

Migrants' Digital
Knowledge Flows

How Digital
Transformation Shapes
Social Behaviour

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In a nutshell

- From a macro-perspective, digital transformation regarded as a continuous process not only impacts our daily lives but also influences social phenomena such as migration processes.
- Rather than a luxury item, for refugees' smartphones appear to open a "new window" to the outside world, which influence social behaviour.
- Digital, real-time knowledge and information exchange help refugees to find orientation on their escape routes and within the receiving country and thus, are likely to affect migration processes.
- Digital apps and social media in particular are important information and communication channels, which accelerate the circulation of information. However, they might also contribute to the creation of positive and negative myths about destination countries.

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1 Introduction

As a side-effect of the latest immigration movements to Germany, a heated public debate arose on "luxury articles" in the form of "smartphones" owned by e.g., Syrian refugees¹. This led to distorted perceptions of refugees' financial endowment among certain population groups in the receiving countries. In parallel, a counter-argument debates the role of smartphones as digital tools, as refugees' "new window" to the outside world, which influences their social behaviour. It is argued that smartphones enable refugees to orient themselves wherever they are on their escape route and to communicate at any time regardless of their location. Within their transnational migration networks (e.g. David & Barwinska-Malajowicz, 2018; Schmitz, 2013; Pries, 2001, 2011; Schmitz, 2011), they can catch up with their families, friends and further associates (including those whom they meet in transition countries and on the route of escape). Making use of short messenger services, such as "WhatsApp", smartphones allow refugees to quickly provide information to and exchange experiences with others. Such knowledge flows may under certain circumstances change refugees' state of mind when it comes to the choice of the escape route or the destination or the place they move to in the receiving countries. Additionally, the fast exchange can not only provide the newest information on the political situation at home, but also on the current situation related to education, work and further socio-economic issues in the receiving regions, so that refugees are aware of what to expect when arriving.

Once arrived at their destination, most refugees initially find a new home in refugee shelters or camps. Well-established in evolutionary economy, the proximity concept refers to distinct types of interorganisational relationships that are expected to facilitate knowledge exchange and interactive learning (Boschma, 2005). Distinct forms of proximity include geographic, cognitive, social, institutional and organisational proximity. More recently, the role of temporary proximity (cf. Kuttim, 2016; Bathelt & Henn, 2014; Bathelt & Turi, 2011; Malmberg & Maskell, 2006) has also been discussed. Transferred to the refugees' situation, temporary proximity in shelters or camps builds a conducive environment for knowledge exchange due to temporary proximity. It is argued that similar values, cognitive patterns and cultural paths of individuals facilitate confidence building as a condition for the exchange of important knowledge. Hence it follows that temporary proximity is likely to impact the content and flows of knowledge exchanged. If that is the case, digital knowledge flows might change again when refugees move to their places of residence and related resolution of temporary proximity.

To advance the understanding of digital knowledge flows of refugees an explorative study was conducted in Germany and Italy.² In the light of the above discussion, the following hypotheses were analysed:

¹ See for instance the German *Süddeutsche Zeitung*, 11th August 2015: <https://www.sueddeutsche.de/panorama/vorurteile-warum-handys-fuer-fluechtlinge-kein-luxusartikel-sind-1.2603717> (accessed: 20 May 2019).

² This article presents the results of the survey "Digital Knowledge Flows of Refugees/FLOURISH" accomplished in September 2017 by the Institute for Work and Technology (Westphalian University, Germany) and the University of Macerata (Italy).

- **Hypothesis 1:** Smartphones enable "faster, digital" exchanges for migrants - in our case refugees - with family, friends and other contact persons, and provide both sides synchronously with information from the arrival region quickly transmitting experiences e.g. through the use of digital applications such as WhatsApp;
- **Hypothesis 2:** Content and flows of knowledge exchange is context-dependent while temporary proximity has got a major impact;
- **Hypothesis 3:** The digital and often synchronous information content between the country of origin and the country of arrival are subject to "myths" and "narratives" around the process of migration;
- **Hypothesis 4:** Digitally exchanged information can influence the decