the previous chapter, social capital is highly important for successful migration. According to Valenzuela et al. (2009, p. 877) “individuals with a large and diverse network of contacts are thought to have more social capital than individuals with small, less diverse networks”. Some researchers argue, that apart from natural accumulation of social interactions throughout everyday life, it is possible to make “conscious investments in social interactions” (Resnick, 2002). Some academics believe that by using social media networks, individuals are seeking to maintain and increase their social networks (Ellison et al., 2007; Johnson, 2008).

Social capital also allows individuals to access information and opportunities that are otherwise unavailable (Lin, 2001; Valenzuela et al., 2009), at the same time improving individuals' well-being and quality of life, which become a by-product of social capital (Valenzuela et al., 2009). All these are especially important for migrants who face information challenges when in the home country, as well as well-being challenges when in the host country. Thus, the link between social media and social capital is very important in connection to migration of highly skilled migrants.

Some of the research highlights that individuals' life satisfaction is determined in part by their social ties (Kahneman et al., 2004). This suggests that social media can play a role in fostering existing social ties, as well as creating new ones, thus having an impact on life satisfaction especially in the circumstances where actual social ties are geographically sparse.

3.6.7.3 Old and New Social Ties Online

Some researchers believe, that the uniqueness of the social media is not that it allows users to meet strangers, but that they enable individuals to maintain weak ties over longer time periods and geographical distances. Those ties can result in connections between individuals that would not otherwise be made, although them not being the primary goal, these connections are frequently between "latent ties" (Haythornthwaite, 2005). Some researchers believe that the social media users are not necessarily looking to meet new people, but to maintain or rediscover old ties, as they are primarily communicating with people who are already a part of their extended social network (Boyd and Ellison, 2007; Valenzuela et al., 2009).

Boyd and Ellison (2007) make a point that participative web does not mean 'networking' web in a sense of 'making new links'. These authors argue that web-based services allow individuals to "(1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (Boyd and Ellison, 2007, p. 211). Those researchers argue that social media users may not necessarily want to pursue new contacts but rather strengthen the ties amongst the groups they know. This is typical for certain social media sites, such as Facebook, Instagram and some others.

However, there is a school of thought that the social networks are moving away from common location (which would be the basis for initial meeting offline) to common interests, which happen solely online (Van Alstyne and Brynjolfsson, 1996; Ryan, 2011; Dekker et al., 2016), thus suggesting that social media users do develop new social ties online, albeit not in a traditional way (i.e. without face-to-face interaction). Online forums are a common example for such social networks. Other examples include Twitter, online gaming websites and some others.

Thus, different social network sites have different focuses and hence boost different types of social ties. It is argued that social network sites are different to networking sites and emphasize that not all social media sites are designed to facilitate networking, which they define as a “relationship initiation, often between strangers”. On the other hand, there is an array of social media networks that are developed for the purpose of “online networking” and online forums is one of the examples.

3.6.7.4 Social Media and Social Support

New online communication tools have entirely changed the ways people network and interact, opening new opportunities for networks (Oh et al., 2014). One of the meaningful applications of social media have been seen as access to social support (Oh et al., 2014; Chen and Choi, 2011; Trepte et al., 2015).

Online forums were considered as one of the main instruments for exchanging social support. They have been considered very effective for rendering emotional support and instrumental for leveraging wellbeing and life satisfaction (Chen & Choi, 2011; Trepte et al., 2015).

Some scholars suggested that for some groups of users, particularly on health support online forums, online support was even more effective than offline (Trepte et al., 2015):

“Online social support is usually conceptualized as an institutionalized form of support received from a group of supporters who are very similar to themselves with regard to their support issue. In such environments in which social contexts are very unlikely to collapse, support is very often perceived as more effective than in offline contexts and has been shown to be clearly linked to life satisfaction (Miller, 2008).” (Trepte et al, 2015, p. 97).

Many authors argued that different types of social support should be distinguished, particularly when its impact on wellbeing and life satisfaction is considered (Richmond et al., 2007; Oh et al., 2014). Several types of social support can be accessed online, including emotional, affirmation, information support (i.e. information forums) and even instrumental support (e.g. crowd funding). Emotional support online was considered as one of the main contributors to life satisfaction, and particularly companionship support (Oh et al., 2014):

“Positive affect felt by social media users after online social networking was positively associated with perceived companionship support, appraisal support, and life satisfaction. Among the three support dimensions, companionship support was the only predictor of life satisfaction, whereas perceived appraisal and esteem support were indirectly associated with life satisfaction through the enhanced sense of community.” (Oh et al., 2014, p. 76-77)

Affirmation support through online social media, and online forums in particular, such as appraisal and esteem, were deemed to have an indirect effect on life satisfaction (Oh et al., 2014). This effect was delivered mainly through the sense of community (Oh et al., 2014).

“Specifically, the companionship dimension of social support had a direct and positive relationship with life satisfaction, whereas appraisal and esteem support had indirect effects on life satisfaction through the sense of community.” (Oh et al., 2014, p. 76-77)

3.6.7.5 Sense of Community

The sense of community is described as “a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together” (McMillan & Chavis, 1986, p. 9, from Shen et al., 2008, p. 19).

Sense of community has been argued to be increasingly present in online social networks and is strongly linked to social support and wellbeing (Obst and Stafurik, 2010; Shen et al., 2008). The literature suggests that there is a positive correlation between amount of participation in the group and psycho-social well-being over time (Preece and Maloney-Krichmar, 2005).

Some researchers believe that the sense of community helps to perceive knowledge as a public product, owned and maintained by the community (Wasko & Faraj, 2000). It leads to a deeper level of satisfaction and places a greater degree of importance on information exchange, which may bring with it the feeling of intrinsic fulfilment (Sharratt and Usoro, 2003). “Where sense of community is stronger, participation in knowledge-sharing will be greater” (Sharratt and Usoro, 2003, p. 192). This is supported by theories of user-generated content which is seen to provide empowerment for social media participants (Jenkins, 2006; Van Dijck, 2009).

Thus, a sense of community can enable a sense of belonging amongst its members, making the information exchange more meaningful for them. The presence of the sense of community may also provide opportunities for social support exchange, i.e. offer paths for information exchange, emotional support and affirmation provision amongst its members, increased by higher participation in online discussions. All those aspects of social support online are explored through empirical research in this study.

Online social networks and the social support that they provide present an important instrument in achieving positive wellbeing and successful migration for workers in the host country.

3.7 *Summary*

This chapter provided an overview of the issues of wellbeing, its measuring scales and significant predictors in research. It also investigated wellbeing in Russia at the beginning of the 21st century, which helped to set out the wellbeing background for the case study research group. The chapter also explored the issues of acculturation and integration in particular. It also focused on social networks, social capital and social support. The second half of the chapter provided the background information on the online social networks and how migrants can use them throughout their process of migration. The next chapter will explore the methodology and research methods applied in this study.

4 METHODOLOGY

4.1 *Introduction*

The main research question of the study was to investigate the role of online social media in the wellbeing of highly skilled migrants. The study aimed to explore how online social media may help migrants better cope with challenges of migration and improve their wellbeing in the host country.

The initial preparation for the research included pilot interviews with potential migrants in their home country. The results of the interviews indicated that social media was viewed as a resource, which could play a role in enabling migration and migrants' wellbeing. This has helped to shape further stages of the study. The research question was approached through the analysis of an online social media platform (online forum) and an online survey with migrants.

Online forums were identified as social media that can be specifically used by migrants and for migrants, which led to it becoming the focus of the study. An online forum with the highest number of users and posts was chosen as the data source. Data collected from such a forum was analysed from a number of distinct angles, including its content and social networks. The findings of the analysis indicated that an online forum can provide migrants with various types of social support.

The findings of online forum analysis informed the design of the final research stage – an online survey with migrants. It was designed to investigate the links between migrants' wellbeing and their use of online social media. It was conducted through examining migrants' online and offline social support networks, their ego-centric networks and potential other factors that may be of importance. The findings allowed to explore the role of online forums and social support in migrants' life satisfaction and wellbeing.

4.2 *Theoretical Paradigm*

A paradigm (Denzin and Lincoln, 2011; Mertens, 2010), or a worldview (Creswell, 2013), meaning “a basic set of beliefs that guide action” (Guba, 1990, p. 17), is a notion that defines a particular theoretical approach to a research study, which is vital to the research project, as it provides the theoretical underpinning for the research design. It allows the researcher to design the research strategy and select the appropriate research

methods, following their philosophical approach. The choice of the theoretical paradigm is usually shaped by the worldview of the researcher but also intrinsically embedded in the objectives of the study (Creswell, 2013). The theoretical paradigm is defined through four concepts that include:

- *ontology* (Bryman and Bell, 2011)
- *epistemology* (Bryman and Bell, 2011; Ritchie et al., 2013)
- *axiology* (ethics) (Hartman, 1967; Edwards, 1995)
- *methodology* (Neuman, 2013)

The application of those theoretical concepts in relation to this research study is discussed in the current section.

4.2.1 Ontology

Ritchie et al. (2013, p. 4) defines ontology as an approach that “is concerned with the nature of the reality and what there is to know about the world” and suggests that there are two approaches to the world, either *idealism* or *realism*. In this paradigm “realism is based on the idea that there is an external reality which exists independently of people’s beliefs”, and “idealism on the other hand asserts that reality is fundamentally mind-dependent: it is only knowable through the human mind and through socially constructed meanings, and no reality exists independently of these” (Ritchie et al, 2013, p. 4). Realism has primarily been associated with the natural sciences, and there has been a long ongoing debate if it is applicable to the world of social interactions, with the current thinking being that a combination of different theoretical positions is inevitable in order to most truthfully reflect the social reality around us (Bryman and Bell, 2011; Ritchie et al., 2013; Adams et al., 2014).

There is a number of classifications of theoretical positions in social science, which all stem from the two opposite approaches of idealism and realism, with many attempting to describe a specter of positions that exist in between those two poles.

One of them is Bryman and Bell (2011), who discuss the issue of whether social world can be studied according to the same principles as the natural world, proposing four main philosophical positions to systemize divergent ontological approaches (Bryman and Bell, 2011):

Figure 2 Ontological approaches

Positivism	Realism	Interpretivism	Constructivism
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Positivism ‘advocates the application of the methods of the natural sciences to the study of social reality and beyond’ (Bryman and Bell, 2011, p. 15), where different authors offer variations of the elements of the theory, however the core stays the same, based on the main principles:

- observation by sciences can still be warranted as genuine knowledge
- hypothesis can be generated and tested to arrive at laws
- gathering of facts produces knowledge and the basis for laws
- it can be value free (objective)

Realism shares a common belief with Positivism that the social science can be studied the same way as the natural science, and divide itself into two major forms: *empirical realism* and *critical realism*. *Empirical realism* asserts that “through an appropriate method reality can be understood” (Bryman and Bell, 2011, p. 17). *Critical realism* proposes to study the structures of the social world, as they are not apparent but “can only be identified through the practical and theoretical work of the social sciences” (Bhaskar, 1989, p. 2).

Interpretivism is an alternative to positivism, which suggests that there is a difference between people and objects of natural science and therefore requires the social scientist to grasp the subjective meaning of social action (Bryman and Bell, 2011, p. 17). The interpretivists believe that “knowledge is produced by exploring and understanding the social world of the people being studied, focusing on their meanings and interpretations”; that researchers construct meanings and that objectivity value-free research is impossible (Ritchie et al., 2013, p. 12; Bryman, 2016; Holloway and Wheeler, 2010; Willis et al., 2007).

Constructivism emphasizes that the “knowledge is actively constructed by people rather than passively received by them” (Ritchie et al., 2013, p. 13), building up on the ideas of interpretivism and equally rejecting the idea of ‘value neutral’ observations. (Ritchie et al., 2013, p. 13; Bryman and Bell, 2011; Blaikie, 2007).

This study's research methodology is based on the *positivist approach* with the *objectivist stance*, grounded in the ontological *subtle realism*. This methodology seems to be the most fitting for this study, which is based on hypothesis derived from existing theories, but also set to generate new knowledge discovered through the emerging findings, as the basis of positivism lies with the notion that observations are as important as theory, if not more, as they become the basis for developing laws (Bryman and Bell, 2011; Willis et al., 2007; Ritchie, 2013).

The ontological position of critical realism is equally important to this study, as there is understanding that the social reality exists, the outcomes of the social process within the theme can be different due to subjective interpretation (Searle, 2010; Ritchie et al., 2013; Bryman and Bell, 2011). The study is leaning towards subtle realism (Blaikie, 2007; Hammersley, 2013), where the “external reality exists but is only known through the human mind and socially constructed meanings” (Ritchie et al., 2013, p. 5).

In this study the position of positivism is applied to the principles of economic labour migration and the causal relationship between social ties and post-migration integration. Subtle realism is employed to analyse the role of online information and its impact on migrants' wellbeing. Critical realism is employed to research the causal relationship between social networks and wellbeing of highly skilled migrants.

4.2.2 Epistemology

Epistemology encompasses the notions of “how we can know or find out about the social world and the limits to that knowledge” (Ritchie et al., 2013, p. 7). It usually splits into two approaches: *inductive* and *deductive*. According to Ritchie et al. (2013, p. 7) “*inductive logic* involves building knowledge from the bottom up through observations of the world, which in turn provide the basis for developing theories or laws”, whereas “*deductive logic* is a top-down approach to knowledge”, which starts with “a theory from which a hypothesis is derived and applied to observations about the world”. The aim is either to confirm or reject the hypothesis, proving or disproving the existing theory or generate new hypothesis through collecting data (Blaikie, 2007; Gilbert, 2008; Bryman and Bell, 2011; Ritchie et al., 2013).

However, Blaikie (2007) claims that there is no such thing as ‘pure’ deductive or inductive method (Blaikie (2007), quoted by Ritchie et al., 2013). This claim has been supported by positivists, who seek “to generate hypothesis that can be tested and that will thereby allow explanations of law to be assessed” (Bryman and Bell, 2011, p. 15). They

call it deductivism. At the same time positivists state that “knowledge is arrived at through the gathering of facts that provide the basis for laws” (Bryman and Bell, 2011, p. 15), following the inductivism approach.

For the current study, both methods are fitting, as the hypothesis is generated through a deductive approach on the basis of the existing theories, but the results of data collection gathered through inductive approach, are set to uncover new information to contribute to further understanding of the issues. The deductive method will be used to design the questions for the interviews on the basis of the migration theories and guide the contents analysis, whereas inductive method will allow findings to uncover potentially new uses of social media that can have an impact on the migration process, as well as inform the process of better understanding of the relationship between online information and migration decision making.

The epistemological position is rooted in the notion that “positivism entails elements of both a deductive approach and an inductive strategy” (Bryman and Bell, 2011, p.15), allowing the subsequent research design structure to reflect that.

4.2.3 Axiology

Ethical considerations were at the core of this research, which is discussed in a Chapter Five.

Online social media data has recently become increasingly popular with social researchers, as there has been a huge growth in the amount of research being conducted in this way with big data growing exponentially (Williams, 2007; Eynon, 2013). Publicly available ‘ready-made’ datasets can be easily found online as completed transcripts of human interactions (Zheleva and Getoor, 2009). Such data lends itself for analysis, but also presents researchers with a dualistic dilemma of whether it expands capabilities of research or facilitates intrusion of privacy (Boyd and Crawford, 2012). As ethical research encompasses the principles of doing no harm and yielding benefit to society, as well as voluntary and informed participation of research subjects (ESRC, 2015), it is important to ensure that the right balance is struck between researchers’ aspirations and respondents’ rights. As the field of social media research is emerging, more discussion is needed on how best to embed ethical values in its research methods and ensure research integrity.

4.2.4 Methodology

Thus, research methodology for this study is rooted in post-positivism, which is a blend between critical realism and positivism, aiming to establish a relationship between the actors (migrants) and the structure (online social networks) and understand its role in migrants' wellbeing. The use of both quantitative and qualitative approaches offer an opportunity to achieve higher validity of findings through an application of mixed methods approach, described below.

4.3 Research approaches

There are two basic approaches to research methodology (Kothari, 2004; Creswell, 2011):

- *Quantitative* – “the generation of data in quantitative form which can be subjected to a rigorous quantitative analysis in a formal and rigid fashion” (Kothari, 2004, p. 5).
- *Qualitative* - “subjective assessment of attitudes, opinions and behaviour. Research in such a situation is a function of researcher’s insight and impression. Such an approach to research generates results either in a non-quantitative form or in a form that is not subjected to a rigorous quantitative analysis” (Kothari, 2004, p. 5).

Qualitative and quantitative methods have been considered as the two contrasting approaches to social investigation, that carry with them important epistemological and ontological considerations, being rooted in the opposite theoretical paradigms of objectivism versus constructionism, highlighting “important dimensions of the quantitative/qualitative contrast” (Bryman, 2012, p. 42).

4.3.1 Quantitative methods

Quantitative research includes methods that deal with numbers and provide an account of the findings based on numerical evidence. Bryman (2016) describes quantitative research as a collection of “numerical data, as exhibiting a view of the relationship between theory and research as deductive and a predilection of a natural science approach (as in positivism in particular), and as having an objectivist conception of social reality” (Bryman, 2016, p. 160).

Adams et al. (2014) states that this type of research is usually based on the methodological principles of positivism and neo-positivism. It usually employs statistical analysis for quantifying the measurements and observations (Adams et al., 2014). Ritchie et al. (2013) argues that usually quantitative research is based on the realism rather than idealism approach, where “epistemological considerations loom large in considerations of research strategy. To a large extent, these revolve around the desirability of employing a natural science model (and in particular positivism) versus interpretivism” (Bryman, 2016, p. 42). A number of quantitative methods have been extensively used in migration before (Iosifides, 2016).

In this study, quantitative methods were employed to establish the strength of a relationship between offline and online social networks and migrants’ wellbeing. Content analysis of the forum scrape was used to establish the types of information exchanged within that online social network. The social networks analysis of the forum networks was employed to determine the structure of social networks online. The online survey was undertaken to define the relationships between migrants’ wellbeing and their social networks. The role of online social networks and social media was researched in the context of migrants’ wellbeing in the host country.

4.3.2 Qualitative methods

Qualitative methods are used to “seek understanding” through participatory observations, in-depth interviews, and other methods, that yield descriptive data, that could be in people’s own words and records of people’s behaviour (Taylor et al., 2015, p. 4). Descriptive observations, histories and interviewing goes back to the beginnings of recorded histories, making it one of the oldest research techniques (Wax, 1971). However, in its current shape and form, qualitative methods have been consciously in use since over a hundred years ago (Clifford, 1983). Qualitative methods have been also widely used in migration (Iosifides, 2016).

A number of qualitative methods were used in the study, including semi-structured interviews and summative or thematic content analysis.

Qualitative semi-structured interviews were used for investigating attitudes to social media amongst pre-migrants. The results of the semi-structured interviews were used to inform the next stages of the study.

Content analysis can be often viewed as a single method, however, both quantitative and qualitative analysis or a mixture of them can be applied to it. It is also systemised into three distinct types: *conventional*, *directed* and *summative*. The major difference between in coding systems, origins of codes and levels of trustworthiness. The differences between them are the following (Hsieh and Shannon, 2005):

- *Conventional content analysis* – coding categories are directly devised from the text data
- *Directed content analysis* – a theory or relevant research findings are used as a guidance for initial codes
- *Summative content analysis* – involves counting and comparisons, usually of key words or content words, which are then interpreted to understand the context.

All three approaches are qualitative in their interpretation; however, summative analysis can be considered quantitative in its application. In this study, summative content analysis was used to analyse scraped data to identify the context of the forum information. However, it did not return enough meaningful results.

The forum had an organised structure of themes and topics, with content moderated to ensure that it appears in the correct topic, it was deemed more effective to analyse the content using the existing structure of the forum. Thus, when the structure of the forum became apparent, the observation technique was employed to gather the information on what those topics contained. Thus, the directed approach was used, as the content summarising topics were already in place. Observation technique was used to expand on the topics to ensure better understanding of the information available.

The results of the summative and directed content analysis informed the design of the online survey.

4.3.3 Mixed Methods

As both quantitative and qualitative methods were used in the study, we considered the third approach, which is referred to as multiple or mixed method (Creswell, 2011; Johnson et al., 2007; Davis et al., 2011).

Mixed methods - the practice of combining and using a mixture of methods, be it quantitative and qualitative (mixed) or just a number of same approach methods

(multiple), in the same research project (Creswell, 2011; Johnson and Onwuegbuzie, 2004)

Mixed method approach is aimed to enrich the understanding of the subject and to provide higher validity of findings, as methodological pluralism of mixed methods may produce “superior research compared to mono-method research” (Johnson and Onwuegbuzie, 2004, p. 14). The mixture of both quantitative and qualitative methods offers an opportunity for “positive things to happen that are less likely to occur in a strictly qualitative or strictly quantitative study” (Neuman and Benz, 1998, p. 22).

Mixed methods can be “*pure form* mixed methods, when both quantitative and qualitative methods retain their original structures and procedures; or *modified form* mixed methods, when the two methods can be adapted, altered, or synthesised to fit the research projects” (Johnson et al., 2007, p. 119)

Mixed methods can be *sequential* (when data collected through one method informs the next) or *simultaneous* (when different sets of data collection are not hierarchally linked) use of mixed methods (Steve Currall from Johnson et al., 2007; Creswell, 2013).

4.3.4 Mixed methods approach for this study

The research design of this study includes multiple quantitative methods (content analysis, social network analysis, ego-centric network analysis and survey analysis) and multiple qualitative methods (semi-structured exploratory interviews, qualitative content analysis), that have been used sequentially. The choice of methods was defined by specifications of available data as well as research participants. A perceived gap of quantitative research in wellbeing of migrants, particularly less numerous ethnic group, such as Russian speaking migrants in the UK, was also considered.

The multiple mixed methods approach has been chosen as it reflects the compound nature of the research question, characteristics of the research platform and accessibility of research group. The available data from an online platform and online survey was best analysed using quantitative research methods. However, qualitative methods were required to improve research design, make better sense of available data and establish links between different aspects of the study, aiming to provide a multidimensional analysis of the phenomenon.

Quantitative methods were the most fitting for analyzing the online forum data, due to its size and characteristics, which was collected through an automated scrape. The large body of content data collected over a year period, was best suited to be analysed by quantitative content analysis. However, this type of analysis had its limitations and did not return sufficient information. As a result, the need arose to employ qualitative methods to better understand the content of the forum. The findings, collected using sequential mixed method analysis, provided a robust framework to design questions for the online survey.

The online survey was designed to collect data on various factors that may play a role in migrants' wellbeing, using multiple choice questions and ego-centric social networks. The data collected through the survey was also best analysed using quantitative methods. The analysis of ego-centric social networks structure on the forum was best undertaken using Social Network Analysis in appropriate software.

Multiple methods used in the study provided an opportunity to ensure validation and triangulation of findings and offer a new perspective on the research issues. The research methods employed in the study are discussed in more details below.

4.4 *Research Methods*

Research methods are the “various procedures, schemes and algorithms used in research” (Rajasekar et al., 2013, p. 5). All methods applied to data collection and analysis are considered as research methods and may include “theoretical procedures, experimental studies, numerical schemes, statistical approaches and others, which may help [researcher] to collect samples, data and find solutions to a problem” (Rajasekar et al., 2013, p. 5).

The choice of appropriate research methods is of significant importance to any research project, as it determines the ability to answer research questions, argue posited hypotheses and ensure validity of findings. In this part of the chapter we explain the structure of the study, the rationale behind the choice of research methods and provide a description of research methods employed.

The approach was inspired by Brown's work on conceptualising online networks (Brown et al., 2007) and Garton's social network analysis approach to computer mediated communications (Garton et al., 2004).

As indicated by Strauss's ideas of grounded methodology (Strauss and Corbin, 1997), which recommends that each stage of research should include an appreciation of the previous stage, be it theoretical or evidence based (Brown et al., 2007), the findings of the exploratory home-country interviews with pre-migrants indicated that online social media is an important part of pre-migration information searching behaviour.

4.4.1 Research Design Stages

The study used a combination of inductive and deductive approaches to tackle the research question in application to the developing area of social media and migrants' wellbeing.

Firstly, it was decided to undertake a number of pilot semi-structured interviews with potential migrants in a home country to establish if they use social media in the process of migration. The results pointed out that social media and online forums offer an information resource for migrants. These findings informed the selection of social media type for research with a focus on online forums and the potential benefits that migrants can draw from it.

The author familiarized herself with the social media landscape for migrants and identified online forums as one of the resources created by migrants for migrants, which became the focus of the research. A forum with the highest uptake amongst Russian speaking migrants in the UK was identified. The data from that forum was used to conduct this study.

Secondly, the content of a forum was analysed to determine what type of information is exchanged online. The content data was collected through an automated scrape and analysed using directed and summative content analysis.

Thirdly, social networks within a forum were explored to establish if there are any social networking between migrants that have significance. The data was collected from a forum through an automated scrape and analysed using online social networks analysis.

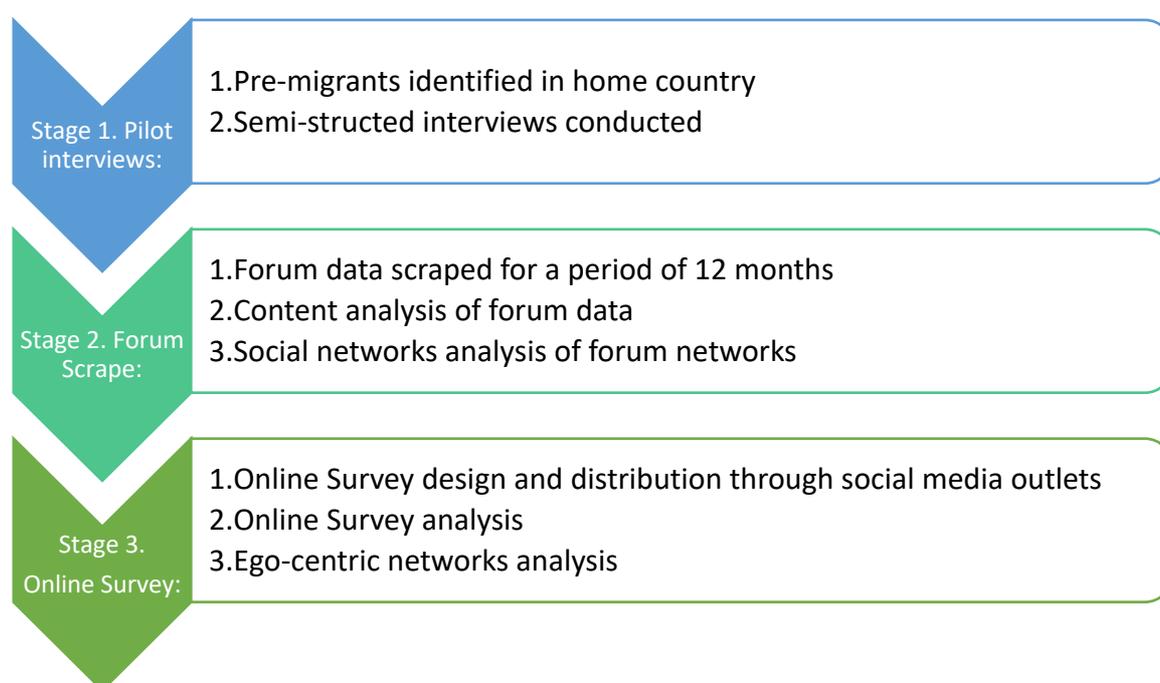
Fourthly, a survey was undertaken to explore how migrants perceive online support and what factors had an impact on their wellbeing. The data was collected through an online survey and the findings were analysed using SPSS and Ucinet for ego-centric networks analysis.

4.5 Research Stages

The research design was approached from the point of exploratory gathering data through pilot semi-structured interviews (Stage 1); followed by investigating the content of the forum and its social networks (Stage 2); followed by investigating migrant's access to social support and wellbeing (Stage 3), with each stage being sequentially analysed to inform the design of the following stages.

Those stages formed a structure shown in Figure 3. Research design stages:

Figure 3. Research design stages



Stage 1: The exploratory semi-structured interviews provided data for the first stage of research. The interviews were conducted face to face and the data was analysed using thematic analysis. The results of the interviews informed the design of the following stages through identifying the direction of research.

Stage 2. The forum dataset was collected through scraping data from the identified online forum for a period of 12 months, which returned a dataset of 276,256 posts in 2,315 threads from 1,545 users. Collected data was analysed using three types of analysis, including quantitative data analysis, quantitative content analysis and quantitative social networks analysis, which were all performed in R. Due to the fact, that quantitative content analysis returned only limited meaningful results, it was decided to undertake a qualitative content analysis of the forum. The researcher familiarized herself with the

themes and topics discussed on the forum. The results of the quantitative analysis and qualitative observations informed the design of the online survey.

Stage 3. The online survey was designed on the basis of the findings of pilot interviews, online forum scrape data analysis and qualitative observations of the forum. The survey dataset was collected through an online survey with multiple choice questions and ego-centric networks questions. The findings of the survey were analysed using SPSS for multiple choice questions and Ucinet and R for ego-centric networks.

The overall results allowed to develop a framework of factors that play a role in migrants' wellbeing. This helped to answer the main research question of the study.

4.6 Data Collection and Analysis

As identified above, the data for the study was collected from three different sources and analysed with a range of mixed quantitative and qualitative methods. The data sets were collected and analysed sequentially, using sequential multiple methods research design (Creswell, 2013). This allowed the use of previous findings to inform the design of the next stage, using both quantitative and qualitative methods. Data collection methods comprised:

- pilot semi-structured interviews data (qualitative data collection)
- online forum scrape data (quantitative data collection)
- online survey data (quantitative data collection)

The collected data sets were analysed using both qualitative and quantitative methods. Quantitative analysis methods included:

- Quantitative data analysis
- Summative content analysis
- Social Networks Analysis
- Ego-centric networks analysis
- Quantitative Survey Analysis

Qualitative data analysis methods included:

- Semi-structured interviews analysis
- Summative content analysis

The research design and methods employed in the study are discussed below, following the above structure (Figure 3. Research design stages).

4.7 Stage 1. Exploratory Interviews

4.7.1 Initial Research Design

At the start of the research there was a definite need to identify if migrants and potential migrants might be using online social media for migration purposes. As discussed in the Literature section, online social media has been widely used amongst migrants (Dekker and Engbersen, 2014). The aim of this study was to look at how social media may impact migrants' wellbeing in the host country through connecting to other migrants.

4.7.1.1 Hypothesis One

Initially, the study aimed to identify how potential migrants might use social media to make their decision to migrate and achieve success post-migration. The Hypothesis One was rooted in the literature, devised by a number of authors (Byford, 2012; Morgunova, 2013; Dekker and Engbersen, 2014; Dekker et al., 2016; Dekker et al., 2018).

Hypothesis One: the development of online social media has presented potential migrants with a valuable tool for information searching that may help to overcome limitations of face to face social networks, thus making migration more inclusive and achievable. It was also argued that information collected online can influence migrants' decision-making through views expressed in online social networks.

The findings of the exploratory interviews indicated that online social media would not appear to have an impact on migration decision making. Thus, Hypothesis One showed no importance attached to it and therefore it was not followed.

4.7.1.2 Hypothesis Two

The literature review suggested that migrants use online social media for information purposes (Komito, 2011; Dekker et al., 2016; Dekker and Engbersen, 2014). This was evidenced by the exploratory interviews. Their results revealed that potential migrants actively use social media to find information about the host countries to improve their adaptation strategies after migration.

One of the most actively used resources were online forums for migrants in the host countries. These findings provided a new direction for the research and formed Hypothesis Two, which was followed up in the study.

Hypothesis Two: online social media and online social networks play a role in migrants' well-being in the host country. Online social networks can help migrants create social ties within the host community and have an impact on their well-being and subsequent migration decisions (to stay, return or re-migrate).

The study aimed to evaluate what role online social networks might play in the process of settling in the host country.

Initially the study covered two research questions:

- The role of social media in migrants' information searching behaviour and reduction of information barriers;
- The role of social media in migrants' wellbeing post migration.

The first research question was based on Hypothesis One. Due to the results of the exploratory interviews, discussed above, and a range of factors, including scarce access to hard-to-reach respondent groups of pre- and post-migrants from the FSU, as well as the availability of reliable information, this research question was not followed up in the study. It was also felt that the scope of the study was too wide, thus the number of research questions was reduced to one, which prompted a change in research focus from enabling migration to promoting wellbeing of migrants.

4.7.2 Exploratory Interviews

Initially, exploratory interviews were designed to probe the issues of social media enabling migration amongst pre-migrants in their home country (Russia). Hypothesis One was tested through exploratory semi-structured interviews.

Due to the exploratory nature of the study, it was important to ensure the correct research design. To ensure higher validity of findings, exploratory qualitative interviews at the start of the project provided an informed platform for further research design. The exploratory interviews were designed to explore if online social media can have an impact on migration decision-making.

It has been established that semi-structured interviews work well for small scale research projects, which have a structure but also allow space for new ideas (Neuman and Benz, 1998; Drever, 1995; Cohen and Crabtree, 2006). The researcher identified a small group of potential migrants in their home country. Semi-structured interviews were chosen for the exploratory interviews due to the fact that it was a small-scale study, which had an established theme. However, as it was also an exploratory exercise, it was paramount to collect new ideas from the interviewees.

The interview questions were designed on the basis of literature analysis and are attached in Appendix 1. Interviews with pre-migrants, page 325.

The results of the interviews changed the direction of research and provided information for the research design of further stages.

4.8 Stage 2. Online Forum

The next stage of the project included collecting data from an online forum. It was chosen according to a range of criteria, described in Chapter Six. The data collection was performed through a web scrape, which allowed to collect the content and network structure of the forum for a period of 12 months. The process of data collection from an online forum is described below.

4.8.1 Data Collection from Online Forums

In terms of collecting data from online forums, asynchronous online forums have been reported to be observable, accessible, and safe (Anderson & Kanuka, 1997; Im and Chee, 2006). Research has been done on a number of different types of online forums, including

online forums dedicated to medical conditions (Bauer et al., 2013; Alfi and Talbot, 2013), online learning (DeSanctis et al., 2003; O'Donnell et al., 2015) political discussions (Janssen and Kies, 2005; Tsaliki, 2002; Karlsson, 2012). Online forums have been found to offer a more comfortable platform for discussing sensitive personal health issues. Researchers considered them as a more appropriate alternative to traditional face-to-face focus groups particularly in cases of health research (Im and Chee, 2006). For political debates online forums provide a platform for people to freely express their views, hence strengthening democracy (Tsaliki, 2002). Online learning has a lot of benefits for learners, including online discussion forums where students form a community and can develop their thinking in online discussions (Salmon, 2013; Kanuka and Anderson, 2007).

There are advantages and disadvantages in collecting data from online forums, which are affected by the aim of the research.

Their advantage is that data from online forums is usually easily accessible and relatively simple to read. It may also be longitudinal, as online forums are usually administered over a longer timeframe (e.g., 6 months, 1 year, 3 years or more), which gives researchers the flexibility to collect data for the time period they want (Wellman and Gulia, 1999; Saba & McCormick, 2000; Im and Chee, 2006), following the discussions that have happened already.

A lot of the forums require users to register and either create or be given a password to increase data confidentiality. That makes the data collected from the online forums safer in comparison to other Internet data collection methods that are accessible to the general public without passwords (Wellman and Gulia, 1999; Saba & McCormick, 2001; Im and Chee, 2006).

The data collection does not need participants to make special time for taking part in the research, as the subject of analysis is the information that they have provided already.

There is also no need for transcribing, as there is a written record of the data.

The disadvantage of the online forums data collection is that recorded data is usually for the past posts, thus it may make it out of date for the time of the research. Another consideration is that the research may need to be undertaken covertly, because if it is exposed to the participants it may influence their behaviour (as discussed in the Ethics chapter).

The challenges for data collection from online forums depend on the individual forum that is being researched. In case of the www.rutalk.co.uk there are ethical and technical challenges. The ethical challenges are discussed in the Ethics chapter. The technical challenges, including multilevel structure of the forum, continuous information updates, as well as large number of posts, are discussed below. In order to collect sufficient data for quantitative analysis, automated data scraping had to be employed.

4.8.2 Web Scraping

Web scraping is a term used to describe the process of extracting data from the World Wide Web (WWW) for analysis and/or other purposes. Although the process can be done manually the term is most typically associated with the automatic extraction as performed by a software program. In this case we are focusing on extracting information from just one website www.rutalk.co.uk and looking to extract information contained in the forum posts to analyse the content and interactions between users.

The RuTalk website is what could be termed a forum or bulletin board site. As such this means that the site has a reasonably regular and hierarchical structure for the user generated content which should lend itself well to scraping. The structure present in RuTalk can be described as follows: at the top level there are forum topics, at the next level down each of these topics contain one or more threads. The topics can also optionally contain sub-topics at the same level as the threads. Both the topics and the sub-topics can both contain threads. At the lowest level each thread contains one or more posts from individual users. At each level of the hierarchy there is a limit on the number of displayed hierarchical elements, be they topics, threads or posts depending on level. When the number of elements exceeds a given limit the list of these elements is split into pages. The variable hierarchy and the pagination of elements in the site means that it is a fairly complex task to navigate in an automated manner. There are also a significant number of ancillary elements surrounding the core hierarchical elements that we want to extract, which varies with the level of hierarchy. At the lowest level of posts there is also a complex structure and a wide variety of content that can be included in a post other than just plain text.

The range of tools and methods available to perform a scrape of a website is diverse. At one end there are solutions that promise a largely graphical user interface (GUI) driven experience (e.g. import.io) where the tool attempt to automatically detect the structure of the website and guide you through the scrape process graphically and there is minimal

coding or script writing involved. At a more customisable level there are pre-existing scraping frameworks that you can adapt for your own use in a variety of programming and scripting languages which require a reasonably deep understanding of both the programming language and the structure of the HTML format that webpages are represented in. At the lowest level there is also the option for a fully customised web scraper implementation where you implement the web scraper from scratch in the programming language of your choice. There is a clear trend of increasing effort and level of required background knowledge and programming skills required as you move from the high level GUI driven experience down to the full custom implementation. What you gain with this extra effort is the ability to deal with more complex and potentially irregularly constructed websites and being able to extract data in a more specialised manner. It is also worth making clear that once you go below the GUI level tools for scraping it then becomes a specialist task that required a significant amount of coding experience and familiarity with HTML.

The high level GUI tools seemed to offer a significant enough benefit in ease of use and time to develop a solution to warrant an initial trial to see if they could cope with the complexity of the RuTalk website. A trial with import.io to scrape the highest level of data from the site was not successful due to both the complexity of the structure of the forum, the pagination of data required to be captured and the use of Russian Language encoding of the text which seemed to confuse the tool. As this was seen as one of the more advanced tools of its type available it was deemed that the complexity of the task meant that GUI based scraping tools could likely be ruled out.

The outcome from the GUI tools trial meant that the effort required to complete the task was going to increase and that a lower level implementation of a web scraper customised to the RuTalk website would be required. The researcher would also need assistance of an individual with the appropriate skills, both in the choice of what framework, language and development environment to choose and the end implementation. At this point the choice of the framework and language was still fairly open, so some additional constraints and investigations were needed to bind the choice. The first constraint considered was that there should be readily available examples of scraping Russian language encoded pages in the language and framework of choice. The second constraint was to try to minimise the effort required. This translates into considering aspects such as what libraries and tools are available to deal with the download and parsing of web pages and at what level they operate. The higher the level the less coding work that should be

required in order to implement the scraper. A third consideration was what the analysis environment was going to be and the availability of data manipulation and import/export libraries that supported the file formats of the analysis tools.

Higher level languages such as Python and Ruby seemed promising as they both have a good set of library support for downloading and parsing of web pages. In terms of web scraping frameworks at the time of decision making (mid 2015) one of the leading frameworks for web scrapers was Scrapy. However, the level of maturity of some of the new features such as language encoding support in exports and correct behaviour for links encoded in non-English language meant that for this particular scraping task there may not be a good fit. There were other frameworks available, however it seemed worth turning our attention to the proposed analysis tools to see if there were any further synergies in terms of data flows from scraper to analysis that could help determine the preferred implementation. The following analysis tools were considered as likely to be used in some capacity: R, NVIVO, SPSS and Excel. The data that came out of the scraper was most likely to be of a tabular type format, the lowest common denominator for such data interchange would be a textual based format like CSV although care would be needed to ensure that the text encoding could be properly exported and interpreted. Textual data format is not the most space efficient in terms of file size but given the amount of data being scraped in this case it was determined that a textual representation for data interchange would be manageable.

Out of these analysis tools it was most likely that R was going to be the primary tool for analysing social networks and also important in textual analysis of the content. Of these tools R is unique to the extent that it is itself a programming language with a number of packages (libraries) available to perform different types of analysis and has its own development environment R Studio which simplifies the programming and visualisation of results of the analysis. On further investigation it became clear that R was already being used for web scraping and analysis of the scraped data including several examples with non-English language sites including Russian. The web scraping related packages available were also found to be on a par with that available in other popular scraping languages such as Python and Ruby. The data import and export functionality were also explored and seemed of a suitable standard. Given that R was already going to be utilised for significant parts of the analysis this tipped the balance in favour of using R for the implementation of the web scraper.

An initial trial of the capabilities of R was proposed to scrape the top level of topic information in the RuTalk website. This was developed without significant problems and the captured data exported to Excel to test the portability of the scraped data. At this point the decision was made to proceed with the implementation of the full web scraper in R.

4.8.3 Scraping Data from RuTalk

The history of the forum went back over 10 years with some threads dating back to 2002. The forum's longevity increases the volume of threads and posts, but also dilutes the user base and the relevancy of the topics. Thus, the decision has been made to define the period for analysis as the 12 months period between January and December 2015.

The scrape covered the period of 2015 calendar year, from the 1st of January until the 31st of December. All threads that were active throughout that time were included in the scrape. The code for the forum scrape is provided in Appendix 6. Online Forum Scrape.

4.8.4 Forum Data Analysis

The data collected from the forum has been analysed in terms of activity in each topic. Using MS Office Excel software, Pivot table were created to analyse correlations between rates of participation, in terms of number of users, number of posts, number of threads, intensity of activity over time for all of the forum topics. This analysis allowed to identify the most popular topics and the intensity users were engaging with the discussions. The most popular topics were then analysed in terms of their content.

4.8.5 Quantitative Content Analysis

Forum scrape data consisted of 276,256 posts exchanged between 1,545 forum participants during a period of 12 months. Quantitative content analysis was the preferred option in this instance. The purpose of the analysis was to identify the main themes of the conversations on the forum and the main areas of interactions.

Content analysis has been defined as an analysis that “draws conclusions from observations of content” (Stempel, 2003, p. 209). Quantitative content analysis was defined as “a research technique for making replicative and valid inferences from data to their context” (Kreppendorff, 1980, p. 21). The limitations of quantitative content analysis are that it may be called “reductionist, with sampling and operational or measurement procedures that reduce communication phenomena to manageable data (e.g.

numbers) from which inferences may be drawn about the phenomena themselves” (Riff et al., 2014, p. 18).

However, some researchers believe that this limitation can become an advantage, as quantitative content analysis produces more objective results. It is designed to measure variables and define their frequency in an objective and systematic way, as “content analysis is a research technique for the objective, systematic and quantitative description of the manifest content of communication” (Berelson, 1952, p. 18). It is an observation method and serves as an unobtrusive and nonreactive indicator (Kerlinger, 1973; Riff et al., 2014).

Quantitative content analysis has also been described as “systematic and replicable examination of symbols of communication, which have been assigned numeric values according to valid measurement rules, and the analysis of relationships involving those values using statistical methods, to describe the communication, draw inferences about its meaning, or infer from the communication to its context, both of production and consumption.” (Riff et al., 2014, p. 19). Such approach is particularly fitting for this study as content analysis becomes part of the social network analysis, which is based on the interactions between participants. The positivist approach with deductive epistemological position of this study, supports the claim that “quantitative process of analysis is objective, systematic and focusing on content’s manifest (or denotative or shared) meaning (as opposed to connotative or latent “between-the-lines” meaning)” (Riff et al., 2014, p. 19) and thus was chosen as an appropriate analysis tool for this research.

Conventional content analysis was also employed to collect the discussion themes on the forum. The forum was already categorised into themes and presented a structure of themes-threads-posts. The main themes were collected amongst the most popular themes selected for analysis. A number of themes were chosen, that was analysed in more detail. Summative content analysis was used as well (Hsien and Shannon, 2005) to provide an overview of the discussions on the forum. These findings provided the basis for online survey questions.

4.8.6 Social Networks Analysis

Social network analysis was used as a methodological tool to understand the structure, composition and functions of networks of connections (ties) between individual entities (nodes). Social networks have been defined as “a structure, composed of a set of actors, some of whose members are connected by a set of one or more relations” (Knoke and

Young, 2008, p. 8). This structure is usually represented by a set of nodes (social members) and their ties (social connections) (Knoke and Young, 2008). Social networks represent social relationships among individuals, families, households, villages, communities, regions, and any other entities. Each actor or node can play dual roles, acting both as a unit of a social network and as a social actor (Knoke and Young, 2008). The ties could be close (bonding) and weak (bridging) depending on the level of familiarity between nodes and produce a different effect on nodes' capabilities (Granovetter, 1973).

Social network analysis has become particularly popular with the acceleration of the social media platforms that has made it possible to expand social networks to new heights (Scott, 2017). It was also noted that social networks have become an important part of wellbeing (Scott, 2017). Social networks have always been an integral part of human migration and particularly important for migrants, playing a central role in their wellbeing, integration and success of migration (Ryan, 2011; Boyd, 1989; Castles et al., 2013; Jordan and Duvell, 2003; Ozveren, 2017).

Social networks can be evaluated using a range of measurements, depending on their composition, structure, functions and attributes (Bonacich, 1987). Those measurements could be split into three main groups depending on what they measure:

Node Attributes:

- *Homophily* – extent to which nodes are connected with similar versus dissimilar others
- *Multiplexity* – how many different kinds of ties there are between two nodes
- *Cohesion* – the minimal number of nodes that, if removed, would disconnect the group (structural cohesion)
- *Centrality* – how 'important' or 'influential' the node with most connections is (includes closeness centrality, eigenvector centrality, alpha centrality and degree centrality)

Ties attributes:

- *Reciprocity* – extent to which two nodes reciprocate the relationship between each other

- *Propinquity* – the tendency to have closer ties due to geographical location
- *Transitivity* – how closed the network is
- *Density* – proportion of direct ties in relation to the number of nodes
- *Distance* – the minimum number of ties to connect two nodes
- *Ties strength* – defined by the strength of ties, based on the previous measurements

Clusters attributes:

- *Structural holes* – the absence of ties between two clusters
- *Bridge* – the tie between two clusters that goes across structural hole
- *Clustering coefficient* – likelihood of ties between the nodes that are connected to the same node

The data available dictates what measurements are applicable in each case. In the course of this research project, two sets of SNA data were collected, which were analysed using appropriate measurements.

The data, collected through forum scrape, contained 276,256 posts in 2,315 threads from 1,545 unique participants. Each post indicated a tie, which were sorted by threads. Some ties were directional, as they had the name of an addressed user in the text. There were no node attributes available (due to anonymity on the forum). The only attribute available was the nodes' login names, which were coded and used to differentiate them. Thus, due to the nature of the forum scrape data, it was not possible to measure almost any attributes of the nodes (apart from centrality and cohesion). Instead, data analysis was focused on measuring ties attributes and social clusters, including analysis of reciprocity, density, transitivity, distance and structural holes, as well as bridges and clustering coefficient.

4.8.7 Ego-centric Networks Analysis

Egocentric network are the networks that are built around a particular individual (ego) and his/her connections to others (alters) (Granovetter, 1973; Fisher, 2005). The egocentric networks that are built around one actor (ego) and only direct ties with other

are called the first zone. Some networks spread into further zones and alters' connections between each other (Knoke and Young, 2008).

The data collected through online survey, using name generators for close ties, produced first zone ego-centric networks of survey respondents (egos) with up to 5 immediate alters. They were generated through a name generator and included attributes of frequency of contact, type of contact, relationship closeness, employment and location. Alters were not connected with each other. The ego-centric networks were all in the first zone.

Survey data presented an opportunity to measure nodes' attributes as well as some ties' attributes, including homophily, transitivity, propinquity, however, it was not sufficient to measure cluster attributes. The ego-centric networks were later correlated with wellbeing, integration and life satisfaction variables, obtained as a results of SPSS survey analysis.

4.9 Stage 3. Online Survey

The next stage of the study involved an online survey, designed on the basis of literature review and findings of the previous research stages. The survey aimed to establish what factors have an impact on migrants' wellbeing, including social networks online and offline. The objectives of the survey were to find out what factors affect their life satisfaction and what role online and offline social networks play in their wellbeing.

4.9.1 Survey Design

The objectives of the survey were to investigate what factors have an impact on migrants' wellbeing and if social media plays a role in it. The survey focused on examining the links between the migrants' wellbeing using the measures of self-accessed life satisfaction and integration, as well as other variables, including their off-line and on-line networks, i.e. access to social support in real life and their use of online networks through a forum for migrants. As the literature suggests, social support has an impact on wellbeing and successful acculturation of migrants and the survey is designed to test that, as well as to look into what role online social networks play in that process.

The survey questions were based on the literature review, discussed in Chapters Two and Three and the results of exploratory interviews and online forum analysis. The survey was designed using longitudinal surveys in NoviSurvey software. The survey included

question on life satisfaction, social support, social media and ego-centric networks. The questions are provided in Appendix 2.

The survey was designed in two parts:

- Part 1. Life satisfaction and off-line social networks and support.
- Part 2. Online forum and on-line social networks and support.

Part 1 explored migrants' self-accessed level of life satisfaction and integration, as well as their friendship networks, social support and social capital. The questions for wellbeing and life satisfaction in the survey were harmonised to the questions for the EU Quality of Life survey 2012 that have been conducted across Europe. The results were compared to the results of the EU Quality of Life survey to establish similarities or discrepancies with overall UK scores.

The egocentric questionnaire explored the level of perceived social support available to respondents, using resource and name generators (Van der Gaag, et al., 2008). The position generator and resource generator were based on the Dutch population survey (1999-2000) (Van der Gaag and Snijders, 2005) and other work that has been done in this area (Lin, 1999).

Part 2 investigated the role of online forum in migrants' social life and integration. It looked at what were the main reasons migrants used the forum, what were the main themes they were interested in and what role it played in their integration. The questions were designed based on the observation results from the online forum analysis.

The results of both parts were compared to explore if there were any similar correlations between the findings.

4.9.2 Survey Distribution

The survey was conducted online, utilising several virtual platforms, including UK Russian-speaking forums, Twitter and Facebook. The survey was purposefully distributed online only, using social media outlets, as the aim of the study was to look at the respondents who had access to the Internet and social media and was familiar with using it.

The survey was distributed in English and Russian to avoid the limitation of English language skills.

The online survey was conducted in May-June 2016. It was distributed online on Russian-speaking forums in the UK, Twitter and Facebook. The survey was online for 2 months. Two reminders were issued to attract more respondents. It has returned 133 replies.

4.9.3 Population Group

The main research group for this study were highly skilled migrants, who are usually defined as foreign-born workers with a university degree or post-secondary training (Beine et al, 2007) or extensive/equivalent experience in a given field (Iredale, 2001). They include ‘highly skilled specialists, independent executives and senior managers, specialized technicians or tradespersons, investors, business persons, “keyworkers” and sub-contract workers’ (OECD SOPEMI, 1997, p. 21), also referred to as “human resources in science and technology (HRST)” (OECD, 2008).

The parameters of the study group were defined through the requirements for economic migrants set out in the international and UK points-based immigration policy systems, described in Appendix 5. Immigration Points-Based Systems.

The study looked at highly skilled migrants from the former FSU countries, with Russian as a native language. The choice of this group of migrants has been made for the reason that the researcher is familiar with this country’s culture and social rituals, which will help to conduct ethical and culturally informed research. The researcher’s command of Russian and English that will also allow interviewing respondents in their preferred language (Dekker and Engbersen, 2014) and reduce barriers to understanding between the researcher and respondents (Findlay and Li, 1999).

The UK was chosen as the migrants’ host country, as the researcher and the University where this PhD project is undertaken is located in the UK. In addition to that the UK had a points-based immigration system which had allowed migration of highly skilled workers from overseas.

4.9.4 Sampling selection criteria

For the purpose of the online survey, convenient sampling was employed (Deacon et al., 2007). There was a purposeful set of criteria for the participants. The survey was distributed in a convenience manner. The respondents were selected according to the qualifying criteria, defined in the population sample, which is set out below:

- Home country – FSU countries

- Native language (or one of) - Russian
- Level of education – University degree (according to the definition of HSM)

For the purpose of better understanding the parameters of the study's subjects, it was important to define migration routes for highly skilled migrants that shape the characteristics of that population group. The international points-based immigration policies and characteristics of overseas economic migrants are discussed in International points-based immigration policies on page 346. These parameters helped to design the online survey and analyse subsequent findings.

4.9.5 Challenges of Sampling on Online Forums

There are a number of limitations that online surveys present. One of them is sampling. There are two reasons for difficulties with constructing the sampling frame for online forums research:

1. There is very little known about participants
2. Researchers have little control over who responds to the survey

Online forums inherently collect very little information about their participants. As pointed out by Wright, 2005 (no page No, as only online source):

“Unlike membership-based organizations, many online communities, such as community bulletin boards and chat rooms, do not typically provide participant email addresses. Membership is based on common interests, not fees, and little information is required when registering to use these communities if registration is required at all.” (Wright, 2005, online)

The attempts to establish a sampling frame by counting the number of participants in an online community, or the published number of members, over a given period of time are hindered by the in- and out-flow of participants on a daily and hourly basis. Participants can be sporadic and their number and composition is changing all the time (Wright, 2005).

There are differences in participants' behaviour, as some may take an 'active' role, and can be considered 'regulars'. Whereas others take a 'passive' role and prefer to read rather than to post. They can be identified as 'readers'.

Also, as registration is only required for posting, participants with a “guest” status can still view the forum without registration. The forum statistics suggests there were a lot more “guests” than “registered users” on the forum at any one time (Wright, 2005).

There is a large body of registered users that do not actively post on the forum but can nevertheless reply to a survey. This category is often called “lurkers” and their number is often a lot higher than the number of ‘regulars’ (Wright, 2005).

“Some people are “regulars,” who may make daily contributions to discussions, while others only participate intermittently. Furthermore, “lurkers,” or individuals who read posts but do not send messages, may complete an online survey even though they are not visible to the rest of the community”. (Wright, 2005, online)

It is particularly difficult to estimate the exact number of “guests” or “lurkers” and it appears to be very variable (Preece, et al., 2004). Some research estimates it between 45% and 99% of community members, whereas other studies found only small numbers of “lurkers” (Preece et al., 2004; Wright, 2005). As pointed out by Wright (2005), “lurkers do not make their presence known to the group, this makes it difficult to obtain an accurate sampling frame or an accurate estimate of the population characteristics” (Wright, 2005, online).

There is also a probability, that individuals can provide false personal information online, as well as submit false or inaccurate demographics for registration (Wright, 2005). This may also impede proper sampling.

Online survey does not provide a probability sampling, as it is often not possible or practical to try to achieve a probability sampling due to the unique nature of the online community groups and lack of data on its members. This creates limitations on generalising the results of the survey analysis.

However, the non-probability sample collected through online surveys, may be also be indicative of the population profile that use those particular online communities or groups.

4.9.6 Survey Data Analysis

Online surveys have become a popular tool for primary research on virtual communities and computer-mediated communication (Wood and Smith, 2001; Wright, 2000, 2004,

2005). The Internet has become a rich domain for online surveys, as it is a host to virtual communities of all kinds, with hundreds of thousands of people regularly participating in discussions on all kinds of topics (Horrigan, 2001; Wellman, 1997; Wellman and Haythornthwaite, 2002, Wright, 2005).

There are a number of advantages to using online surveys as a data collection technique. The particular advantage of online surveys is that they may enable access to hard-to-reach population groups, that are normally difficult, or even impossible to reach through other channels (Wright, 2005; Garton et al., 2004; Wellman, 1997). In some cases those communities only exist in cyber space, whereas in others, they cluster together online while being dispersed in real life. Such is the case with migrants from the FSU countries that are often dispersed around the UK.

Internet may also enable communications on sensitive topics that participants are hesitant to discuss openly in real life. That may involve unpopular political views, sensitive immigration issues and other controversial topics, where those individuals and groups can be reached in larger numbers online than it would ever be possible to find in real life (Wright, 2005). Migrants are one of those categories that may be more open to discussing sensitive issues online, than face-to-face.

The data was analysed using R for social networks analysis on the online forum, and Excel and SPSS for the survey data.

4.10 *Triangulation*

Triangulation is a combination of at least two or more research perspectives, including theoretical perspectives, methodological approaches, data sources, investigators, or data analysis methods (Thurmond, 2001). Triangulation can be viewed as a “qualitative research strategy to test validity through the convergence of information from different sources” (Carter et al., 2014, p. 545).

The aim of using triangulation is to reduce, negate, or counterbalance the insufficiency of a single strategy, thereby increasing the validity, reliability and ability to interpret the findings (Thurmond, 2001; Carmines and Zeller, 1979). It is a way to strengthen research and to avoid the weakness of a single method, qualitative or quantitative, by introducing other methods (Williams et al., 1988). Triangulation has been widely used in quantitative research and it has also been found useful for verifying the validity of findings in qualitative research (Berg, 2007).

There are several types of triangulation, including: method triangulation, investigator triangulation, theory triangulation and data source triangulation (Carter et al., 2014):

- *Method triangulation* refers to different methods used for research, i.e. multiple or mixed method approach (Polit and Beck, 2012; Carter et al., 2014).
- *Investigator triangulation* refers to several researchers/investigators involved in the research.
- *Theory triangulation* uses different theories to analyse and interpret data.
- *Data source triangulation* involves the “collection of data from different types of people, including individuals, groups, families, and communities, to gain multiple perspective and validation” of findings (Carter et al., 2014, p. 545)

This study used several types of triangulation, including *data source triangulation and method triangulation*. The data source triangulation was achieved by collecting information from different individuals. Method triangulation was achieved by involving mixed and multiple research methods: collecting data from different sources, including interviews, forum data scrape and online survey; using quantitative and qualitative content analysis on forum content; using social networks analysis for online social networks; ego-centric social network analysis.

The implementation of mixed methods approach was sequential. The mixed methods analysis allowed the triangulation of data to verify the findings from different data sets. Interviews and online survey provided information on how migrants may use social media and how it may contribute to their wellbeing; forum analysis, online survey and interviews expanded on what information is exchanged online; social networks analysis from forum scrape and online survey indicated if there is any significance to online social networks.

Thus, the data collected through different sources and analysed using mixed research methods, offered an opportunity to verify and compare the findings of each data set in the study. The triangulation approach supported the validity, reliability and generalisability of the study, which are discussed below (Noble and Smith, 2015; Leung, 2015; Babbie, 2015; Wilson, 2010).

4.11 *Reliability*

Reliability refers to the consistency of the findings and as Wilson (2010) notes subjectivity in data collection increases the potential to undermine the reliability of findings (Carmines and Zeller, 1979; Wilson, 2010). In this study two data sets were collected, that need to be assessed for reliability.

The first data set was an online forum scrape, performed through a scraping software, which recorded all communications for a period of 12 month, thus complying with the test-retest method. Data collection was performed through a software programme, avoiding subjectivity at the data collection stage. The length of time of the scrape also warranted that sufficient data was collected to reflect the nature of the forum communications. If this data would be scraped again by a different method of data collection, it is likely to produce the same results.

The second data set was collected through an online survey. The survey questions were designed on the basis of other wellbeing measuring scales. This ensured that the measuring framework used in this study was tested on other studies previously. Some of the questions were logically similar to each other allowing for testing the reliability of participants replies. The examples of such questions included:

Life satisfaction:

- “How satisfied are you with your life?”
- “How satisfied are you with your social life?”
- “Please give your views on how your life has been in the UK”

Social support:

- “Who would you ask for help in some of the situations below?”
- “Can you list 5 people that you go for advice on serious matters in your life?”
- “How much support is available to you where you live in the UK?”

The limitations of the data collection, included a small sample size and high prevalence of female respondents. As described in Section 4.9.5 Challenges of Sampling on Online Forums, page 132, it was challenging to control the research sample for a number of reasons: online survey respondents were self-selected and there was no sample frame for online forum participants. Russian-speaking migrants in the UK is a hard to reach

population group. Thus, if such data will be collected again through an online survey, it is possible that the results may vary depending on the participants present online at the time. This factor is outside researcher's control.

4.12 *Validity*

Validity is a measure that reflects how accurate the results of the measure represent the variable they are describing (Carmines and Zeller, 1979; Creswell and Miller, 2000). There are a number of validity frameworks with multiple measures (Creswell and Miller, 2000). The three main types of validity include:

- Face validity
- Content validity
- Construct validity

Face validity measures how the questions in the survey reflect the subject of the study. In this study, the research question was about the role of online social networks in migrants' wellbeing, therefore the survey included questions about social media, which is a type of online social networks and life satisfaction, integration and social support that are all connected to wellbeing.

Content validity measures the extent of how survey questions cover the topic of the research. The topic of online social networks was covered by a section on the use of different types of social media in the survey. The topic of wellbeing was covered by a series of questions on life-satisfaction, social life satisfaction, social networks and social support.

Criterion validity is the extent to which the results are correlated to the other variables that they should be correlated to and display logical correlations between interconnected factors (Golafshani, 2003; Petty et al., 2009). The criterion validity was ensured through correlations between data from the answers to similar questions (example given in section "Reliability") and data between logically linked questions, for example:

- "I feel living to the UK has enhanced my personal and professional development"
- "I feel I have achieved my goals of moving to the UK"

Thus, overall, in this study the reliability and validity of findings was established through triangulation of research data sources and methods. The data set collected from the online forum through a forum scrape and the online survey data, was analysed using different quantitative methods, including R software packages for social networks analysis and SPSS for statistical analysis, which included correlation, regression and principle component analysis. The variety of analysis methods used helped to ensure the validity of findings. All questions in the survey were either multiple choice or on a Likert scale of 10. There were no open questions that required coding, thus removing subjectivity in the analysis.

4.13 *Generalizability*

Generalisability or external validity of the study is designed to explore the issues of generalisation of findings and the extent to which those findings can be applicable to other settings (Leung, 2015). The current study collected data for an under-studied research group and for an under-studied research area of migrants' online forums, which also present difficulties with research sampling (Wright, 2005). As a result it would be challenging to compare the findings to other research and estimate generalisability precisely.

Expanding on the literature, the study used two different data sets, triangulation of research methods, constant comparisons with the literature and multi-dimensional theory, which helps to increase the degree of generalisability (Leung, 2015).

4.14 *Ethical Considerations*

The study involved research with human respondents' data and with online social media data. The research was conducted in accordance with the Edinburgh Napier University Code of Practice on Research Integrity. The ethics approval was granted by the Edinburgh Napier Business School and Edinburgh Napier University Research Integrity Committee. All participants participated voluntarily and had given their consent to take part in the interviews and in the online survey. The respondents in the online survey were anonymous and their responses could not be traced back to the participants. The respondents in the interviews were known to the researcher thus were not anonymous through the interviews process. However, they were fully anonymised in the data analysis. The interview responses also did not contain any personal data, which warranted

also confidentiality of the study. To ensure data protection, the collected data was stored on a password-protected storage device, which was only accessible to the researcher.

The ethical issues around the online social media were not well defined in the literature at the time, and therefore they needed to be explored in more detail. The focus of the ethical evaluation was the permissibility to collect and analyse user generated content published publicly online without consent. This was a key factor in deciding how this thesis is going to develop. Thus, the exploration of the ethical issues in online social media research was critical to this study. The ethical considerations involved in the research design of this study are explored in the next chapter.

4.15 *Summary*

The study is based within the positivist approach with the objectivist stance, grounded in the ontological critical realism position employing mixed methods for data collection and analysis. The first half of the current chapter provided an outline of the study's theoretical paradigm, including its ontology, epistemology, axiology and methodology. The second half of the chapter offered a detailed description of research methods employed for data collection and analysis, explaining their choice and application. The chapter also explored the issues of triangulation, reliability and validity of data, as well as its generalizability. The ethical considerations are explored in more detail in the next chapter.

5 ETHICAL ISSUES IN ONLINE SOCIAL MEDIA RESEARCH

5.1 *Introduction*

Online social media data has recently become increasingly popular with social researchers, as there has been a huge growth in the amount of research being conducted in this way with big data growing exponentially (Williams, 2007; Eynon, 2013). Publicly available ‘ready-made’ datasets can be easily found online as completed transcripts of human interactions (Zheleva and Getoor, 2009). Such data lends itself for analysis, but also presents researchers with a dualistic dilemma of whether it expands capabilities of research or facilitates intrusion of privacy (Boyd and Crawford, 2012). As ethical research encompasses the principles of doing no harm and yielding benefit to society, as well as voluntary and informed participation of research subjects (ESRC, 2015), it is important to ensure that the right balance is struck between researchers’ aspirations and respondents’ rights. As the field of social media research is emerging, more discussion is needed on how best to embed ethical values in its research methods and ensure research integrity.

This chapter is centred around the ethical issues that were raised in the course of the study, regarding data, collected from an online forum. The researcher was confronted with ethical matters around data collection and analysis from a publicly available online source, which involved interactions between human subjects. The dichotomy of public and private online space, privacy protection, risk of harm and informed consent presented ethical challenges, confounded by data collection constraints. In the absence of regulatory guidelines on online social media research ethics, the need for an in-depth investigation was obvious. Hence, the aim of the chapter is to make sense of the debate around issues of ethical research in online social media and to ensure its appropriate application in the case of online forum data.

The current ethical guidelines in social media research are examined in this chapter, followed by an investigation into the notion of privacy in online public data, looking at private profiles, online content, information flows and context. The debate on online privacy expectations is approached through the lens of self-will and benefits to society.

The issue of informed consent is examined in application to the unique nature of social media data and online forums in particular. Above all, the risk of harm to participants is assessed in the context of online forum data analysis and publication. Conclusions are drawn as to how to ensure that online forum research is compliant with the principals of research ethics and integrity. A number of recommendations are proposed with the hope to make a contribution to shaping guidelines on ethical and fair treatment of online public social media data.

5.2 *Principals of Ethical Research*

One of the first attempts to produce a comprehensive guidance on ethical research on human subjects was conducted in Helsinki in 1964, resulting in the Helsinki Declaration (GAWMA, 2014). The Helsinki Declaration has been revised and adapted by many institutions to promote ethical principles for research with human subjects.

The Economic and Social Research Council (ESRC, 2015), has devised a set of main principles for ethical research. Amongst them are the principles that stipulate the importance of informed consent, privacy protection and risk of harm to participants, including:

- “Research participants should take part voluntarily, free from any coercion or undue influence, and their rights, dignity and (when possible) autonomy should be respected and appropriately protected.
- Research should be worthwhile and provide value that outweighs any risk or harm. Researchers should aim to maximise the benefit of the research and minimise potential risk of harm to participants and researchers. All potential risk and harm should be mitigated by robust precautions.
- Research staff and participants should be given appropriate information about the purpose, methods and intended uses of the research, what their participation in the research entails and what risks and benefits, if any, are involved.
- Individual research participant and group preferences regarding anonymity should be respected and participant requirements concerning the confidential nature of information and personal data should be respected.” (ESRC, 2015)

It is evident, the interests and rights of the participants should be paramount for any research project. In conventional offline research, the mechanisms of seeking informed consent, as well as ensuring anonymity, privacy protection and minimising risk of harm are well established (Berg, 2004). However, for the emerging discipline of online social media research it is less clear, yet essential. The importance of understanding how to govern the use of social media data cannot be underestimated at a time when access to data is becoming less constrained for all (Zimmer, 2010; Boyd and Crawford, 2012, AOIR 2012).

Some guidance on social media research ethics is provided by the Association of Internet Researchers (AoIR). It is offered in a form of suggestions, not rules, advocating that each case should be individually assessed to address its specific needs, taking account of the 'venue' (online platform) and context (AoIR, 2012). This approach offers flexibility but lacks certainty. The main principles of the AoIR ethical guidelines include:

- “The greater the vulnerability of the community/author/participant, the greater the obligation of the researcher to protect the community/author/participant.
- Because 'harm' is defined contextually, ethical principles are more likely to be understood inductively rather than applied universally. That is, rather than one-size-fits-all pronouncements, ethical decision-making is best approached through the application of practical judgement attentive to the specific context.
- Because all digital information at some point involves individual persons, consideration of principles related to the research on human subjects may be necessary even if it is not immediately apparent how and where persons are involved in the research data.
- When making ethical decisions, researchers must balance the rights of subjects (as authors, as research participants, as people) with the social benefits of research and researchers' rights to conduct research. In different contexts, the rights of subjects may outweigh the benefits of research.
- Ethical issues may arise and need to be addressed during all steps of the research process, from planning, research conduct, publication and dissemination.
- Ethical decision-making is a deliberative process, and researchers should consult as many people and resources as possible in this process, including fellow

researchers, people participating in or familiar with contexts/sites being studied, research review boards, ethics guidelines, published scholarship and where applicable, legal precedent” (AoIR, 2012, p. 4).

The AoIR guidelines echo ESRC principles that partisanship’ interest should be at the core of the study, thus it is important to look at the role of authors in the research, consider their privacy expectations and assess the risk of harm at every stage of the project.

Thus, in this chapter we consider the issues of privacy and risk of harm in relation to scraped social media data from an online forum, that has been used for SNA and content analysis. We also look at the issue of informed consent and how it applies to scraped data from a public social media website. Firstly, we endeavour to establish the repercussions of the online public space.

5.3 *Public versus Private*

One of the underpinning issues in social media data debate is the question of whether the data is public or private (Nissenbaum, 2009; Zimmer, 2010; Boyd and Crawford, 2012; McKee, 2013). If the data is private, the usual rules of traditional research ethics apply, whereas if the data is deemed to be public, the dichotomy of ownership and usage rights arises. However, some scholars argue that regardless of whether data is public or private, it must ensure it does no harm to the participants.

The task of establishing if the data is private or public seems clear enough, as it is usually defined by password protection. If the data is password protected, it is therefore private, if it is not, then it is public and many researchers, assuming that, endeavour to observe, record and use it for their research. Many researchers will only deal with public data that is non-password protected and freely available on the Internet (Wilkinson and Thelwall, 2011). Conversely, many scholars argue that the lack of password protection does not necessarily mean that the data can be used unreservedly. Nissenbaum’s concept of contextual integrity suggests that data does not simply become public if it is accessible to the public, as it may still violate privacy if any of the conceptual norms are breached (Nissenbaum, 2004).

In her contextual integrity concept, Nissenbaum (2004) points to the norms of appropriateness and distribution, namely context and information flows. When adjusting the theory of contextual integrity to new technologies, Nissenbaum described it as “decision heuristic”, including the information flows, prevailing context and potential

impacts from contexts nested in it. The ethical focus is then placed on considering moral and political factors affected by the practice in question and the question should be asked about how the system or practices directly impinge on values, goals, and ends of the context (Nissenbaum, 2009).

As multiple aspects of social media, including personal information, posts content, communication contexts, as well as directional information flows between senders and receivers, are tied in with the concept of privacy, it becomes one of the key principles of this debate (Nissenbaum, 2009).

5.4 *Privacy Online*

It is important to understand the contextual nature of privacy online (Nissenbaum 1998, 2004, 2009), recognising that just because personal information is made available in some fashion on a social network, it does not mean it is appropriate for capture and release to all (McKee, 2013; Stutzman, 2006; Zimmer, 2006; McGeeveran, 2007). As pointed out by McKee (2013), “concerns over consent, privacy and anonymity do not disappear simply because subjects participate in online social networks; rather, they become even more important (McKee, 2013, p. 324). Past studies, such as Facebook research case in 2008 (Zimmer, 2010), which revealed that traditional tools like anonymization did not prove sufficient to safeguard from identifying respondents and thus intruding their privacy. It demonstrated that ethical concerns are even more critical in online social media data than in data collected through traditional methods, as large online data offers increased capabilities of searching and grouping that enables identification and misinterpretation of quotes taken out of content (Boyd and Crawford, 2011). Additionally, research ethics application is still loosely regulated in online social media data (AOIR, 2012).

Three items at the core of privacy examination online are:

- personal data submitted by users
- online content, authorship and responsibility, and
- context and users’ intentions for data usage.

They are explored further below.

5.4.1 Personal Data Online

Personal data that is usually presented in users' profiles is an obvious area for privacy safeguarding. Although websites have privacy settings for user profiles, most social media outlets encourage users to submit as much personal information as possible. That information includes personal details about the actual user (profile). This information can be used for demographic data, but easily anonymised by a diligent researcher, according to the practices of traditional data collection.

Social networks are another aspect of personal data, as they are indirect attributes of personal profiles, which is particularly important for social network analysis (SNA). Social media websites ask users to create and expand their networks, group them and name the groups according to the settings (Zheleva and Getoor, 2009; Kietzmann et al., 2011; Madden et al., 2013). The networks can easily lead to the main user, as they are based on users' contacts and life histories. The grouping and naming of networks (e.g. work place, place of study) may add another dimension of privacy intrusion as it spills into the privacy of other nodes in the network.

Anonymisation of personal names does not completely protect users' privacy if the profile attributes remain open. Users' networks may allow to identify the users and others that are connected to them (Zheleva and Getoor, 2009). Thus, it is important to safeguard personal profiles and anonymise respondents, but also be conscious about revealing their networks, so that the individual nodes are not identifiable through patterns of relationships.

On the other hand, there is evidence that personal information may not always be factual, as users often lie about their details (Wood et al., 2004). Even if that data is accessible, it may be untrue, thus leading researchers to false conclusions. Verification of online personal data is more problematic than in traditional data collection, as it cannot be verified on face value. Self-reporting can be subject to various influences, including age regulations, self-esteem, privacy concerns, etc. (Mehdizadeh, 2010; Dey et al., 2012).

Thus, although personal profiles in big data can potentially offer access to research previously constrained by limitations of traditional data collection, they should be treated with caution to ensure validity of findings and to protect participants' privacy.

5.4.2 Online Content

Social media is populated by user generated content, which is by definition created by users. The content is produced in any shape or form that users deem fit, loosely governed by the rules of social media websites. Overall, accountability for the data content would seem to be with the users, as websites shift responsibility to them by asking users to create their own passwords (Adams and Sasse, 1999).

When generating information in social media, users do not always adhere to the ethical principles of privacy and anonymity towards other users or non-users. For instance, personal blogs, where a well know example of harm to other individuals inflicted through privacy breach (“The “Washingtonienne” blogger, 2004), scholars argue that in the case of non-password protected social media, it is important to consider the privacy of others and not only of the author.

“we ask whether the creator of the [online] “diary” has a responsibility to the people with whom she/he interacts in real life. Also, what are the expectations of privacy of those people who interacted with the diarist and are described in the blog? Do they expect to read about their private interactions in her blog, especially when personal details are more open and thus more accessible to others? Assuming that the parties involved have not consented to such information about them being included on the blog, it would seem that norms of appropriateness have been violated” (Grodzinsky and Tavani, 2010, p. 44).

The naming of other individuals in online data is not restricted to blogs, but it is widely spread across many social media platforms. Facebook, Twitter, Instagram and other social media websites encourage users to name or “tag” other individuals, places, organisations, events, in order to increase and strengthen their networks, but inadvertently increase private information exposure. Automatic searches can pick up those tags and collate personal information without users’ knowledge. As a result, the privacy of their networks can be compromised, and the privacy of “other un-consenting parties” whose names appear on social media platforms can be violated (Grodzinsky and Tavani, 2010, p. 39).

Common sense suggests that many users should understand that publishing all that information online would constitute it becoming public (Grodzinsky and Tavani, 2010). However, it is not always clear how aware the users are about privacy intrusion in their own postings. There is evidence that some are not fully aware and with the mixture of

private, public and semi-public profiles, users may hold wrong assumptions (Zheleva and Getoor, 2009).

Thus, the social media content in itself carry personal information of individuals through names, places, organisations, networks, events and named groups. Thus, it is important to understand the context of the information and remove as many identifiers as possible.

5.4.3 Information Flows and Context

The concept of contextual integrity (Nissenbaum, 2004) points that it's not the information itself that is private, but the context. The "contexts (in general) deserve protection as 'normatively private situations'" (Grodzinsky and Tavani, 2010, p. 39).

In traditional networks, privacy is viewed in terms of either limited access to or control over personal information (Grodzinsky and Tavani, 2010). In case of personal blogs for example,

"Consider that in a traditional (i.e., physical) diary, the diarist shares intimate details not meant to be public; that is the nature of "the diary." Personal information is under the control of the diarist who may or may not allow the diary to be read by others. Often the diary is key-locked, with the diarist having the only key. What happens, however, when that diary moves to an online forum or venue, and when its content can be more easily read by others?" (Grodzinsky and Tavani, 2010, p. 44).

Nissenbaum (1997, 1998, 2004, 2009) believes that context is key to determining the level of information privacy, not the information itself. Thus, we need to consider the context in which information is traveling between users and how it may impinge on their privacy.

In offline circumstances when individuals exchange data through traditional means of communication, the information flows between sender and receiver, the context stays one-dimensional and do not go any further without their consent. In online environment, the same communication can be re-tweeted, cited, copied, read and partially extracted to be used in a different context. Online data can be easily manipulated without authors consent by other users, readers, researchers, commercial companies and others. Taken out of context, data can lose or change its original meaning, thus distorting findings and

causing harm to participants as in Smith's 'Unauthorised secondary use' in his conceptual framework 'Four measures of privacy', i.e. (Smith et al., 1996; Zimmer, 2010).

“Unauthorised secondary use of personal information is the concern that information collected from individuals for one purpose might be used for another secondary purpose without authorisation from the individual, thus the subject loses control over their information. Within Smith et al.'s (1996) framework, this loss of control over one's personal information is considered a privacy violation”.
(Zimmer, 2010, p. 322)

It is important for researchers to not only treat the information content, but also the information context carefully.

5.4.4 Expectations of Privacy

As discussed above, the individual privacy should be upheld in an online environment, even if it is public. However, some scholars point out that some users may want their information to be reproduced, copied, studied, spread further (Bassett and O'Riordan, 2002; Kaplan and Haenlein, 2010, Wilkinson and Thelwall, 2011). For example, Twitter, where public tweets become more 'valuable' as they gain popularity, Instagram "celebrity status" based on the number of followers, or online forums, when users debate important issues to them. Many scholars debate where is the border with privacy and 'online presence', and how can we understand users' intentions, as to avoid causing harm.

Some authors believe, that the expectation of privacy online should be adjusted to the point where users are prepared to compromise forfeiting some of their privacy for the gain of social media presence or expect that whilst their personal data is in the public domain, it is a natural occurrence that their privacy may be breached (Wilkinson and Thelwall, 2011). As some authors conclude, users who publish their personal information online should adapt their expectations of personal privacy being normatively protected (Grodzinsky and Tavani, 2010). Scholars argue, that users who are "willing to place so much of their private lives on the internet do not have the same concerns, as previous generations, who might guard their privacy much more jealously" (McKee, 2013, p. 300), suggesting that there is a new norm of online privacy threshold developing for generation Y.

Research shows, that although many users of social media may have misplaced expectations of privacy (Acquisti and Gross, 2006; Zheleva and Getoor, 2009), they are

also aware of privacy breach in the public domain, as there is evidence of a dramatic reduction in private information exposure by users in recent years (Dey et al., 2012).

Thus, there seems to be a shift in users' attitudes to privacy online. Albeit not universal, it nevertheless indicates that users are developing better understanding of the conceptual framework of social media privacy and responding to it by meeting in the middle - curtailing their privacy exposure as well as shifting privacy threshold.

Additionally, if privacy concerns forbid or restrict the use of online data, some authors argue that it may limit the benefits of research to society and in some cases deny the users the chance to publicise their issues and the public to know more about them (Bassett and O'Riordan, 2002; Wilkson and Thelwall, 2011).

“There are issues and rights at stake in these debates other than those of privacy and safety. The Internet user is also entitled to a degree of representation and publication in the public domain. If an individual or group has chosen to use Internet media to publish their opinion then the researcher needs to consider their decision to the same degree that they would with a similar publication in traditional print media. Overly protective research ethics risk diminishing the cultural capital of those engaging in cultural production through Internet technologies, and inadvertently contributing to their further marginalization” (Bassett and O'Riordan, 2002, p. 244).

Ultimately, some scholars argue, the “debate between private and public space may only be answered by the subjects themselves as they are the authors of their own words” (McKee, 2013, p. 300). The discussion above demonstrates that although privacy concerns are paramount, authors may be adjusting their privacy expectations to a new level, which helps to merge public and private spheres online.

5.4.5 Consent

The issues of privacy, be it in a traditional or an adjusted ‘online presence’ form, can be easily resolved if casuistically defined by authors themselves, thus suggesting that consent may be the answer to that debate. Indeed, one of the cornerstones of ethical research is treating those, who are being researched on, not as subjects, but as participants, and ensuring their informed consent (Helsinki Declaration (1964); Zimmer, 2006; McKee, 2013; Nissenbaum, 2009; Bryman, 2016). As stated by ESRC (2015) and other ethical research guidelines, participants should voluntarily and knowingly participate in

the research, as well as have the chance to provide feedback on reported findings for true representation (Faden and Beauchamp, 1986).

However, sometimes seeking informed consent is not practicable or possible. Some authors suggest that ‘it is justifiable from an ethical and a regulatory perspective to waive informed consent for low-risk research when soliciting consent is not practicable and consent would not provide meaningful protection for subjects’ (Miller and Emanuel, 2008, p. 767).

Concerning our research, we seek to establish the practicability of informed consent and its implications for the risk of harm and privacy protection for participants.

5.4.5.1 Consent and Research Types

Informed consent is considered paramount for human subjects research (Helsinki Declaration, 1964), but is not usually required for documental studies, provided it does not harm participants. When it comes to the Internet space, the debate is still ongoing, what type of studies researchers engage in there.

As some authors argue, internet and online social media consists of, in principle, electronic documents (Ess, 2002). Social media data does not involve interactions between researchers and participants, but merely involves copying documents that already exist, thus should not be considered human subjects research. From social science perspective, online social media texts can be “viewed as cultural production rather than interfaces to human subjects, with the consequent removal of the human subjects from the frame of reference altogether (Bassett & O’Riordan, 2002; Hookway, 2008) and thus informed consent is not normally necessary” (Wilkinson and Thelwall, 2011, p. 395).

Notably, if social media data is viewed as internet texts, it triggers the issues of copyright (Wilkinson and Thelwall, 2011). Copyright depends on the ownership of the data (Hanna et al., 2011), which then needs to be addressed. The issues of copyright is outside the remit of this study.

The Internet is viewed differently by different researchers and participants alike. As described by Hudson and Bruckman (2004):

“For some researchers, the Internet is like a public square, and for others, a private living room, a town hall meeting, or a newspaper letters column. Each of

these metaphors leads to different ethical conclusions. In a public square, a researcher may observe behaviour in a generalized way and write about aggregated results. In a private living room, permission of the participants is required for any research. A newspaper letters column does not require permission, but requires appropriate citations” (Hudson and Bruckman, 2004, p. 128).

The human subject approach to the internet transcripts dictates that because the interaction happens between human subjects, it should fall under the category, where informed consent should be considered a default position (Hudson and Bruckman, 2004). However, exceptions occur, and some researchers suggest considering the intentions of the authors as a guidance on how public or private they feel about their statements (Elgesem, 2002; Walther and Parks, 2002; Bassett and O’Riordan, 2002). As discussed earlier, sometime authors consider internet a public forum to spread their ideas, in others, they consider it relatively private and the protection of human subjects should apply (Hudson and Bruckman, 2004).

The dichotomy of methodological approaches coupled with the dichotomy of data purpose make it a complex task to prescribe a one-fits-all approach. If social media data is treated as primary data, consent is normative, as for example when researchers aim to conduct real-time observations. When it is treated as secondary data, consent could be waved, as data has already been created. When data is consciously created for the public eye, consent seems unnecessary, whereas it is a private communication, participants’ protection apply.

Conversely, when consent is not sought, participants are unaware of the research conducted on their texts. The absence of participants’ involvement may result in findings distortion. If text is used out of context it may misrepresent participants intentions (Nissenbaum, 2009), whereas un-informed authors have no opportunity to ensure its truthfulness. Thus, human subjects, that are being researched, have no voice.

However, in some cases seeking consent can undermine the value of a research project. In some cases, it is impracticable or impossible to seek consent from all. In others, it may affect the behaviour of users, thus making research findings invalid. Consent constraints should be taken into account for each social media project, depending on the venue, purpose and risks to the participants.

5.4.5.2 Consent Constrains

In practice, researchers are often facing challenges when considering informed consent in social media studies. We draw on the reasons for why it is not always practicable or possible to seek and receive informed consent from online users.

Firstly, there is evidence that social media users in online chatrooms or forums are not forthcoming with consent. The results of a study on internet chatrooms in Hudson and Bruckman (2004) indicated that there is significantly more hostility in the three 'consent seeking' conditions ("recording" message, "to opt in" message, "to opt out" message) than in the control group (Hudson and Bruckman 2004).

"We were kicked out of 63.3% of the chatrooms we entered in the three message conditions compared with 29% of the chatrooms in the control condition. There were no significant differences between any of these three conditions. Notably, when given a chance to opt in, only 4 of 766 potential subjects chose to do so. Results also indicate significant effects for both size and the number of moderators. For every 13 additional people in a chatroom, the likelihood getting kicked out was cut in half. While legal and ethical concerns are distinct, we conclude by arguing that studying chatrooms constitutes human subjects research under U.S. law, but that a waiver of consent is appropriate in most cases as obtaining consent is impracticable" (Hudson and Bruckman, A., 2004, p. 127).

Seeking consent can also prove problematic due to the fact, that it is usually historic data that is being scraped for research, as communications are asynchronistic and all messages get archived, at least temporary (Saravanakumar and SuganthaLakshmi, 2012). Seeking consent post factum for data already created is difficult for a number of reasons. It is often not possible to find all the users that participated in discussions. The data is longitudinal (for example, years of interactions) and sizeable (hundreds of thousands of posts). This makes it impractical to seek consent from users, who may not be using the venue any more. The opt-out option may also be meaningless, as it may not reach all the authors that participated in the discussions a number of years ago.

However, it is worth noting that in any case, the archived links should be removed as they would fall into the category of an identifier and can provide a link to the subjects (Tabor and Milfont, 2011).

Seeking consent pre-emptively is challenging for different reasons. There are conceptual problems with pre-emptive consent as the knowledge of research observations may influence respondents/authors, thus making data invalid. Authors may ‘curtail their activities when the possibility is raised that they might be watched by the researcher or others’ (Wilkinson and Thelwall, 2011, p. 395).

Some scholars also believe that “informing subjects also has a possible negative impact on privacy because one of the recognized benefits of privacy is freedom from the feeling of being watched (Gavison (1980) in Wilkinson and Thelwall, 2011, p. 395).

Wilkinson and Thelwall (2011) point out that seeking informed consent can be problematic for social media, as it means involving subjects in the research, which will alter the methodology and the results of the study. However, researchers point out that authors would still prefer to be informed. Thus, seeking informed consent should be carefully considered in relation to the methodology, its’ impact on the findings, its practicability, but most of all in terms of its harm to participants.

5.4.6 Venue Implications

Venue, or a particular website, that provides the platform for social media interactions, has a strong bearing on the nature of the data and its purpose. The Association of Internet Researchers recommends that researchers start by considering the ethical expectations established by the venue (AOIR, 2012). Indeed, in some circumstances, for example in the case of Scharf’s research (Scharf, 1999, in Elgesem, 2002) on a health online forum for breast cancer survivors, it was important for the researcher to seek consent as she felt she owed it to the participants of that forum due to the nature of their statements and level of privacy shared, even if it took extra effort to gain it (Scharf, 1999, in Elgesem, 2002). This was a case of support forum, where users exchange more personal information than on discussion forums (Barak and Gluck-Ofri, 2007).

As some authors advocate, social media research should be “guided more by an ethics of case and less by utilitarian and/or deontological premises that may lead either to a purely instrumental or moralist view” (Capurro and Pingel, 2002, p. 194). Hence, each case should be judged on its merit and every venue should be considered for ethical concerns. With this debate in mind, we explore the case of social media platforms and online forums next.

5.4.7 Social Media Platforms by Privacy Disclosure

To achieve more clarity, we attempted to conceptualise social media platforms on the basis of personal information exposure level that could provide guidance on application of ethical policies for researchers.

Table 8. Types of OSM platforms by personal data disclosure provides a summary for some examples of OSM platforms on the basis of the amount of private information released.

Table 8. Types of OSM platforms by personal data disclosure

Personal Data Disclosure	Facebook	Instagram	Twitter	Forums	Blogs
Disclosed					
Author un-anonymous (Real names or identifiable handles)	x	x	x		x
Personal details (visible online)	x	x	x		x
Personal network (strong ties)	x	x	x		
Personal conversations (named individuals, places, organisations) (directional ties)	x	x	x		x
Undisclosed					
Author anonymous (usernames or unidentifiable handles)				x	
Impersonal details (no personal details, or undisclosed details)				x	
Impersonal networks (weak ties, latent ties)	x ²	x	x	x	x
Impersonal conversations (Non-directional) (to the community)		x	x	x	x

When considering public versus private data debate in research ethics, it hinges on the attributes of initial data provided by users, such as their personal data, their networks and personal data about others. As argued above, lack of password protection not being the sole consideration for data use, we suggest that the level of private data disclosure may provide a framework on how it should be treated for ethical research.

It is clear that different platforms offer varied levels of private data disclosure, which suggests that it should be reflected in how researchers treat this data. If, where the level

² New communities by interest or location, such as international groups abroad, selling/buying groups, etc.

of personal information is high, there is an inherent risk of privacy intrusion, more safeguards to protect users must be put into place. In cases where personal information exposure is reduced, it may be impractical, impossible or even unnecessary to gain consent from an anonymised audience. In all cases, researchers need to consider the venue and context and treat them sensitively.

5.4.8 Social Media Platforms by Data Purpose

Another attribute on online social media data is its purpose: if it is created for further distribution or for private use. As initially suggested by Bassett & O’Riordan (2002) and Hudson and Bruckman (2004), researchers should be sensitive to the goals that authors want to pursue posting their statements. As it is hard to systemise social media by purpose, we attempt to provide a framework for data purpose. Table 9. Social Media Platforms by Data Purpose below indicates what type of statements are available on different platforms.

Table 9. Social Media Platforms by Data Purpose

Data purpose	Facebook	Instagram	Twitter	Forum	Blogs
Private					
Private messages	x	x			x
Closed group messages	x	x			
Personal life statements	x	x		x	x
Personal views and opinions	x	x	?	x	x
Public					
Political statements for public	x		x	?	x
Minority groups statements for public	x		x	?	x
Personal statements for public	x		x		x
Celebrity statements for public	x		x		x
Business statements	x		x		x

It becomes obvious, that if data is screened for its’ purpose as intended by authors, it may become easier to identify its’ private or public status.

5.4.9 Online Forum Data

Following the discussion above, we consider the issues of risk of harm, privacy protection and informed consent in relations to online forums.

By definition, online forums are online communities that are built around common interest, regardless of location or previous history of connections (Im and Chee, 2006). They are discussion groups that are structured by interest topics. Forums usually have 3 tier system with themes, topics and subtopics, where posts are organized in threads (Saravanakumar and Suganthalakshmi, 2012). Forum users are usually anonymous and

use usernames rather than real names. Users' identity is usually hidden and only assessable to moderators/administrators for the purpose of registration. Ties are weak or latent, as users connect to others without having met them offline. Posts are moderated by forum administrators and need to adhere to the topical structure of the forum.

5.4.10 Private Information Disclosure and Data Purpose

As outlined in Table 9 above, forums differ from other social media platforms on the level of private information disclosure. Personal profiles can be as concise as users want them to be. Users are also discouraged from using their real names, instead being offered to register their usernames. This reduces exposure to privacy breach. However, Internet search engines can enable easy access to participants' other records, searched by usernames, which may potentially cause harm to the respondents (Eysenbach and Till, 2001). Thus, the posts personal details should be altered to avoid identification (Horne and Wiggins, 2009).

As outlined in Table 9. Social Media Platforms by Data Purpose, (see above), online forums may have data that is intended for either public or private use. In regards of their purpose, forum transcripts cannot be easily categorised by an outside researcher. To ensure that their purpose is established correctly, it is necessary to gather authors' views on their intended purposes. Thus, this data cannot be treated as a public data without consultations with the authors. In the absence of such consultations and informed consent, every effort should be made to minimise risk of harm by anonymising the data.

5.4.11 Types of forums

Currently there are 2 main types of forums: discussion forums and support forums. There seems to be a considerable difference in how users communicate and expose their private information online depending on the type of the forum (Barak and Gluck-Ofri, 2007). Support forums witness a lot more personal information disclosure, longer statements and more support between users (Barak and Gluck-Ofri, 2007; Scharf, 1999, in Elgesem, 2002). Discussion forum users tend to disclose less information about themselves and have weaker ties between each other (Barak and Gluck-Ofri, 2007). Thus, when it comes to content privacy, support forums need a lot more attention and require further ethical safeguards depending on the venue (Scharf, 1999, in Elgesem, 2002).

5.4.12 Forum Data Anonymisation

All data on the forum is archived, at least for a period of time. This means that this data is searchable and users can become identifiable. Thus, the issue of anonymising becomes key. In case of online forum, all the links to the forum should be removed and all the titles of topics, subtopics and threads should be altered. The usernames should be anonymised. This will ensure that users cannot be identified and thus be subject to harm.

In content analysis, quantitative methods ensure that no individual users are identified when word clouds are produced. However, if there is a need to use quotes, privacy may be breached, as the searching capabilities online may enable identification even with a short phrase. In case of the online forum under examination, the language of the forum is not English. Thus, if the research results use quotes, translated from a foreign language into English, the searching capabilities are removed, making data anonymous. In this case, conducting research in a native language, but reporting findings in English, ensures that no quotes are traceable to their original authors online.

In Social network analysis, nodes (users) are already anonymous and they do not have many characteristics, which is detrimental to SNA research but beneficial for privacy protection. The SNA networks do not touch upon the content of the messages, but only study connections.

SNA analysis presents an interesting debate in regard to ownership of the data. Many researchers agree that the content of social media belongs to authors/users. Facebook is particularly known to state that they do not hold rights to the content created by users, mainly for reasons of liability. In case of social networks on the forum, the ownership is harder to establish. Those social networks are not ego-centric, thus they do not belong to the ego in the network. They are created as part of the communication process, however not easily visible without a specially designed scrape. The moderator/data controller (or the forum website) do not produce this data, thus arguably also do not have the ownership rights to it. Thus, given that the nodes' privacy is protected, and no harm is caused, it may signify that there is no one who can give consent to this data, as no one owns it.

5.4.13 Forum Data Overview

As part of the study on SNA networks in online forums, the forum for Russian speaking migrants in the UK have been analysed. The data was scraped from the online forum for a period of 12 months (January to December 2015), which included 189,362 posts in 1662

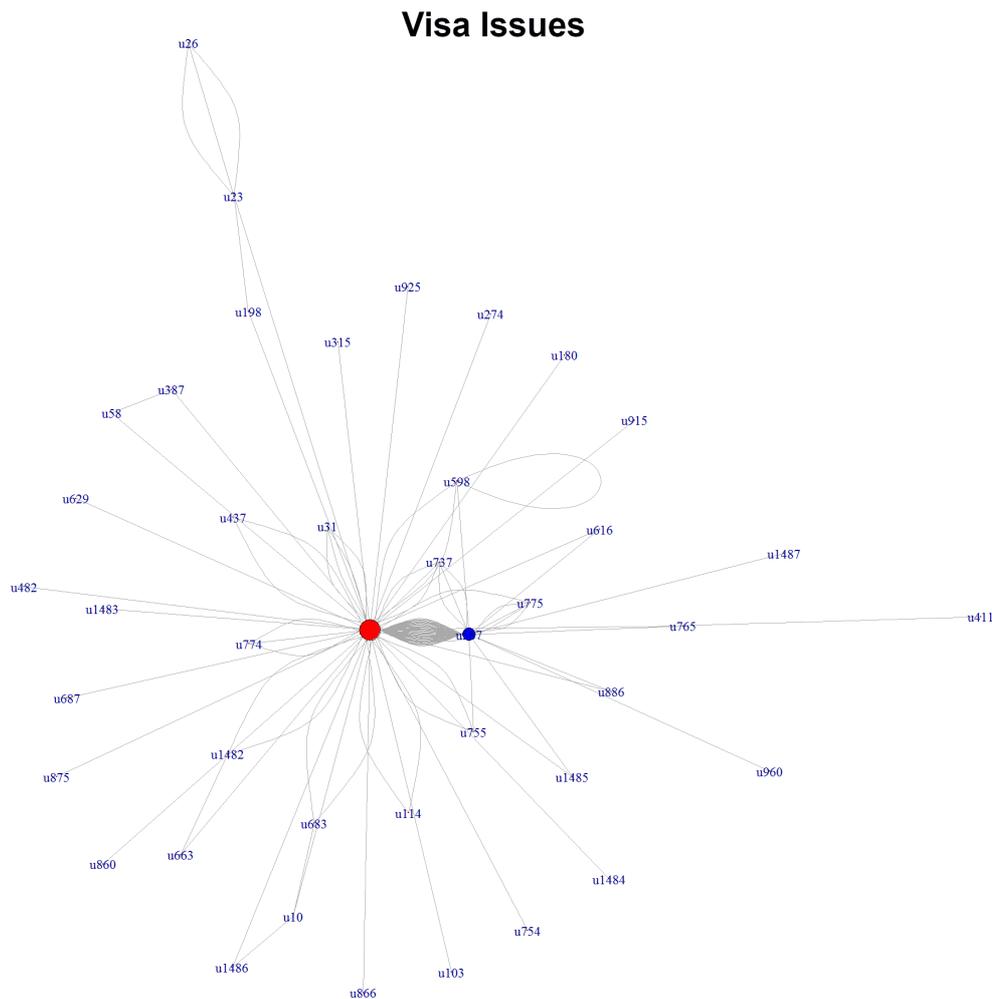
threads that were active in the scraped period. They attracted 14,242,111 views over the duration of the discussions. The data was scraped using a purpose-built scraper in R. The range of topics discussed on the forum and the number of threads (conversations), number of posts (statements) and number of views for each topic and subtopic. As the Figure 4. Sociograms on Visa issues below demonstrates the forum covered an array of topics that varied from immigration to interest clubs. The forum contained a lot of information on private matters that would not be accessible elsewhere. The most populated topics included “conversations with substance”, ‘immigration to the UK’ and ‘political battles’.

Political discussions on the forum could be considered sensitive information, therefore anonymisation proposed earlier would be key to minimise risk to the participants.

The SNA results produced graphs that indicated that there were dominant actors in the networks. The results showed that the authors of the threads were often not the most active participants. It was also evident that the most dominant node was the forum itself, which may suggest that either it was a monologue based communication (Hanna et al., 2011) or that the communication was community based, i.e. authors were making statements to all. Although some conclusions were drawn, it is not certain that they are the right conclusions and further research and analysis is needed.

The nodes were anonymised, given numbers to replace usernames. The key is available to the research team only. The data is securely stored by the researchers and will be destroyed after the project is finished.

Figure 4. Sociograms on Visa issues



It is obvious from the sociogrammes that individual nodes are visible. Usually the only data used for SNA are the nodes and their attributes. In case of forum scrape, there were no attributes for the nodes, as no personal information was publicly available for them. In order to establish links between nodes, the content of messages was used (the first line of address), which made SNA possible and formed one of the key findings of the analysis – the directionality of connections. If that parameter to be removed, the SNA analysis would not work. Therefore, in case of online forums, we decided it is permissible to use the content of the messages for directionality of connections as long as all respondents are anonymised, as supported by AOIR case by case approach (AOIR, 2012).

SNA for online forums is constrained by the initial lack of personal information, resulting in unavailability of node attributes. The context then may help to identify patterns of

social networks, like directionality or gender. If this to be removed, the SNA would be meaningless.

5.4.14 Issue of Informed Consent

The issue of consent is divisive, as researchers good practice suggest that it should be sought where possible (ESRC, 2015). However, as discussed above, many social media platforms present a challenge in regard to it. For reasons described above, online forums data may prove impracticable or impossible to seek consent for, especially if it is obstructed by limitations of time, space, number of users and number of posts. In SNA, where users are anonymised and no citations are used, the point of consent may become redundant as no node or their attributes or individual comments can be identified. In case of content analysis, quotes can be sufficiently altered through translation. Citations can be altered to ensure anonymity.

In case of the online forum under research, anonymisation has been implemented and every effort has been made to ensure that users are non-searchable or non-identifiable, minimising the risk to participants. The analysis was conducted quantitatively, making distortion of findings less likely. We therefore conclude that the need for informed consent was not required.

5.5 Summary

Online social media presents an ethical challenge to social researchers. The juxtaposition of benefits to society against harm to participants, online presence against privacy expectations, and public versus private debate, has embedded itself in the realm of ever-changing multiple platforms for UGC and OSM. Amongst this the concern for privacy violation stands above all.

The issue of privacy online is an emerging concept that is being shaped by all stakeholders involved. As social media venues harvest personal details, including social networks, they also offer privacy protection through passwords and closed or semi-closed profiles. Complicated systems of privacy protection may prove all too confusing for users, but they are adapting their level of privacy exposure through reducing it or submitting false private information. The lower threshold for privacy sensitivity amongst generation Y presents a challenge for social researchers as to where to draw the line of ethical data mining. As researchers are keen to make use of rich available online data, they battle with

dilemmas of research integrity and privacy protection in an ever-expanding world of online data.

The issue of consent is equally divisive, as it is key to ethical research, however often impractical in the case of social media data. Gaining consent for archived data is problematic as it is difficult to reach all contributors involved. Gaining consent for future data may alter users' behaviour and statements, thus making research findings invalid. If participants are unaware of research and miss out on a chance to comment, it means that people who are research have lost their voice.

Online forums are one of the platforms that have the least exposed personal information for users and their networks. It makes them less vulnerable to privacy breach, but less rich in terms of SNA data. Some of the contextual data is used in constructing social networks on forums (i.e. directionality, gender), which may be deemed permissible if it does not impede on users' privacy or doing harm. Any personal information, including login names, require to be anonymised to ensure users are not identifiable. With the security of anonymisation, there is an argument that SNA for online data does not require informed consent.

Thus, we believe that it is ethical to conduct SNA on online forum data without asking for informed consent, providing all identifiable personal information is removed and the findings will not pose any threat to users' privacy. The findings of online forum SNA analysis provide a rare insight into network on online forums and may not be accessible if the stringent guidelines on consent to be introduced. We considering that blanket approach for traditional ethics application in social media, much data can be lost for research without good reason.

6 ANALYSIS OF EXPLORATORY INTERVIEWS AND ONLINE FORUM

6.1 *Introduction*

This Chapter provides an in-depth analysis of the data collected from the online forum RuTalk, used by the Russian-speaking migrants in the UK. It also offers an analysis of the exploratory semi-structured interviews with pre-migrants. They informed the direction for this research study and were instrumental in devising the research question.

The overall study incorporated three research stages - exploratory interviews, online forum analysis and online survey analysis. This Chapter describes the analysis of the First and Second Stages of the research, namely Exploratory Interviews and Online Forum Analysis. The Third Stage of the research, Online Survey Analysis, is discussed in Chapter Seven.

The exploratory interviews' analysis explores the issues that had emerged as a results of the interviews and how they affected the design of the subsequent research stages.

The online forum analysis included social network analysis, content analysis and statistical analysis that allowed the data to be examined for patterns of social networks, communication and participation on the forum. It explored the role of the online forum in the wellbeing of migrants through looking at the structure of its online social networks and the social support that can be transmitted through them.

6.2 *Stage 1. Exploratory Interviews Analysis*

Overall, seven pilot semi-structured interviews were undertaken in Russia in October-November 2014 with potential migrants, who were planning to migrate in the last 10 years. Initially over 12 respondents were lined up, but only 7 interviews completed. Five respondents were selected through separate social networks and three through snowball technique. The respondents were 1 male and 6 females, with 2 in 20-30 age group, 3 in 30-40 group and 2 in 50+ group. The interviews were face-to-face and lasted between 30 and 40 minutes.

The respondents were asked to provide information about themselves, including age, nationality, education, job and salary band, as well as their level of foreign language. The personal histories of their migration plans and reasons behind migration were recorded to enable better understanding of their requirements for information. The interviews also included questions on their social networks abroad and contacts in the host country. In the next section respondents were asked about their information searching behaviour: what information sources and routes they used and why, what information they were looking for and where it was available. Interviewees were asked about their use of online social networks, including frequency of use, level of trust, and what platforms they use the most. The last section was about how much they trusted the information found on social media sites and what impact it had on their decision.

The semi-structured interview questions are presented in Appendix 4. Survey Questions on page 335.

The interviews provided rich evidence on the topic. Some confirmed, but others contradicted the initial Hypotheses I, described in the Methodology Chapter. The respondents indicated that online social media can be a source of information and reduce barriers to migration but would not change their migration decisions. There was no difference between genders, although the sample was not equally gender representative. Predictably older respondents had lower confidence in online social networks and used it much less than younger respondents. For some, the reason for that was that online social networks only recently became widely available. Younger respondents used the internet more often, however the level of trust was varied. It became apparent that Internet, friends and personal experience were the main sources of information. The Internet seemed to be the main source of information on the issue of migration for many respondents in Russia, as such information was hardly available from any other sources (newspapers, TV advertising, etc.). One of the respondents said:

“migration is not viewed as a definite positive thing in Russia, where you are supposed to be more patriotic, so it is not openly publicised in mass media, whereas you can find any information on the Internet” (M, age 30)

Respondents used online social networks to collect information on training, employment, housing and property. As one of the respondents noted, it made the information cheaper, faster and richer. Online forums were used quite often, but mainly in a ‘reader’ format, searching for information required. Many respondents said that they would not have

found this information elsewhere and would miss out if there would be no online social networks.

Respondents mainly had quite high level of trust in online social networks, confident that they can make a balanced judgment on the basis of a variety of views. Respondents had trust in the opinion of other people, as they did not see the reasons for lying, but accepted that the views were subjective. Thus, the high volume of online views was important to get a balanced opinion. Respondents also felt that most of the practical information was verifiable, thus trustworthy. Moreover, respondents highlighted the usefulness of directions to the right websites.

Hypothesis One, described in Chapter Four, page gained some proof in terms of CMC use for information search. However, contrary to the initial Hypothesis I, most respondents said that the information found in social networks did not change their decision to migrate, but rather provided them with practical detailed information concerning the move and initial settling in, as well as adjusted their expectations.

Semi-structured interviews were analysed using coding technique and organizing data in themes. The results of the analysis influenced the direction of the research and the themes for forum data content analysis and online survey design.

6.3 Stage 2. Forum Data Analysis

A case study approach has been employed to explore how social networks operate online and establish the dimensionality of social network constructs in evidence (Brown et al., 2007). An online forum for Russian-speaking migrants from FSU countries with links to the UK was chosen as a case study for this project.

This section of the study was designed with a view to establish communication patterns on the Forum, focusing on what potential benefits participants can draw from it. The main issues for investigation included various types of social support, sense of community and freedom of expression. The main objectives for this stage comprised the following:

- To establish patterns of communication on the Forum;
- To determine what types of social support can be available on the Forum;
- To explore sense of community on the Forum;

- To investigate the case of deliberate democracy and freedom of expression on the Forum.

6.3.1 Forums' Classification

As suggested by the literature, there is a wide range of online forums, including e-learning, medical, commercial, technological, community of interest, etc. Different forums cater for different audiences and themes, which to some extent defines their role and purpose. In order to better understand how the Forum for migrants can play a role in their wellbeing, it is important to discuss what type of forum it is.

Porter (cited from <https://academic.oup.com/jcmc/article/10/1/JCMC1011/4614445>, 2004), suggested a typology of online forums based on “Five Ps”:

- *Purpose* (content of interaction) – this attribute describes the specific forum of discourse, or focal content of communication, among community members.
- *Place* (extent of technology mediation of interaction) – this attribute defines the location or interaction, where interaction occurs either completely virtually or only partially virtually.
- *Platform* (Design of Interaction) – the attribute refers to the technical design or interaction in the virtual community, where designs enable synchronous communication, asynchronous communication or both.
- *Population* (Pattern of Interaction) – this attribute refers to the pattern of interaction among community members as described by group structure (e.g. small group or network) and type of social ties (e.g. strong, weak).
- *Profit Model* (Return on Interaction) – the attribute refers to whether a community creates tangible economic value where value is defined as revenue-generation

Porter’s typology is useful in terms of setting the markers to navigate across a variety of online forums. However, many parameters in that classification display a dichotomy of characteristics simultaneously present in many forums, thus making the distinctions blurred. The following amendments are proposed:

- *Place*: although many forums can spark communications outside the forum, it is only the online part of the forum that is usually recorded and studied, thus such characteristic can be made redundant in this case.
- *Platform*: online forums are technically designed to offer either synchronous or asynchronous communication. Those platforms that specialised in synchronous communication only, are called chat-rooms and are different to online forums. Such characteristic can also be made redundant for this study.
- *Population*: the size of the networks is irrelevant, as there can be a combination of different types of social networks on one forum, depending on its topics. We believe that the common user characteristics are more important in terms of forum population.
- *Profit Model*: this characteristic is very important, as it can influence participants' trust and communications. However, the strict distinction is becoming less relevant, as some modern marketing strategies now stretch into non-for-profit forums in order to position their products covertly or increase trust through 'word-of-mouth' approach.

Porter indicates that there can be hybrids of almost any of the factors described above. Such variability defeats the purpose of typology. In order to provide a clearer distinction between forums, based on Porter's (2004) typology, we offer a more condensed typifying system, highlighting the main categories to consider:

- *Forum Purpose* (e.g. e-learning forums, health forums, consumer forums, political forums, technical forums, community forums, etc.)
- *Common User Group* (i.e. students, migrants, patients, parents, programmers, etc.)
- *Type of communication* (i.e. question-answer or discussion forums)
- *Profit model* (commercial or non-commercial set up)

Following this classification, the Forum characteristics are described in Table 10. Characteristics of the Forum:

Table 10. Characteristics of the Forum

Forum Characteristics	The Forum for migrants
Interaction Purpose	Community forum
Common User Groups	Russian-speaking migrants with links to the UK
Type of communication	Hybrid: question-answer and discussion
Profit model	Non-commercial

It is a community forum with its' main user group being Russian-speaking migrants with links to the UK. It involves both communication types: question-answer and discussion threads. It is a non-commercial forum, however, there is evidence that one particular user is heavily promoting his services online.

We now consider how the forum typology can influence the communication patterns and offer benefits to its users. As the three elements of the Forum are clear, including the user group (migrants), communication type (hybrid) and profit model (non-commercial), we focus on investigating the purpose of the Forum to uncover the benefit it can offer to its members.

6.3.2 Forum Purpose

Online community forums often offer the functionality for informing, deliberating and exchanging views (Becker et al., 2003). The information support is provided through many short question-answer threads. The Forum offers an outlet where migrants can gather information on multiple aspects of migratory process, including life in the host country, political events, news from the home countries and others (Kissau and Hunger, 2018). Although the information provided through user generated content may be unverified, it often has the trust of the consumer (Cox et al., 2009).

Another role, performed by the Forum, is that it can offer a sense of community to its members. The sense of community is described as a feeling of belonging, which in a forum setting can translate into a feeling that forum participants matter to one another and to the group, and some of their emotional needs could be met through group interactions (McMillan & Chavis, 1986; Shen et al., 2008). The presence of the sense of community may provide opportunities for social support exchange, i.e. offer paths for information

exchange, emotional support and affirmation provision amongst its members, increased by higher participation in online discussions. A sense of community can enable a sense of belonging amongst its members, making the information exchange more meaningful for them.

For migrants, communal spaces online, such as online forums, are specifically important as they provide a sense of ‘digital togetherness’, where serves as an information and as a communication space for migrants (Marino, 2015). Marino (2015) points out that online communities can also improve migrants’ self-esteem, which would benefit their wellbeing:

“Within this context, diasporic online communities and web forums act as nodes of socialisation and interaction, as they become repositories and mirrors of texts, pictures and sounds which make up the singular, but shared experiences toward which diasporas look back upon. These spaces not only provide, as discussed before, material and emotional support but also enhance a migrant’ self-esteem and self-awareness as members of a group, acting as a comfort zone against the phenomena of social isolation and longing for home” (Marino, 2015, p. 7)

Sense of community has been argued to be increasingly present in online social networks and is strongly linked to social support and wellbeing (Obst and Stafurik, 2010; Shen et al., 2008). The sense of community helps to perceive knowledge as a public product, owned and maintained by the community (Wasko & Faraj, 2000). It leads to a deeper level of satisfaction and places a greater degree of importance on information exchange, which may bring with it the feeling of intrinsic satisfaction (Sharratt and Usoro, 2003). “Where sense of community is stronger, participation in knowledge-sharing will be greater” (Sharratt and Usoro, 2003, p. 192). This is supported by theories of user-generated content which is seen to provide empowerment for social media participants (Jenkins, 2006; Van Dijck, 2009). A positive correlation between amount of participation in the group and psycho-social well-being over time has been found to take place in online communities (Preece and Maloney-Krichmar, 2005).

Thus, a virtual community on an online forum can provide social support that includes informational, emotional, instrumental (tangible), appraisal (feedback), and social network support exchanged amongst peers (Hwang et al, 2010; Coulson, 2005).

The network support exchange or a sense of community can contribute to social support provision or indeed become the conduit for its delivery, as Internet communities offer new opportunities to share social support via discussion forums, chat rooms, and blogs (Coulson et al., 2007; Mo and Coulson, 2008; Idriss et al., 2009). Potential advantages of online support include access to many peers within the same context, be it health concerns, online learning or migrant communities. Although the quality of information can often be biased and unverified, it provides the common space for emotional support, solidarity, and anonymity (if desired) for discussion of sensitive issues (White and Dorman, 2001; Wright et al., 2003; Hwang et al., 2010; Shen et al., 2008).

In this chapter, we investigate online social networks to establish if the Forum participants engage in specific types of communications that offer evidence to suggest that there is a sense of community on the forum conducive to social support exchange and freedom of expression.

6.3.3 Common User Group

Online forums are usually based on some common characteristics of the users, akin to communities in real life (Preece and Maloney-Krichmar, 2005; Bruckman, 2005). The commonalities between forum users are important, as they may help to create common interests and topics of conversations that may encourage solidarity, increase participation and reinforce community spirit (Rodriquez, 2013). As online communities enable “feelings of camaraderie, empathy and support among people in the online spaces” (Preece and Maloney-Krichmar, 2005), they include ‘people that come together for a particular purpose, and who are guided by policies (including norms and rules) and supported by software’ (de Souza and Preece, 2004; Maloney-Krichmar and Preece, 2005; Preece, 2000 from Preece and Maloney-Krichmar, 2005, <https://academic.oup.com/jcmc/article/10/4/JCMC10410/4614449>). It also includes trust, which is strongly linked to participation and wellbeing (Helliwell and Putnam, 2004).

Personal data on the Forum participants is not available and has not been used in this research. However, the Forum is focused around migrants in the UK. The exclusive use of Russian language on the Forum suggest that all of its participants are confident Russian-speakers. These characteristics define the profile of the Forum participants as Russian-speaking migrants with links to the UK, which suggests common life circumstances and interests for the Forum members.

6.3.4 Type of interaction

There are different types of online forum platforms that are designed for the purposes of particular online forum groups. The main model includes a question or a query that is followed by replies, which can be addressed to the author or to the whole forum. Such interactions are called threads. Threads can be relatively short or long depending on the discussions around the opening post, which may attract information replies or enable a discussion. Discussion threads tend to be longer than information threads.

6.3.4.1 Online Forum Sampling and Data Collection

An online forum for Russian-speaking migrants from FSU countries with links to the UK was taken as a case study for this project (the Forum). Social network analysis (SNA) was used to approach computer mediated communication (CMC) on the Forum from a point of view of identifying patterns of social networks (Garton et al., 2004). The SNA allowed an insight into how migrants use the Forum, looking at the differences between social networks structure in different threads on the Forum.

6.3.4.2 Forum Case Study Sampling

Subsequent to the pilot interviews, a census of all forums of Russian speaking migrants in the UK was conducted. As the study group for this study was Russian speaking migrants in the UK, a Google search was conducted with the words “Russian”, “migrants”, “forum” and “UK” in English and in Russian. The search was further narrowed to online forums in users’ native language (Russian), as it was essential to capture the native language environment, as a native linguistic community at destination play an important role in migrants’ adaptation and migration success (Adsera and Pytlikova, 2015). Seven forums for migrants in the UK in Russian language were identified.

The identified online forums were assessed according to their statistics, including:

- number of registered users,
- number of threads,
- number of posts,

- number of active users,
- peak number of users,
- number of users at the time of access

Based on the number of posts, the top three most active websites included:

<http://www.rutalk.co.uk/forum.php> (48,386 users; 118,836 threads; 3,157,886 posts; 2,040 active users; peak number of users 2,800 on 05/05/14 at 13:57; on 14/01/15 - 1294 visitors, 73 registered users, 1221 guests; in Russian)

<http://www.russians-in-london.co.uk/forum/> (Around 2,888 users; 2,140,644 posts; open since November 2006; in Russian)

<http://www.ponaehalitut.co.uk/> (2,831 users; 23,581 threads; 1,133,748 posts; open 2011, but migrated from the other website that operated from 2001 until 2011; in Russian)

The list of all the Russian-speaking forums in the UK that were considered for a case study for this research is given in Appendix 2. Online Forums for Russian-speaking Migrants in the UK on page 328. It also includes details on the usage statistics for those forums.

The forum with the largest and most active user base, RuTalk (www.rutalk.co.uk), was chosen for scraping. The forum was categorised into themes and presented a “themes-threads-posts” structure. Detailed description of the forum, its origins, traffic, policies and structure is given in Appendix 3. Online Forum RuTalk on page 330.

The outcomes of the comparison demonstrated that the forum with the highest number of registered users and created posts was RuTalk (www.rutalk.co.uk). This forum appeared to be highly appropriate for our analysis and was chosen as the case study for further research. Further information on RuTalk is provided in Appendix 3. Online Forum RuTalk on page 330.

6.3.5 Data Collection

The RuTalk forum, chosen on the basis of its activity, was scraped for a 12-months period between the 1st of January 2015 and the 31st of December 2015. The scrape produced a corpus of data, which included:

- login names of participants
- connections between participants and between participants and the forum
- textual content of participants public communications (i.e. posts)

All the threads that had new posts in 2015 were considered active in that period and were included in the scrape. Some of the threads included pre-2015 posts which also became part of the corpus of data.

It then presented a challenge of deciding on the relevance of pre-2015 posts. As the volume of posts were already quite large, and due to the considerations of information relevance longevity, the decision has been made to clean the data by stripping out the pre-2015 posts and only use those that were created within the scraping period.

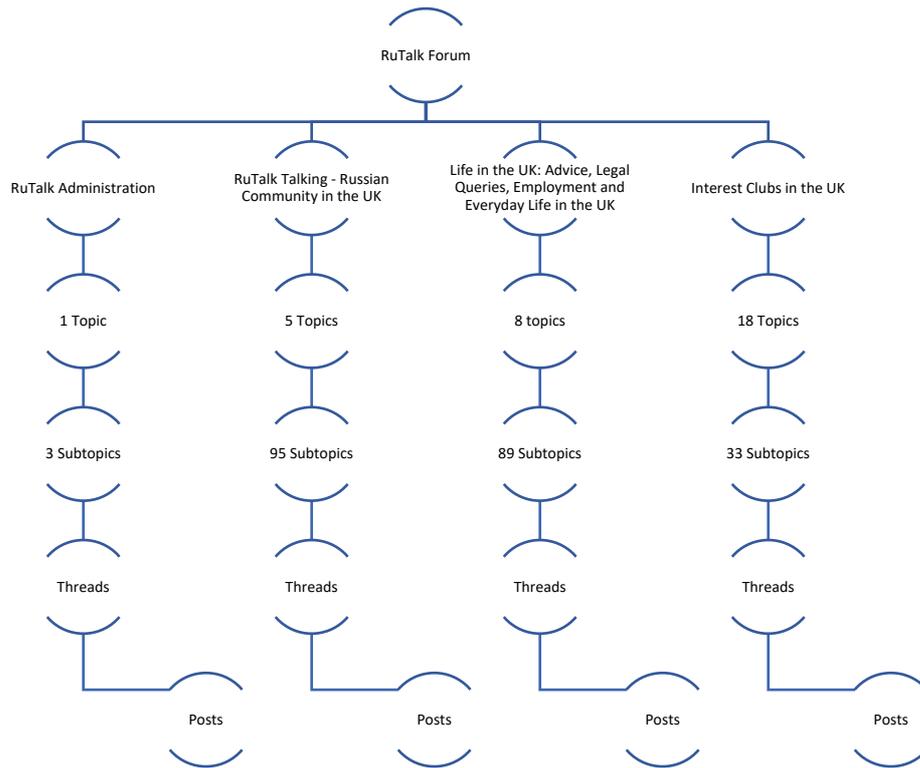
The data stripping exercise was not applicable to the number of views, as they were recorded in a different way on the forum. Thus, any graphs with the number of views refer to the total number of views for the existence of each thread. As it was not technically possible to separate the views in 2015 from the previous years, the total number of views was not used as a variable for analysis, but was considered for reference only.

Overall, for the period between the 1st of January 2015 and the 31st of December 2015 online forum scraping returned 276,256 posts, posted in 2,315 threads by 1,545 users and attracted 14,242,111 views.

6.3.6 Content Analysis

Due to the robust content organisation of the forum, it was evident that the topics of communication were already established, by being pre-set and closely monitored by the forum moderators (see Figure 5. RuTalk Structure).

Figure 5. RuTalk Structure



The structure of the Forum provided a comprehensive path through the topics, which removed the need for identifying the themes of communications. Thus, content analysis was not required to determine the thematic content of the Forum.

The list of forum topics with applicable statistics (topic title, number of registered users, number of posts, number of views) is provided in Table 11. The Forum Topics. It also includes short titles for the topics, as for the convenience of quantitative analysis the topic titles were contracted and the short versions were used in the further tables.

Table 11. The Forum Topics

Topics	Short Title	Number of threads	Number of posts	Number of views
Immigration to the UK	Immigration to the UK	360	13,695	1,279,874
Conversations with substance on RuTalk	Conversations	287	105,481	3,391,923
Political Battles	Political Battles	174	16,906	541,856
Classified	Classifieds	141	1,219	109,626
Legal advice	Legal Advice	68	2,084	198,319
For newcomers: Welcome!	Welcome!	67	2,691	1,721,108
Finances, Business and Money in the UK	Finances in the UK	59	1,396	237,027
Club for Professionals	Professionals' Club	52	1,520	258,371
Love, dating and flirting	Dating	45	3,761	329,065

Topics	Short Title	Number of threads	Number of posts	Number of views
Education, professional training and studying	Education in the UK	44	510	165,745
Parents' area: Us and our kids	Parents' Corner	41	539	130,593
Romantic chat on RuTalk, just for fun	Romantic chats	37	4,828	799,619
Travellers' Club "Around the World"	Travel Club	35	1,820	108,438
Let's discuss meeting up, drinks and parties	Meet ups	31	1,291	331,671
Women's club: Between us, girls!	Women's Club	29	1,889	265,831
Driving in the UK: anything you can drive	Driving in the UK	28	2,207	391,650
Renting, buying and renovation of property	Property	21	64	31,936
Computers and the Internet	IT	19	223	127,803
Photoclub	Photoclub	18	1,022	248,721
In the Office	In the office	17	139	218,841
Club "Our Health"	Our Health	17	19,263	1,199,292
Music club "Music lovers on RuTalk"	Music club	10	3,425	534,740
Culture and Arts Club	Arts Club	10	598	337,682
Club for adults "About THAT"	Adults' Club	10	803	44,032
Club for Shopping lovers	Shopping	9	403	83,817
Autoclub	Autoclub	9	526	127,548
Forum support for RuTalk	Forum support	6	215	55,722
Club for foodies	Club for foodies	6	257	137,107
Club 16+	Club 16+	4	266	117,256
VIP Club — Bratok Lounge	Bratok Lounge	3	126	53,884
Club for Hikers in England	Hikers' club	2	27	60,313
Sport club	Sports club	1	24	8,399
Club 50+	Club 50+	1	69	111,421
Announcements of new blogs on RuTalk	New blogs	1	75	482,881
Grand Total		1662	189,362	14,242,111

Every topic has a short introduction, displayed on the front page of the forum. The introductions are concise and allow users to better understand and choose the topic that best fit their needs, as seen in the screenshot of the main page (see Figure 6. Screenshot of the Forum Main Page).

Figure 6. Screenshot of the Forum Main Page

Крупнейший Русский Форум и сайт в Англии RuTalk.co.uk			
Добро пожаловать на Крупнейший Русский Форум и сайт в Англии RuTalk.co.uk.			
Говорят RuTalk - Все русские сообщества в Англии	Threads / Posts	Последние сообщения	
Для новеньких: Добро Пожаловать! (11 Просматривает) Первый раз на форуме? Приглашаем принять участие в общине. Здесь можно представиться и найти первых друзей.	Текст: 1,405 Сообщений: 26,070	По поводу рекламы? от Monsterrak 12.08.2018, 01:52	
Разговорчики с толпой только на RuTalk! (94 Просматривает) Поговорим в Англии: разговоры про всё на свете и для тех кто знает в этом толпе! Подразделы: Игриво, Толковые вопросы, Политическое мышление	Текст: 36,846 Сообщений: 1,225,488	На Тут шлагбаум по активации? от Рукой 28.09.2018, 17:21	
Любовь-морковь, знакомства и флирт (11 Просматривает) Все самые красивые девушки и парни встречаются в Англии только на RuTalkе всегда с толпой! Подразделы: Флиртуют	Текст: 3,686 Сообщений: 86,566	Русскоговорящие в Guildford ... от ВалентинаВитальна 23.04.2018, 01:57	
Обсудим нитинги, дринки и тусовки (9 Просматривает) Все самые глянцевые и зажигательные вечеринки и встречи в Лондоне и не только! Подразделы: Аноним, Фото с тусовки, Куда сходить? На что посмотреть?	Текст: 2,867 Сообщений: 59,460	Субботние встречи 2018 от K10001 17.08.2018, 18:52	
Романтические флидкинг на RuTalkе, но без толпа (3 Просматривает) Чем бы дитя не тешилось — лишь бы не мучалось :-) Подразделы: Ночные ангелы, Без базара, В море	Текст: 468 Сообщений: 50,351	Кот., и собачка от snel 20.07.2018, 07:10	
Политические баталии (9 Просматривает) Обсуждение вопросов политики в мире, в UK и разных странах. Обсудим кто будет следующим президентом и премьером?	Текст: 3,804 Сообщений: 260,611	Медный час для Мундраны 2018 от VictoriaUK 28.09.2017, 13:33	
Жизнь в Англии: советы, юридические вопросы, работа и жизненные вопросы в UK			
Иммиграция в Соединенное Королевство (14 Просматривает) Вопросы иммиграции в UK. Получение визы. Взаимодействие с UK Border Agency: от Tier 1 до Tier 5.	Текст: 15,328 Сообщений: 268,868	Пару интересных случаев из... от antonony Sotani, 20:46	
Финансы, Бизнес и Деньги в Англии £ € \$ (30 Просматривает) Банковское дело, инвестиции, сбережения, налоги, развитие и управление бизнесом в UK, Европе и других странах. Подразделы: Открытие бизнеса в UK	Текст: 3,095 Сообщений: 61,131	Spread Betting: как это? от lestin blocker 13.06.2018, 17:13	
Юридический совет (9 Просматривает) Обсуждение юридических вопросов и проблем.	Текст: 2,630 Сообщений: 50,321	Смена фамилии в белорусском... от в САТ 11.09.2018, 08:57	
Школы и университеты/колледжи в UK/Public/Private/ (9 Просматривает) Форум для обсуждения колледжей, университетов, школ, специальных курсов и другого обучения в Англии.	Текст: 2,681 Сообщений: 33,841	A-level по русскому от Вайва 28.09.2018, 12:14	
В офисе (1 Просматривает) Офисная жизнь - обсуждаем работу в UK. Любые вопросы связанные с трудоустройством в Англии.	Текст: 2,328 Сообщений: 12,584	Поиск работы в IT от snel 24.07.2018, 06:39	
Вопросы аренды, покупки и ремонта недвижимости (4 Просматривает) Обсуждение любых вопросов жилья: квартиры, комнаты, дома, отели в UK. А вот объявления публикуйте чуть ниже - в разделе объявлений.	Текст: 1,617 Сообщений: 6,078	Морские и долги от катюшка 27.07.2018, 10:08	
Вождение в UK: всё на чем можно водить (17 Просматривает) Здесь обсуждаем получение прав и принципы управления транспортными средствами в Англии. Подразделы: Автомобили, Велосипеды, Мотобайки, Катера и яхты, Самолеты и планеры	Текст: 2,320 Сообщений: 40,104	В Автошколе на дому англ... от Эльвира Sotani, 10:48	
Объявления (12 Просматривает) Публикуем объявления, чтобы знали все! Подразделы: Помощники, Жилье, Работа, Авто, Курсы, Продажи, Отдам даром	Текст: 9,042 Сообщений: 33,520	Продаю книги на русском... от Андрей С. Вича, 13:21	
Клубы по интересам на RuTalkе			
Фотоклуб (1 Просматривает) Мы увлекаемся фотографией. Обсудим, что лучше Canon, Sony или все-таки Nikon. Какие объективы необходимы. Наши фотографии. Подразделы: Дети, Портрет, Животные, Природа, Воюют сети	Текст: 395 Сообщений: 21,455	Швейцарские улицы... от gartmaster 18.07.2018, 20:10	
Автомобиль (2 Просматривает) Клуб автомобилистов. Обсудим новые модели BMW, Mercedes-Benz, Porsche, Lexus и др. Подразделы: Байкеры в UK	Текст: 110 Сообщений: 2,847	Ищу партнершу от Alexey007 16.04.2018, 14:40	
VR Клуб — Вратах Lounge Клуб тех, кто на сайте много лет с самого начала братья. Клуб тех, кто видел и почитает автобус на главной странице :-)	Текст: 192 Сообщений: 9,306	Релиз link от VatroFM 23.07.2017, 11:52	
Женский клуб: Между нами, девочками! (42 Просматривает) Девочки, а вы так же расковыряли соиск :-) Подразделы: Пальчики оближешь, Очумелые ручки, Садоводы-любители (и профессионалы)	Текст: 8,465 Сообщений: 439,075	Сапоги на мою, НЕ УГИСТИ! от Александрова 28.09.2018, 15:19	
Родительский уголок: Мы и наши дети (29 Просматривает) Наши малышки и взрослые детки Подразделы: Клуб беременных мам ... и пап, Тот, топ, топает малыш, Маленькие интеллекты, Малыши-наездники	Текст: 6,256 Сообщений: 233,555	Ваш ребенок не говорит?... от Kira 24.08.2018, 07:34	
Клуб «До 16 и старше» (2 Просматривает) Устроим дома мита-пати, на сауну бабушкин коледж, родительской соштен на дачи и ... обсудим :-)	Текст: 280 Сообщений: 9,956	Вопрос про материнство от snel 24.07.2018, 06:52	
Клуб хайкеров Англии Все что имеет отношение к хайкингу, треккингу, феллингу, воюнку, раббингу и просто к прогулкам	Текст: 14 Сообщений: 147	Как билет бекас от snel 24.07.2018, 06:54	
Клуб «за Политичеки» (1 Просматривает) Новый клуб оевож жителей UK и не только на RuTalkе! Говорят в 50 лет самое интересное в жизни только начинается!	Текст: 5 Сообщений: 258	А кто за здоровье питания в... от Williamgot 08.02.2018, 23:44	
Клуб Путешественников: «Вокруг Света» (6 Просматривает) Пешки на разных стран! Оставляем отчеты, спрашиваем куда лучше поехать у бывалых. Обсуждаем разные страны и путешествия.	Текст: 3,583 Сообщений: 50,913	Швейцарские улицы... от gartmaster 23.06.2018, 16:00	
Клуб любителей шоппинга (3 Просматривает) Обсуждаем скидки, новые коллекции, в таске большие и красивые наценки, ну и конечно дорогие покупки. Все любители шоппинга в Лондоне и UK. Лондон — лучшее место в мире делать покупки!	Текст: 810 Сообщений: 13,912	Сору Kate от Goldie 08.08.2018, 09:37	
Клуб «Наше Здоровье» (29 Просматривает) Все что связано с нашим здоровьем. Традиционная и нетрадиционная медицина. Врачи, психологи в Англии. Как поддерживать здоровый образ жизни. Вообще несли хочешь быть здоров — занимайся (присоединяйся!)	Текст: 2,155 Сообщений: 57,700	Осложнение кожи лица, при... от gartmaster 25.04.2018, 08:19	
Музыкальный клуб: «Меломаны на RuTalkе» (2 Просматривает) Все о музыке	Текст: 1,172 Сообщений: 15,120	О наелегон пути эмигранта в... от OFbat 18.04.2018, 10:44	
Спорт-клуб Занятия спортом и фитнесом. Места для любителей джоггинга в Лондоне и окрестности.	Текст: 948 Сообщений: 19,082	Бальные танцы в центре Лондона от Принцесса 15.08.2018, 11:12	
Клуб Культура и Искусство (11 Просматривает) Культура и искусство. Подразделы: Киноклуб, Театры, Музеи, Живопись	Текст: 2,135 Сообщений: 25,542	Кто что посмотрел? Делитесь от ASP 30.07.2018, 00:23	
Клуб любителей вкусно покушать (3 Просматривает) Еда и рестораны в UK. И не забудьте похвалить, что в Англии негде спороко пасть :-) Подразделы: Что где кушать, Рестораны Лондона	Текст: 805 Сообщений: 17,718	Хопите, я научу вас готовить?... от Kira 24.08.2018, 09:42	
Коньотеры и Интернет (15 Просматривает) Подразделы: Игры, Софт и файлы, Мобильники и цифровики, Интернет доступ и контент	Текст: 2,068 Сообщений: 21,928	Фильмы от slobod 28.08.2018, 12:12	
Клуб для взрослых «Про ЭТО» (15 Просматривает) Только для взрослых. Детям до 18 вход строго воспрещен :-) Очень много интересного для взрослых.	Текст: 715 Сообщений: 35,902	Кто Хочет...? от Kira 13.09.2018, 15:27	
Клуб Профессионалов (18 Просматривает) Клуб объединяющий людей разных профессий: советы, рекомендации, опыт, разъяснение. Подразделы: Медицина, Училища, Инвестиционные банкиры и ижд-фонды, Вулгалтеры, Переводчики, IT-шники, Программисты, Музыканты	Текст: 3,282 Сообщений: 46,072	врач в Англии от mskk 24.09.2018, 12:53	
Администрация RuTalkе			
Форум поддержки RuTalkе (3 Просматривает) Кодис форума, правила, вопросы и предложения. Подразделы: Кодис форума, Опросы, Вопросы и предложения	Текст: 1,160 Сообщений: 22,119	Оральный секс от Школер 05.05.2018, 11:35	

The translation of some of the topic titles and their short description is provided in Table 12 Topic Titles and Description in Russian and English.

Table 12 Topic Titles and Description in Russian and English

Topic Titles and Descriptions in Russian	Topic titles and Descriptions in English
"Вождение в УК: всё на чем можно ездить" Здесь обсуждаем получение прав и принципы управления транспортными средствами в Англии.	"Driving in the UK: everything that you can drive" Here we discuss getting driving licences and principles of driving in the UK
"Иммиграция в Соединенное Королевство" Вопросы иммиграции в УК. Получение визы. Взаимодействие с UK Border Agency: от Tier 1 до Tier 5.	"Immigration to the UK" Immigration to the UK questions. How to obtain a visa. Dealing with UK Border Agency: from Tier 1 to Tier 5.
"Образование, спец. курсы и учеба" Форум для обсуждения колледжей, университетов, школ, специальных курсов и другого обучения в Англии	"Education, professional training and studying" Forum for discussing colleges, universities, schools, training courses and other education in the UK
"Объявления" Публикуем объявления, чтобы знали все.	"Classified" Here we publish our ads, so that everyone knows.
"Финансы, Бизнес и Деньги в Англии £ € \$" Банковские карты, инвестиции, счета, моргедж. Развитие и управление бизнесом в УК, Европе и других странах.	"Finance, Business and Money in the UK" Bank cards, investments, accounts, mortgages. Development and management of business in the UK, Europe and other countries.
"Юридический совет" Обсуждение юридических вопросов и проблем.	"Legal Advice" Discussing legal questions and problems.
«Любовь-морковь, знакомства и флирт» Все самые модные девчонки и парни знакомятся в Англии только на РуТолке всегда с толком!	"Love, dating and flirting" All stylish girls and boys meet each other in the UK only on RuTalk!
«Для новеньких: Добро пожаловать!» Первый раз на форуме? Приглашаем принять участие в общении. Здесь можно представиться и найти первых друзей.	"For newcomers: Welcome!" Is it your first time on the forum? We welcome you to join our community. Here you can introduce yourself and find your first friends.
"Разговорчики с толком только на РуТолке!" Поговорим в Англии: разговоры про все на свете и для тех кто знает в этом толк!	"Conversations with substance on RuTalk" Let's talk in the UK: conversations about everything and anything for those who care!
"Романтические флудилки на РуТолке, но без толка" Чем бы дитя не тешилось – лишь бы не мучалось ☺	"Romantic chat on RuTalk, just for fun" What every child wants to play with, just so it doesn't cry" (*Russian proverb)

Topic Titles and Descriptions in Russian	Topic titles and Descriptions in English
«Обсудим митинги, дринки и тусовки» Все самые гламурные и зажигательные вечеринки и встречи в Лондоне и не только!	“Let’s discuss meeting up, drinks and parties” The most glamorous and exciting parties and hang outs in London and beyond!
Политические баталлии	Political Battles
"Женский клуб: Между нами, девочками!" Девченки, я вам такое расскажу сейчас ☺	“Women’s club: Between us, girls!” Girls, I am going to tell you something... ☺
"Родительский уголок: Мы и наши детки" Наши малышки и взрослые детишки	“Parents’ corner: Us and our kids” Our small and not so small kids
"Клуб «Наше Здоровье»" Все что связано с нашим здоровьем. Традиционная и нетрадиционная медицина. Врачи, госпитали в Англии. Как поддерживать здоровый образ жизни. Вообще «если хочешь быть здоров – (закаляйся) присоединяйся!»	“Club “Our Health” All that’s connected with our health. Traditional and non-traditional medicine. Doctors and hospitals in the UK. How to lead a healthy life style. So, “if you want to be health – join in!”
Музыкальный клуб «Меломаны на РуТолке» Все о музыке	“Music Club “Music lovers on RuTalk” All about music
"Клуб для взрослых «Про ЭТО»" Только для взрослых. Детям до 18 вход строго воспрещен ;-) Очень много интересного для взрослых.	“Club for adults "About THAT”” Only for adults. Kids under 18 are strictly forbidden ☺ Lots of interesting stuff for adults.
"Клуб Профессионалов" Клуб объединяющий людей разных профессий: советы, рекомендации, опыт, размышления	“Club for Professionals” Club for people of different professions: advice, recommendations, experience and thoughts
"Клуб Путешественников: «Вокруг Света»" Пишем из разных стран! Оставляем отчеты, спрашиваем куда лучше поехать у бывалых. Обсуждаем разные страны и путешествия.	“Travellers' Club "Around the World”” Let’s write from different countries! Report back and ask advice about where to go from experienced travellers. Discuss different countries and travelling.

The appropriateness of postings is moderated by the Forum moderators, who have the rights to move the threads between the topics, if posted incorrectly.

Thus, the above descriptions were considered as pointers as to what issues are discussed on the forum. The content of the topics was taken into consideration when interpreting the results of social network analysis, as the topic titles were often indicative of the type of discussions. For instance, the topic title “Political Battles” was an example of deliberate democracy discussions, whereas the topic “Immigration to the UK” included a

lot of factual questions and answers. The topic “Women’s Club” invited discussion on female topics, whereas “Classified” contained mainly advertisements.

For the convenience of quantitative analysis the topic titles were contracted and the short versions were used in the tables.

6.3.7 Analysing Online Forum Data

6.3.7.1 Thread Level

The thread length included the number of posts in each thread. This metric is important because it indicates the type of communication in the thread. It was evident that the Forum contained a combination of long and short threads. A short thread would give an indication of a question-answer communication. A long thread with a large number of posts is indicative of an active discussion. The number of posts in the threads vary from 1 to nearly 40,000. The threads were combined into several categories to provide a framework for better understanding communication patterns on the Forum.

The threads in the Forum were classified by the number of threads, including the following categories:

- Singleton Threads (ST): contained 1 post, which indicated that it was an unanswered question/query, which would suggest the absence of any discussion.
- Short Question-Answer Thread (SQAT): contain a limited number of posts (up to 10) to answer a question or query.
- Extended Question-Answer Thread (EQAT): contain a higher activity question-answer threads with between 10 and 50 posts;

Short Discussion Thread (SDT): contain between 51 and 100 posts enabling a short discussion on the issue;

Medium Discussion Thread (MDT): contain between 101 and 500 posts enabling a medium intensity discussion on the issue;

Long Discussion Thread (LDT): contain between 500 and 5000 posts enabling extended discussions;

Mega-Threads (MT): contain more than 5000 posts enabling an ongoing debate on the issue of the topic.

The data on different types of threads is presented below in Table 13. Threads by Number of Posts and Participants by number of Threads.

The thread categories are the following:

ST – Singleton Thread

SQAT – Short Question-Answer Thread

EQAT – Extended Question-Answer Thread

SDT – Short Discussion Thread

MDT – Medium Discussion Thread

LDT – Long Discussion Thread

MT – Mega Thread

Table 13. Threads by Number of Posts and Participants by number of Threads

Thread Category	ST	SQAT	EQAT	SDT	MDT	LTD	MT
(by number of posts)	1	2 - 10	11 – 50	51 – 100	101 – 500	501 – 5,000	>5,000
Number of threads in thread categories	664	1001	441	90	85	22	1
% of the total number of threads on the Forum	28.8%	43.4%	19.1%	3.9%	3.6%	0.9%	0.1%
Total % of threads	91.3%			8.4%			0.1%
Number of posts in thread categories	664	4617	10,005	6,486	18,427	28,994	39,754
% of the total number of posts contained within threads groups	0.6%	4.2%	9.2%	5.9%	16.9%	26.6%	36.5%
Total % of posts	15%			49.4%			36.5%
Sum of participants in thread categories	664	3,143	3,547	1,385	2,103	908	142
% of total sum of all participants	5.6%	26.4%	29.8%	11.6%	17.7%	7.6%	1.2%
Total % of participants	61.8%			36.9%			1.2%

As seen in Table 13. Threads by Number of Posts and Participants by number of Threads above the ST, SQAT and EQAT represent Question and Answer threads. Singleton threads (ST) represent 28% of threads on the Forum, but only .6% of posts. The Short Question and Answer threads (SQAT) constitute 43% of all threads on the Forum, but only 4% of posts. The Extended Question and Answer threads (EQAT) account for another 19% of the threads, but only 9% of all posts. Therefore, the question and answer threads of all types account for 91% of all threads on the Forum, but only for 15% of all posts on the Forum.

The SDT, MDT, LTD and MT represent Discussion threads. The Short Discussion threads (SDT) account for 4% of threads and 6% of posts; Medium Discussion Threads (MDT) account for 3.6% of threads and 17% of posts; Long discussion threads (LDT) account for 1% of threads and 26.6% of posts. Mega-thread (MT), which is represented by 1 thread, account for .1% of posts but 36% of posts on the Forum. Thus, Discussion threads represent 9% of threads, but 86% of posts. Moreover, 1% of those threads represent long discussion threads that account for 63% of all posts.

The data suggests the majority of threads on the Forum are Question and Answer threads (91%), which indicates that there is a strong interest in the Forum as a potential source of information, where participants come with their queries. This suggest that the Forum is perceived by the users as a potential source of information social support. However, those threads only account for 14% of posts, which suggests that the main activity of the Forum is happening elsewhere.

86% of all posts are found to be in the Discussion threads and out of them 63% in the long discussion threads (LTD and MT combined), which signifies that there is a strong sense of community on the Forum. Participants activity is focused around a small number of highly active discussion topics, in some cases one particular topic (one MT thread with 36% of all posts). This may suggest that there is a lot of common interest in those topics. Common interests and active interaction are an indication that there is a sense of community on the forum. As suggested in the literature, it is often strongly linked with social support and wellbeing (Oldenburg, 1999; Oldenburg and Brissett, 1982; Graham and Wright, 2014).

The data analysis above provides a strong indication that there is a sense of community on the Forum, as the participants use the Forum for emotional and affirmation support through participating in extended discussion threads.

6.3.8 Participant Level

There were over 48 thousand registered users on the forum at the beginning of 2015. Out of all registered users, 1529 users posted in 2015, which makes it 3% of all registered users. This is in line with findings from other research on online forums, which indicates that only a fraction of registered users post online (Graham and Wright, 2014). In case of the Forum, the total number of registered users is also historic, as it includes all the users registered from the beginning of the Forum existence (exact time is not available). This means that the segment of posting users can be even higher if to exclude historic registrations.

In 2015 the users created 108,947 posts in 2304 threads. 647 participants started threads in 2015.

In this chapter, the term ‘forum users’ (or ‘users’) is used to indicate a unique login name, whereas the term ‘participants’ is used to indicate those who participated in threads. Thus, the number of participants will be higher, than the number of users*.

Number of participants for the Forum is 11,892 – sum of all threads’ participants of the Forum.

The ratios of users’ participation in different categories of threads is presented below in Table 14. Number of participants by thread categories.

Table 14. Number of participants by thread categories

Thread Category	ST	SQAT	EQAT	SDT	MDT	LTD	MT
(by number of posts)	1	2 - 10	11 – 50	51 – 100	101 – 500	501 – 5,000	>5,000
Sum of participants in thread categories	664	3,143	3,547	1,385	2,103	908	142
% of total sum of all participants	5.6%	26.4%	29.8%	11.6%	17.7%	7.6%	1.2%
Total % of participants	61.8%			36.9%			1.2%

Over half of the participants (62%) posted in question-answer threads. Over a third of the participants contributed to discussion threads (37%). Only 1.2% of all participants engaged in the mega-thread discussion. Some of the participants also initiated

discussions, by starting threads, i.e. writing the first post in a thread. They were called “Authors”.

6.3.8.1 Author Activity

Table 15 displays the split between types of thread authors in 2015. Those users who started (authored) threads were grouped according to the number of threads they started:

- Singleton Authors - those users who started only 1 thread
- Occasional Authors - those users who started 2 to 10 threads
- Regular Authors - those users who started over 10 threads

The table below represents authors’ activity on the forum.

Table 15. Thread authors

Type of Author	Singleton Authors	Occasional Authors	Regular Authors
(number of authored threads)	1	2 – 10	>10
Sum of Authors	463	172	12
Sum of Threads	463	529	271
% of total threads	36.7%	41.9%	21.5%
% of total users	71.6%	26.6%	1.9%

The analysis indicates that 36% of all new topics were created by 72% of the participants in the Singleton category. 42% of all new topics were created by occasional participants (27%). 21% of all new topics were created by 2% of users, who could be called Regulars or Super-participants.

Although, there is clearly a core of Regular users (authors and participants) that support the sense of community on the Forum, there is also a large group of threads started by Occasional Authors or Single Authors. This indicates that there is a degree of participation equality on the Forum (Graham and Wright, 2014).

The authors’ activity indicates how inclusive and diverse a forum is. A large number of authors signifies a wider appeal to the community and an opportunity to open topics of interest. It can also contribute to the sense of community on the forum.

6.3.8.2 User Activity

The users' activity in general was also analysed by grouping participants according to the intensity of their posting. Four groups were devised:

- Singleton posters – posted in 1 thread only, one or more posts
- Occasional posters I – posted in up to 10 threads
- Occasional posters II – posted in 11 to 50 threads
- Regular posters - posted in more than 50 threads.

Their activity is presented in the table below in Table 16. Number of threads posted in by users.

Table 16. Number of threads posted in by users

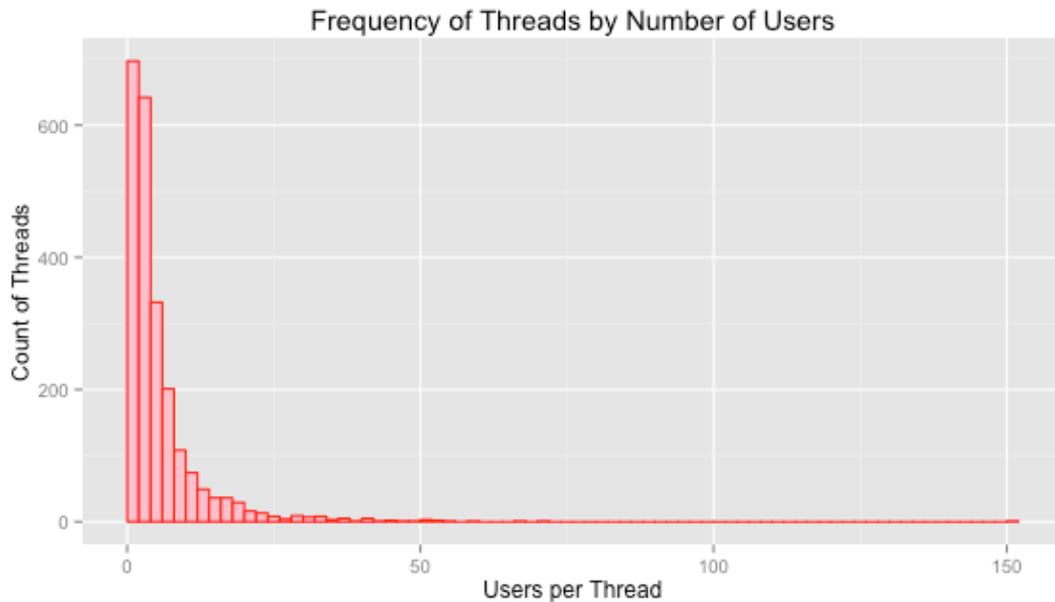
User Type	Number of threads	Number of users	% of all users	Number of posts created	% of posts created
Singleton posters	1	795	52%	1,691	1.6%
Occasional posters I	2 - 10	580	38%	6,804	6.2%
Occasional posters II	11 - 50	109	7%	15,302	14%
Regular posters	>50	45	3%	85,150	78.1%

Just over a half of all active users (52%) were Singleton posters, who were posting only in one thread on the Forum, creating 1.6% of posts. Over one third of users were Occasional posters (type I) and posted in up to 10 threads (38%), and “Occasional posters” (type II) posted in between 10 and 50 threads (7%). Together they created 20% of all posts.

The 3% of all users were Regular posters, who contributed to over 50 threads each and created 78% of all posts. This suggests that the small number of Regular posters are the active core of the Forum. They can also be classified as “Super-participants” according to Graham and Wright (2014).

Figure 7. Frequency of Threads by Number of Users demonstrates the number of threads per individual users. This is indicative of the patterns of Regulars, Occasional and Singleton Posters, and supports the observation above.

Figure 7. Frequency of Threads by Number of Users



6.3.8.3 Super-participants

Super-participants represented only 3% of all forum participants. They posted in 8.5% of all threads, which were mainly discussion threads, but created almost 86% of all posts. As suggested by the literature, it is common that a small number of users create the highest amount of posts on an online forum (Graham and Wright, 2014). Those users can create a large number of posts either in particular topics or across the board.

Super-participants can also play either a negative or a positive role on a forum, or both. In this research it was difficult to establish their negative role, as it required qualitative content analysis, which was outside the scope of this PhD. The negative role may be that super-participants can displayed a degree of curbing (stopping other users from posting) or flaming (attempt to attack other users).

Their positive role includes helping to support the Forum community through summarising longer threads for new users or being empathetic towards others' problems and engaging in rational debates, as was the example in Graham and Wright (2014) research. As Graham's and Wright's (2014) research suggests, super-participants can play a positive role and help to create continuity and facilitate an inclusive environment in a virtual community. They play a similar role to Oldenburg's "regulars" (Graham and

Wright, 2014). It has been noted that Super-participants are often useful for online communities, as “the regularly ephemeral and disjointed nature of online debate is often said to make the presence of an active minority a distinct positive” (Dahlberg, 2001, from Graham and Wright, 2014).

Although no direct evidence can be provided to support those statements in this study due to research design limitations. The literature suggests that the Forum’s “Super-participants” or “Regulars” may be playing a positive role on the Forum (Oldenburg, 1999; Graham and Wright, 2014; Wright, 2012), which is supported by the presence of a sense of community on the Forum and large amount of activity in the threads with super-participants.

According to the Oldenburg (1999) “the regulars” are also crucial to the construction of what is called the third places: communal venues beyond home or work (such as pubs and cafes) where informal political talk emerges” (Graham and Wright, 2014, from webpage). The concept of the Forum as a “third place” and how it may apply to RuTalk is discussed below.

6.3.9 The Forum as a “Third Place”

The literature suggests that online communities, being a type of a community, can be also described as a “third place”. According to the concept suggested by Oldenburg (1982, 1999), the “third place” is a public space beyond home (the “first place”) or workplace (the “second place”) where people can meet and interact informally, such as a pub, a café, a library, a church, etc., and that community can thrive. “The third place is a generic designation for a great variety of public spaces that host the regular, voluntary, informal, and happily anticipated gatherings of individuals’ and is a core seeing of informal public life” (Oldenburg, 1999, p. 16 from Wright, 2012, p. 8).

The initial Oldenburg’s concept proposed location of the participants as the common denominator for place-based communal spaces. But, as the Internet evolved, many felt that the “third spaces” have been moving online (Wright, 2012). Oldenburg argued that third places perform a crucial role in the development of societies and communities, helping to strengthen citizenship and thus are “central to the political processes of a democracy” (Oldenburg, 1999, p. 67; from Wright, 2012, p. 8).

Many forums provide the platforms that offer a community meeting space, akin to real life community gatherings, and thus become the “third place”, reigniting the concept of

sharing ideas and a sense of community (Oldenburg, 1999; Oldenburg and Brissett, 1982; Graham and Wright, 2014).

The evidence from the Forum data analysis demonstrates that there are Regular users on the Forum that may act as a supporting mechanism for the development of a sense of community on the Forum. The high activity in a limited number of threads also signifies that there are central discussion points on the Forum that attract high posting traffic. Albeit the fact that this traffic coming from a limited number of users, mega-threads also attract many views, which is reflected in the total views for the topics they are in (as seen in Table 11. The Forum Topics).

The deliberative democracy and political discussions in non-political forums are another role that “third spaces” can fulfil (Wright, 2012). As personal safety and sense of belonging as well as lack of censorship and freedom of expression are important factors for migrants’ wellbeing, we consider how the Forum topics reflect the democratic freedoms provided by the virtual “third space”.

6.3.10 Topic Level

In order to establish what types of social support and democratic freedoms can be available online, we investigate the Forum on the Topic level. The table below lists the topics individually. Their titles provide an indication of their content, with comments in the description field (see Table 12 Topic Titles and Description in Russian and English). The metrics provide evidence for patterns of communication in those topics. See *Table 17. Topics Metrics sorted by Average Posts Per Thread*

Table 17. Topics Metrics sorted by Average Posts Per Thread

Topic Group	Row Labels	Sum of threads	Sum of participants in all threads	Sum of posts in all threads	Average participants per thread	Average Posts per thread	Sum of posts per user	Sum of number of views	Sum of post per day
Mega-topics	Conversations	385	3050	65448	8	170	1561	4533127	1939
	Political Battles	235	2074	20272	9	86	904	942812	1252
Discussion topics	Music Club	11	76	707	7	64	57	564375	19
	Adults' Club	13	76	689	6	53	39	76423	16
	Romantic chats	45	315	2090	7	46	145	878844	96
	Travel Club	39	186	1604	5	41	125	137225	73
	Our Health	23	137	665	6	29	42	1290842	37
	Women's Club	55	226	1514	4	28	135	503885	280
	Legal Advice	86	513	1914	6	22	204	254799	288
	Club 50+	1	12	22	12	22	2	117147	0
Question-Answer Topics	Autoclub	12	57	206	5	17	28	151517	12
	Arts Club	12	49	177	4	15	28	351699	9
	Immigration to the UK	488	2486	7059	5	14	1088	1632739	875
	Dating	99	360	1417	4	14	168	615535	131
	Finances in the UK	81	349	795	4	10	142	311166	182
	Welcome!	91	314	680	3	7	144	1835345	101
	Education in the UK	56	192	403	3	7	88	189554	80
	Shopping	11	38	76	3	7	16	92896	13
	Club 16+	7	22	47	3	7	10	130200	8

Topic Group	Row Labels	Sum of threads	Sum of participants in all threads	Sum of posts in all threads	Average participants per thread	Average Posts per thread	Sum of posts per user	Sum of number of views	Sum of post per day
	Classified	219	497	1449	2	7	296	162885	267
	Driving in the UK	45	116	291	3	6	83	542105	49
	Photoclub	20	59	121	3	6	32	275230	11
	Professionals' Club	74	236	443	3	6	110	365375	78
	Club for foodies	9	24	52	3	6	13	148416	8
	Meet ups	42	105	241	3	6	67	416587	32
	Parents' Corner	61	139	298	2	5	83	206619	101
	IT	28	57	107	2	4	41	152164	22
	Property	26	60	82	2	3	33	40703	12
	New blogs	1	2	3	2	3	2	489246	0
	In the office	23	52	62	2	3	27	230218	17
	Bratok Lounge	4	10	10	3	3	4	335796	3
	Hikers' Club	2	3	3	2	2	2	63097	1

The top two topics display high level of engagement within a small group of users. They can be described as deliberative democracy or political discussions, given their pattern of communication and titles of topics and threads. Other researchers found evidence that there is a significant amount of “everyday” political talk on Internet discussion forums” (Wright, 2012, p. 7). The definition of a political message includes posts that were linked to a political process in some way (Scullion et al., 2010; Wright, 2012). Following this classification, it is evident that a lot of threads on the non-political Forum for migrants can be assessed as “political”. For example, the thread with the highest number of posts is titled “What’s happening in Ukraine and the Russian Federation – 2” (Topic “Conversations with Substance”). The second most active topic is “Political Battles”. Examples of ‘political’ thread titles include: “Russia and Syria”, “Russia, Turkey and other countries”, “Latvia today”, “Crimea today”, etc.

This evidence gives an indication that many active threads on the Forum are linked to political events. This suggests, that there may be a strong case of deliberative democracy, which would involve freedom of expression, common interests and community building. As discussed above, all those factors are linked to migrants’ wellbeing.

In the next section, the social network analysis is used to explore the Forum topics’ social networks. The investigation of networking patterns will allow to support or critique the findings of the above analysis.

6.4 Social Network Analysis

The social network analysis was used to investigate interactions within the Forum’s social network and establish characteristics of the participants and connections between them. The network participants (i.e. forum users) are referred to as nodes and the interactions between the participants (i.e. forum posts) are referred to as edges (Rabbany et al, 2011).

The topic networks as well as the forum network on the whole were analysed using the *igraph* package in R. The following elements were used in the analysis:

Nodes - Participants are registered members of the forum that made at least one post in the duration of the scrape. Participants are referred to as *nodes* or *vertices* in SNA analysis.

Ties - Connections between participants are posts that they posted to each other or to the forum in general. Connections are referred to as *ties* or *edges* in SNA analysis.

Edges weights – number of posts between users.

Posts – messages that participants posted in the scrape period that were captured by the scrape. Posts are analysed through content analysis and constitute ties or edges. The content of posts was not the subject of the SNA analysis.

The nodes were coded and given a unique number to avoid identification, in line with the ethical code of practice of Edinburgh Napier University.

The vertices were given weight, depending on how many posts were exchanged between nodes, by summing the number of incoming and outgoing posts to and from the participant.

The ties were non-directional for the purpose of some parts of the analysis (i.e. Graph Centrality) and directional for other parts of the analysis (i.e. to measure out-degree and in-degree Centrality).

The forum topics networks were analysed using Network Density, Reciprocity and Centralisation (Degree, Closeness and Betweenness). The measures were analysed, using the following meaning:

Network Density is considered as “the actual number of ties in a network as a ratio of the total maximum ties that are possible with all the nodes of the network, where a fully dense network has a network density value of 1 (above 1 when data contain edge weights, e.g. ties strengths). (Shen et al., 2008, p. 20).

Reciprocity - a measure of reciprocal ties between nodes in the network.

Network Centralisation - the “degree of inequality of variance in the network as a percentage of that of a perfect star network of the same size. Measure of centralisation is “an expression of how tightly the graph is organised around its most central point” (Scott, 2000., p. 89).

Network centralisation can be measured by a number of centralisation measures, including centrality degree, centrality betweenness and centrality closeness.

Centrality Degree is defined as a number of ties to other actors in the network, which for directional networks is measured by indegree and outdegree (indegree for ties to the central node; outdegree for ties from the central node), and for non-directional network

is measured by the number of ties of the central nodes. Nodes with high centrality degree mean that they are important and influential in the network.

Centrality Betweenness measures which nodes have the highest degree of connection to other nodes, in other words, which nodes are in between the highest number of other nodes. Those nodes are sometimes called “bridges”, as they may be connecting separate clusters in the network.

Centrality Closeness measures how close the nodes are to each other in the network. Nodes that have high centrality closeness are those that are most closely connected to others.

The above measures also helped to establish the type of interaction pattern in the networks. Topics consisted of threads that were classified into two types:

- *Discussion threads*: Statements or questions – expression of views, that attracted debates on the topic;
- *Question-answer threads*: Question or query – a request for information that attracts replies with information.

Discussion threads usually attracted a core cluster of users with high centrality, reciprocity and transitivity, as well as density and betweenness.

Question-answer threads usually attracted lower clustering coefficient, alongside lower centrality, transitivity and betweenness. Such threads could still display high reciprocity.

The threads with no connections between participants were excluded from the social network analysis.

6.4.1 The Forum as an Actor

When considering social networks on the Forum, two types of interaction were identified (Burr and Dawson, 2003; Dawson, 2006), including:

- *user – user*: when a user addresses his/her post to a particular user, or comment on a post from a particular user, i.e. reply to that user.
- *user – system*: when a user addresses his/her post to the forum (a type of a system), but reply to or address a post from a particular user or a group of users.

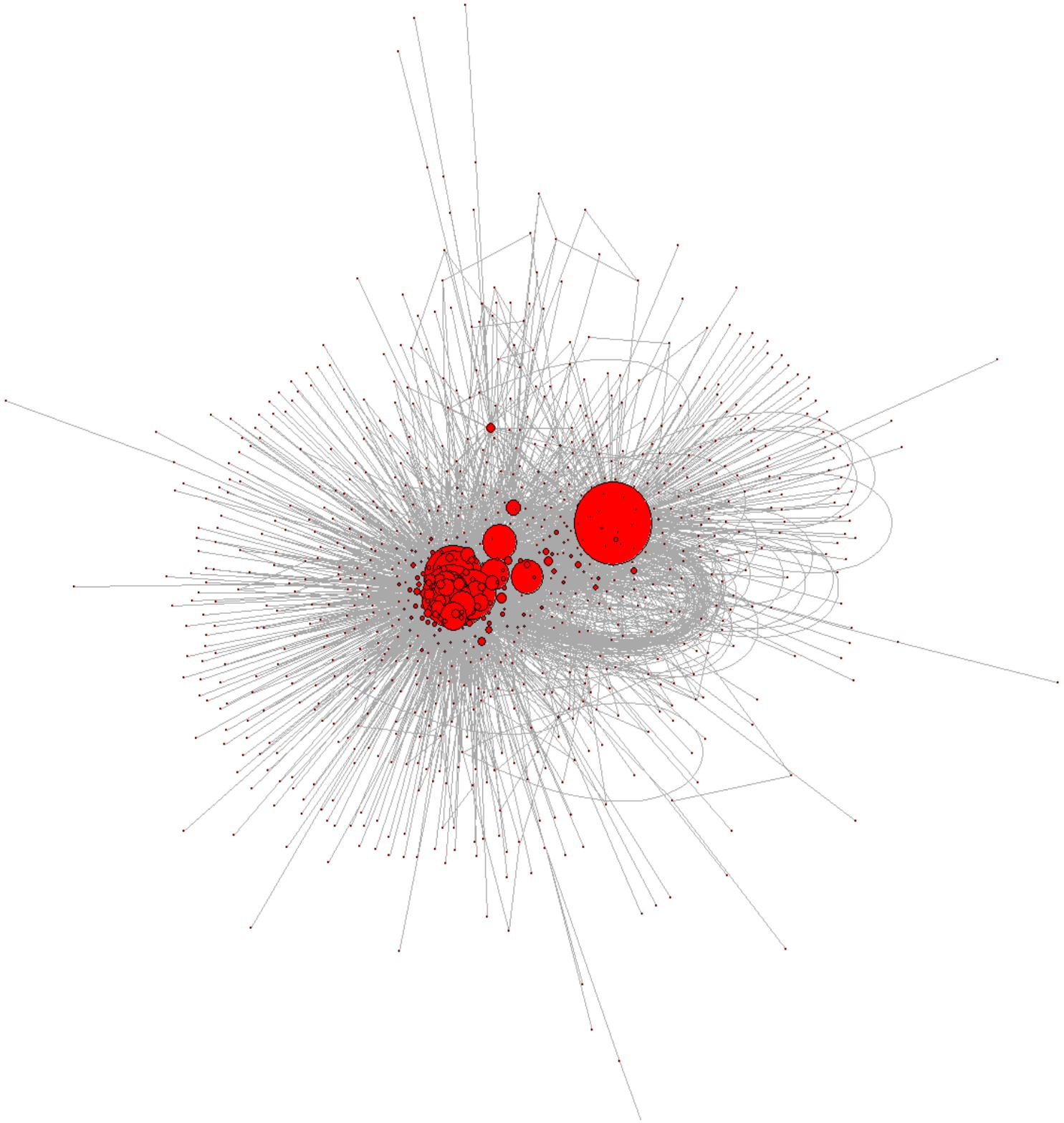
For this research a decision was made to only consider connections between users (members of the forum who are real people). The system (Forum) as a community takes a major place in the forum network communications. Some researchers consider it a network actor, as in their view, posting to the system (the forum) still constitutes community participation (Dawson, 2006; Brown et al., 2007).

Although there is evidence in other research work that the Forum can be a part of a community, the Forum is passive, whereas other actors (participants) generate content. For this reason, the Forum was excluded from the social network analysis.

6.4.2 *The Forum Network Analysis as a Whole*

In the first instances, the Forum was analysed as a whole network (excluding communication to the Forum, as described above) using social network analysis technique. The sociogram for the whole Forum is presented in Figure 8. Sociogram of the Whole Forum.

Figure 8. Sociogram of the Whole Forum



The Whole Forum metrics were produced to better understand the magnitude of an overall forum social network. They are presented in Table 18. Whole Forum Network Metrics

Table 18. Whole Forum Network Metrics

Attribute	Parameters
Number of nodes	942
Number of edges	72,393
Diameter of the network	7
Mean distance between nodes	2.79
Average path lengths between nodes	2.85
Edge density	0.01
Reciprocity	0.64
Transitivity	0.25
Degree Centrality	0.23
Betweenness	0.16
Closeness	0.01

The whole forum network has very low edge density at 1%. Although the number of nodes is high for the forum, the number of connections between all users is much lower than expected. These findings are in line with the previous analysis of the user behaviour, which indicates that postings are spread out across the topics on the forum with 52% contributing to single thread only, 45% contributing to several threads and only 1.2% posting across the Forum and contributing to over 50 threads.

Closeness Centrality is particularly low for the whole forum network of 1%, which indicates that users are very sparsely connected to each other. This may also indicate that the users are spread out between different topics/threads and there is not much overlap between them.

Betweenness Centrality indication at 16% also supports the argument that there is some separation between users in different topics.

Degree Centrality at 23%, as well as Transitivity or Clustering Coefficient at 25% indicates that there is some clustering on the Forum, but it is unlikely to be one central hub for the whole Forum. This might indicate, that multiple Forum topics have their own central clusters or hubs, which do not cross over between topics. Topic level SNA analysis will allow further investigation.

A high level of network Reciprocity at 64% is an indication that many connections between users are reciprocal. This indicates high level of user engagement with each other, supporting the argument for a sense of community on the forum. But given low scores for other network attributes, it might be on the level of forum topics or even threads that this sense of community exists.

In order to investigate those issues further all topics were categorised and then analysed individually.

6.4.3 Forum Topics

To ensure a higher magnitude of social networks, but preserve valuable details, a decision was made to investigate forum social networks on the level of topics, as opposed to separate threads (more detailed level) or the whole forum (less detailed level).

There were 32 topics identified on the Forum, which consisted of a number of subtopics and multiple threads. The list of all topics with the total number of users, threads and posts is presented in Table 19. List of all topics with total number of users, threads and posts.

Table 19. List of all topics with total number of users, threads and posts

	Topics	users	Total posts	threads	Posts Per user	Total views
1	Immigration to the UK	532	7,059	483	13	246,045,975
2	Conversations	403	65,448	385	162	70,780,542,275
3	Classified	249	1,449	214	6	7,922,215
4	Legal Advice	189	1,914	85	10	9,003,933
5	Political Battles	184	20,272	235	110	660,141,998
6	Welcome!	180	680	90	4	80,180,613
7	Finances in the UK	172	795	81	5	3,563,458
8	Dating	157	1,417	98	9	16,699,685
9	Romantic chats	119	2,090	45	18	312,699,382
10	Education in the UK	118	403	56	3	1,432,794
11	Professionals' Club	118	443	74	4	7,056,277
12	Women's Club	113	1,514	54	13	35,083,987
13	Travel Club	97	1,604	39	17	21,214,953
14	Parents' Corner	94	298	60	3	1,183,957
15	«Our Health»	93	665	23	7	433,998,769
16	Driving in the UK	80	291	45	4	2,579,676
17	Meet ups	78	241	41	3	2,975,445
18	Adults club	52	689	13	13	14,972,693
19	Property	49	82	25	2	141,958
20	Autoclub	46	206	12	4	1,643,060
21	IT	45	107	28	2	293,716
22	Photoclub	44	121	20	3	6,289,792
23	In the office	41	62	23	2	392,513
24	Music Club	40	707	11	18	43,385,437

	Topics	users	Total posts	threads	Posts Per user	Total views
25	Arts Club	32	177	12	6	25,047,232
26	Shopping	31	76	11	2	861,489
27	Club 16+	22	47	7	2	400,742
28	Club for foodies	20	52	9	3	2,988,225
29	Club 50+	12	22	1	2	2,577,234
30	Bratok Lounge	10	10	4	1	549,346
31	Hikers Club	3	3	2	1	89,908
32	New blogs	2	3	1	2	1,467,738

Out of the 32 topics the last two topics contained only user-system interactions and were not considered for analysis, following the decision to exclude user-system interactions, argued earlier. The interactions with the Forum were also stripped from the data for SNA, as argued above, which produced a new table with 30 topics for social networks analysis (see Table 20. 30 Topics without Forum for SNA Analysis).

Table 20. 30 Topics without Forum for SNA Analysis

Type	Topic	Total users	Total posts	Total threads	Average Posts per user	Historic Total views
Mega-topics	Conversations	205	44,375	249	216	45,416,247,025
	Political Battles	126	14,545	154	115	465,824,052
Interactive networks	Women's Club	64	1,214	27	19	31,089,440
	Travel Club	56	1,027	20	18	13,485,959
	Music Club	19	278	6	15	13,946,601
	Immigration to the UK	292	3,951	416	14	164,311,387
	Romantic chats	73	1,032	27	14	118,582,474
	Legal Advice	108	1,363	60	13	7,187,541
	Dating	73	952	45	13	11,162,061
	Classified	77	896	44	12	6,418,390
	Adults club	35	403	5	12	8,862,963
Low activity networks	Our Health	50	417	9	8	297,502,747
	Finances in the UK	83	450	50	5	2,108,524
	Welcome!	57	306	34	5	30,926,408
	Driving in the UK	36	162	18	5	1,570,528
	Club for Professionals	49	178	38	4	3,387,149
	Education in the UK	45	168	25	4	500,485
	Parents' Corner	38	162	16	4	589,167
	Autoclub	29	124	7	4	1,095,141
	Meet ups	31	88	14	3	395,208

Type	Topic	Total users	Total posts	Total threads	Average Posts per user	Historic Total views
	Arts Club	24	79	5	3	9,070,381
	IT	13	34	6	3	50,321
	Club for foodies	8	25	3	3	1,589,737
	Shopping	18	44	7	2	458,952
	Photoclub	18	43	6	2	2,463,631
	Property	13	21	8	2	45,122
	Club 16+	12	26	3	2	136,514
	Club 50+	8	13	1	2	1,522,911
	In the office	11	15	8	1	58,932
	Bratok Lounge	2	2	1	1	101,828

The number of users, posts, threads and posts per user varied significantly between threads. To reflect the nature of the discussions on the forum, the number of posts per user was taken as a measure to group topics into types. The higher number of posts per user was an indication that the topics contained more discussion type of networks. The lower number of posts per user represented question-answer interactions. Thus, the 30 remaining topics were divided into three types, according to the average number of posts per user:

- *Type I*: over 100 posts per user – 2 topics (super-active networks)
- *Type II*: between 10 and 20 posts per user – 9 topics (interactive networks)
- *Type III*: under 10 posts per user – 19 topics (low activity networks)

Type I: The topics with more than 100 posts per user indicated active discussions within them. The number of users also suggested they were the largest user networks on the Forum. The large number of posts signified high level of interactions between the nodes in the network. Thus, this group was considered as super-active networks on the Forum.

Type II: The topics with between 10 and 20 posts per users displayed networks with medium number of users and posts in each topic. Those networks were interactive, but due to medium level of activity could be indicative of either discussion networks or question-answer networks or both.

Type III: It was clear that the topics with less than 10 posts per users presented a case of question-answer threads, as the average number of posts per user was too low for a discussion network. The total number of users and posts in each topic was also considered

low for a social network analysis. Therefore, the decision was made to classify those topics as low activity question-answer group. Social network analysis was not performed for them (Corti, 2017; Vragkos and Morris, 2018).

6.4.4 Topic Networks

The topics were split into two groups, depending on the total number of users in each topic:

1. Topics with over 30 users
2. Topics with less than 30 users

The decision was made to analyse the first group of topics with over 30 users, as the second group would have had too smaller networks for social network analysis.

Topics with over 30 users were analysed using SNA. A sociogram was produced for each of the eighteen topics in the over 30 users' category. Each topic's social network was then examined for the properties of the network and the properties of the nodes.

Network properties:

- Reciprocity
- Edge Density
- Centralisation Degree
- Centralisation Betweenness
- Centralisation Closeness

Nodes properties:

- Degree Centrality
- Betweenness Centrality
- Closeness Centrality

This analysis allowed better understanding of patterns of communication on the Forum, investigating how centralised, reciprocal and closely connected its networks are. It also

allowed identification of influential users, that are “bridges” connecting user sub-groups, and those users that had the closest connections to everyone else.

The SNA properties of Interactive group of topics are provided in Table 21. Topical Networks Properties (18 Networks 30+ users without Forum)

Table 21. Topical Networks Properties (18 Networks 30+ users without Forum)

Topics	Degree centrality	Reciprocity	Transitivity	Edge density	Betweenness centrality	Closeness centrality
Immigration to the UK	0.49	0.52	0.07	0.01	0.40	0.16
Travel Club	0.39	0.70	0.34	0.06	0.30	0.07
Conversations	0.39	0.73	0.42	0.05	0.12	0.12
Political Battles	0.39	0.73	0.48	0.10	0.07	0.45
Women's Club	0.37	0.73	0.32	0.06	0.22	0.07
Our Health	0.32	0.61	0.25	0.06	0.23	0.43
Classifieds	0.31	0.59	0.26	0.04	0.22	0.13
Adults' Club	0.31	0.56	0.42	0.10	0.23	0.41
Romantic chats	0.29	0.60	0.27	0.05	0.16	0.11
Legal Advice	0.21	0.57	0.23	0.03	0.14	0.11
Education in the UK	0.20	0.51	0.15	0.03	0.25	0.04
Professionals' Club	0.19	0.44	0.15	0.02	0.14	0.02
Welcome!	0.19	0.41	0.14	0.02	0.17	0.13
Dating	0.18	0.61	0.28	0.03	0.09	0.03
Parents' Corner	0.16	0.62	0.22	0.05	0.26	0.11
Meet ups	0.12	0.39	0.26	0.04	0.09	0.05
Finances in the UK	0.10	0.51	0.18	0.02	0.09	0.04
Driving in the UK	0.09	0.51	0.25	0.03	0.04	0.02

Table 21. Topical Networks Properties (18 Networks 30+ users without Forum) demonstrates that topics’ Degree Centrality, Reciprocity and Closeness varies across the groups. The sociograms and Centrality Scores, produced for each topic in this group, also displayed considerable differences in their social networks. This allowed the grouping of networks according to their Centrality Scores into three types (see Table 22. Centrality Scores for 18 topics (30+ users).

Table 22. Centrality Scores for 18 topics (30+ users)

Topic Type	Topics	Centrality Score
Super-active networks	Conversations	35.19
	Political Battles	16.74
Connected networks	Travel Club	5.42
	Women's Club	4.06
	Romantic chats	3.62
	Adults' Club	2.97
	Immigration to the UK	2.73
	Love and Dating	2.11
Loosely connected networks	Classifieds	1.69
	Our Health	1.53
	Legal Advice	1.28
	Welcome!	1.00
	Driving in the UK	0.89
	Professionals' Club	0.68
	Education in the UK	0.60
	Meet ups	0.57
	Finances in the UK	0.53
	Parents' Corner	0.49

The topics were grouped into three groups: Super-active networks (2 topics); Connected networks (6 topics) and Loosely connected networks (10 topics). These findings are in line with the previous analysis, that indicated that there is a small number of topics that includes a high number of posts or connections and a large volume of threads that contain small number of posts each.

Further analysis provides a closer look at those group, drawing on examples of the main topics from each group.

6.4.5 Type I: Super-active topics

Super-active networks included a large number of posts (see Table 19. List of all topics with total number of users, threads and posts) and the highest average number of post per thread and the highest average number of posts per user (see Table 17. *Topics Metrics sorted by Average Posts Per Thread*). They also had high intensity of posting with the highest average number of posts per day. Those parameters suggest that those topics

include discussion threads with high intensity of interactions. We consider both topics in more details.

6.4.5.1 Topic “Conversations with Substance only on RuTalk”

This network is the largest on the forum. It has a medium degree of centrality (39%), high reciprocity (73%) and medium transitivity (42%). It has low density (5%) and closeness and betweenness (both 12%). These scores suggest that there is a core cluster of users in the network. However, the network is sparse and not well connected to the fringes. This suggests, that the central cluster is closely connected to each other, but not to the users that contribute occasionally. The sense of community is present in the network, but it mainly applies to the central cluster. This network can be described as a “discussion” network, as it demonstrates an active core of users, who engage in reciprocal communications.

Table 23. Conversations - Nodes scores

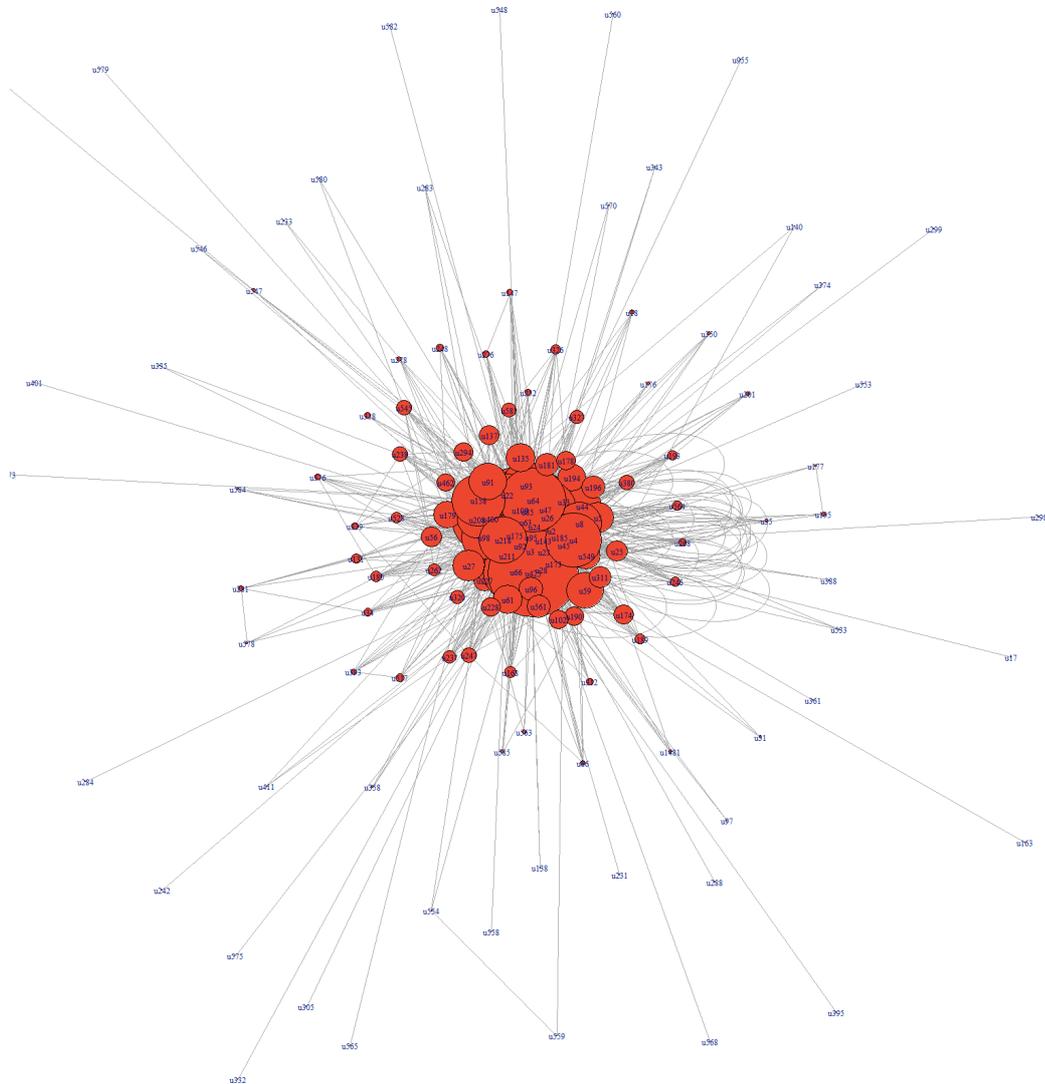
	User degree centrality	In degree centrality	Out degree centrality
Row Labels	Conversations	Conversations	Conversations
u92	0.867	0.388	0.478
u24	0.644	0.302	0.342
u3	0.629	0.291	0.338
u95	0.604	0.306	0.299
u4	0.579	0.245	0.335
u109	0.568	0.277	0.291
u175	0.561	0.259	0.302
u85	0.554	0.277	0.277
u66	0.518	0.248	0.270
u26	0.511	0.259	0.252
u93	0.507	0.230	0.277
Grand Total	6.543	3.083	3.460

6.4.5.2 Topic “Political Battles”

The topic title suggests that this is a network for political discussions. This network has a high Reciprocity score (73%), and medium transitivity score (48%) and medium centrality score (39%). It has low density (9%), low betweenness (7%), but high closeness score (45%). Those findings are in line with the “discussion threads” description provided earlier.

Figure 10. "Political Battles" Sociogram

Political Battles



This sociogram indicates that this is another network with a core cluster of users that engage in reciprocal communications. The network has low density and betweenness, but its high closeness score suggests that the users are closely connected to each other, which demonstrates the sense of community in this topic.

Table 24. Political Battles

	Sum of user_degree	Sum of in_degree	Sum of out_degree
Row Labels	Political Battles	Political Battles	Political Battles
u92	0.966	0.441	0.524
u85	0.841	0.434	0.407
u3	0.841	0.393	0.448
u425	0.821	0.414	0.407
u109	0.821	0.4	0.421
u24	0.814	0.4	0.414
u175	0.814	0.393	0.421
u95	0.793	0.4	0.393
u400	0.67	0.345	0.345
u143	0.67	0.359	0.331
u26	0.676	0.310	0.366
u28	0.621	0.386	0.234
u64	0.607	0.331	0.276
u2	0.6	0.296	0.303
u66	0.593	0.283	0.310
u47	0.566	0.241	0.324
u63	0.531	0.255	0.276
u4	0.510	0.214	0.296

This network has a larger central cluster of users, who have centrality degree score above 50% (18 nodes). In most cases the nodes have similar degree of in- and out- centrality, meaning reciprocal communications. This network can also be characterised as a “discussion” network with a sense of community.

Overall, super-connected topics both provide evidence of sense of community on the Forum. Both topic also have threads connected with political events suggesting deliberate democracy discussions and freedom of expression. Both factors are linked to migrants’ mental health and therefore indicate that the Forum may play a role in migrants’ wellbeing.

6.4.6 Type II: Interconnected Topics

Interconnected topics present a mixture of discussion and question-answer threads. The number of users and posts is indicative of shorter discussions, which can be extended question-answer conversations. The examples below demonstrate the social networks typical for this type.

This topic presents a special case, as it is clear that there is one influential node in the network. This node (u587) has a very high centrality degree score (99%), which is the highest centrality score in the network. He has a higher out-degree centrality (67%) and a lower in degree centrality (32%), as indicated in Table 25. Immigration to the UK.

Table 25. Immigration to the UK

Immigration to the UK	user degree	in degree	out degree
u587	0.994	0.323	0.671

Observation content analysis reveals that this node is a part of a legal practice dealing with immigration issues in the UK and actively offers his opinion on various issues and questions. He is very active on the forum and acts as a ‘consultant’ on the forum. Thus, this network could be described as a “consultation” network, as it centres mainly around one node that most frequently responds to the posters.

These findings suggest that this is a mixed model social network, which combines non-for-profit platform with covert marketing (‘consultant role’). When the topics are pushed by an organisation, in the case of a non-for-profit forum, they may dominate the network. However, due to active support of the topic by the “consultant” (Graham and Wright, 2014), the topic stays more active and attract more question-answer threads, which is evident from the previous analysis. Thus, this type of network is beneficial for question-answer discussions. However, its high centrality may not translate into a sense of community, as it is based around one person.

6.4.6.2 Topic “Women’s Club

This network is characterised by medium centrality (36%), high reciprocity (73%) and medium transitivity (32%). It has lower betweenness (21%) and very low density (6%) and low closeness (7%). A closer examination of the core cluster suggests that only 2 nodes have a centrality degree of above 50%. The sociogram is presented below.

Figure 12. "Women's Club" Sociogram

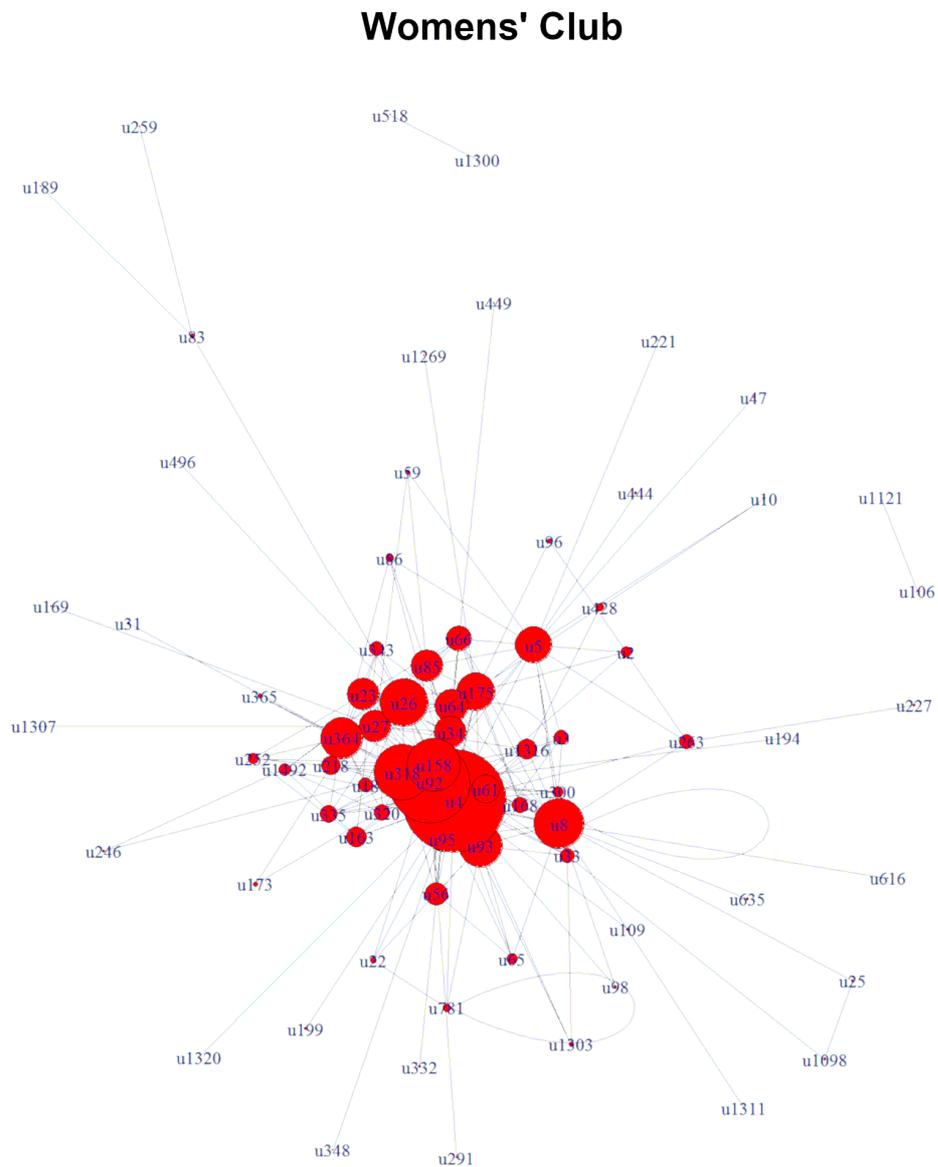


Table 26. Women's Club

	Sum of user degree	Sum of in degree	Sum of out degree
Row Labels	Women's Club	Women's Club	Women's Club
u4	0.853	0.387	0.467
u92	0.667	0.347	0.32

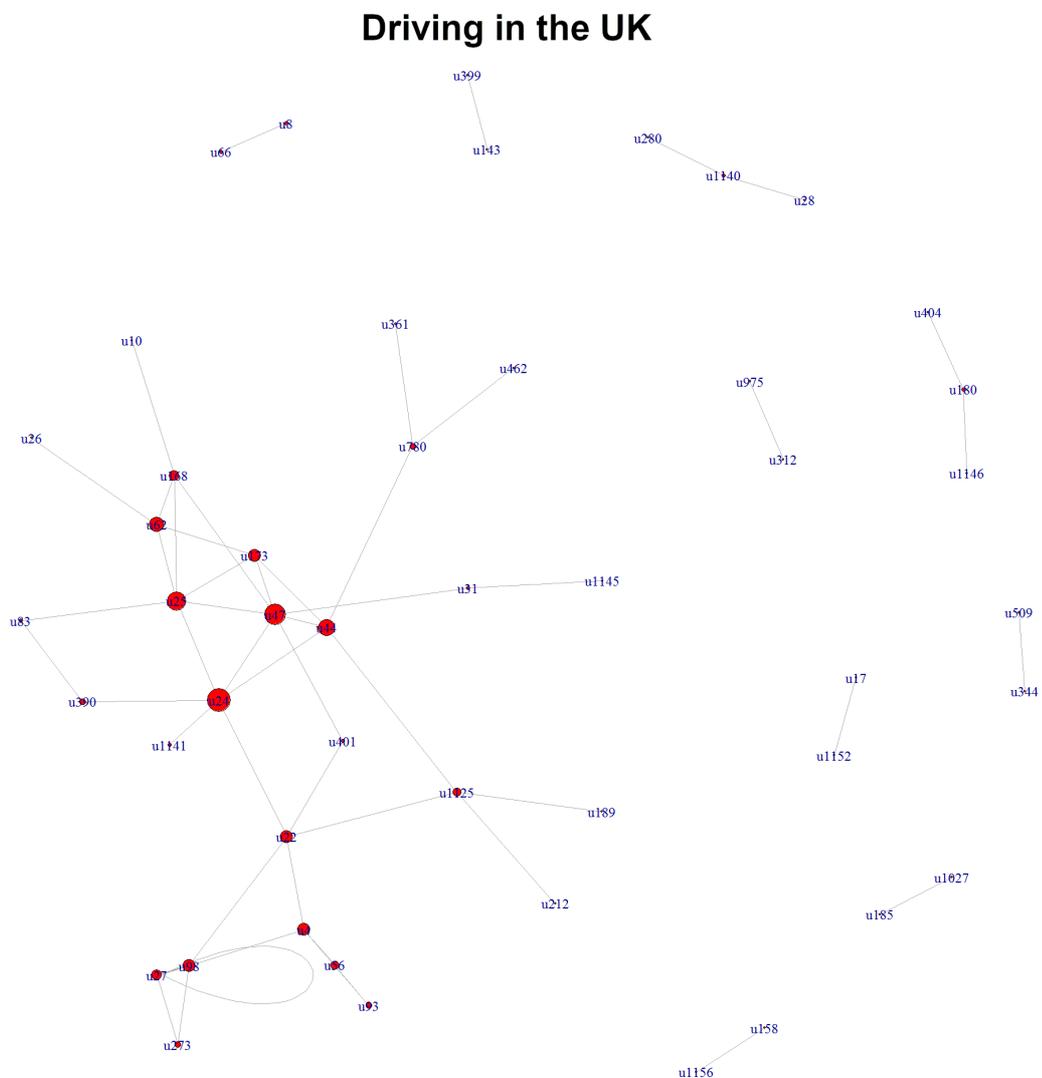
These findings suggest, that this topic can be classified as a question-answer topic. Its' very high reciprocity suggests that there could be elements of a sense of community, as the users display high response rate. The sociogram suggest that there is a small cluster of users that are connected to each other. We can suggest that this is a combination type that includes both question-answer and discussion aspects.

6.4.7 Type III: Loosely-connected topics

6.4.7.1 Topic “Driving in the UK”

This topic has a low Centrality score (9%), medium reciprocity (51%) and low transitivity (25%). It has very low betweenness (3%), density (4%) and closeness (2%). The sociogram (see Figure 13. “Driving in the UK” Sociogram) displays a loosely connected network with a number of disconnected pairs of nodes. This is an example of question-answer topic, that is used by participants for information social support.

Figure 13. “Driving in the UK” Sociogram



6.4.8 SNA Findings

Social network analysis has established that there are different types of social networks on the Forum. They include a small number of super-active networks with closely connected clusters of users, which can create a sense of community and freedom of expression for democracy deliberations. This supports the argument that the Forum can offer emotional and affirmation social support through participation in such threads, and thus play a role in migrants' wellbeing.

The Forum networks also included active networks that present a hybrid between question-answer and discussion networks. They usually have a small cluster of core users, but a number of less connected users. Such networks offer an opportunity for discussion equality, when core clusters are less influential and free the way for less active users to express their views. Such threads can offer information social support, but also emotional and affirmation social support to a wider number of users, thus also supporting the argument that the Forum plays a role in migrants' wellbeing.

The third types of network on the Forum are loosely-connected networks, which represent question and answer topics. They provide value through enabling information social support.

Forum networks, when investigated on their own, exhibited:

- *High Reciprocity scores* (between 39% to 73%) - this may indicate that there are reciprocal discussions happening on the forum, which forum users engage in. This might be an indication that there is a sense of community on the forum.
- *Medium to very low Degree Centrality scores* (between 8% and 49%) – this indicates that the topic networks are not very centralised and have a lot of outliers.
- *Medium to very low Transitivity scores* (between 6% and 48%) – which supports the suggestion that there is medium to low level of clustering on the forum. There is evidence of larger and medium clusters in some topic networks, but not in all.
- *Very low Density score* (between 0.8% to 8%) – which indicates that there is a very low density in forum networks with a high number of outliers not connected between each other.

- *Medium to very low Centrality Betweenness* (3% to 40%) – indicating lower level of connections between nodes.
- *Medium to very low Centrality Closeness* (2% to 45%) – also indicating lower level of connections between the nodes.

These findings suggest that there is a large number of users that are on the fringes of the forum, who may post infrequently in isolated threads. Such users can be identified as occasional users. They constitute the majority of the Forum users and are important for supporting equality of expression and the breadth of topics and views on the Forum.

There are also clusters of users that are well-connected to each other and to the outlier nodes, who post frequently and engage in reciprocal discussions on the forum. They create a sense of community on the Forum. As outlined by the literature, a sense of community is important for quality of life and can play a role in participants' wellbeing. It may also have an effect on Forum viewers, through reading the Forum. However, there is not sufficient empirical evidence to test its impact on the viewers. This issue will require further data collection and analysis.

The overall findings of the Forum data analysis are discussed below.

6.4.9 Concluding Remarks on Forum Analysis

The Forum data analysis has provided rich evidence for the type of interactions present on the Forum. Through triangulation of data analysis, involving statistical analysis and social network analysis, it has become clear that there are distinct types of interaction on the Forum. Those interaction types include the following categories:

- Short (Loosely connected) – information support
- Medium (Interconnected) – information and emotional/affirmation support
- Long (Super-connected) – emotional/affirmation support

Also, two types of threads were distinguished:

- Question-Answer: question or request for information, that attracted replies with specific information;

- Discussion: statements or questions – expression of views, that attracted debates on the topic;

This indicates that the forum provides different types of support, including information, emotional/affirmation and mixed.

The provision of information support through short threads is important as it is a vital resource for migrants in the host country.

The medium length threads indicate that there are discussions around information questions. This indicates that the forum opens up an opportunity for migrants to discuss question and answer threads, creating a sense of community through building a sense of belonging, camaraderie and solidarity. The presence of these factors indicate that the Forum may have a positive impact on migrants' wellbeing as social connections are strongly linked with wellbeing.

The long threads are indicative of deliberative democracy and imply civic engagement in an online space. The opportunity to express one's views freely, in their own language, especially for expatriates from autocratic political systems, contributes to the sense of freedom of speech and self-expression. Civic participation and freedom from prosecution is also strongly linked to wellbeing, which points out to the positive role of online forums for migrants.

The social networks in the long threads are the most centralised and reciprocal, which indicates that those discussions also create a sense of community and belonging, even if for a small number of active users.

Although it is outside the scope of this research to assess the role of online community on the viewers (passive users or "lurkers"), they should be considered, as the large number of views for the discussions is indicative of the interest amongst passive users. Further research is required to assess the impact of public discussion online on those, who read them, as it may help to further understand the impact of online communities on different population groups.

7 Online Survey Analysis

7.1.1 Introduction

This chapter discusses the analysis of the online survey, which was Stage Three of the study. The main research question of the study was to investigate the role of online social networks in the wellbeing of Russian-speaking migrants. Following the exploratory interviews, it was established that migrants use online forums to find information that may assist them with their migration experience. Hence, the decision was made to investigate if and how online forums can play a role in migrants' Wellbeing.

After the analysis of online forum social networks of one of the Russian-speaking forums for migrants in the UK, it was established that an active hub of communications takes place online. The next step was to investigate how online forums can contribute to migrants' wellbeing, through exploring what social factors play a role in migrants' wellbeing and life satisfaction.

The online survey has been rolled out on the online forum for migrants and other social media in May 2016. The survey included questions on demographics, life satisfaction, integration, social networks, social media, online forums and a name-generator. The results of the online survey were analysed to establish if there is a link between migrants' wellbeing and the use of online forums for migrants.

The analysis included several sections. First presented is the demographic summary of respondents. Then the focuses is on correlations between Life Satisfaction and other social and communication factors. A measure of integration was created based on migration experiences, which was then correlated to Life Satisfaction. Integration and Life Satisfaction were then combined to produce the measure of Wellbeing, which was subsequently correlated to other attributes in the survey to identify other associated factors.

As the impact of social support on Wellbeing ranks highly in migration literature, it was important to investigate respondents' egocentric networks in order to better understand their social support structure. A 5-name generator question was introduced into the survey to achieve that. It allowed to provide a more coherent picture of migrants' social networks and correlate them with the findings on Life Satisfaction, Integration and Wellbeing.

Egocentric networks were used to identify the structure of migrants' social support networks and to establish if there are correlations between Wellbeing the egocentric networks.

To identify the role of online forums in migrants Wellbeing, online communications were examined to establish if there are any correlations between various applications of online forums with Wellbeing, Integration and Life Satisfaction.

The discussion section provides the summary of the results analysis and outlines limitations of the survey.

7.1.2 Demographic Summary of Responses

The online survey has returned 133 replies, many of these were found to be incomplete.

Eighty tree percent of respondents were female, eighty nine percent of the respondents were aged between 26 and 55 years fifty three percent had dependent children, and fifty seven percent of the respondents described their marital status as single. Most of the respondents stated that they were in employment (61% or 70% including students) and most had university education (89%) and 49% of the respondents reported an income of more than £40,000. The respondent's proficiency³ in English was high, 7.54 on a ten-point scale, (SD = 2.16) and seventy one percent have lived in the UK for more than five years so having the right to apply for a UK passport.

7.1.3 Life Satisfaction and Demographic Factors

The self-reported satisfaction with life of the respondents was reported on a 10-point scale. This gave a mean of 6.79 with a 95% CI is 6.04 to 7.54. No significant difference between genders was observed, although females were satisfied with life slightly higher than males (means of 6.83 and 6.44 respectively, P value = 0.701) and those with children are also slightly more satisfied than those who have none (means of 6.88 and 6.68 respectively, P value = 0.800). Those who have a partner were slightly more satisfied than those who did not have a partner but not significantly so, (means 6.82 and 6.65 respectively, P value = 0.550). Those who were employed, however, were significantly

³ English proficiency was computed as the mean of the level of English speaking, reading, writing and comprehension, each measured on a ten point scale.

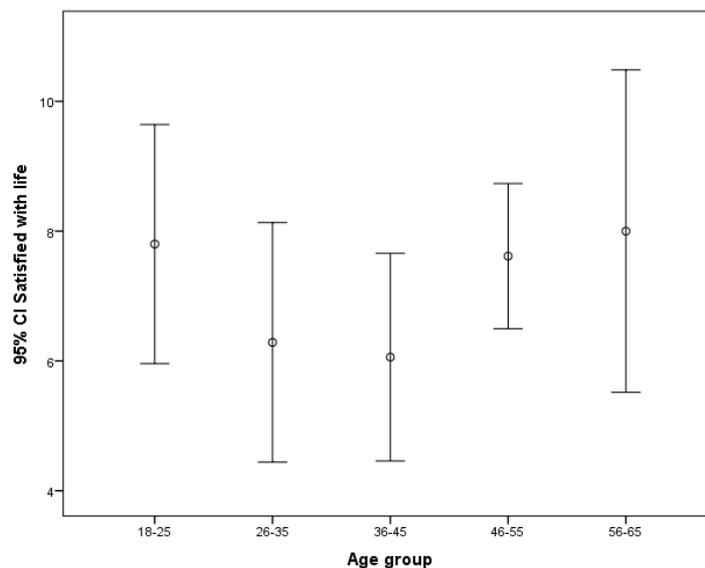
more satisfied than those who were not employed (means 7.52 and 5.44 respectively, P value = 0.008).

Pearson correlation analysis was undertaken to determine if there were any correlations between Life Satisfaction and demographic factors. The findings are presented in Table 1 (demographic factors) and Table 2 (employment factors).

A more detailed analysis examination showed that Life satisfaction changes with age with means exhibiting a U-shaped pattern as in Figure 14. Life Satisfaction and Age.

This indicates that young and older migrants have a slightly higher level of Life Satisfaction, than those aged between 26 and 45, but not statistically significantly so.

Figure 14. Life Satisfaction and Age



How the mean satisfaction with life varies with income, employment status, marital status and having children are displayed in Table 27. Means of satisfaction with life by attribute below.

Table 27. Means of satisfaction with life by attribute

Attribute	No	Yes	P value
Income > £40,000	6.21	7.29	0.222
University degree or more	6.25	6.71	0.749
Employed	5.53	7.52	0.018
Female	6.44	6.83	0.701
Married/cohabiting	7.00	6.82	0.868

Attribute	No	Yes	P value
Children	6.69	6.88	0.800

Of the various attributes only being employed is significantly associated with higher satisfaction with life with a P value of 0.018.

7.1.4 How does Life Satisfaction vary with Integration?

Integration was a measure, devised from a series of questions offered to respondents. The questions included questions on structural, social and cultural integration. The measures also included questions on self-assessed success of migration. The results suggested that the majority of respondents felt relatively integrated into the UK community. The neutral value was 5.5, which is the midpoint in the scale of 10. Summary measures are given in Table 29 and a one sample t test was used to ascertain if the mean value is significantly different from the midpoint.

Table 28. Integration variables analysis

Integration Factors	N	Mean	Std. Deviation	Std. Error Mean	P Value
I feel comfortable living in the UK society.		7.08	2.921	.401	<0.001
I feel respected and valued by people around me in the UK.	52	7.04	2.863	.397	<0.001
I feel I am making a valuable contribution to the UK economy with my skills and experience.	52	6.71	3.374	.468	0.001
I feel living in the UK has enhanced my personal and professional development.	52	7.06	3.102	.430	<0.001
I feel I have achieved my goals of moving to the UK.	51	6.51	3.233	.453	0.002
I feel British now.	51	5.35	3.480	.487	0.472

All variables, except 'Feeling British', were above median value of the scale i.e. 5.5.

The variables above were combined using Principal Component Analysis to give a new variable termed *Integration*, which explained 75.25% of the original variation in the variables. This constructed variable did not vary significantly by gender, whether or not they had children or a partner and by age. Those employed felt more significantly integrated than those not in work, (means 0.404 and -0.785 respectively, P value <0.001).

Also measured on a 10-point scale was how satisfied the respondents were with their social life, this gave a mean of 5.9 with a 95% CI 5.1 to 6.8. This indicated that satisfaction with social life did not vary significantly by gender, whether or not they had children or a partner and by age. Those in employment reported a statistically significant better social life than those who were not employed (means 6.68 and 4.14 respectively, P value = 0.007).

How integration relates to life satisfaction was assessed by the Pearson Product Moment Correlation. Also included in the correlation were measures ‘Satisfied with social life’ and ‘Years in the UK’. This is shown in Figure 15. Length of time in the UK versus Life Satisfaction and Wellbeing, on page 221.

A strong correlation was evident between Life Satisfaction and Integration ($r = 0.797$) and Social Life Satisfaction ($r = 0.729$). There is also a correlation between Integration and Social Life Satisfaction ($r = 0.548$). Years in the UK also have a significant correlation with Life Satisfaction ($r = 0.376$), as one would expect. The correlation between Time in the UK and Life Satisfaction ($r = 0.184$) and Integration ($r = 0.220$) are not significant. These findings suggest that Integration and Social Life play an important role in Life Satisfaction and are closely interconnected. There is no evidence that time in the UK has a significant impact on life satisfaction or integration, suggesting that other factors play a more prominent role in this process.

Table 29. Correlations between Life Satisfaction and Integration, Social life and Years in the UK

	Satisfied with life	Integration	Satisfied with Social life	Years in UK
Satisfied with life	1			
Integration	0.797**	1		
Satisfied with social life	0.729**	0.548**	1	
Years in UK	0.184	0.220	0.376**	1

** significant at the 1% level

7.1.5 Friendship networks

A summary of friendship network strengths as a score out of 10 are given in Table 4 along with P values from a one sample t test to compare means to the midpoint level of 5.5. Also presented in Table 31 is the respondents perceived satisfaction with their social life.

Table 30. Friendship networks One Sample t test

	N	Mean	Std. Deviation	Std. Error Mean	P value
Main friends in home country	61	5.39	3.546	0.454	0.390
I have many British Friends	61	4.23	2.866	0.367	.040
Many good friends in UK who are not British	61	5.46	2.844	0.364	0.212
Many friends from my own country in UK	57	4.42	2.988	0.396	0.149
Many of my friends live locally	58	4.45	3.102	0.407	0.181
Active member of the local ethnic community	58	1.90	1.944	0.255	<0.001
Satisfied with social life	59	5.78	3.146	0.410	0.062

The migrants had diverse friendship networks, with ‘friends in the home country’ and ‘non-British friends in the UK’ being the largest. Respondents showed little interest in engaging with local ethnic community groups (mean 1.90).

The four UK-based friendship questions were combined using Principal Component Analysis to produce new variable “Friendship Group in the UK”, (this accounted for 48.1% of the variation in the original questions). The new variable was correlated, using Pearson Correlation Analysis, to Life Satisfaction, Social Life Satisfaction, Social Support and Integration to ascertain the role of local friendship networks for those variables. The results are presented in Table 32.

Table 31. Correlations with UK Friendship networks

	Friendship group in UK	Satisfied with life	Social Life	Integration	Social Support Factor
Satisfied with life	.578**	1			
Satisfaction with social Life	.527**	.684**	1		
'Integration'	.530**	.801**	.546**	1	
Social Support	.806**	.689**	.793**	.624**	1

The results above displayed strong correlations between UK Friendship groups and Social Support ($r = 0.806$), Life Satisfaction ($r = 0.578$), Integration ($r = 0.530$) and Satisfaction with Social Life ($r = 0.527$) suggesting that local social networks play an important role in migrants wellbeing.

7.1.6 Social Support

Respondents felt that they had access to different types of support in the UK, including information (mean 6.3, 95% CI 5.5 to 7.2), emotional (mean 5.5, 95% CI 4.5 to 6.4) and tangible support mean 5.0, 95% CI 4.2 to 5.9). However, the level of support was lower than that in the EU which ranged from 6.92 to 7.06 for different types of support (Eurofound, 2014).

The three different types of support were combined using Principal Component Analysis into a new variable “Social Support”, which explained 83.82% of the original variation in the variables. This variable correlated significantly with displayed Life Satisfaction ($r = 0.730$, P value < 0.001), Social Life Satisfaction ($r = 0.653$, P value < 0.001) and Integration (0.733 , P value < 0.001).

Social support is significantly higher for those employed than those not employed (means 0.277 and -0.510 respectively, P value = 0.008). However, there were no significant variance in social support by gender or having children.

7.1.7 Sources of Support

The sources of support are presented in Table 32. Support Types by Support Sources, including support if ill, need advice on personal life, advice on general life in the UK, a need to talk or to borrow money. The analysis indicates that respondents differentiate their support sources according to their needs. There is a strong preference to use home family and friends and UK family for emotional support; UK family for tangible support; online community, UK family and local friends – for information support about life in the UK. The results indicate that support for personal life questions is being sought from a variety of support groups, as this may entail emotional, informational or tangible resources.

Table 32. Support Types by Support Sources

Type of help	Family in UK	Family/ Friends in home country	Friend from home country now in UK	British friend	International friend in UK	Online Community	Professional Services
If ill	25.6%	5.3%	6.9%	7.5%	6.0%	3.6%	11.3%
Borrow money	19.5%	15.8%	11.3%	6.8%	7.5%	0.8%	11.3%
Talk over	16.5%	24.1%	14.3%	9.8%	8.3%	9.0%	2.3%

Type of help	Family in UK	Family/ Friends in home country	Friend from home country now in UK	British friend	International friend in UK	Online Community	Professional Services
problems							
General advice on life in the UK	14.3%	6.0%	9.0%	12.8%	8.3%	16.5%	11.3%
Personal advice	12.8%	12.8%	9.8%	11.3%	7.5%	12.0%	10.5%

7.1.8 Migration Plans

Life satisfaction had a significant correlation with further migration plans: life satisfaction was positively correlated with “staying in the UK permanently” ($r = 0.710$, P value < 0.001), and negatively correlated with desire to return home even if deemed not practical/possible ($r = -0.497$, P value < 0.001).

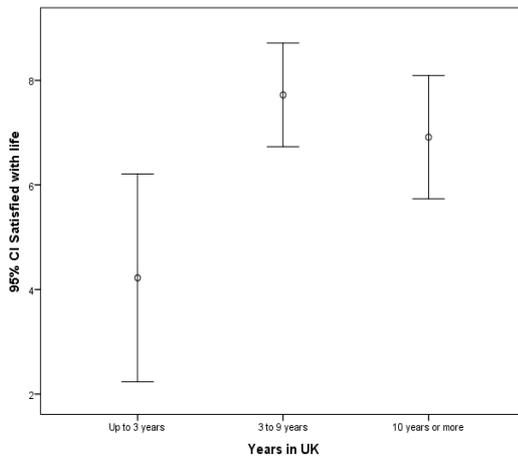
Principal Component Analysis was used to combine all the variables that indicated migrants desire or lack of desire to return home or re-migrate can be used to produce new variable “Return Migration Plans”, which explained 56.3% of the variation in the questions. This variable was negatively correlated to Life Satisfaction, ($r = -0.687$, P value < 0.001).

7.1.9 Length of time in the UK

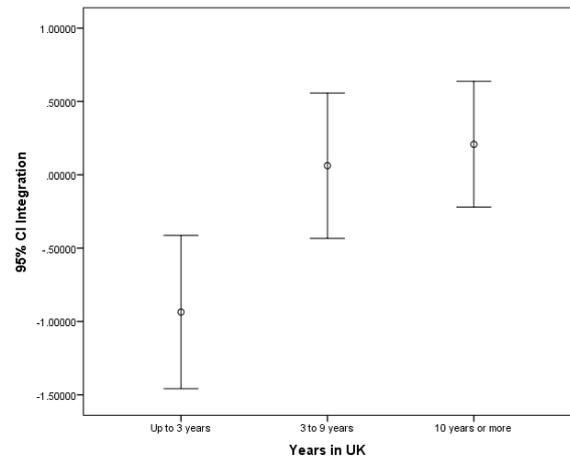
Length of time in the UK was recorded as 1) = up to three years, 2) 3 to 9 years and 3) more than 10 years. The time in the UK was then related to Life Satisfaction and Integration in to UK society and this is shown in Figure 15. Length of time in the UK versus Life Satisfaction and Wellbeing below:

Figure 15. Length of time in the UK versus Life Satisfaction and Wellbeing

Life Satisfaction



Integration



After three year in the UK both integration into society and satisfaction significantly improve (the respective P values are 0.004 and 0.002). Length of time in the UK explains 15% of Life Satisfaction.

7.1.10 English Language Proficiency

English language proficiency was measured on a ten point scale by four questions: speaking, comprehension, writing and reading ability. One sample t tests were use to ascertain if the ability level was higher than the scale midpoint of 5.5, for each question are presented in Table 34 below.

Table 33. English Proficiency scores

English ability	N	Mean	Standard deviation	P value
Level of English Speaking	78	7.41	2.270	<0.001
Level of English Comprehension	78	7.90	2.316	<0.002
Level of English Reading	77	8.16	2.213	<0.003
Level of English Writing	77	7.08	2.512	<0.004

Most of the respondents demonstrated high level of English proficiency in all categories ranged between 7.08 and 8.16 out of 10. The English proficiency questions were combined using Principal Component analysis into one variable which explained 84.0% of the variation in the ability scores. The Pearson correlation coefficients of English proficiency with life satisfaction, integration, social support, wellbeing, desire to migrate

and years in the UK were 0.217, 0.487, 0.228, 0.488, -0.271 and 0.368 respectively. Of these only the correlations between English proficiency only integration, wellbeing and unsurprisingly years in the UK were significant with P values <0.001, 0.001 and 0.001 respectively. The findings indicate that good command of the local language is essential for improving integration and wellbeing in the host country.

7.2 *Communication*

Fifty-seven people responded to questions relating to communication. 9% were members of an online community and 77.2% used forums. 70% of those who named a social media source stated Facebook. Frequency of using email and online social media to keep in touch with friends and family were rated on a ten-point scale from every day or almost every day (1) to never (10). For email, scores indicated frequent use with mean 1.65 and CI 1.28 to 2.01. The use of social media was also frequent with a mean of 3.43 with a 95% CI of 2.65 to 4.22. However, on undertaking correlation analysis none of these were found to be associated with life satisfaction, satisfaction with social life or integration.

‘Reading the Forum’ was significantly correlated to Integration ($r = 0.467$, P value = 0.005), suggesting that even passive (non-writing) respondents derived benefits from information on an online forum. ‘Freedom to express own views’ had a significant correlation to Life Satisfaction ($r = 0.396$, P value = 0.021) and Integration ($r = 0.418$, P value = 0.015). ‘Supporting native culture’ ($r = 0.332$, P value = 0.055) and ‘Keeping on top of current affairs’ [in the home country] ($r = 0.330$, P value = 0.053) had a slightly less significant correlation to Life Satisfaction.

When asked the degree out of 10 to which online media was trustworthy and the degree to which it was used to meet like-minded people means of 6.19 and 6.44 respectively were reported, however, these were not significantly higher than the neutral level of 5.5 with P values of 0.204 and 0.085 respectively.

7.2.1 *Wellbeing*

The main research question of the study was to explore the role of wellbeing in the migrants’ life post-migration. As suggested in the literature, wellbeing incorporates life satisfaction and integration, achieving one’s goals and feeling happy.

Thus, the next step in data analysis, was to combine the variables relating to life satisfaction, integration, social support and communication by using Factor Analysis.

This gave two factors which explained 66.4% of the original variation, these are labelled wellbeing and communication and the factor loadings are shown in Table 34. Factor Loading.

Wellbeing was significantly correlated with friendship groups in the UK ($r = 0.488$, P value = 0.001) and proficiency in English ($r = 0.606$, P value < 0.001). As one would expect wellbeing was significantly negatively correlated with the desire to migrate ($r = -0.694$, P value < 0.001). There were no significant correlations with communication.

Table 34. Factor Loading

Items	Wellbeing	Communication
I feel comfortable living in the UK society.	.935	
I feel respected and valued by people around me in the UK.	.929	
Satisfied with life	.892	
I feel living in the UK has enhanced my personal and professional development.	.851	
I feel I have achieved my goals of moving to the UK.	.828	
I can get a lot of information support on living in the UK from people around me in the UK.	.816	
I can get a lot of emotional support from people around me in the UK.	.810	
I feel I am making a valuable contribution to the UK economy with my skills and experience.	.809	
I can easily get tangible help from people around me in the UK (i.e. help with shopping, minor repairs, babysitting, etc.).	.786	
I feel British now.	.664	
Use online social media for connecting with other likeminded people		.765
Participate in social activities of a local club, society or an association (church, school, etc.)		.735
Use the Internet to keep in touch with your friends and family		.635
% of Variance accounted for	54.31%	12.53%

7.2.2 Wellbeing and Communication

Plotting the components and considering the influence of Online media and online forums gives Figures 16 and 17.

Figure 16. Communication and Wellbeing using online community

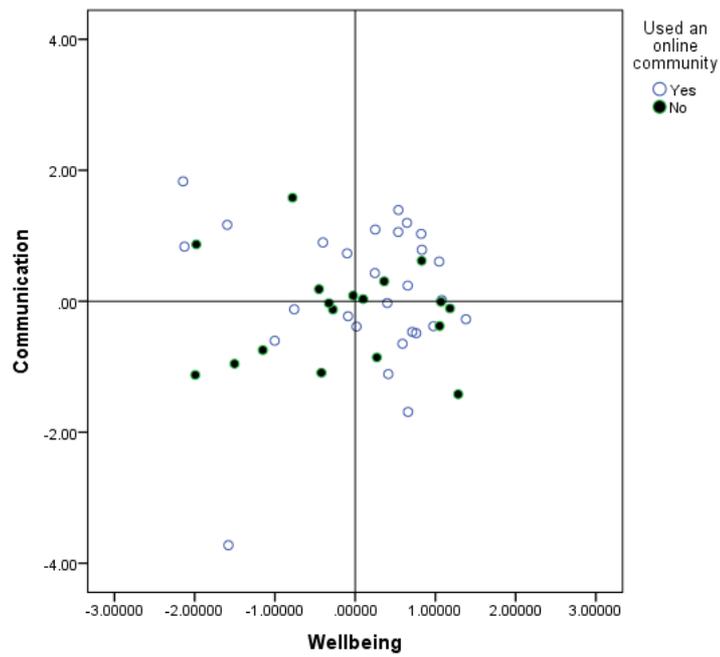
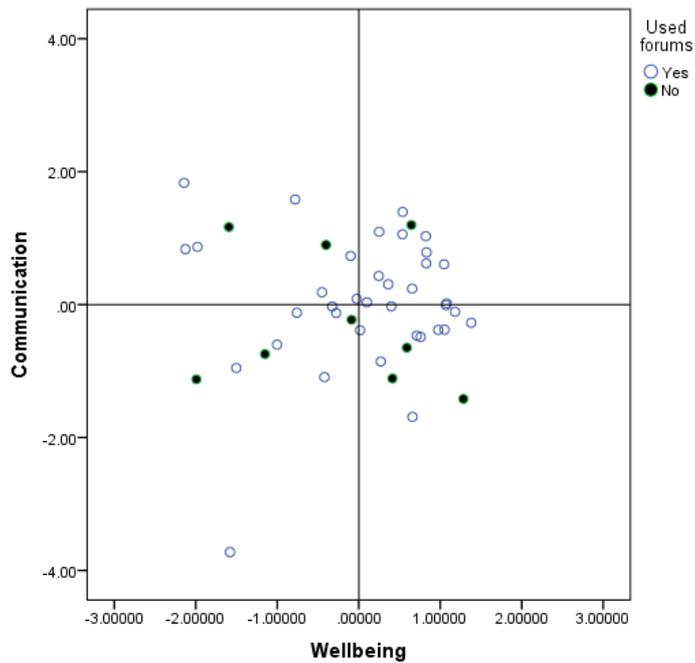


Figure 17. Communication and Wellbeing using forums



Means for wellbeing for participation in online communities and in forums were 0.10 for users, -0.15 for non-users and for forms the means were 0.62 for users and -0.95 for non-users. The differences were not significant (P value = 0.410 for online community and P = 0.400 for forums).

A regression model was constructed, using forward selection to relate demographic variables (sex, marital status, age, and having children), employment status, years in the UK, used forums, English proficiency, Friendship groups in the UK. This resulted in the

model displayed in Table 9. The model only has three variables which were significantly related to wellbeing at the 10% level. This model fitted reasonably well giving an adjusted R^2 value of 53.6%. Thus, wellbeing is higher if the respondent is employed and has friendship groups in the UK. Using an online forum is negatively associated with wellbeing suggesting that using a forum might be to compensate for a degree of social isolation in the UK.

Table 35. Relationship to Wellbeing

	Coefficient	Standard Error	Standardized Coefficient	t	P value
(Constant)	-1.610	0.510	-	-3.159	.004
Employed (0 = No, 1 = Yes)	1.055	0.304	0.474	3.476	.002
Friendship Group in the UK	0.567	0.155	0.530	3.656	.001
Used an online community (0 = No, 1 = Yes)	-0.602	0.308	0.270	1.954	.060

7.2.3 Egocentric Networks

The participants of the online survey were asked to name 5 people that they go for help and support in their lives (name-generator), stating attributes of their relationship, location, employment status and frequency and means of contact. 51 respondents provided data for the name-generator. From these ego centric networks were formed using the SNA package in the R software. The sociograms are displayed in Figure 18, Figure 20, Figure 22, Figure 24 and Figure 26 of the egocentric networks for each respondent for each attribute. The different colours in the sociograms indicate types of relationship, location, employment status, means of contact, frequency of contact. The links or ties between the ego and the named person were weighted by the attribute scores. The attributes' scores were calculated based on the scoring in Table 36. Egocentric Networks Attributes Coding and Scores.

It is recognised that the scoring is somewhat arbitrary, however other scoring was investigated and the computations from these other scores did not significantly vary from the computations made using the scores in Table 36.

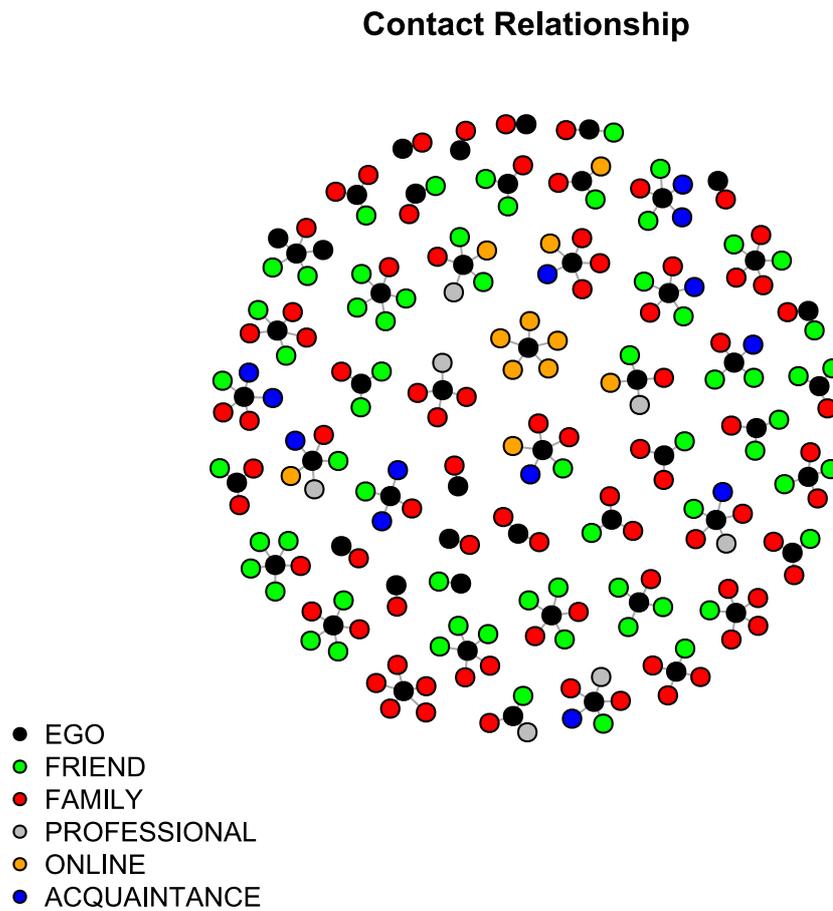
To get an aggregated measure of the support given to the ego by their contacts for each attributed was computed in R by computing Freeman's degree centrality. Freeman's degree centrality is the sum of the weighted tie scores linking to the ego. The average of the contact scores were plotted and correlated with each attribute to produce linear

regression charts, presented after the egocentric sociograms, in Figure 19, Figure 21, Figure 23, Figure 25 and Figure 27.

Table 36. Egocentric Networks Attributes Coding and Scores

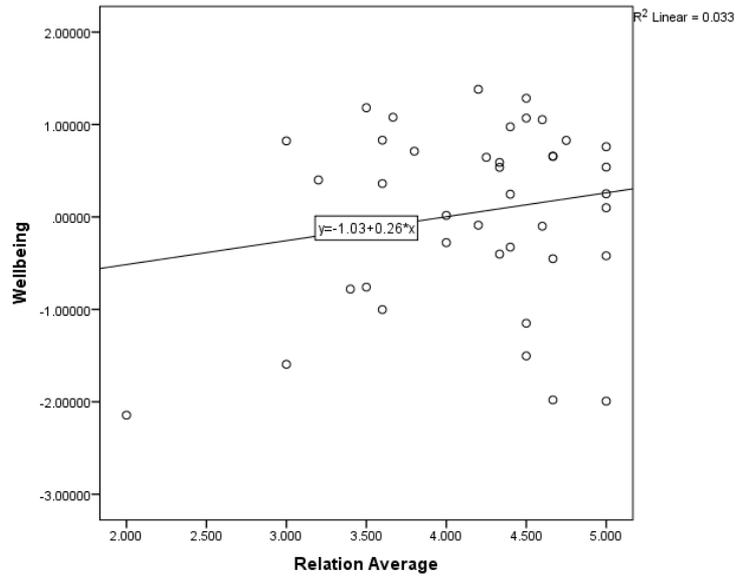
Attribute			Attribute		
Relationship			Frequency of contact		
		Score			Score
A1	Family	5	A1	Everyday	5
A2	Friend	4	A2	A few times a week	4
A3	Acquaintance	1	A3	Once a week	3
A4	Professionals	3	A4	A few times a month	2
A5	Online community	2	A5	Once a month	2
A6	Other	1	A6	Several times a year	1
			A7	Once a year or less	1
Location			Most common means of contact		
		Score			Score
A1	In the same house	2	A1	In person	4
A2	In the same neighbourhood	2	A2	Over the phone	3
A3	In the same town/village/city	1	A3	Over Skype or Facetime	3
A4	In the same country	1	A4	On social media	3
A5	Abroad	1	A5	On online forum	2
A6	In your home country	1	A6	Letters/email	2
			A7	Other	1
Employment					
		Score			
A1	Employed as a professional	4			
A2	Employed as a non-professional	2			
A3	Self-employed	4			
A4	Unemployed	1			
A5	Homemaker	1			
A6	Student	1			
A7	Retired	1			

Figure 18. Egocentric Network by Relationship



Egocentric networks of survey participants are dominated by family (46%) and friends (36%). Egos do not have an extensive network of acquaintances online (6%) or in real life (7%), similar to professional support (4%). It signifies the prevalence of close bonding networks. The wellbeing and the average relation strength is displayed in Figure 17.

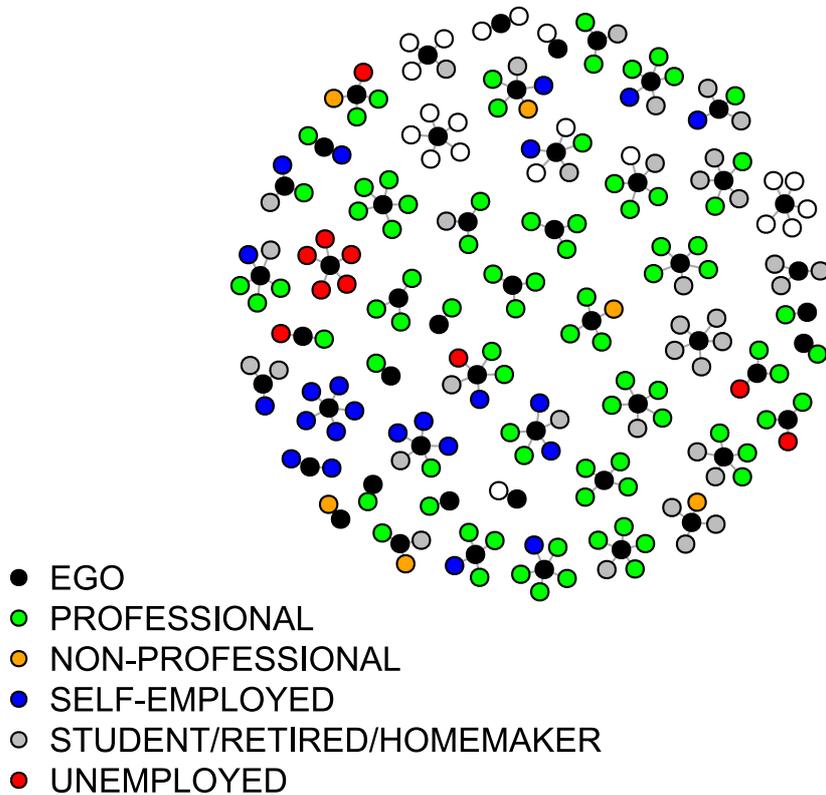
Figure 19. Wellbeing and relation strength



The linear regression chart of relationship average and wellbeing indicates a very slight positive correlation between closer relationships and wellbeing.

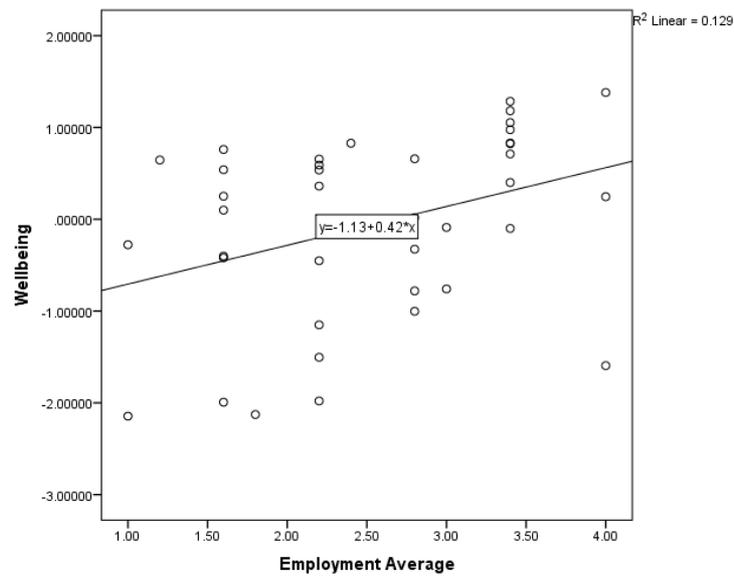
Figure 20. Egocentric Network by Employment

Contact Employment Status



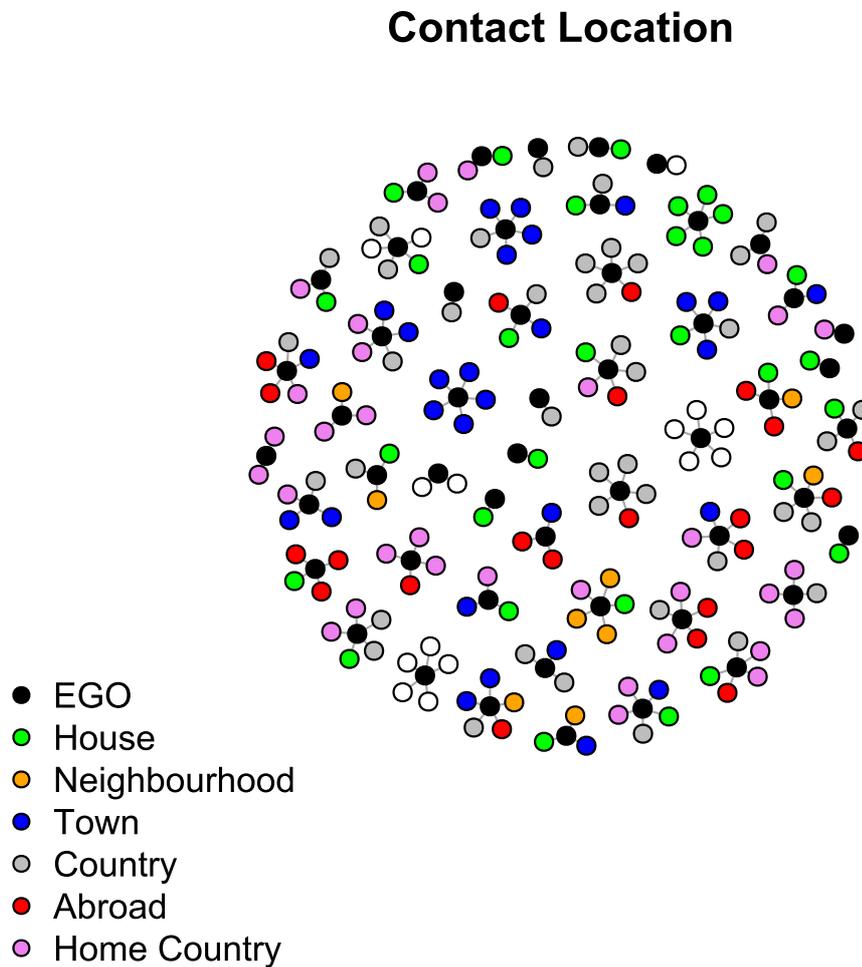
The egocentric network indicates that there is a prevalence of networks with professionals (53%) amongst survey respondents. The networks with students, homemakers and retired people, who are not in full employment but are not looking for a job are at 23%. The networks with self-employed (11%) and unemployed people (10%) are quite low. There is a very low number of links to non-professionals (4%). Wellbeing is plotted against the average employment score and exhibited in Figure 19.

Figure 21. Wellbeing and average employment score



The linear regression chart of employment average and wellbeing indicates that there is a slight positive correlation between wellbeing and employment status.

Figure 22. Egocentric Network by Location



The egocentric networks are fairly equally spread between ties in different locations. Abroad (13%) and home country (19%) indicate that participants have far reaching networks into their home country and abroad. Same country (25%) and same town (23%) suggest that participants have a lot of ties within their new host country. Respondents reported only 19% of ties in the same house, which may be indicative of migrants living away from their birth family, especially if they are not in a relationship. Wellbeing by location score is shown in Figure 23. This shows a slight negative relation between wellbeing and average location score suggesting that if people only have friend who live close then their wellbeing tends to be lower.

Figure 23. Wellbeing by average location score

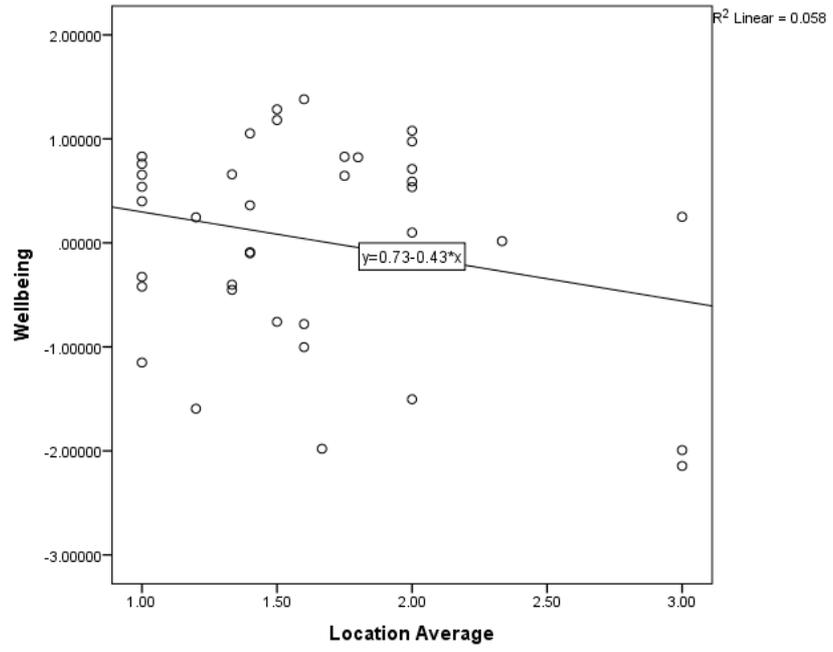
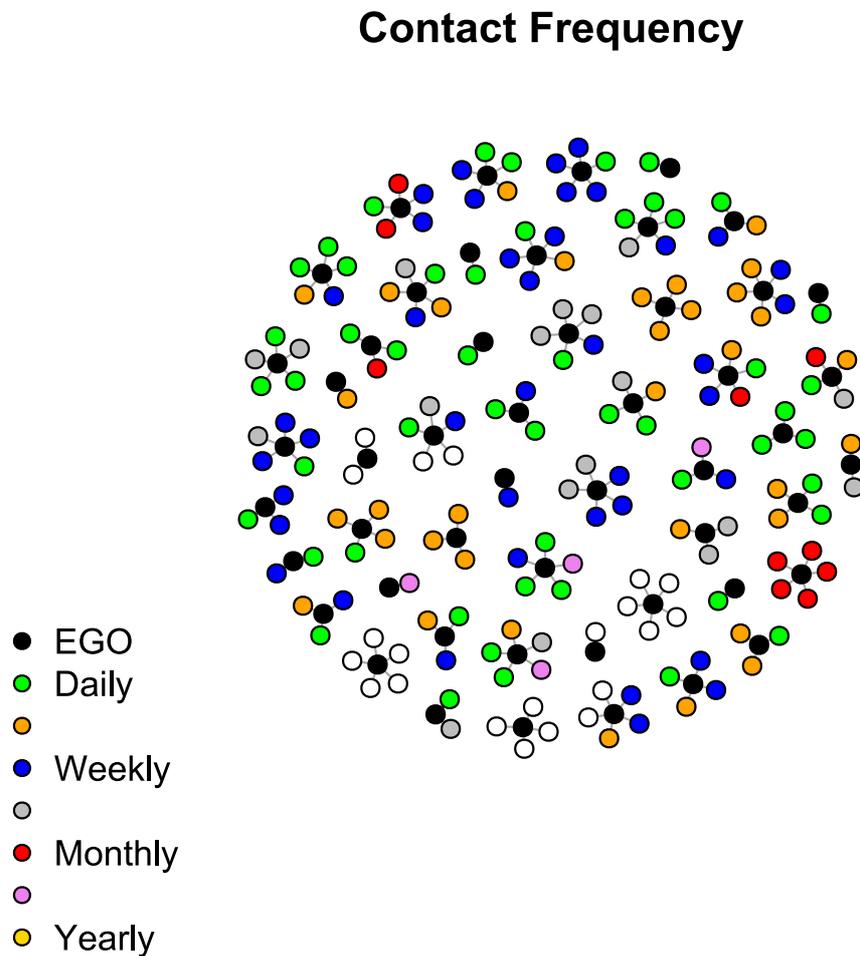


Figure 24. Egocentric Network by Frequency of Contact



Most of the respondents were in frequent contact with their ties - daily or several times a week (56%) and weekly or several times a month (28%). Some connections were less frequent – monthly or several times a year (17%). And only 1.2% were in contact less than once a year. From Figure 25 it is observed that there is a weak negative correlation between frequency of contact and wellbeing, which is surprising. The linear regression indicates that respondents' wellbeing is slightly reduced with higher frequency of contact.

Figure 25. Wellbeing and average frequency of contact

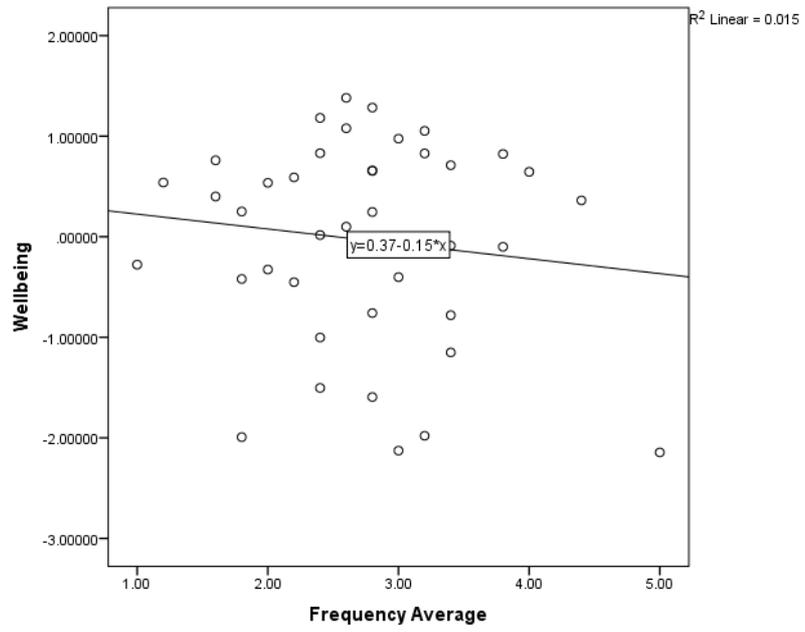
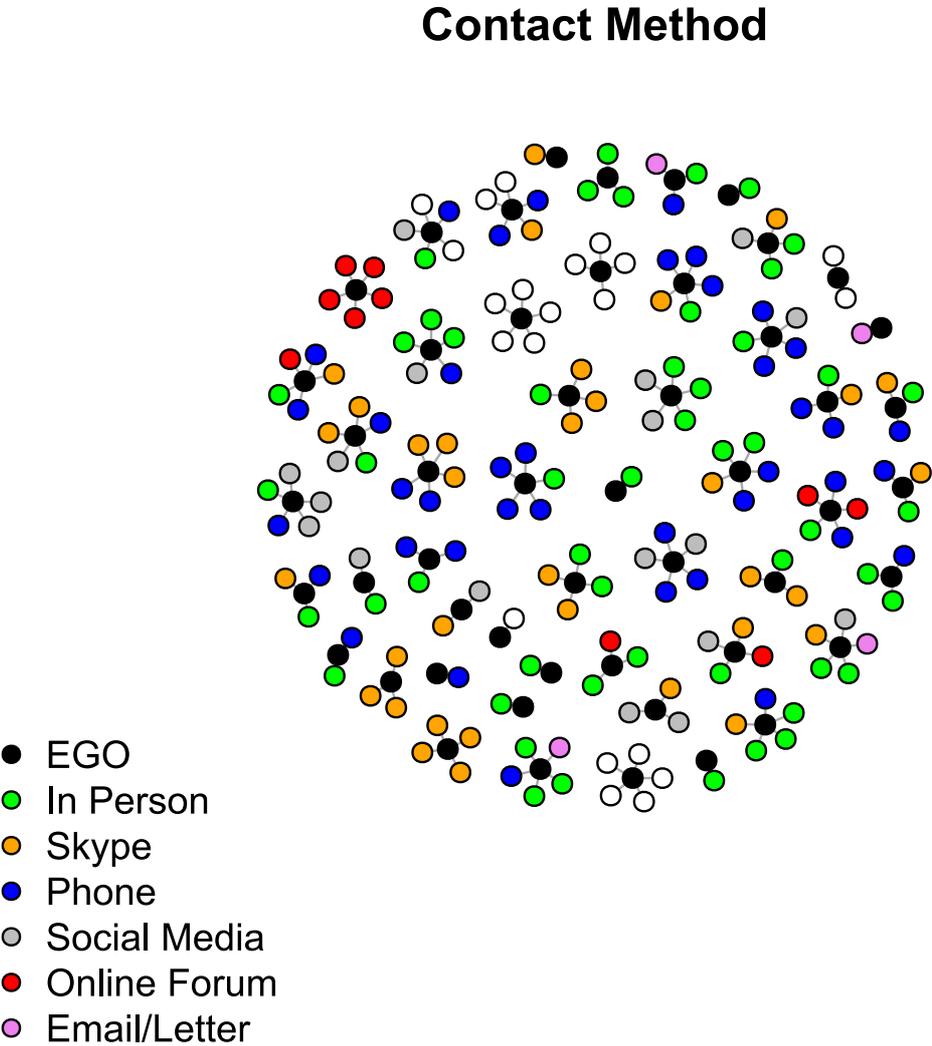
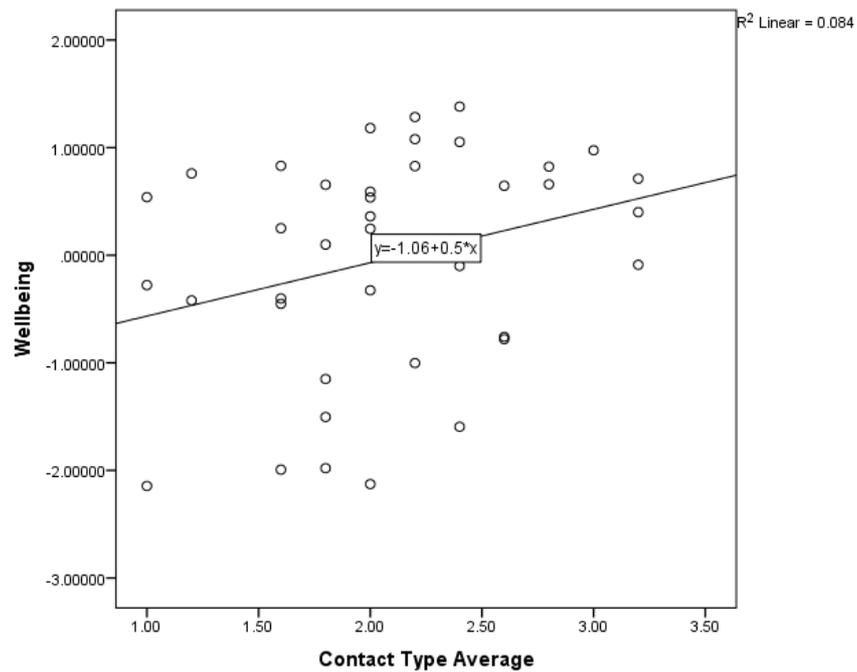


Figure 26. Egocentric Network by Type of Contact



Survey respondents have indicated that they are using a variety of contact means. They mostly communicate with their important ties in person (32%) and by phone (25%), but also by Skype (22%). Respondents also use social media (11%) and online forums (6%) to reach out to their important contacts. Only 3% of ties are contacted by letters or emails. A plot of wellbeing by average contact score is given in Figure 27. It seems that there is a positive relationship between average contact score and wellbeing. This suggests that closer types of contacts have a positive impact on wellbeing.

Figure 27. Wellbeing and average contact score.



The centrality variables were then correlated with Wellbeing, Integration and Life Satisfaction.

For each ego the sum of the attributes were computed. These were then correlated to Life Satisfaction, Integration and Wellbeing. The results are presented in Table 37. Correlations with sums of egocentric scores.

Table 37. Correlations with sums of egocentric scores

Attribute	Satisfied with Life	Integration	Wellbeing
Relation Sum	.068	.198	.226
Employment Sum	.063	.307*	.362*
Frequency Sum	-.160	-.151	-.122
Contact Type Sum	.120	.143	.290
Location Sum	-.112	-.023	-.008

* Correlation is significant at the 0.05 level

The sums of contact scores produced significant correlation between Employment Status of contacts with Wellbeing (.362) and Integration (.307), suggesting that professionals contacts may have a positive impact on respondents' Wellbeing. There are also positive correlations, although not statistically significant at the 5% level, between Contact type and Wellbeing (.290) and Relationship type and Wellbeing (.226), indicating that close relationships and contact in person may have a positive impact on Wellbeing. There are

negative correlations, again non-significant at the 5% level, between Frequency of Contact and Satisfaction with life (-.160) and Integration (-.151) and Wellbeing (-.122) and Location and Satisfaction with Life (-.112), suggesting that very frequent contact in the same house may indicate lack of wider networks.

7.3 Summary

The main research question of the study was to investigate the role of online forums in wellbeing of migrants. Regression and correlation analysis were employed to identify relationships between survey variables to assess the role of a range of social factors in migrant's wellbeing.

7.3.1 Life Satisfaction

Life Satisfaction was a self-assessed measure, which was correlated to most of the variables in the survey to establish relationships. Life satisfaction did not vary significantly by gender, whether or not respondents had children or a partner, or by age. A number of variables produced significant positive correlations with Life Satisfaction, indicating that migrants were *more likely* to be satisfied with their life in the host country, if they were:

- Employed
- Planned to stay in the host country long term
- Had local friends and active social life
- Had social support around them
- Felt they were integrated into the host community

Migrants were *less likely* to feel satisfied with their life in the host country if they:

- Had their main friendship groups back in the home country
- Wanted to re-migrate or return home
- Did not have sufficient social support
- Were not in employment

- Have not spent long in the host country
- Did not feel integrated
- Were not satisfied with their social life
- Had fewer friendship groups locally

Life Satisfaction for survey respondents was strongly correlated to being rooted into the local community, which included engaging with structural and social integration processes, including Employment, Local friendship groups and Social life satisfaction. Social support was linked with local friendship groups and employment. Those factors indicate that local social capital and social support important predictors of life satisfaction for migrants in the host country (Oh et al., 2014; Trepte et al., 2015; Lirio et al., 2007; Tharmaseelan et al, 2010; Safi, 2010). Self-assessed success of migration was part of the Integration variable and strongly correlated to Life Satisfaction and Wellbeing (Austin, 2007; Kahneman et al., 2004).

For those respondents, who gravitated towards social structures in the home country, including social life, social support, main friendship groups, desire to return home, the level of Life Satisfaction was lower. In their case, there was also less prevalence of established social structures in the host country, such as employment, local social life, local friends, social support. Those factors had a negative correlation with Life Satisfaction.

The focus on local social structures was notable for Russian-speaking migrants. This cultural group displayed low levels of engagement with their ethnic community centres in the UK, instead expanding their networks into wider local communities. This could be partially explained by the closer cultural distance, which would facilitate easier psychological and sociocultural adaptation for migrants (Babiker et al., 1980; Furnham and Bochner, 1986).

Life satisfaction did not produce significant correlations with the communication variables directly, however their relationship is explored through assessing links with Integration and Wellbeing.

Thus, Life Satisfaction displayed strong positive correlations with Integration, Employment, UK Friendship Groups, Social Life Satisfaction, Social Support, Migration

plans and English Proficiency. It indicated that local social networks were important for Russian-speaking migrants in the UK to expand their social capital and improve their chances of employment and social support networks to achieve higher levels of life satisfaction. English proficiency was instrumental in achieving this. Most of the findings were consistent with the literature (Lirio et al., 2007; Tharmaseelan et al, 2010; Safi, 2010).

7.3.2 Integration

Integration was introduced in the survey through a series of questions on migration experiences. It reflected how migrants accessed their success of migration, felt valued by the host community and settled in their host country. The analysis displayed above-midpoint results for most of the questions in this category, indicating that respondents felt engaged with social and cultural integration process. The question on “Feeling British” produced below-midpoint results, indicating that respondents did not want to fully assume the local identity in order to preserve some of their native identity. This is consistent with the model of Integration, which allows migrants to accept some of the local customs and traditions, but also to preserve their original cultural identity (Sam and Berry, 2010; Phinney, et al. 2001).

Integration displayed a strong correlation with Life Satisfaction, suggesting that it is important for migrants to feel integrated and valued by the local community. It also displayed strong correlations with Employment. However, there was a considerable variation between employment groups. The analysis indicated that migrants in employment felt considerably more integrated, than those out of work or staying at home. Self-employed and students also felt less integrated than employed, but more than unemployed or homemakers. This can be explained by the fact that employment provides better access to local social networks, enabling bridging social capital. This can improve employment opportunities, social support, local friendships and social life. These findings indicate that the local social capital is very important for Integration, which is consistent with the literature (Stalker, 1994; Lirio et al., 2007; Tharmaseelan et al, 2010; Ryan et al., 2008).

7.3.3 Wellbeing

Wellbeing was introduced as a combined measure of Life Satisfaction and Integration, reflecting respondents' self-accessed achieved goals and happiness. Migrants' social wellbeing, which was the focus of this study, strongly correlated to:

- Employment
- Life Satisfaction
- Integration
- Social Support
- Friendship groups in the UK
- Years in the UK
- English Proficiency

Wellbeing for Russian-speaking migrants in the UK was also strongly correlated to being settled in the UK, local friendship groups, length of time in the host country and language skills. Strong correlation between English proficiency and Integration indicated that it was an enabler for developing local social capital. The importance of the language skills is consistent with the literature, as it plays a significant role in human capital transfer, employability and integration (Adsera and Pytlikova, 2015).

Local friendship groups were more significant predictors of life satisfaction than migrants' ethnic groups, as respondents displayed low interest in congregating around local ethnic enclaves. Literature suggests, that it may often be difficult for migration to break out of co-ethnic groups due to language and cultural sensitivity (Barnes and Cox, 2007). This, however, does not seem to be the case for this ethnic migrant group, which could be partially explained by high level of English Proficiency and ethnic similarities.

Integration was strongly correlated to Satisfaction with social life, which may suggest that developing local social networks and social support were part of successful migration for Russian-speaking migrants. In contrast, those, who continued to prioritise links with the home community, felt less happy or integrated in the host country.

7.3.4 Social Support

Social Support was a significant predictor of Life Satisfaction, Integration and Wellbeing. Respondents differentiated between their sources of social support depending on their needs. Emotional and tangible support was mainly sought from family in the host and home countries. Information support on general life in the UK was sought from online forums, family in the UK and local friends. Online forums were the top source for this type of information. Advice on personal matters were sought from family in the UK, online forums, family and friends at home and UK friends in similar measures. The fact that online forums were on par with other support networks may suggest a high level of trust to the forum community or advantage of anonymity on the forum that may help to find advice on personal matters when living in the UK.

7.3.5 Egocentric networks

The findings of the egocentric network analysis were inconclusive, as the correlations were not highly significant. However, they were indicative of a number of trends in migrants' social strategies for improving integration and wellbeing.

The name generator analysis demonstrated that respondents' networks were dominated by close ties with family and friends, which had a positive correlation with Wellbeing, indicating that those networks provided important support for migrants. Over half of respondents' networks were with professionals, which displayed a correlation with Wellbeing. This indicated that professional contacts were important for migrants.

Almost half of respondents' contacts were located in the same town or country, with only a third in the home country or abroad and a fifth in the same house. A close location was negatively correlated with Wellbeing, meaning that for those, whose contacts were mainly in the same house, Wellbeing was lower. This may be explained by the fact that close family and friends tend to provide bonding rather than bridging social capital, which may impend career development and integration with a wider local community. The case could be exacerbated for homemakers and unemployed, as they do not have access to bridging social networks outside their house.

Participants used a variety of communication types with a third being face-to-face contacts and a quarter each for communications by phone and VOIP. There was a positive correlation between Wellbeing and real-life contacts, suggesting that face-to-face and voice contacts had a positive impact on respondents' wellbeing.

Respondents supported active communications with their support networks, with over half on a daily or weekly basis. Frequent contacts had a slight negative correlation with Wellbeing, suggesting that a combination of frequent contacts in the same house was indicative of the prevalence of bonding social networks.

Overall, the analysis of egocentric networks indicated that Russian-speaking migrants benefited from real-time frequent contacts with their main support networks of family and friends, who were professionals. Many respondents also had social support networks outside their house, but in the same town or country, which indicates that respondents were developing bridging social network with wider friendship groups in the UK. Those respondents displayed higher level of Wellbeing and Integration.

The findings of the egocentric network analysis indicate that social capital is important for migrants' wellbeing, which is consistent with the literature (Pio, 2005; Safi, 2010; Herrero, Garcia, 2011). It is also in line with the other findings of the survey analysis and indicate that a combination of bonding social networks with family and bridging social networks with professionals in the same country are important for migrants' Integration and Wellbeing.

7.3.6 Online Forums

On the basis of undertaken analysis, the main research question regarding the role of online social networks in Wellbeing of migrants was assessed in relation to their Life Satisfaction, Integration and Wellbeing.

No direct correlation was found between migrants' life satisfaction and using online forums, however there was evidence that participation in online forums made a positive contribution to the levels of Integration, Life satisfaction and Wellbeing.

Online forums played a positive role in migrants' wellbeing through providing information for migrants. The following variables had a positive correlation with Wellbeing:

- Reading the forum
- Expressing views and opinions freely on the forum
- Discussing current affairs in the home country

- Getting information about general life in the UK

Analysis highlighted that online forums were seen primarily as an information resource. Even those respondents, who only read the forum, displayed higher levels of Wellbeing.

The forums scored most highly on providing knowledge on ‘General life in the UK’. Online forums were also at the top of the list of information sources on general advice on life in the UK. This suggests that online forums offer a unique opportunity for migrants to find information on general life in the UK, which may not be available elsewhere in the same context (for Russian-speaking migrants) and in the same language. The information on local life enables migrants to better understand local customs and traditions and may improve their chances of successful integration. The model of communication ‘from migrants to migrants’ also makes such information exchange more trustworthy and relevant. The native language of the forum also makes it more accessible for migrants.

Online forums also offered a positive opportunity for maintaining the link with the homeland through ‘keeping informed on current affairs in the home country’. This had a positive correlation with respondents’ Life satisfaction. These findings are supported by the literature (Ager and Strang, 2008), indicating that online forums offer one of the ways to connect with the home culture, by gaining and exchanging information through “migrants to migrants’ network, helping them to deal with challenges of integration by supporting local culture.

The freedom to express opinions online, especially when discussing current affairs in the home country, produced a significant correlation with Life satisfaction, suggesting that free speech was important to migrants’ Wellbeing. This finding also supports the Integration Indicators Framework (Ager and Strang, 2008) by highlighting that some barriers of fear and instability were mitigated by freedom of speech, available to migrants online, particularly in their native language. The role of the forum in enabling such safe environment indicates its positive role in migrants’ Wellbeing and Integration.

Thus, online forums contributed to Wellbeing of migrants through providing the following opportunities in their native language:

- Educating migrants about general life in the UK

- Providing a platform to keep in touch with current affairs in their country and native culture
- Offering an opportunity to freely express their views and opinions online

Consequently, based on these empirical findings, we conclude that in case of highly skilled migrants, online social networks provided an outlet for exchange of valuable information on life in the UK, alongside maintaining their links with home country in an anonymous, safe and independent way, thus facilitating migrants' integration and improving their wellbeing.

8 DISCUSSION AND CONCLUSIONS

8.1 *Introduction*

This chapter presents the discussion of the findings of all stages of the study drawing on the existing literature and the results of the empirical research. The chapter provides a discussion of the factors that play a role in migrants' wellbeing, integration and social support. It also discusses the benefits and challenges of online social networks participation for migrants in the host country.

This chapter proposes a classification framework for the online forum activity based on the attributes of its threads. It also discusses reciprocity and centrality of the online forum social networks and how migrants can use those networks to access different types of social support.

The chapter summarizes the conclusions of the study and discusses its contribution to research. It outlines study limitations. It also provides recommendations to academics, practitioners and general public, as well as outline further lines for research inquiry into this subject area.

8.2 *Study Aim*

The aim of the study was to investigate the role of online social networks in the wellbeing of highly skilled migrants. The research involved the exploration of what social factors may have an impact on migrants' wellbeing. Those factors included life satisfaction, integration, employment, social capital and social support. The role of social networks effect on these factors, including both online networks via a forum and face to face networks, were then explored.

8.3 *Achievement of Study Objectives*

The study objectives, outlined below, were achieved through literature review and primary research:

- **Objective 1:** Critically review current literature to create a conceptual framework that could help immigration stakeholders (or authorities) to: explore social factors that have an impact on migrants' wellbeing; and b)

investigate capabilities of online networks to provide social support for migrants

- **Objective 2:** Carry out primary research on highly skilled migrants in the UK to examine how migrants' online forums can play a role in their wellbeing
- **Objective 3:** Put forward recommendations for different immigration stakeholders to further improve migrants' wellbeing

An outline of the research objectives is provided below:

8.3.1 Objective 1

This objective was partially achieved through literature review, and partially through an online survey. The literature was reviewed on a number of topics, including migration, wellbeing, social media and social networks that identified social factors important for wellbeing. Factors affecting migrants' wellbeing were also identified from the survey. The results indicated that integration, social support, local language proficiency, local friendship groups, satisfactory social life and long-term plans to remain in the host country were positively correlated with life satisfaction and wellbeing. Conversely, main friendship groups in the home country, unsatisfactory social life and desire to re-migrate had a negative impact on life satisfaction and wellbeing for migrants.

8.3.2 Objective 2

As social support was an important component of wellbeing, the forum analysis focused on how online communications can be a conduit for social support provision for migrants. The migrant forum displayed three types of communication patterns, including short question-answer threads, medium discussion question-answer threads and long discussion threads. Based on the literature and primary research, the analysis concluded that short threads offered informational support; long threads served as a "third space" providing opportunity for emotional/affirmational support; and medium threads offered mixed social support.

Communication patterns were explored through forum analysis which resulted in a thread categorizing framework. The types of threads were often indicative of a social support type provided through them. Survey and forum analysis found that migrants particularly valued information support about general life in the UK, which provided information about local customs and traditions, assisting migrants' integration and building local

social capital. This was most likely provided through short and medium threads, offering informational and emotional/affirmation social support. Migrants also valued the opportunity to discuss current affairs in their home countries, identifying the benefits of native language and freedom of expression, which enabled them to support their national identity abroad. This was most likely provided through long threads that offered a “third place” for discussions on democracy, freedom of speech and community togetherness.

8.3.3 Objective 3

The recommendation on improvements to migrants’ wellbeing and availability of social support online were proposed to a range of stakeholders, including migrants, governmental bodies, non-governmental organisations, professional bodies, academics and general public. These recommendations will be discussed below in the Recommendations section.

8.4 Discussion

The main aim of the research was to establish if online social networks play a role in migrants’ wellbeing. In order to find the link between the two, social factors, particularly relevant for migrants’ wellbeing, were explored.

The study focused on migrants’ social wellbeing. The literature suggests that wellbeing consists of a number of factors, including life satisfaction, presence of positive effect and lack of negative effect (Diener and Suh, 1997; Diener et al., 2002; Bak-Klimek, 2015).

The survey included a question about life satisfaction, which was self-assessed by participants. Some researchers argued that life satisfaction does not capture wellbeing holistically and should also include such factors as autonomy, personal growth, positive relationships with others (Ryff, 1989), as well as developing as a person, being fulfilled and making a contribution to community (Shah and Marks, 2004). To reflect those observations, the study investigated fulfilment of migration goals, professional development, making friends and building social capital in the host country amalgamated in a composite measure of Integration.

Social support was another important factor in migrants’ wellbeing (Adelman, 1988; Ye, 2006). Social support from the home country and new social networks in the host country both play a role in sociocultural adaptation of migrants and help them to cope with the

stress of migration (Berry, 1997; Ying and Liese, 1991; Ye, 2006). The survey included a range of questions on different types of social support available to migrants.

The literature suggests that wellbeing is often linked to life events (Headey and Wearing, 1989; Dodge et al., 2012; Cummins et al., 2002). Migration as a life event has been described as a life stressor, presenting migrants with challenges including language barrier, new cultural norms, lack of social, familial and support networks and career obstacles (Khavarpour and Rissel, 1997; Bhugra, 2004; Sim et al., 2007; Thompson et al., 2002; Weishaar, 2008; Bak-Klimek et al., 2015). Therefore, measures of English language proficiency, information about general life in the UK, social support and employment were given serious consideration when evaluating wellbeing.

The role of social capital was also assessed in the survey, as the evidence in the literature suggests that social capital is strongly linked to wellbeing, including family, friends, work, civic engagement and trust (Helliwell and Putnam, 2004).

8.5 *Wellbeing*

The results of the survey indicated that migrants' wellbeing is strongly positively correlated to:

- Life satisfaction - (Pearson correlation .948, Sig. (2-tailed) .000)
- Integration - (Pearson correlation .948, Sig. (2-tailed) .000)
- Social support - (Pearson correlation .752, Sig. (2-tailed) .000)
- Social life satisfaction - (Pearson correlation .695, Sig. (2-tailed) .000)
- Plans to remain in the UK - (Pearson correlation .681, Sig. (2-tailed) .000)
- Friendship groups in UK - (Pearson correlation .602, Sig. (2-tailed) .000)
- Employment - (Pearson correlation .516, Sig. (2-tailed) .000)
- Local language proficiency - (Pearson correlation .408, Sig. (2-tailed) .004)

Migrants' wellbeing was found to be less strongly correlated to:

- Income - (Pearson correlation .084, Sig. (2-tailed) .574)

- Sex - (Pearson correlation .015, Sig. (2-tailed) .923)
- Age - (Pearson correlation .159, Sig. (2-tailed) .285)
- Qualifications - (Pearson correlation .082, Sig. (2-tailed) .588)
- Marital status - (Pearson correlation .005, Sig. (2-tailed) .972)
- Children - (Pearson correlation .055, Sig. (2-tailed) .713)
- Country of origin - (Pearson correlation .162, Sig. (2-tailed) .277)

In addition to the variable above, migrants' wellbeing was found to be negatively correlated to:

- Remigration/Return plans - (Pearson correlation -.654, Sig. (2-tailed) .000)
- Main friendship groups in the home country - (Pearson correlation -.473, Sig. (2-tailed) .001)

The results indicated that the three top categories of social factors that displayed strong positive correlation to wellbeing in this study are:

- Life satisfaction (self-assessed measure in the survey)
- Integration (composite measure of self-accessed findings on migrants' integration)
- Social Support (composite measure of survey results and egocentric networks analysis)

The strong correlations between Wellbeing and Integration, Social Support and Life Satisfaction are widely supported by the literature (Dodge et al., 2012; Bobowik et al., 2015). The other examples of supporting literature include Diener and Suh, 1997; Seligman, 2002; Diener et al., 2002; Bak-Klimek, 2015 and others. Those factors are discussed in more detail below.

8.5.1 Life satisfaction

Life satisfaction did not vary significantly (statistical evidence) by income, sex, whether or not respondents had children or a partner or by age. These are summarised in the tables

provided in Chapter Seven Demographic Summary of Responses, on page 214. This is consistent with the literature which argues that circumstantial/contextual factors, such as duration of migration, age and gender are very modest and non-significant, whereas dispositional factors and intentional activities (such as social support) have a strong effect on wellbeing and life satisfaction (Wang, 1998; Bak-Klimek et al., 2015).

8.5.1.1 Positive factors for Life Satisfaction

The survey analysis indicated that migrants were more likely to be satisfied with their life in the host country, if they were:

- Employed
- Planned to stay in the host country long term
- Had local friends
- Were satisfied with their social life
- Had social support around them
- Felt they were integrated into the host community

These findings suggest that Life Satisfaction for survey respondents was strongly correlated to being rooted into the local community, which included engaging with structural and social integration processes, including Employment, Local friendship groups and Social life satisfaction. Social support was linked with local friendship groups and employment. Those factors indicate that local social capital and social support were significant predictors of life satisfaction for migrants in the host country. This was consistent with the literature (Oh et al., 2014; Trepte et al., 2015; Lirio et al., 2007; Tharmaseelan et al, 2010; Safi, 2010).

Therefore, the analysis results suggested that life satisfaction for highly skilled migrants was strongly connected with developing social capital in the host country and using it to improve their employment, social life and social support around them.

8.5.1.2 Negative factors for Life Satisfaction

Migrants were less likely to feel satisfied with their life in the host country if they:

- Had their main friendship groups back in the home country
- Wanted to re-migrate or return home
- Did not have sufficient social support
- Were not in employment
- Have not spent long in the host country
- Did not feel integrated
- Were not satisfied with their social life
- Had fewer friendship groups locally

For those respondents, who gravitated towards social structures in the home country, including social life, social support, main friendship groups and desire to leave the host country, the level of Life Satisfaction was lower. This often coincided with lack of local social structures, such as employment, local friendship groups and active social life.

The literature suggests that maintaining links with the home country, which has become more accessible through new technologies, is beneficial for migrants, as it provides an easier access to social support from home networks (Ryan et al., 2008; Hiller and Franz, 2004; Poros, 2001; Dekker and Engbersen, 2014).

However, the positive effect of close links with the home country did not show strong evidence in the research undertaken in this study. The findings suggest that over reliance on home networks and emotional attachments to home friendship groups can become a barrier to building local friendship groups. The respondents who had stronger links at home, also had less established social structures in the host country, such as employment, local social life, local friends, social support, which displayed a negative correlation with Life Satisfaction.

Thus, the findings indicate that old social capital can be detrimental for migrants' life satisfaction in the host country, as it creates a barrier for them to develop new social capital in their host country. This barrier can be physical (remote location), emotional (loyalty to home community), cultural (supporting home customs and traditions) or circumstantial (lack of employment and lack of access to local social networks). The

presence of all of those factors indicated lower life satisfaction for highly skilled migrants in the study.

8.6 Social Support

Social Support was a significant predictor of Life Satisfaction, Integration and Wellbeing. The importance of the role of social support in wellbeing is widely supported by the literature (Wang, 1998; Bak-Klimek et al., 2015).

8.6.1 'Old' versus 'New' Social Capital as a Source of Social Support

The literature advocates that social support for migrants is one of the key aspects of social capital that they can draw on (Putnam, 2007, Coleman, 2000; Ryan et al., 2008). Some authors suggest that migrants would particularly benefit from home social support networks, as they can rely on “practical support and companionship of close friends and relatives for a range of reasons”, including language, lack of familiarity with host environment or safety (Ryan et al., 2008, p. 682). However, the findings in this research demonstrate that respondents considered that only around 21% of tangible support, 37% of emotional/affirmation support and 6% of information support that came from their home networks. The rest was received from sources in the host country and online.

The research in this thesis indicated that respondents differentiated between their sources of social support depending on their needs. These findings are supported by the literature, which states that different kinds of support are provided by different types of networks depending on the characteristics of the relationships (Wellman and Wortley, 1990). The ‘old’ networks are usually represented by strong or close ties (family and friends at home, family in the host country). The ‘new’ networks are usually represented by weaker ties (new friends in the host country and professional bodies). Wellman and Wortley (1990) suggested that strong ties provide emotional support, whereas close ties exchange tangible support and physically accessible ties provide services.

The findings revealed that for emotional support the ‘old’ networks still played a bigger role (33%), than ‘new’ networks (18%). Both networks in home and host countries were equally important for tangible support (33% - ‘old’ networks; 34% - ‘new’ networks). In terms of information support, the ‘new’ social networks play a more significant role (41%) than ‘old’ networks (20%). These results are supported by Granovetter (1983) and

Berkman (1984) who argued that weaker ties are known to be better transmitters of information.

8.6.2 Co-ethnic Networks

The literature suggests that both ethnic and local communities are important for building social capital in the host country (Ryan et al., 2008). However, over-reliance on co-ethnic networks can have negative effect on integration and wellbeing, as migrants who maintain strong exclusive ties with co-ethnic groups may become socially disadvantaged (Wierzbicki, 2004), whereas immersion in ethnic-specific networks can lead to ghettoization (Griffiths et al., 2005; Ryan et al., 2008).

Local friendship groups were more significant predictors of life satisfaction than migrants' co-ethnic groups. Respondents displayed low interest in congregating around local ethnic enclaves. Literature suggests, that it may often be difficult for migrants to break out of co-ethnic groups due to language and cultural sensitivity (Barnes and Cox, 2007). However, this study found no evidence of this for the former FSU migrants in the UK.

The focus on non-ethnic local networks was notable for Russian-speaking migrants. This cultural group displayed low levels of engagement with co-ethnic centres in the host country, instead expanding their networks within wider local communities. This could be explained by the closer cultural distance, which would facilitate easier psychological and sociocultural adaptation for those migrants within their new host community (Babiker et al., 1980; Furnham and Bochner, 1986). It could also potentially be explained by high level of education, skills, English proficiency and better knowledge of the local culture.

8.6.3 Local Social Support Networks

The results of our study are broadly consistent with the literature. However, they also demonstrate that the role of local social capital may be larger for migrants' emotional and tangible support than previously suggested by the literature.

The results of the egocentric networks analysis indicated that almost half of respondents' ties were located in the same town or country, with only a third in the home country or abroad and a fifth in the same house.

The results of the survey analysis supported that by specifying that tangible support was mainly sought from family and friends in the host country (45%), with only 11% from

the home country, and emotional support was sought from family and friends in the host country (27%), with only 18% from home networks. Information support on general life in the UK was sought from family and friends in the host country (44%), with only 6% from home networks.

The findings of egocentric networks analysis indicated that Russian-speaking migrants benefited from real-time frequent contacts with their main support networks of family and friends, many of whom were local. As migrants developed social networks outside their house, many of those ties were in the same town or country. This was also indicative of respondents developing bridging social network with wider friendship groups in the local host communities. The respondents with local ties outside their house displayed higher level of Wellbeing and Integration.

From the name generator analysis it was found that respondents' networks were dominated by close ties with family and friends, which had a positive correlation with Wellbeing, indicating that those networks provided important support for migrants. The very close location (the same house) was negatively correlated with wellbeing, meaning that for those, whose contacts were mainly in the same house, wellbeing was lower. This may be explained by the fact that close family and friends tend to provide bonding rather than bridging social capital, which may impede career development and integration with a wider local community. The case was exacerbated for homemakers and unemployed, as they did not have access to bridging social networks outside their house.

The findings of the survey analysis and egocentric network analysis indicate that social capital is an integral factor in migrants' wellbeing, which is consistent with the literature (Pio, 2005; Safi, 2010; Herrero, Garcia, 2011).

The findings highlight that developing new social capital and weak ties in the host country is paramount for migrants' wellbeing. Overall, a combination of bonding social networks (family and home friends) with bridging social networks (local friends and professionals) are key to successful migration and migrants' wellbeing.

8.7 *Integration*

Integration was a composite measure that was introduced in the survey through a series of questions on migration experiences.

It reflected how migrants assessed their success of migration, felt valued by the host community and settled in their host country. The analysis displayed above-midpoint results for most of the questions in this category, indicating that respondents felt engaged with social and cultural integration process, which is supported by the literature (Vermeulen and Penninx, 2000; Snel et al., 2006; Koopmans, 2010; Bakker et al., 2014). The question on “Feeling British” produced below-midpoint results, indicating that respondents did not want to fully assume the local identity, perhaps in order to preserve some of their original identity. This is consistent with the model of Integration, which involves migrants accepting some of the local culture, but also preserving their original ethnicity, as supported by the literature (Sam and Berry, 2010; Phinney, et al. 2001).

Integration displayed a strong correlation with Life Satisfaction (Pearson correlation .801, Sig (2-tailed) .000), suggesting feeling integrated and valued by the local community makes migrants’ happier. This is supported by the literature (Austin, 2007; Kahneman et al., 2004).

It also displayed that there was a positive correlation with Employment variable (Pearson correlation .541, Sig (2-tailed) .000). However, there was a considerable variation between employment groups. The analysis indicated that migrants in employment felt considerably more integrated, than those out of work or staying at home. Self-employed and students also felt less integrated than employed, but more than un-employed or homemakers. These findings highlight the importance of developing social networks for Integration and are consistent with the literature (Stalker, 1994; Lirio et al., 2007; Tharmaseelan et al, 2010; Ryan et al., 2008).

Integration also displayed strong correlations with social support (Pearson correlation .735, Sig (2-tailed) .000). This is supported by the literature (Lirio et al., 2007; Tharmaseelan et al., 2010). Increase in social capital and expansion of weak ties produced a positive effect on Integration, success of migration and migrants’ wellbeing (Berry, 1997; Molho, 2013; Austin, 2007; Kahneman et al., 2004). Integration was strongly correlated to Social life satisfaction (Pearson correlation .801, Sig (2-tailed) .000), which is supported by the literature (Austin, 2007; Kahneman et al., 2004).

The findings also indicated that migrants’ long-term plans in the host country can affect their Integration. Wellbeing for Russian-speaking migrants in the UK was also strongly correlated to plans to remain in the UK (Pearson correlation .614, Sig. (2-tailed) .000),

local friendship groups (Pearson correlation .543, Sig (2-tailed) .000) and Social life satisfaction (Pearson correlation .546, Sig (2-tailed) .000).

The findings also demonstrated a positive correlation between Integration and English proficiency (Pearson correlation .486, Sig (2-tailed) .000), indicating that might act as an enabler to develop local friendship groups, access jobs, take part in social life and gain social support. The importance of the language skills is consistent with the literature, as it plays a significant role in human capital transfer, employability and integration (Adsera and Pytlikova, 2015; Parsons et al., 2007).

In contrast, those who continued to prioritise links with the home community, felt less integrated in the host country. Integration was negatively correlated with plans to re-migrate or return to home country (Pearson correlation -.543, Sig (2-tailed) .000) and main friendship groups in the home country (Pearson correlation -.493, Sig (2-tailed) .000).

Integration did not display significant correlations with income, age, sex, marital status, children or country of origin. This suggests that those contextual factors do not have a strong impact on integration.

Overall, Wellbeing displayed strong positive correlations with Life satisfaction, Integration, Employment, UK Friendship Groups, Social Life Satisfaction, Social Support, Migration plans and English Proficiency. From the study it was indicated that while supporting some ties with close home networks, it is important for migrants to focus on developing new social networks in the host country to achieve better wellbeing. New social networks will help migrants to expand their bridging social capital, improve their chances of employment, increase their social support, improve their social life and aid their integration. Most of those findings are consistent with the literature (Lirio et al., 2007; Tharmaseelan et al, 2010; Safi, 2010).

8.8 *Online Networks*

As the study was concerned with the role of online social networks in migrants' wellbeing, the research focused on social media and analysed the data collected from a case study online forum for Russian-speaking migrants in the UK. The data was analysed using statistical and social networks analysis, which allowed the creation of a typology of communication available in the forum. Forum analysis also demonstrated that there

are different types of support that migrants can find online, including information, emotional and affirmation support, as well as use it as a ‘third space’ for deliberate democracy and virtual togetherness (Schrooten, 2012; Bakardjieva, 2003).

The forum data analysis explored the communication patterns on the forum and found a variety of social networks types. There was a difference in communication types between short, medium and long threads. Different types of threads provide different types of support. Long threads provide emotional/affirmation support and short threads provided information support. Medium threads provide mixed types of support. The findings also suggested that individual users tend to focus their participation by posting mainly in topics of interest to them. It was not possible to collect evidence of the pattern of viewing as views were anonymous.

The forum represented a ‘third space’ for the exchange of social support and deliberate democracy. The results indicated that there was equality of access for users on the forum.

The survey data analysis also established the reason why migrants use the forum. The forum was considered a source of information and emotional support. The forum was the top resource on information about life in the UK. The forum offered an opportunity for discussing news from migrants’ home country. The forum provided information and emotional support to migrants on personal issues. The forum provided an opportunity for deliberate democracy.

The analysis revealed that the following aspects were most valued by migrants: discussing news from their country; general knowledge about the UK; the forum in their native language; freedom of expression.

Those findings are discussed in more details below.

8.9 Forum Communication Patterns

The analysis highlighted that there are different types of social networks on the forum with various SNA characteristics.

The threads were typified into short, medium and long, according to number of posts. The study analysed what discussion types are most common for each thread type.

8.9.1 Short threads

The results demonstrate that the vast majority of all threads were question-answer threads (91%). However, they amounted to only 15% of posts. 62% of all active users on the Forum started at least one thread or more. These findings indicate that there was an equality of participation on the forum, as supported by the literature (Oldenburg, 1999; Wright, 2012). It also indicated that there was a variety of content, which was in line with previous research (Bian et al., 2008).

However, the results indicate that only two thirds of questions received a comment/reply. 30% of all threads did not get a single reply. Due to lack of content analysis, which was outside the scope of this PhD, it is not possible to provide the reasons as to why.

The analysis revealed that 43% of authors got up to 10 replies and 20% up to 50 replies, suggesting that just about half of the questions may have received responses (up to 10 posts) and one fifth of all the questions attracted a discussion (up to 50 posts). This suggests that there was some meaningful exchange of information between participants.

Short threads were highly numerous and displayed low centrality, low transitivity and high reciprocity. There was a diverse group of authors and participants in short threads, who were mainly 'occasional' contributors. This implied that there was less possibility of a community togetherness, however it indicated equality of participation (Oldenburg, 1999; Wright, 2012). Such threads mainly provided information support (Adamic et al., 2008). The survey analysis revealed that migrants highly valued information on general life in the UK in their own language, which was positively linked to their wellbeing and integration.

8.9.2 Medium Threads

8% of threads were discussion threads that contained 50% of all posts, that were created by 37% of all forum participants. These threads represented extended question-answer interactions or medium length discussions. The discussions involved a variety of participants, ensuring some equality of expression (Oldenburg, 1999; Wright, 2012). It also indicated that varied content was presented with diverse information exchange (Bian et al., 2008).

Medium threads display medium centrality, medium transitivity and high reciprocity. They provide mixed types of support. Such threads indicated that the discussions were a

combination of information and emotional support. They had smaller hubs of participants but indicated community togetherness and reciprocity. They may have been used for discussing questions on life in the UK or personal matters. From the analysis of the survey it is highlighted that online social media was one of the top information sources for migrants when they needed advice on personal issues or information on life in the UK. Those two variables had a significant correlation with migrants' life satisfaction and wellbeing.

The medium length threads imply discussions around information questions, which indicates that it is not only information support that is exchanged there but also a safe place for discussions, which creates a sense of community, a sense of belonging, camaraderie and solidarity – all connected to better wellbeing (Obst and Stafurik, 2010; Oh et al., 2014). The presence of these factors indicate that the Forum provides social connections that are strongly linked to wellbeing.

The analysis also indicates that there is a need for both discussion and question-answer type of communication in virtual communities, demonstrating that the Forum is a hub for exchange of different types of support: informational, emotional, affirmational and mixed.

8.9.3 Long Threads

0.1% of threads (one thread) contained 37% of posts that were created by 1.2% of participants. These mega-threads demonstrated that there is a functioning discussion network on the Forum, which can be called Super-active. That particular discussion network included over a third of all posts on the Forum but involved only 1% of participants.

Long threads displayed high centrality, transitivity and reciprocity. They had a number of 'active' participants that were a part of a central hub. Online forums often display heavy bias towards an active group of regulars on the forum that create the majority of posts (Graham and Wright, 2012). In many cases, this ratio is 1% of users create 80% of posts (Wright, 2014). The Forum in this study displays higher equality of expression than some others, with a wide variety of topics authored by different participants and posts written by a variety of users. This suggests that although there is a central cluster of active "Regular" users on the Forum, it does not prevent other users from participating in the Forum (Oldenburg, 1999; Wright, 2012). This finding indicates that the Forum is a well-

used resource for provision of social support exchange between Russian-speaking migrant community in the UK.

Long threads mainly provided emotional/affirmation support. They also offered an outlet for deliberate democracy discussions and civic engagement in an online space (Graham and Wright, 2014). Long threads could be characterised as ‘third spaces’ that offered a sense of community for a central hub of participants. Those factors indicated that there could be a creation of virtual togetherness and a shared space on the Forum. They can be used for gathering emotional support, negotiating national identities and restructuring self-positing within and out-with their co-ethnic virtual groups.

These findings are supported by the literature, which suggests that online forums are a new way of creating and sharing knowledge, thus offering information support, but can also providing emotional and affirmation benefits (Adamic et al., 2008.; Ali et al., 2015; Im and Chee, 2006). Online forums can enable the construction of virtual togetherness, that can facilitate identity negotiations and re-structuring of the post-migration self in the post-migration environment (Schrooten, 2012; Bakardjieva, 2003).

The findings of the survey demonstrated that such discussions were valued by migrants as they presented an opportunity to discuss current affairs in their home country, freely express their views and use their native language. Those factors were all linked to higher level of life satisfaction and wellbeing for migrants.

8.9.4 Reciprocity and Centrality

High level of Reciprocity for most of the topics also imply a sense of community. Lower Centrality for most topics, apart from Super-connected Super-active topics, indicate that the role of those topics is an information resource with some discussion around it.

The findings indicated that the Forum has a high degree of reciprocity but low centrality, which meant that it did not have a central hub across the Forum, however a number of participants posted across threads. This indicates that the user generated content on the Forum was created as a response to participants’ varied interests and needs. It also indicates that there was no monopoly of a particular participant group on the forum (except possibly for long threads), sometimes present in highly centralised threads, which allowed for equality of participation. This is supported by Oldenburg, 1999, and Wright, 2012.

However, the composition of the social networks on the forum and their cross-topic patterns suggest that participants engage with each other not only for information transfer, but also for developing social ties. As pointed out in the literature, virtual togetherness can allow migrants to create social networks with weak ties that would otherwise not be accessible to migrants (Granovetter, 1983; Lawson, 2016). Thus, the forum enabled migrants to develop their bridging social capital and create new weak ties online, indicating that online forums are an important hub of social capital development.

As it is highlighted in the literature, bridging social capital and weak ties can have a positive effect on wellbeing through providing benefits of advancing social connections to improve employment, social support, information sharing and social life (Granovetter, 1983; Lawson, 2016). This is particularly important in case of transnational migrants, who face challenges of migration, distance and time. Through such online forums can reduce some of the barriers to migration success through improving social adaptation in the host country.

8.9.5 *How Migrants use the Forum*

As discussed above, the three main factors in this study linked to wellbeing, are life satisfaction, social support and integration. Although, Life satisfaction did not produce significant correlations with the communication variables directly, the relationship between social media and wellbeing is explored through assessing links with Integration and Wellbeing.

The analysis has indicated that there is a link between social support and social media. The findings suggest that online networks provide information support to migrants. According to the survey analysis, migrants received 17% of information support from online communities. Online forums were rated as the top resource for information on general life in the UK. Advice on personal matters were also sought from online forums amongst other sources in similar measures. The fact that online forums were on par with other support networks suggests that they play a meaningful role in information support provision for migrants.

The results of the survey and forum data analysis demonstrated that migrants use the forum for finding information on topics of life in the host country. The literature reported that social media provides an ability to improve access to social networks and make them more affordable for users (Ellison et al., 2007; Johnson, 2008; Chung and Buhalis, 2008;

Steinfeld et al., 2008). These findings suggest that online forums offer a resource that is accessible, affordable and can empower migrants with information to improve their wellbeing in the host country.

However, online media may not be used by all migrants to the same degree. The difference has been noted for different generational population cohorts (Taneja et al., 2017). Our study suggests that there is evidence that highly skilled working age migrants are confident in using online networks, however, the issue of age and participation needs to be explored further.

The validity of those findings have been demonstrated by the fact that separate types of analysis employed in the study produced aligned results. Those results were supported by the literature. The study employed mixed methods analysis across three different datasets, including exploratory interviews, online forum scrape and online survey. They all have shown similar trends in migrants' use of online social networks.

However, the interpretation of the results is open to discussion. The limitations of the study, which are discussed in the Section 8.11, on page 263, may affect the generalizability of the results. The small sample size which is predominantly female, may show results that are more common for women, who are active on social media. However, it may not be fully applicable to migrants, who are less active on online forums, or who are males. Thus, further research on other demographic groups of migrants will add to the richness, validity and generalizability of findings.

The analysis will also benefit from a comparative perspective with other highly skilled ethnic migrants' groups in the UK and across other host countries. Such comparative analysis will allow to improve generalization of research results and establish common trends across all highly skilled migrants in different countries. This will help to devise recommendations to all stakeholders involved on how to support migrants' wellbeing and integration in the host country. It will also deliver more knowledge of the social media for migrants and provide examples of online platforms that can be replicated to support migrants in the host country.

The content of the discussions on the forum also presents rich data for research. The topic names suggest that the discussions are influenced by the current affairs in both home and host countries and around the world. For example, a number of political events, including Syria and Ukraine, reporting gangsterism in the UK, election rigging and others sparked

long discussion threads on the forum. The qualitative analysis of the data would add a lot more richness to the findings and provide further insight into the role of online social forums.

The forum can also be considered for a longitudinal research to establish links between migrants' life events and their use of the forum. The impact of the forum may differ depending on the stage of their migration, which is key to understand its role in migrants' wellbeing and integration. For example, new migrants can use it more actively than migrants that have been in the country for a longer time. The migrants who have lost some of the links with home country after a period in the host country may come back to the forum to access their native cultural environment. The ebb and flow of migrants' use of the forum may provide an insight into their changing social needs. This will require further research.

The cross-sectional nature of this study brings to the fore the importance of co-relations between different social factors. Each pair can be studied in much more depth and the relationships between multiple factors can be considered in different combinations. However, further analysis was constrained by the limited resources of a PhD project.

Nevertheless, valid conclusions can be made from this study, which can provide a starting point for further research projects.

8.10 Conclusions

The outcomes of the research analysis demonstrated that although there was no direct correlation between using social media and migrants' life satisfaction, there is a link between online social networks and migrants' wellbeing. The analysis of the survey suggested that migrants' wellbeing is linked to their life satisfaction, integration, social support, social life satisfaction and employment, as well as proficiency in the local language, local social networks and plans to remain in the host country. The local friendship groups displayed a strong positive correlation with migrants' wellbeing through social support, life satisfaction and integration, whereas strong links with home friendship groups were detrimental to it.

Therefore, it was clear that integration, local friendship groups and social support played an important part in migrants wellbeing. The study established that an online forum made

a contribution to all three factors. It contributed to migrants' integration by providing information on general life in the UK and helping migrants better understand local customs and traditions, which would potentially improve their chances of developing social capital in the host country. It also allowed migrants to stay in touch with their home culture, supporting their cultural identity as part of the integration process. An online forum also offered different types of social support to migrants, including information and emotional support and a sense of belonging through a virtual community.

Online forum space acted as a 'third place' where migrants could participate in deliberative democracy through freedom of expression and discussions of current affairs in their home and host countries. This provided an outlet for migrants to find support in re-negotiating their transnational identity and re-positioning themselves structurally within both home and host cultural communities.

The overall findings of the study suggest that an online forum for FSU migrants in the UK acted as a virtual community with bridging social capital, providing an enabler for migrants' integration in the host country. Its assistance in the integration process was multifaceted, as it improved participants understanding of local customs and traditions by providing information support on general life in the UK. It also allowed migrants to support their home culture through deliberative democracy discussions and emotional support from their co-ethnic groups. The analysis of social networks composition on the forum suggested that there is a sense of virtual togetherness for some participants, that could also be positively linked to wellbeing.

Thus, even though an online forum did not play a direct role in migrants' life satisfaction, it made an in-direct impact on migrants' wellbeing through integration, social support and social capital.

The study aim has been partially achieved through data analysis, as it pointed to a strong positive correlation between using online forums and migrants' integration and wellbeing.

8.11 Limitations of the Study

The limitation of the study was the small sample size of the survey participants. This probably have affected findings as statistical analysis usually require a larger sample size. Challenges with constructing a sampling frame for the online forum community, which

are discussed in Challenges of Sampling on Online Forums on page 132, as well as time and resources constrains of the PhD project did not allow to increase the number of respondents.

An even smaller number of respondents completed the name-generator, which may have contributed to the fact that the findings of the egocentric networks analysis did not display significant correlation in the data.

The sex bias towards female respondents was another limitation of the study. Some of it could be explained by the evidence that there are more highly skilled female migrants, than male (Iredale, 2005); there are potentially more females using online social media; and females are more likely to participate in online surveys (Smith, 2008). However, there was an even higher over-representation of females in the survey than in the literature. It was not possible to establish the actual gender representation on the Forum, as such data was not accessible.

Migrants in general are a hard to reach population group due to a number of reasons, including ethical. It is especially the case for a relatively small ethnic migration group as Russian-speaking migrants in the UK, which was the case study for this project. Thus, even a small sample size can be considered as a positive contribution to research.

8.12 Contribution

Despite the limitations of the study, given that migrants are a hard to reach group, this research holds value for its exploration of the issues of migrants' online forums and the role of social media in migrants' wellbeing.

This study was designed to investigate if online social networks have the ability to play a role in migrants' wellbeing. The area of online social media for migrants' research is still developing and there is a lot of scope for new findings to be fed into the growing body of evidence in this topic. This study looked specifically at under-researched area of migrants' online forums, focusing on FSU migrants in the UK.

The group of highly skilled migrants from FSU countries in the UK has not been extensively researched and this study has made a contribution through delivering research on wellbeing factors for this group. The study's findings on wellbeing factors are consistent with the literature. However, the results also show that local social capital plays a greater role in migrants' wellbeing than initially thought. Conversely, the negative

impact of strong home country social ties has come to the fore in our research. The important role of bridging social capital in the host country was noted as a strong predictor of life satisfaction and wellbeing for migrants. This provides an insight into integration strategies for migrants that can improve their chances of successful migration and benefit their overall wellbeing in the host country.

Theoretical contribution of this study is based on the literature review which helped to devise the best approach to the area of migrants' wellbeing and online social networks. The review of the existing literature allowed to propose a conceptual framework for investigating the linkages between migrants' wellbeing and social networks. The study has contributed to the knowledge about the factors involved in migrants' wellbeing, and how social media participation can support or hinder it. The study also makes a contribution to knowledge about the importance of integration and social capital for migrants and how it can be linked with social media.

Theoretical contribution of this study also includes the exploration of ethical issues in online social media research. It has been undertaken through reviewing existing approaches and identifying the boundaries of disclosure for online data. The study contributes to the debate on issues of private and public data ownership, as well as the balance between social media content protection and benefits of social media research to the public.

The study discussed ethical issues around online data research, and the outcomes of the ethics debates pointed to the fact, that publicly available information should and could be used for the benefit of social research. However, the confidentiality of users is still paramount and should be protected at all times.

The study's methodological contribution lies within testing of mixed methods analysis in the area of online social networks and migrants' wellbeing. The mixed methods approach has worked well and enabled the exploration of the study's research topics from two different perspective of quantitative and qualitative approaches. Multiple methods allowed the interpretation of findings in a more meaningful way. They have also increased validity of findings and reliability of the results. The combination of mixed and multiple methods, applied to different dataset in the study, has produced a new methodological framework for exploration of social networks and their impact on migrants' wellbeing.

The methodological contribution also includes the online forum data that has been collected as part of the study and offers high potential for further research. The data from the forum scrape includes social networks and content information, that is of high value for research on migrants and their communications. It can be used for further research in the areas of migration, wellbeing, integration, social support, social networks and social media research.

Empirical contribution of the study is presented through testing the links between migrants' wellbeing and online social networks. The study makes a contribution to migration research regarding the importance of integration and social capital for migrants and their wellbeing. It also outlines the role social media can play in migrants' integration in the host country. The empirical knowledge collected throughout this research can be used to provide recommendations for governmental, non-governmental and business organisations. The recommendations include information on migrants' wellbeing, social capital and the role of online forums and social media communications in migrants' integration.

The area of expat online forums has not had a lot of attention in the literature and our research has brought light to a number of functions that it can perform. The analysis of this particular type of forums (migrant forums) demonstrated that it can offer various types of social support including informational, emotional and affirmational, which is highly needed and valued by its users. It also identified migrants' needs for specific social support when in the host country, including: informational support on local culture in the host country; emotional and affirmation support on personal issues occurring in the host country; emotional and affirmation support through deliberative democracy discussions as they strive to re-negotiate their cultural identities through discussing current affairs in their home and host countries.

The findings contribute to the debate on defining the factors important for migrants' wellbeing and integration in the host country. They also point to the lack of specific aspects of social support important for enabling migrants' integration and improving their wellbeing. This would include more information on general life in the UK; ability to make local friends and fit into the local communities; and improving wellbeing through keeping in touch with home culture. These aspects of social support may not be accessible for FSU migrants elsewhere in the off-line community. Our study demonstrates that such support is readily available in online social networks, as users create user-generated

content ‘from migrants to migrants’ and offer each other support and information. These findings reveal the role of online social networks as an enabler for social support exchange and migrants’ adaptation to life in the host country.

The study also showed that social media users can benefit from a sense of community on the forum. Social network analysis revealed that there are centralised, reciprocal social networks online. They offer a sense of virtual togetherness and act as ‘a third place’ enabling deliberative democracy discussions. Our research indicates that there is clearly a strong need amongst migrants to engage in such discussions. They improve migrants’ wellbeing and help them to re-negotiate their sense of cultural identity and social positioning in the host country.

Overall, this study has made an important contribution to the areas of social media, migration, wellbeing, social support and ethics research and can provide a starting point for further investigations in any or all of those fields.

8.13 Recommendations

The outcomes of the study revealed multiple points that deserve serious consideration by all stakeholders involved. They include social support, social capital, integration and wellbeing that are an integral part of every society. It is clear from the literature that migrants’ improved wellbeing and integration is the best way of acculturation in the host country, that can provide vast benefits for migrants and natives alike. Our recommendations focus on how various stakeholders can help migrants integrate and achieve better wellbeing. The main recommendations, discussed below, include:

- Educating migrants further regarding the community
- Facilitating communication using the native language of migrants
- Conducting ongoing forum content analysis
- Engaging migrants and local people in developing social networks

8.13.1 To Educate Migrants Further Regarding the Community

Economic migrants do not usually have specific statutory information support when they embark on their migration journey. Thus, it is important for them to access as many self-help resources as possible. The advantages include:

- Migrants could benefit from educating themselves about social media resources for migrants and tap into social support, sense of community and communal knowledge, available online.
- Such information will allow their better transition between countries, bridging cultural experiences and facilitating positive re-negotiation of cultural identities and new structural positioning.
- Such information may enable migrants to develop their local social capital and thus improve their chances of employment, integration and wellbeing.
- Access to information online will also relieve pressure on agencies, including government, non-government and Quasi organisations that are tasked with supporting integration of migrants.

The way to improve migrants' access to online forums is to provide them with information and point out the self-help potential of such support groups on social media.

Governmental and non-governmental organisations can also inform local people on how to improve migrants' integration in their neighbourhoods. Local communities in the UK can benefit from this information, if they want to know how they can help migrants to improve their experiences in the host country. They can support and encourage migrants' integration into local communities through expanding their knowledge of the local culture. Sharing their everyday cultural traditions and practices with migrants, as well as being more open to welcome migrants into their friendship groups and social support exchange would improve migrants' integration. As integration is considered the best model of acculturation that benefits both local communities and migrants, it is important that both migrants and natives understand how they can support it. Improving migrants' wellbeing and integration into host society will allow migrants to make a more sizeable contribution to the British society, socially and economically. Ultimately, it will have an overall positive effect on the prosperity and wellbeing of the British nation.

8.13.2 To Facilitate Communication through Using the Native Language of Migrants

Governmental agencies, third-sector organisation and charities may want to look into utilising social support resources available online and distribute information about them more widely. However, they may face challenges particularly around social media content. It is important to note, that most of the migrants' online forums are in migrants' native languages, therefore they may not be accessible to British organisations. As the agencies have no input or responsibility for the content, they may not deem it professional to recommend resources that are outside their control. The forums themselves present a platform with user-generated content which may change depending on the contributors. Thus, the juxtaposition of useful and unique support available online and lack of control over its content may present challenges that need to be explored further.

8.13.3 To Improve Social Support to Migrants through Social Media Platforms

Conversely, the agencies can use the knowledge that have emerged from the forum analysis to better identify the gaps in support provision for migrants and consider providing this support through other sources. The governmental and non-governmental organisations can consider adapting the model of online forum communication in order to communicate with hard-to-reach groups and provide targeted information support.

The employers can also consider the findings of this study to improve integration and wellbeing of their highly skilled migrant workers. The research suggests that two of the most important factors that employers and agencies can address are gaining knowledge about everyday life in the UK and developing local social networks. Thus, employers may consider programmes for integrating their migrant workforce through improving their opportunities to bolster both. In cases, where it might be difficult to implement especially for smaller size organisations, the governmental or professional bodies can provide training and support to small and medium size businesses. They can analyse the data on such platforms and take it as an example of an effective communication channel or learn more about the needs of migrants and how those can be addressed. They can share the analysis of such communication hubs with professional bodies and businesses to help them improve their migrant workers' wellbeing.

8.13.4 Recommendations on the Online Research Ethics

The recommendations on the ethical considerations for social media research, discussed in Chapter Five, are focused on developing better understanding of the subject area and devising a code of ethics that will protect the interests of people that participate in the social media, but allow researchers to move social science forward. The need for a code of ethics for social media data has become an obvious issue, thus more research would benefit the understanding of expectations of privacy online.

Issues of privacy expectations online could be considered as the next step in contextual integrity debate. Systemising of online platforms may help to identify the boundaries between public and private spaces. Data purposeful systematisation may help to ensure that participants' rights and goals are protected. Informed consent should be sought where appropriate to ensure participants have a voice.

There is a need for more research to further understand the development of online social media and its impact on human wellbeing. Further research should try to find innovative approaches to encompass the changing way individuals construct their communication patterns online and the effect it can have on global social networks.

The government and professional bodies can benefit from communicating directly with the community via online structures like the forum. Such channel of communication can be helpful in engaging with hard-to-reach population groups. It can also provide a conduit to reach specific targeted groups that require additional information or support. The forum can be used a two-way channel that can be instrumental in seeking migrants' view on issues of concern and providing them with necessary information. Highly skilled migrants are one example where they can benefit from information on local customs and traditions to help their adaptation and integration into the host society.

Governmental and non-governmental organisations can set up and/or provide support for such online channels, which would help companies and general public to achieve better social and cultural cooperation. They can run seminars for smaller organisations and provide training in how to communicate with the public through online forums.

Professional bodies and businesses can also adopt the online forum model to communicate with their foreign workers. Alternatively, they can use the online forums

set up by governmental or non-governmental organisations as a channel to reach their target groups.

8.14 Recommendations for Future Research

Further research is needed to investigate how migrants can benefit from social networks online. More research should be conducted into different types of online social support and how it can improve migrants' integration and wellbeing. A larger sample size with equal representation of males and females could be explored to identify if the findings of this research are valid.

There is also scope for further comparative research on other national groups of highly skilled migrants to investigate if the findings of this study are transferable to other ethnic migrant groups or for those groups in other countries.

Another important avenue of online networks research is the content analysis. It will undoubtedly provide a deeper insight into migrants' experiences throughout their migration stages. It will allow to better understand how online information exchange can shape migrants' transnational journeys and affect their cultural experiences. The sentiment content analysis will uncover further knowledge on migrants' wellbeing and social support exchanged between migrants.

Further research can focus on measuring the impact of social media and online forums. This study did not aim to measure the effect of social networks or establish their share amongst other life factors that impact integration and wellbeing. A comparative study between migrants who use the forum and those who don't would bring benefits of better defining the role of online forums in migration. Such knowledge would be beneficial for further exploration of the ways of how to improve migrants' wellbeing and enable smoother integration into local communities.

More research is also required on how online social media can impact passive users (viewers, readers or "lurkers"). Online discussions have been attracting a large number of views throughout most topics on the forum. This is indicative of high level of interest amongst passive users, however we know little about why they are interested in reading the forum and how it affects their lives. Further research is required to assess the impact

of public discussions online on readers, as it may help to further understand the impact of online communities on wider public.

Academics in the area of migration should note the increasing role of online networks amongst migrants. They should increase their engagement in social media research giving enough attention to all online platforms including migration forums. The outcomes of further research would help better understand the changing nature of migration and its barriers. The social media research would also benefit from the link with migration social networks studies as it will allow to it forward through its further development and contextualisation.

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10 APPENDICES

10.1 Appendix 1. Interviews with pre-migrants

Appendix 1. Interviews with pre-migrants

Table 38. Interview questions for pre-migrants (Russia, October, 2014)

Question	Structured questions	Open questions
1. Tell me about yourself		
How old are you?	18 – 30 <input type="checkbox"/> 31 – 45 <input type="checkbox"/> 46 – 65 <input type="checkbox"/>	
What is your educational background?	Secondary <input type="checkbox"/> BA <input type="checkbox"/> MSc <input type="checkbox"/> PhD <input type="checkbox"/> more than one degree <input type="checkbox"/>	
How many foreign languages can you speak? What are they? What language would you use for immigration?	_____	
How fluent are you in that language? (from 1 to 5, 1 being the lowest, 5 being the highest)	Read and write _____ Speak and understand	
Second language (in case it will be used as well) (from 1 to 5, 1 being the lowest, 5 being the highest)	Read and write Speak and understand	
What is your occupation?		
What was your salary before migration?	Up to 40K <input type="checkbox"/> 40K – 80K <input type="checkbox"/> over 80K <input type="checkbox"/>	
What is your family status?	Single/divorced <input type="checkbox"/> Married/cohabiting <input type="checkbox"/> No Children <input type="checkbox"/> 1 or more children <input type="checkbox"/>	

2. Tell me about your migration plans

Question	Structured questions	Open questions
What route of migration were you thinking about?	Job relocation <input type="checkbox"/> Find employment in the host country <input type="checkbox"/> Entrepreneur/investor <input type="checkbox"/> Artist/sportsmen <input type="checkbox"/> Student <input type="checkbox"/>	
How long were you planning to migrate	Permanently <input type="checkbox"/>	

for?	Temporary <input type="checkbox"/>	
Did you have any connections abroad?	Family or close friends <input type="checkbox"/> Distant relatives or friends <input type="checkbox"/> Colleagues <input type="checkbox"/> Social media/internet friends <input type="checkbox"/> Other (who?) <input type="checkbox"/> None <input type="checkbox"/>	
What arrangements did you have in the host country?	Job <input type="checkbox"/> Accommodation <input type="checkbox"/> Health care <input type="checkbox"/> Education <input type="checkbox"/> Community links <input type="checkbox"/> Other <input type="checkbox"/>	Please explain
Who helped you if anybody to make those arrangements?	Family <input type="checkbox"/> Friends <input type="checkbox"/> Colleagues <input type="checkbox"/> Internet friends <input type="checkbox"/> Other <input type="checkbox"/> Nobody <input type="checkbox"/>	Please explain
Did you feel it was important to make arrangements for after migration?		Please explain
Who did you ask for help?		Please specify

3. Please tell me about your information search

Question	Structured questions	Open questions
Did you want to find out more information about the host country?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
What information were you interested in?	Immigration laws <input type="checkbox"/> Employment <input type="checkbox"/> Accommodation <input type="checkbox"/> Health care <input type="checkbox"/> Education <input type="checkbox"/> Transport <input type="checkbox"/> Living standards <input type="checkbox"/> Community <input type="checkbox"/> Other	Please specify
Where you were looking for this information?	Newspapers <input type="checkbox"/> TV <input type="checkbox"/> Direct advertising <input type="checkbox"/> Internet <input type="checkbox"/> Word of mouth <input type="checkbox"/> Family links <input type="checkbox"/> Social media <input type="checkbox"/>	Please specify
Which channels of information did you trust the most and why?		Please specify
Which sources of information did you find most useful and trustworthy	Government Job search engines Companies websites Organisations in the host country Organisations in the home country	Please specify

4. Social Media

Question	Structured questions	Open questions
How often do you normally use social media websites?	Once a day <input type="checkbox"/> Once a week <input type="checkbox"/> Once a month <input type="checkbox"/> Once a year <input type="checkbox"/>	
Do you usually trust the information you find on social media websites?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Please specify
What social media sites do you use the most?		Please specify
Do you mostly stay in touch with people you know or meet new people?	Stay in touch with friends <input type="checkbox"/> Meet new people <input type="checkbox"/>	Please specify
Did you use social media to find information about migration and how much?	A lot <input type="checkbox"/> Moderately <input type="checkbox"/> Some times <input type="checkbox"/> Not at all <input type="checkbox"/>	Please specify
What social media platforms did you use?	Blogs/personal websites <input type="checkbox"/> Communication sites <input type="checkbox"/> Communities by interest <input type="checkbox"/> Question/answer forums <input type="checkbox"/>	
What kind of information were you looking for?		Please specify
Did you ask questions or just read information that was out there?		Please specify
Did you ask friends or complete strangers?		Please specify
Did you find it useful and trustworthy?		Please specify
If you would not have had access to the social media, would you be able to find this information elsewhere?		Please specify

5. Impact on decision making (optional)

Question	Structured questions	Open questions
Did you trust the information that you found in social media?		Please specify
Did it change your opinions about things in the host country?		Please specify
Did it have an impact on your decision?		Please specify

Thank you for your time!

10.2 Appendix 2. Online Forums for Russian-speaking Migrants in the UK

Appendix 2. Online Forums for Russian-speaking Migrants in the UK

Table 39. Online Forums for Russian-speaking Migrants in the UK (March 2015)

Name	Web-link	Number of registered users	Number of threads	Number of posts	Active users	Peak number of users	Number of users at the time of	Open since	Language	Viewed
Rutalk	http://www.rutalk.co.uk/forum.php	48,386	118,836	3,157,886	2,040	2,800 on 05/05/14 at 13:57	on 14/01/15 - 1294 visitors, 73 registered users, 1221 guests		Russian	14/01/2015
Russians in London	http://www.russians-in-london.co.uk/forum/	2,888		2,140,644				open since November 2006	Russian	14/01/2015
Ponaehalitut	http://www.ponaehalitut.co.uk/	2,831	23,581	1,133,748				Open 2011, transferred from another website operational between 2001 and 2011	Russian	14/01/2015
Russian London	http://ruslon.com/	5,318	12,445	161,788			51 visitors on 14/01/15		Russian and Ukrainian	14/01/2015
Nebosvod	http://www.nebosvod.co.uk/	3,553		59,832		peak number of users 250, on 24/9/10, 19:28	on 10/03/15: 16 guests, 0 registered users, 1 hidden registered user	Open since 30 September, 2009	Russian	10/03/2015
Stenka	http://stenka.co.uk/forum.php	378	791	46,890	44	Peak number of users 555 on 29/07/14 at 18:04		On 10/03/15: 26 visiting: 0 registered users, 26 guests	Russian	10/03/2015
Russian London	http://rusforum.co.uk/	1,468	226	1,041		Peak number of users 376 on 04/09/14 17:15:15	Last post 02 February 2014, 23:12:09	The forum was last updated in September 2014	Russian	10/03/2015

10.3 *Appendix 3. Online Forum RuTalk*

Appendix 3. Online Forum RuTalk

RuTalk (www.rutalk.co.uk) is an online discussion forum that provides a communication platform for Russian speaking expats in the UK. It is an online community based on common interests, where users have a similar cultural background, a common native language and the country of residence. There are no restrictions for joining, thus anyone can join. However, the forum is in Russian and the majority of users are from the CIS countries currently residing in the UK, for whom Russian is their native language.

RuTalk styles itself as “the largest Russian forum and website in the UK” and welcomes visitors to “RuTalk - the most popular Russian website in the UK!” (www.rutalk.co.uk).

The website is indeed the most used online Russian speaking forum in the UK amongst similar internet platform for Russian speaking users in the UK (see methodology chapter for selection criteria), with over 3 million posts, almost 50 thousand registered users and almost 120 thousand threads, as is evident from the website statistics (www.rupoint.co.uk).

10.3.1 *RuTalk Website*

In 2015, according to the www.statstool.com, www.rutalk.co.uk was registered 4 years 3 months ago, however the posts record go back a lot longer. It had an Alexa ranking of 379,928 in the world. This site has a Google PageRank of 3/10 (www.statstool.com). It is a domain having .co.uk extension, which means it is registered in the UK. Domain name ‘rutalk.co.uk’ has been registered by the registrant Thomas Crown, who has stated his registrant type as a UK non-trading individual and has opted to have their address omitted from the WHOIS service (www.whois.net). The server for www.rutalk.co.uk is located in Moscow, Russian Federation (www.statstool.com).

The website is not commercial or attract income, as there is no or very little advertising on it. Its estimated worth is \$540 and have a daily income of around \$ 1.00. (www.statstool.com).

The low Alexa rank means that this website gets lots of visitors. It has more than 1 sub-domains with traffic. According to Statstool.com, it has 171 visitors per day, and has 513

page-views per day (<http://rutalk.co.uk.statstool.com/>), and even more according to the website statistics.

The website has been registered on 15th of April 2011, then registration was recently updated on 15th of May, 2015, with registration extended until 15th of April 2017. (www.whois.net).

However, it is obvious that the website has an even longer history. There are posts that date back to 2002 and some threads that were open in 2002 are still active in August 2015, thus suggesting a continuous use of the website for over 13 years.

10.3.2 RuTalk Traffic

Its primary traffic is from the UK where it is ranked at No. 7,713. The second country from where the traffic comes is Russia, ranked at No. 31,444.

Daily Visitors by Country for www.rutalk.co.uk, total **2** countries:

 United Kingdom: 49.3% visitors

 Russia: 27.7% visitors

This suggests that the majority of users come either from the UK, but many come from Russia, meaning that there are users who do not reside in the UK but are interested in life in the UK and are perhaps looking for information. The information resource of the forum is created by the users themselves and supports the view that it is an information exchange from “users to users”.

10.3.3 RuTalk Language Policy

The language of the forum is Russian. English is not permitted, and users are advised to use the website www.translit.net with a virtual keyboard that allows to produce and post messages in Cyrillic, in case they don't have this functionality on their computer.

Rutalk is an ethnic-specific online group. However, as there are a number of nations that can speak Russian, the forum is not limited to one nationality, but to a number of ethnic groups that are united by the use of the Russian language.

10.3.4 RuTalk Registration

The website is accessible to all to view all the discussions, but not private messages. However the first page invites users to register. The registration allows users to post comments, start new topics, rate posts and threads as well as other users. It also allows to view images. The registration is straightforward and requires providing a user name (or screen name), email address and password. After the profile has been created, the registered user is invited to fill in his/her profile with further information. That is not obligatory. The registered users can also send and receive private messages, thus maintaining direct private contact with other users.

There are over 50 thousand users that have registered on the website, however the number of visitors is even higher. As there is no statistics on the forum about the number of visitors over a period of time, as all the information is visible in real time only.

10.3.5 RuTalk Structure

RuTalk.co.uk has a comprehensive structure that systemises all threads. The four-tier structure consists of categories, topics, subtopics, threads and posts.

The forum's structure model can be seen below:

Table 40. RuTalk Structure

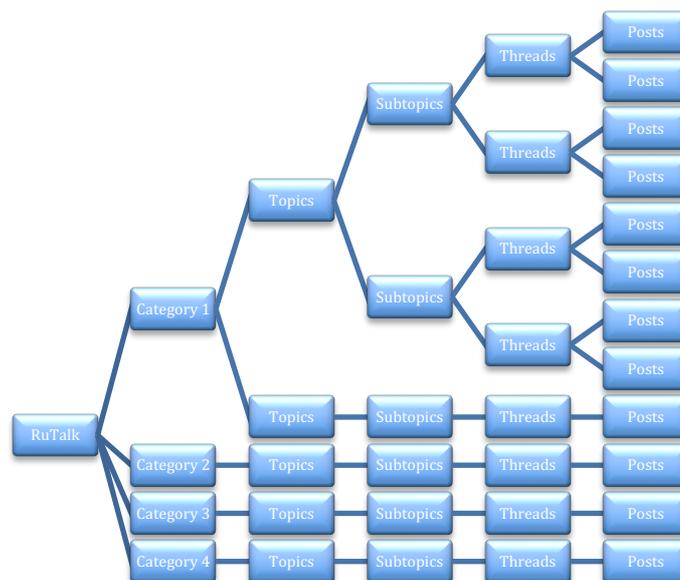


Table 41. RuTalk Categories and Topics

Categories	Topics
RuTalk Administration	Technical Support forum for RuTalk
RuTalk online – All Russian community in the UK	For new comers: Welcome! Chat on RuTalk Dating Let's discuss meeting up, drinks and parties Romantic chat on RuTalk (just for fun) Political battles
Life in the UK: advice, legal queries, employment and life in the UK	Immigration to the UK Finances, Business and Money in the UK £ € \$ Legal Advice Education, courses and studying In the office Property: to rent, to buy, to renovate Driving in the UK: anything one can drive Classifieds
Interest Clubs in the UK	Photo club Autoclub VIP club – Bratok Lounge Women's club: Just between us, girls! Parenting corner: Us and our children Club "up to 16 and older" Club for the hikers of England Club for "over 50ies" Travelers' club: "Around the World" Club for shopping lovers Club "Our health" Music club: Melomans on Rutalk Sport club Culture and History club Club for gourmans Computers and Internet Adults' club "about it" Club for Professionals

10.3.6 RuTalk Usage Statistics

The website statistics (www.rupoint.co.uk) provides an overview on how the forum has been used over the years. It has been stated above that the history of the forum can go back over 10 years ago with some threads dating back to 2002, increasing the volume of threads and posts, but also diluting the user base and the relevancy of the topics. Thus, as described above, the period for analysis has been defined as the 12 months period between January and December 2015.

The high number of views per threads may indicate that there is a lot of search for information support is happening on the forum.

10.4 Appendix 4. Survey Questions

Appendix 4. Survey Questions

The respondents were offered the following survey to be completed online. It was in both English and Russian languages.



Experience of Life in the UK

Вы можете переключиться на русский язык вверху страницы, нажав на "Choose Language", и затем выбрать язык.

Thank you for agreeing to take part in this survey. It is designed to explore the level of satisfaction with life in the UK amongst Russian speaking highly skilled professionals and the role of online social networks in it. This survey is conducted as part of my PhD study at Edinburgh Napier University.

The survey will only take about 15 to 20 minutes to complete. If there are any questions you feel you do not want to answer, you are free to do so and you can leave them blank. If you feel unable or unwilling to continue, you can withdraw at any point.

All answers to the survey are anonymous. The data will be stored securely and will only be used for the purpose of the PhD research and the publications resulting from it. After the PhD is submitted and all the papers are published, the data will be destroyed.

In order to participate in this research you have to be over 18, have moved to the UK from another country and currently reside in the UK.

The survey consists of two parts: Part 1 - your life satisfaction and social networks in the UK; Part 2 - your use of online social networks to connect to people from your home country in the UK. If you don't use online social networks for that purpose, you do not need to complete Part 2 of the survey.

If you would like to ask any questions regarding the survey or hear about the results of the study, you can get in touch with me on n.macfarlane@napier.ac.uk.

If you freely and voluntarily consent to be a participant in this research project, please press the "Next" button, otherwise please close the page.

I am most grateful for your help!



Experience of Life in the UK

1. Are you over 18 years old?
 Yes
 No
2. Do you consider English your native language?
 Yes, it is my native language.
 No, it is not my native language.
3. Have you moved to the UK to work or study from abroad?
 Yes
 No
4. Do you currently live in the UK?
 Yes
 No

Experience of Life in the UK

Please tell us a bit about yourself.

5. What is your age group?

18-25 26-35 36-45 46-55 56-65 65+

6. What is your gender?

Male Female Not specified

7. What is your marital status?

Single Married Cohabiting Divorced/Separated Widowed

8. Do you have any children?

None One or more

9. What are the age/ages of your child/children?

1st Child

2nd Child

3rd Child

4th Child

If more children, please indicate their ages here:

0 / 2000

10. How many people live in your household, including yourself, that are part of your family unit?

11. What is your income group for the whole family unit?

12. What is your highest education qualification?

13. What best describes your main employment status?

14. If you are/were in employment, in what area would that be?

15. What is your level of English?

Please mark your proficiency level in English on a scale of 1 to 10, where 1 is none existent and 10 is native-like.

	1	2	3	4	5	6	7	8	9	10
Speaking	<input type="radio"/>									
Comprehension	<input type="radio"/>									
Reading	<input type="radio"/>									
Writing	<input type="radio"/>									

16. What is your country of origin?

17. Which part of the UK do you currently live in?

18. How long have you been in the UK?

19. Do you live in an urban or rural area?

20. How far do you have to travel to your nearest ethnic community centre? (e.g. in church, at school, at university, etc.)

21. What is your postcode?

You can leave this field blank if you prefer not to say.

Experience of Life in the UK

Part 1. Your level of life satisfaction in the UK.

22. Please tell us about your social life in the UK.

Please indicate your level of agreement with the following statements.

	Not at all										Very much so	
	1	2	3	4	5	6	7	8	9	10		
I feel my main circle of friends is still in my home country.	<input type="radio"/>											
I have made a lot of good friends amongst British people in the UK.	<input type="radio"/>											
I have made a lot of good friends with people from other countries in the UK	<input type="radio"/>											
A lot of my friends in the UK are from my home country.	<input type="radio"/>											
A lot of my friends live locally to me in the UK.	<input type="radio"/>											
I am an active member of my ethnic community group near me in the UK (e.g. in church, at school, at university, etc.).	<input type="radio"/>											
I am very satisfied with my social life in the UK.	<input type="radio"/>											

23. Who would you ask for help in the situations below.

You can choose several options. If none of the options apply, just leave the row blank.

	Family in the UK	Family/friends in your home country	A friend from your home country in the UK	A British friend in the UK	An international friend in the UK	Online community	A professional (e.g. NHS, charity, bank)
If you needed help around the house when ill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If you need advice about a personal, family or job issue in the UK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If you needed general advice about life in the UK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If you were feeling a bit low and wanting someone to talk to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If you needed to urgently raise £500 in case of an emergency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

24. Can you list 5 people that you go to for advice about serious matters in your life

You can name less than 5 people, if that's more applicable

	Relationship				
	Relationship	Location	Employment	Frequency of contact	Most common means of contact
Person 1	<input type="text"/>				
Person 2	<input type="text"/>				
Person 3	<input type="text"/>				
Person 4	<input type="text"/>				
Person 5	<input type="text"/>				

Experience of Life in the UK

Please tell us how you feel about your life in the UK.

25. Please give your views on how you feel your life has been in the UK

Please indicate your level of agreement with the following statements.

	very untrue										very true
	1	2	3	4	5	6	7	8	9	10	
I feel comfortable living in the UK society.	<input type="radio"/>										
I feel respected and valued by people around me in the UK.	<input type="radio"/>										
I feel I am making a valuable contribution to the UK economy with my skills and experience.	<input type="radio"/>										
I feel living in the UK has enhanced my personal and professional development.	<input type="radio"/>										
I feel I have achieved my goals of moving to the UK.	<input type="radio"/>										
I feel British now.	<input type="radio"/>										

26. What were the main reasons that you moved away from your home country?

Please indicate your level of agreement with the following statements. If none of the options below apply, please leave blank.

	Not true at all										Very true
	1	2	3	4	5	6	7	8	9	10	
Life in my home country was not economically viable any more	<input type="radio"/>										
Life in my home country did not feel safe any more	<input type="radio"/>										
There were better opportunities in the host country	<input type="radio"/>										
Family relocation	<input type="radio"/>										
Personal preferences	<input type="radio"/>										

27. What are your intentions regarding staying or leaving the UK?

Please indicate your level of agreement with the following statements.

	Not true at all										Very true
	1	2	3	4	5	6	7	8	9	10	
I would like to make UK my permanent home.	<input type="radio"/>										
I am planning to move to another country when the time is right.	<input type="radio"/>										
I am planning to return to my home country in due course.	<input type="radio"/>										
I would've liked to return to my home country, but don't feel it's possible or practical.	<input type="radio"/>										

28. How much support is available to you where you live in the UK?

Please indicate your level of agreement with the following statements.

	Very untrue										Very true
	1	2	3	4	5	6	7	8	9	10	
I can get a lot of emotional support from people around me in the UK.	<input type="radio"/>										
I can get a lot of information support on living in the UK from people around me in the UK.	<input type="radio"/>										

	Very untrue										Very true									
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
I can easily get tangible help from people around me in the UK (i.e. help with shopping, minor repairs, babysitting, etc.).	<input type="radio"/>																			

29. How frequently do you do each of the following?

	every day or almost every day	several times a week	at least once a week	several times a month	at least once a month	a few times a year	at least once a year	less often	never
Attend community gatherings/meet friends in person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in social activities of a local club, society or an association (church, school, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use the Internet to keep in touch with your friends and family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use online social media for connecting with other like minded people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30. All things considered, could you please reflect on your quality of life at the moment.

	very dissatisfied										very satisfied									
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
How satisfied are you with your life?	<input type="radio"/>																			

Experience of Life in the UK

Thank you for completing the first part of the survey.

You will now be offered a few questions about how you use social media to connect to other people from your home country in the UK. If you do not use social media for this purpose, you will be taken to the end of the survey.

31. Have you ever used Online Community Groups (e.g. Facebook Groups, Yahoo groups, etc.) to connect to other people from your home country in the UK?

- Yes
- No

32. Have you ever used Online Forums to connect to other people from your country in the UK?

- Yes
- No

Experience of Life in the UK

33. What are the main Online Community Groups (e.g. Facebook Groups, Yahoo groups, etc.) that you use to connect to other people from your home country in the UK?

Please name up to 5 Online Community Groups that you use, or less if that's the case.

1.

2.

3.

4.

5.

34. How often do you log onto such Online Community Groups?

35. What type of information do you usually look for, when using such Online Community Groups?

	Not at all										Very frequently									
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Health and wellbeing in the UK	<input type="radio"/>																			
Career advice in the UK	<input type="radio"/>																			
Housing in the UK	<input type="radio"/>																			
Education in the UK	<input type="radio"/>																			
Services in your language or specific to your culture/ethnic traditions in the UK	<input type="radio"/>																			
Life in general in the UK	<input type="radio"/>																			
Advertising your business	<input type="radio"/>																			
Classified	<input type="radio"/>																			
Other	<input type="radio"/>																			

Please specify, if other:

0 / 2000

36. Do you find such Online Community Groups to be any of the following?

	Not at all										Very much so									
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Informative and trustworthy	<input type="radio"/>																			
Meet like-minded people and make friends	<input type="radio"/>																			

Experience of Life in the UK

37. What are the main Online Forums that you use to connect to other people from your home country in the UK?

Please name up to 5 Online Forums that you use, or less if that's the case.

1.

2.

3.

4.

5.

38. How often do you usually log onto such Online Forums?

39. Do you engage in active discussions on such Online Forums and post a lot, or prefer to mainly read comments from others?

Please indicate your level of agreement with the following statements.

	Not true at all										Very true									
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
I post a lot on the forum	<input type="radio"/>																			
I mainly read posts written by others	<input type="radio"/>																			

40. Do you feel such Online Forums are a place to exchange any of the support types described below?

	Not at all										Very much so									
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Emotional support	<input type="radio"/>																			
Information support	<input type="radio"/>																			
Tangible support (i.e. shopping, minor repairs, babysitting)	<input type="radio"/>																			
Companionship support (i.e. sense of belonging to a group, sharing social activities)	<input type="radio"/>																			

Experience of Life in the UK

41. What do you think about the atmosphere and sense of community on such Forums?

	Not at all										Very much so									
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
There is a community of users on such forums.	<input type="radio"/>																			
I personally feel part of that online community.	<input type="radio"/>																			
I can share important events in my life with others on such forums.	<input type="radio"/>																			
It is a good place to ask advice about life in the UK.	<input type="radio"/>																			
I trust the information I can find on such Forums.	<input type="radio"/>																			
It is important to me, that those forums are in my native language.	<input type="radio"/>																			
Such Forums provide a friendly and supportive environment for online socialising.	<input type="radio"/>																			
I can find new friends from my home country in the UK.	<input type="radio"/>																			
On such Forums, I can freely express my views and opinions on any topic of discussion.	<input type="radio"/>																			

42. Do you feel such Online Forums have had an impact on how you have adjusted to living in the UK?

Please indicate the level of your agreement with the following statements.

	Not at all										Very much so									
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
It has helped me to deal better with challenges of moving to the UK.	<input type="radio"/>																			
It has helped me to better adjust to the way of life in the UK.	<input type="radio"/>																			
It has helped me to continue support my native culture and traditions in the UK.	<input type="radio"/>																			
It keeps me on top of current affairs in my home country.	<input type="radio"/>																			
It has helped me to lessen the stress of immigration through sharing my experiences with other people from my home country in a similar situation.	<input type="radio"/>																			

43. Could you name the main reason why you use an Online Forum for people from your own country in the UK.

44. How would you assess the value of Online Forums for people from your home country in the UK?

	Yes	No	Not sure
Would you recommend using such Online Forums to a friend?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Would you be disappointed if the Online Forum (or Forums) that you use, is closed?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Experience of Life in the UK

45. If you would like to take part in a short telephone interview and give more detailed feedback on the topic of this research, please leave your email address below, and the survey designer will get in touch with you in due course.

10.5 Appendix 5. Immigration Points-Based Systems

Appendix 5. Immigration Points-Based Systems

10.5.1 International points-based immigration policies

Many developed countries have immigration policies that are designed to shape migration flows to fit the needs and requirements based on social and economic and political circumstances. However, some countries have dedicated policies to select migrants that are deemed to be currently required to compliment and boost their economic development. As this research is focusing on highly skilled migrants that plan to migrate legally, immigration host country policies play an important role in the self-selection process of those migrants and in the design of this study.

Currently, three countries in the developed world, that can be considered as attractive destinations for highly skilled migrants, have points-based programmes for skilled migration. They include the UK, Australia and Canada. The criteria in all three programmes are similar, with a difference that Australia restricts its skilled migration to a particular list of occupations, whereas the UK and Canada allow skilled migrants of any professional occupations but want to see the availability of maintenance funds. Canada also grants points for adaptability criteria if a migrant has relatives in Canada. Both the UK and Canada grant points for previous experience in the country, be it work or study.

Immigration criteria for skilled migration to the UK specifies criteria based on the following:

(<http://webarchive.nationalarchives.gov.uk/20100503160445/http://www.ukba.homeoffice.gov.uk/workingintheuk/tier1/general/applying/selfassessment/>) :

- Age;
- Qualifications;
- Experience in the United Kingdom;
- Previous earnings;
- English language skills; and

- Maintenance (funds) available.

Immigration criteria for skilled migration to Canada is based on the following factors (<http://www.cic.gc.ca/english/immigrate/eligibility.asp>) :

Skills in English and/or French (Canada's two official languages),

- Education
- Work experience
- Age
- A valid job offer, and
- Your adaptability (how well you are likely to settle here).
- Funds to support yourself and your family (Exception: A legal right to work in Canada or a Valid Job Offer)

Criteria for immigrating to Australia include the following factors (<https://www.immi.gov.au/Work/Pages/Work.aspx>) :

- Age (under 50)
- Level of English
- Post-secondary education
- Nominated occupation
- Work experience in the nominated occupation

It has to be said that for many countries, immigration policies are designed so, that people of exceptional value to the country, be it art or investments, can be fast-tracked through the migration process. They usually fall under four main categories:

People of exceptional talent (like artists, composers, musicians, dancers, writers, sportsmen, etc.)

- People of exceptional wealth (like investors, financial donors, etc.)

- People of exceptional business talent (like entrepreneurs)
- People of religion

For these categories of people, the previous criteria are not applicable, as it is overwritten by their other assets.

Using those three points-based systems as a guide for the eligibility for skilled migration, as well as the exceptional categories, three main groups of migrants have been identified and the following criteria for the respondents have been set out:

Table 42. Criteria for skilled migrants' selection

Type of migrants	Criteria for admission to the host country
Professionals without a job offer	Age; Education; Profession; Work Experience; Earnings; Available funds; Language skills; Family Status
Professionals with a job offer	Job offer in the host country Immigration clearance
Students Post Graduate	Funds Previous Education Acceptance to a course
Entrepreneurs	Funds (over £50,000) Business Idea Eligibility criteria
Investors	over 16 £2,000,000
Exceptional Talent	Talent Critically acclaimed achievements Recognized contribution to the society

10.5.2 UK Tier-based System

In the UK, the government has introduced a tier system for getting a work visa for migrants in different categories. The system is complex and consists of four tiers that are in turn divide into subcategories. [Error! Hyperlink reference not valid.](#) in Appendix 4 demonstrates the complexity of the structure (Source: [https://www.gov.uk/tier-1-investor/overview as of 11/02/15](https://www.gov.uk/tier-1-investor/overview-as-of-11/02/15)).

There is no Tier 3 categories in this structure, as when the UK's employment-based immigration was split into five tiers, Tier 3 was specifically allocated to unskilled migrants and intended to replace existing low-skilled immigration programmes. However, by the time the five-tier points-based system came into operation in 2008, the UK government felt there was no need for any unskilled immigration from outside the European Economic Area. It was designed to replace schemes such as the Seasonal Agricultural Workers Scheme (SAWS) and the Sectors Based Scheme (SBS) currently only available for Bulgarians and Romanians. Consequently, Tier 3 was never operational and on 25th March 2013, Prime Minister David Cameron announced that it was to be 'shut down completely (<http://www.workpermit.com/uk/uk-immigration-tier-system/tier-3-unskilled-migration.htm>)

As this research is focusing on highly skilled migrants, it is only looking primarily into Tier 1 and parts of Tier 2 (General (job offer); (Intra-company Transfer) and a part of Tier 4 (General Students Visa). In addition to that, highly skilled migrants can also arrive in the UK as people of exceptional talent, investors, entrepreneurs or students. The criteria for those categories are discussed below.

10.5.3 Exceptional Talent

People of exceptional abilities are an asset to any country and they are usually welcome to any host country, as they are seen as of value to the host country's economic, scientific, artistic or public life. However, the criteria for this category is quite stringent as is evident from the title of this category. The eligibility for this visa includes:

To get a Tier 1 (Exceptional Talent) visa, you need to be endorsed as a leader or emerging leader in science, engineering, humanities, medicine, digital, technology or the arts. The applications for endorsement are considered by:

- Arts Council England
- British Academy
- Royal Academy of Engineering
- Royal Society
- Tech City UK

Thus, it is likely that there are not many people that will be able to apply under this category, and the purpose of their application may not be direct involvement in the labour market. Therefore, for the purpose of this research this group of migrants will not be applicable.

10.5.4 Investors

In the UK, a migrant can apply for an “Investor” (Tier 1) visa, if he/she wants to invest £2,000,000 in the UK. If the applicant is successful they can:

invest £2,000,000 or more in UK government bonds, share capital or loan capital in active and trading UK registered companies

- work or study
- apply to settle after 2 years if you invest £10 million
- apply to settle after 3 years if you invest £5 million

To be eligible for this type of visa, you must have at least £2,000,000 investment funds to apply for a Tier 1 (Investor) visa and:

- be 16 years old to apply for this visa
- be able to prove that the money belongs to either you or your husband, wife, unmarried or same-sex partner
- your funds must be held in 1 or more regulated financial institutions
- your funds must be free to spend (‘disposable’) in the UK

This category is mainly based on the available funds, however, the funds are such that only a small number of people will be able to apply for that. The conditions of the visa also do not specify that those funds need to be invested in business, but rather in government bonds, thus the applicant do not necessarily need to engage in business activity or any other work in the host country. On the basis of that, this category of migrants do not fit within the profile of highly-skilled migrants that come to work in the UK, and will not be part of this research.

10.5.5 Entrepreneur

A migrant can apply for a visa as an entrepreneur (Tier 1), if they:

- want to set up or run a business in the UK
- from outside the [European Economic Area \(EEA\)](#) and Switzerland.
- meet the other [eligibility requirements](#)
- have access to at least £50,000 investment funds to apply

Depending on the size of the funds (£50,000 or £200,000), eligibility criteria is different.

The guidelines stipulate that a migrant had to have access to at least £50,000 investment funds to apply for a Tier 1 (Entrepreneur) visa.

The funds must be:

- held in 1 or more regulated financial institutions
- free to spend ('disposable') on business in the UK

There are different eligibility requirements depending on whether you have access to [£50,000](#) or to [£200,000](#).

A migrant must also:

- meet the [English language requirement](#)
- be able to support yourself during your stay
- score 95 points - [check your points score](#)
- be at least 16 years old

This category of migrants, even though required to provide evidence of funds to be invested in the host country, are coming to set up a business and thus engage in a working activity in the UK. However, based on the Home Statistics on visa clearances for candidates from Russia in the entrepreneur category, it was a very small number of migrants who have been granted such visa (see Appendix 3, part B), thus making it a very

small pool of respondents. On the basis of that, that category will not be included in the research.

10.5.6 Students

Studentship is one of the routes for young skilled migrants. They fall into the category that does not necessarily have enough earnings or maintenance funds to qualify for a highly skilled visa but have the ambitions for labour mobility. They are also young enough to participate in further education and will not suffer considerable decrease in earnings if change from a paid job in the home country to a student status in the host country. Another opportunity of studying in the host country is the availability of scholarships in higher education, available for overseas applicants. Organisations, like the British Council, the Rotary Foundation, the Soros Foundation and others award scholarships on the basis of academic merit. Such system ensures that the brightest and the best can have access to further education in developed countries. It also makes education affordable to younger people. Young professionals view studying abroad as a valuable path to acquiring foreign qualifications to establish a career abroad.

Many migrants, particularly young ones, apply for studying abroad as a route to economic migration. It is an attractive option for many young migrants due to a number of reasons:

- does not require funds (if a scholarship)
- parents can pay, if require funds
- does not require work experience
- less stringent criteria
- opportunity to get a qualification in the host country
- opportunity to improve the language
- opportunity to acculturate and adapt

As in many cases the goal of students is to continue their career in the host country, this category should be included in this project.

10.5.7 Participants Criteria

Thus, the following categories are included in the project, defining the criteria for the respondent (Table 43. Criteria for Migrants participating in the Study, page 356)

Table 43. Criteria for Migrants participating in the Study

Criteria/Category	Highly Skilled without job offer	Highly Skilled with job offer	Students (post-graduate)
Age	X		X
Education	X		X
Profession	X	X	X
Language	X		X
Past earnings	X		
Maintenance Funds	X		X
Job offer		X	
Investment funds			
Business Idea			
Acceptance to study			X

The criteria above are capped the following way:

Age - over 16. There is no upper cap on age, as migrants with job offers or entrepreneurs are not limited by age, but we assume that they would be of working age.

Education - there is not limitations on education, as migrants with job offers and entrepreneurs are not required to have a certain level of education

Profession - there is no limitations on the profession, as entrepreneurs can have no formal professional training.

Languages - although there would be a strong requirement to have a working command of English for highly skilled migrants generally, there may be cases when migrants with a job offer or entrepreneurs do not need to know English as their role or job description will not require it.

Past earnings - are only required for migrants applying for a general category of a working visa, as a proof of their work experience and maintenance funds.

Maintenance funds - important for most categories apart from migrants with job offers.

Funds - important for students (except for those who have won a scholarship).

Investments funds - are relatively large (£50,000 and £200,000) and are the main requirement for an entrepreneur visa

Business idea - is one of the main requirements for an entrepreneur visa

Acceptance to study - is one of the main requirements for students.

These parameters were used to define selection criteria for online forums and participation criteria for the online survey.

10.6 Appendix 6: Forum Scraper Code

Appendix 6. Online Forum Scrape

```
require(RCurl)
require(XML)

#need this so russian text is interpreted correctly on windows
#Sys.setlocale("LC_CTYPE", "russian")

#For MAC use this instead
Sys.setlocale("LC_CTYPE", "ru_RU.UTF-8")

##### Notes on the forum structure
# 3 top level categories (not including forum admin)
# 1) General community discussions
# 2) Living in the UK
# 3) Clubs and Groups
### Scrape approach Take a URL direct into each and treat each as its own discrete
forum.
## Combine results later
###Notes on Structure###
# each forum is a list of topics
# each topic is a list of threads
# each topic can have sub-topics which also contain a list of threads
# not all topics have sub topics
# each list of threads is ordered by last post date (newest first)
# each list of threads can have some sticky/locked threads which are at the start of the
list
# each thread is a list of posts ordered by post date (oldest first)

# base url for the whole website
rupoint_base_url<-"http://www.rutalk.co.uk/"

#entry points URLs for the difffernt root forums
forum_url_rcva<-"http://www.rutalk.co.uk/forumdisplay.php?1-
%D0%93%D0%BE%D0%B2%D0%BE%D1%80%D0%B8%D1%82-RuTalk-%D0%92%D1%81%D1%91-
%D1%80%D1%83%D1%81%D1%81%D0%BA%D0%BE%D0%B5-
%D0%BA%D0%BE%D0%BC%D0%BC%D1%8C%D1%8E%D0%BD%D0%B8%D1%82%D0%B8-%D0%B2-
%D0%90%D0%BD%D0%B3%D0%BB%D0%B8%D0%B8"

forum_url_zhva<-"http://www.rutalk.co.uk/forumdisplay.php?94-
%D0%96%D0%B8%D0%B7%D0%BD%D1%8C-%D0%B2-%D0%90%D0%BD%D0%B3%D0%BB%D0%B8%D0%B8-
%D1%81%D0%BE%D0%B2%D0%B5%D1%82%D1%8B-
%D1%8E%D1%80%D0%B8%D0%B4%D0%B8%D1%87%D0%B5%D1%81%D0%BA%D0%B8%D0%B5-
%D0%B2%D0%BE%D0%BF%D1%80%D0%BE%D1%81%D1%8B-%D1%80%D0%B0%D0%B1%D0%BE%D1%82%D0%B0-%D0%B8-
%D0%B6%D0%B8%D0%B7%D0%BD%D0%B5%D0%BD%D0%BD%D1%8B%D0%B5-
%D0%B2%D0%BE%D0%BF%D1%80%D0%BE%D1%81%D1%8B-%D0%B2-UK"

forum_url_clubs<-"http://www.rutalk.co.uk/forumdisplay.php?93-
%D0%9A%D0%BB%D1%83%D0%B1%D1%8B-%D0%BF%D0%BE-
%D0%B8%D0%BD%D1%82%D0%B5%D1%80%D0%B5%D1%81%D0%B0%D0%BC-%D0%BD%D0%B0-
%D0%A0%D1%83%D0%A2%D0%BE%D0%BB%D0%BA%D0%B5"

forum_url_admin<-"http://www.rutalk.co.uk/forumdisplay.php?15-
%D0%90%D0%B4%D0%BC%D0%B8%D0%BD%D0%B8%D1%81%D1%82%D1%80%D0%B0%D1%86%D0%B8%D1%8F-
%D0%A0%D1%83%D0%A2%D0%BE%D0%BB%D0%BA%D0%B0"

### Fix up text encoding issues as we get the pages
htmlParse_fix<-function(get_url)
{
  raw_page<- httpGET(url= get_url , .opts = list(), .mapUnicode = TRUE , isHTTP = TRUE )
  conv_page <- iconv(raw_page, to = "UTF8-MAC", sub = "")
  return(htmlParse(conv_page, asText = TRUE))
}

#fix date fields where "yesterday" and "today" are special cases.
#Convert to actual dates
date_fixup<-function(date_str)
{
```

```

    dstr<-sub('Вчера', format(Sys.Date()-1,"%d.%m.%Y"), date_str) # substitute yesterdays
date for Vchera
    dstr<-sub('Сегодня' , format(Sys.Date(),"%d.%m.%Y"), dstr) # substitute todays date
for Cegodnya
    dstr<- sub("^[[[:punct:]]*[[[:space:]]*","",dstr) # strip leading punctuation and spaces
    dstr<- sub(",","",dstr) # strip commas anywhere
    return(as.Date(dstr, "%d.%m.%Y")) #date format as per rupoint
}

#fix date+time fields where "yesterday" and "today" are special cases. Convert to
actual dates
datetime_fixup<-function(dtime_str)
{
    dt_str<-sub("Вчера", format(Sys.Date()-1,"%d.%m.%Y"), dtime_str) # substitute
yesterdays date for Vchera
    dt_str<-sub("Сегодня", format(Sys.Date(),"%d.%m.%Y"), dt_str) # substitute todays date
for Cegodnya
    dt_str<- sub("^[[[:punct:]]*[[[:space:]]*","",dt_str) # strip leading punctuation and
spaces
    dt_str<- sub(",","",dt_str) # strip commas anywhere
    return(strptime(dt_str,"%d.%m.%Y %H:%M"))
}

# special function to find the last post date
get_thread_last_postdate<- function(xmlnode)
{
    date_fixup(paste(xmlSApply(xmlnode,function(x)
    {
        return(ifelse(xmlName(x)=="text", xmlValue(x,trim=TRUE),""))
    }
    ),collapse=""))
}

#special function to find the post date
get_post_date<- function(xmlnode)
{
    datetime_fixup(xmlValue(xmlnode,trim=TRUE))
}

# Function to fix up
fixup_replyto<- function(df, usercol,replycol)
{
    #set the fix_replyto column number
    fixcol<-ncol(df)+1

    #create a new df with an extra column
    ret_df<-cbind(df,df["posts_replyto"])
    colnames(ret_df)[fixcol]<-"fix_replyto"

    #fix the first post to be a reply to itself
    ret_df[1,fixcol]<-df[1,usercol]

    # iterate over the rest of the df
    numRows=nrow(df)
    for(row in 2:numRows)
    {
        if(df[row,replycol]=="")
        {
            ret_df[row,fixcol]<-df[(row-1),usercol]
        }
    }
    return(ret_df)
}

# function for converting structured text to flat text
# converts img and link urls nodes to plain text
flatten_text<- function(xmlnode)
{
    paste(xmlSApply(xmlnode,function(x)
    {
        switch(xmlName(x),
            "text"=xmlValue(x,trim=TRUE),
            "img"=paste0("<",xmlAttrs(x)[ "title"], ">"),
            "br"="\n",
            "a"=paste0("<link::",xmlValue(x), ">"),
            ""
        )
    }
    ),collapse=" ")
}

```

```

# Need a separate function to flatten the post title so we can do something
# different with img nodes
get_post_title<- function(xmlnode)
{
  paste(xmlSApply(xmlnode,function(x)
    {switch(xmlName(x),
      "text"=xmlValue(x,trim=TRUE),
      "img"= ifelse(xmlAttrs(x)["alt"] == "По умолчанию" , "" , paste0("<" ,
xmlAttrs(x)["alt"], ">" ) ),
      "br"="\n",
      "a"=paste0("<link::",xmlValue(x,">"),
      ""))
    })),collapse="")
}

# traverse the post body looking for the replyto username (recursive)
get_replyto<- function(xmlnode)
{
  paste(xmlSApply(xmlnode,function(x)
    {
      return(ifelse(xmlName(x)=="div",
        ifelse("bbcode_postedby" %in% xmlAttrs(x),
xmlValue(x[["strong"]]) , paste0(get_replyto(x))
        , ""))
      )
    })),collapse="")
}

get_replyto_first<- function(xmlnode)
{
  Reduce(function(x,y){if(x==" " || is.na(x) ) return(y) else return(x) },
get_replyto(xmlnode), "")
}

get_replyto_text<- function(xmlnode)
{
  paste0(xmlSApply(xmlnode,function(x)
    {
      return(ifelse(xmlName(x)=="div", ifelse("message" %in%
xmlAttrs(x),flatten_text(x),get_replyto_text(x)) , ""))
    })),collapse="")
}

### Function takes the url of a thread in the rupoint forum.
### returns a list of pages of posts
get_post_pages<- function(root_url, max_pages=100, timeout=2.5, start_page=1)
{
  xp_next_page_url<-
  "//div[@class='above_postlist']/div[@class='pagination_top']/a[@rel='next']"
  xp_page_title<- "//div/ul[@class='floatcontainer']/li[contains(@class,
'lastnavbit')]/span"

  page_url<- root_url
  pages_list<-NULL
  page_count<-start_page
  repeat{
    Sys.sleep(0.5 + timeout) # pause for 3 sec (by default) between pages to be nice to
the server
    parsed_page <- htmlParse_fix(paste0(page_url,"/page",page_count))
    page_title<- unlist(xmlApply(parsed_page[xp_page_title], xmlValue))

    print(paste(page_title, ": processed page: ", page_count) )
    flush.console() # need to flush to get realtime printing
    pages_list <- c(pages_list , list(parsed_page))
    next_page_link_raw <- Reduce(c,parsed_page[xp_next_page_url]) # raw output
    if(is.null(next_page_link_raw))
    {
      next_page_link<- NULL
    }
    else
    {
      next_page_link<- xmlAttrs(next_page_link_raw) ["href"]
    }
    # stop if the next page URL is not present (ie end of thread) or for more than
max_pages pages

```

```

    if((is.null(next_page_link)) || (page_count >= max_pages) ){
      break
    }
    page_url<- paste0(rupoint_base_url , next_page_link)
    page_count<-page_count+1
  }
  return(pages_list)
}

# main function to iterate over a thread scraping the info we need
get_thread_posts<- function(pages_list, thread_num_views=0, thread_url=""){

##### general notes on post structure
#
# Post data set # = key field, ##= stretch field
#
# post date
# username
# number of the post
##date of registration
##number of posts
##reputation
##user type
#post title (can drop)
#replied to (username, text)
# post text body //note we need to parse emoticons, can insert as [emoticon_name]

#build xpath queries to get the bits of the page we want
xp_navbar_top<- "//div/ul[@class='floatcontainer']/li[@class='navbit'] [2]/a" # top
level(forum)
xp_navbar_l2<- "//div/ul[@class='floatcontainer']/li[@class='navbit'] [3]/a" # parent
topic (for subtopics and thread views)
xp_navbar_l3<- "//div/ul[@class='floatcontainer']/li[@class='navbit'] [4]/a" # subtopic
( for thread views within a subtopic)
xp_navbar_bot<- "//div/ul[@class='floatcontainer']/li[contains(@class,
'lastnavbit')]/span" # topic/subtopic/thread depending
xp_thread_title<- "//span[@class='threadtitle']/a" # title of the thread

toplevel<- lapply(pages_list[[1]][xp_navbar_top],xmlValue) # forum level of navbar
level2<- lapply(pages_list[[1]][xp_navbar_l2],xmlValue) # topic level of navbar
level3<- lapply(pages_list[[1]][xp_navbar_l3],xmlValue) # sub topic level of navbar
botlevel<- lapply(pages_list[[1]][xp_navbar_bot],xmlValue) # current viewing level
thread_title <- lapply(pages_list[[1]][xp_thread_title],xmlValue) # title of the
thread

# deal with subtopics by putting the bottom level in the right place
# not sure this works at the thread level
if(is.null(unlist(level2)))
{
  level2<-botlevel
  level3<-NA
}
else
{
  if(is.null(unlist(level3)))
  {
    level3<-botlevel
  }
}

#build xpath queries to get the post specific bits of the page we want
xp_posts <- "//li[@class='postbit postbitim postcontainer old']"
xp_dates <- paste0(xp_posts,"//span[@class='date']")
xp_unames <- paste0(xp_posts,"//div[@class='username_container']//*[contains(@class,
'username')]")
xp_postnums <-paste0(xp_posts,"//a[@class='postcounter']/text()")
xp_post_titles <-paste0(xp_posts,"//div[@class='postrow']/h2")
xp_post_replyto <-
paste0(xp_posts,"//div[@class='postrow']//div[@class='content']//div[@class='bbcode_post
edby']/strong/text()")
xp_post_replyto_text <-
paste0(xp_posts,"//div[@class='postrow']//div[@class='content']//div[@class='message']")
xp_post_texts <-
paste0(xp_posts,"//div[@class='postrow']//div[@class='content']//blockquote[contains(@cl
ass, 'postcontent')]")

thread_list<- lapply(pages_list, function(parsed_thread){

```

```

#apply the xpath queries
# posts <- parsed_thread[xp_posts]
#Get dates: needs to handle Vchera and Cegodnya as a date
post_dates <- Reduce(c , lapply(parsed_thread[xp_dates],get_post_date))
usernames <- Reduce(c ,lapply(parsed_thread[xp_unames],xmlValue))
# need to convert to numeric?
postnumbers <- Reduce(c ,lapply(parsed_thread[xp_postnums],function(x)
{
  postnum<-xmlValue(x)
  postnum<-as.numeric(gsub("#","",postnum))
  return(postnum)
}))

post_titles <- Reduce(c ,lapply(parsed_thread[xp_post_titles],get_post_title))
### problem with the replyto, data extract OK, but not all posts have this section, ie
don't get a full list.
# can't use Xpath, will need to parse the post content manually to insert "" or NA for
those with missing
posts_replyto <- Reduce(c ,lapply(parsed_thread[xp_post_texts],get_replyto_first))
posts_replyto_text <-
Reduce(c ,lapply(parsed_thread[xp_post_texts],get_replyto_text))

#text of the posts is a bit trickier, so need to do a lot of additional parsing to deal
with complex/rich formatting
# hence use of extra parsing function on xmlnodes
posts_text <- Reduce(c ,lapply(parsed_thread[xp_post_texts],flatten_text))

df_colnames<- c( "toplevel", "level2" ,"level3" , "thread_title",
"thread_num_views", "postnumbers", "usernames", "post_date", "post_titles",
"posts_replyto", "posts_reply_to_text", "posts_text", "thread_url")
df<-data.frame(toplevel, level2, level3, thread_title, thread_num_views,
postnumbers, usernames ,post_dates,
post_titles,posts_replyto,posts_replyto_text,posts_text, thread_url ,stringsAsFactors =
FALSE)
colnames(df) <- df_colnames
return(df)
})

thread_df<-Reduce(rbind,thread_list)

# return the dataframe
return (thread_df)
}

# Traverse a topic getting all the pages with threads meeting the criteria
# the last post has been made since_date, we have not already downloaded max_pages
get_thread_pages<- function(root_url, since_date, max_pages=100, timeout=2.5 )
{
  if(missing(since_date))
  {
    since_date<- Sys.Date() - 31 # default to last month (ie 31 days) of posts
  }
  xp_next_page_url<-
  "//div[@class='above_threadlist']/div[@class='threadpagenav']//a[@rel='next']"
  xp_page_title<- "//div/ul[@class='floatcontainer']/li[contains(@class,
'lastnavbit')]/span"

  xp_thread_last_post_date = "(//dl[contains(@class, 'threadlastpost')]/dd[2])[last()]"
#date always second element, selects the last thread on the page
page_url<- root_url
pages_list<-NULL
page_count<-1
repeat{
  Sys.sleep(0.5 + timeout) # pause for 3 sec (by default) between pages to be nice to
the server
  parsed_page <- htmlParse_fix(page_url)
  page_title<- unlist(xmlApply(parsed_page[xp_page_title], xmlValue))

  last_post_date<-get_thread_last_postdate( Reduce(c,
parsed_page[xp_thread_last_post_date]) )
  print(paste(page_title, ": processed page: ", page_count) )
  flush.console() # need to flush to get realtime printing
  pages_list <- c(pages_list , list(parsed_page))
  next_page_link_raw <- Reduce(c,parsed_page[xp_next_page_url]) # raw output
  if(is.null(next_page_link_raw))
  {
    next_page_link<- NULL
  }
}
}

```

```

    }
    else
    {
      next_page_link<- xmlAttrs(next_page_link_raw) ["href"]
    }
    if(is.na(last_post_date))
    {print("encountered missing last post date, stopping pagination...")}
    # stop if the next page URL is not present (ie end of thread) or for more than
max_pages pages or the last thread of previous page was before since_date
    if((is.null(next_page_link)) || (page_count >= max_pages) || is.na(last_post_date)
|| (last_post_date < since_date) ){
      break
    }
    page_url<- paste0(rupoint_base_url , next_page_link)
    page_count<-page_count+1
  }
  return(pages_list)
}

get_navbar_text<- function( xmlnode, nav_level)
{
  nav_list<-xmlChildren(xmlnode)
}

# to be called with the output of get_thread_pages
# summarizes the info on each thread within the pages_list
get_threads_info<- function(pages_list)
{
  #build xpath queries to get the bits of the page we want
  xp_navbar_top= "//div/ul[@class='floatcontainer']/li[@class='navbit'][2]/a" # top
level(forum)
  xp_navbar_l2<- "//div/ul[@class='floatcontainer']/li[@class='navbit'][3]/a" # parent
topic (for subtopics and thread views)
  xp_navbar_l3<- "//div/ul[@class='floatcontainer']/li[@class='navbit'][4]/a" # subtopic
(for thread views within a subtopic)
  xp_navbar_bot<- "//div/ul[@class='floatcontainer']/li[contains(@class,
'lastnavbit')]/span" # topic/subtopic/thread depending

  xp_thread_title =
  "//li[not(contains(@class, 'moved'))]//h3[@class='threadtitle']/a[contains(@class, 'title'
)]"
  xp_thread_author = "//li[not(contains(@class, 'moved'))]//div[@class='author']/span/a"
  xp_thread_start_date =
  "//li[not(contains(@class, 'moved'))]//div[@class='author']/span/text()"
  xp_thread_last_post_date = "//li[not(contains(@class, 'moved'))]//dl[contains(@class,
'threadlastpost')]/dd[2]" #date always second element
  # note that we need to use contains as there are different class variants for
different topics
  xp_thread_num_posts =
  "//li[not(contains(@class, 'moved'))]//ul[contains(@class, 'threadstats')]/li/a" #assume
num posts is always the first element
  xp_thread_num_views =
  "//li[not(contains(@class, 'moved'))]//ul[contains(@class, 'threadstats')]/li[2]" # and
number of posts is the second

  toplevel<- lapply(pages_list[[1]][xp_navbar_top],xmlValue) # forum level of navbar
  level2<- lapply(pages_list[[1]][xp_navbar_l2],xmlValue) # topic level of navbar
  level3<- lapply(pages_list[[1]][xp_navbar_l3],xmlValue) # sub topic level of navbar
  botlevel<- lapply(pages_list[[1]][xp_navbar_bot],xmlValue) # current viewing level

  # deal with subtopics by putting the bottom level in the right place
  if(is.null(unlist(level2)))
  {
    level2<-botlevel
    level3<-NA
  }
  else
  {
    if(is.null(unlist(level3)))
    {
      level3<-botlevel
    }
  }
}

# iterate over all pages
thread_list<- lapply(pages_list, function(page_parsed)
{

```

```

df_colnames<- c( "toplevel", "level2" ,"level3" ,"thread_titles", "thread_authors",
"thread_start_dates", "thread_last_post_dates", "thread_num_posts", "thread_num_views",
"thread_url")

#Apply the xpath queries
thread_titles <- Reduce(c,lapply(page_parsed[xp_thread_title],xmlValue))
thread_urls <-
Reduce(c,lapply(page_parsed[xp_thread_title],function(x){xmlGetAttr(x,"href")}))
thread_authors <- Reduce(c,lapply(page_parsed[xp_thread_author],xmlValue))
thread_start_dates <-
Reduce(c,lapply(page_parsed[xp_thread_start_date],function(x){datetime_fixup(xmlValue(x),
trim=TRUE)}))
thread_last_post_dates <-
Reduce(c,lapply(page_parsed[xp_thread_last_post_date],get_thread_last_postdate))

thread_num_posts<- Reduce(c,lapply(page_parsed[xp_thread_num_posts],xmlValue))

#note on the regex used below
#sub("^.+:",xmlValue(x)) substitutes from start of string the space after the :
with ""
#ie leaves the number part (note that it is still as a string)
thread_num_views<-
Reduce(c,lapply(page_parsed[xp_thread_num_views],function(x){sub("^.+:",
"",xmlValue(x))}))
df<-data.frame(toplevel, level2, level3, thread_titles, thread_authors,
thread_start_dates, thread_last_post_dates, thread_num_posts, thread_num_views,
thread_urls, stringsAsFactors = FALSE)
df<-mutate(df, thread_num_posts=as.numeric(gsub(",","",thread_num_posts)))
df<-mutate(df, thread_num_views=as.numeric(gsub(",","",thread_num_views)))
colnames(df)<- df_colnames
return(df)
})
#stitch the pages together into one dataframe
threads_df<-Reduce(rbind,thread_list)

# return the dataframe
return(threads_df)
}

#iterate over a list of topics
get_forum_threads_info<- function(topic_url_list, since_date)
{
  if(missing(since_date))
  {
    since_date<- Sys.Date() - 31 # default to last month (ie 31 days) of posts
  }
  thread_df_list<-lapply(topic_url_list, function(topic_url) { tryCatch(
    {get_threads_info(get_thread_pages(topic_url,since_date))},
    error=function(err){print("error processing topic")}
    return(NULL)})
  })
  return(Reduce(rbind,thread_df_list))
}

#based on a df from threads_info return df with all the posts of all the threads
get_threads<- function(df_in , max_pages = 100)
{
  df<-mutate(df_in, thread_url=paste0(rupoint_base_url,thread_url))
  thread_dfs<-Map(function(numview, url)
  {
    return(tryCatch({get_thread_posts(get_post_pages(url, max_pages = max_pages),
numview, url)},error=function(err){print(paste0("error processing thread ", url))
return(NULL)}))
  }, df$thread_num_views , df$thread_url)
  return(Reduce(rbind, thread_dfs))
}

#wrapper function to iterate over forum to get topics
get_alltopic_url<-function(forum_parsed)
{
  xp_alltopic_url = "//h2[@class='forumtitle']/a" # gets subtopics as well as topics
  alltopic_url<- lapply(forum_parsed[xp_alltopic_url],function(x)
  {
    paste0(rupoint_base_url, xmlGetAttr(x,"href"))
  })
}

```

```

}

#traverse the top level topics
get_topics_info<- function(forum_parsed)
{
  #build xpath queries to get the bits of the page we want
  xp_forum_title = "//h1/span[@class='forumtitle']"
  xp_topic_title = "//div[@class='forumrow']//h2[@class='forumtitle']"

  ### add current viewing

  xp_topic_url = "//div[@class='forumrow']//h2[@class='forumtitle']/a"

  # note that we need to use contains as there are different class variants for
  different topics
  xp_topic_num_threads =
  "//div[@class='forumrow']/ul[contains(@class,'forumstats')]/li[1]" #assume num threads
  is always the first element
  xp_topic_num_posts =
  "//div[@class='forumrow']/ul[contains(@class,'forumstats')]/li[2]" # and number of
  posts is the second

  # last post date doesn't work if there is a null topic (ie no posts ever made)
  # there is one such in clubs section, means that the whole scrape for that forum
  section gets broken :- (
  # can't even try/catch as the problem is that the xpath query which results in a
  smaller list.
  # you can't then tell which topic(s) had the missing elements
  # only potential option would be a horrid recursive function to drill down from a much
  higher level node that we can guarantee does exist
  xp_topic_last_post_date = "//div[@class='forumrow']//p[@class = 'lastpostdate']"
  #need a function to fill in the blank values here. those that have viewers have a
  <span> tag under this level
  xp_num_viewing= "//div[@class='forumrow']//div[@class='titleline']"

  #Apply the xpath queries
  forum_title <- Reduce(c,lapply(forum_parsed[xp_forum_title],xmlValue))
  topic_titles <- Reduce(c,lapply(forum_parsed[xp_topic_title],xmlValue))
  topic_urls <-
  Reduce(c,lapply(forum_parsed[xp_topic_url],function(x){xmlGetAttr(x,"href")}))
  topic_last_post_date <- Reduce(c,lapply(forum_parsed[xp_topic_last_post_date],
  get_thread_last_postdate))
  #note on the regex used below
  #sub("^.+:", "",xmlValue(x)) substitutes from start of string to the space after
  the : with ""
  #ie leaves the number part (note that it is still as a string)
  topic_num_threads<-
  Reduce(c,lapply(forum_parsed[xp_topic_num_threads],function(x){sub("^.+:",
  "",xmlValue(x))}))
  topic_num_posts<-
  Reduce(c,lapply(forum_parsed[xp_topic_num_posts],function(x){sub("^.+:",
  "",xmlValue(x))}))

  df<-data.frame(forum_title, topic_titles, topic_num_threads, topic_num_posts,
  topic_last_post_date, topic_urls ,stringsAsFactors = FALSE)

  df<-mutate(df, topic_num_posts=as.numeric(gsub(",","",topic_num_posts)))
  df<-mutate(df, topic_num_threads=as.numeric(gsub(",","",topic_num_threads)))

  return(df)
}

```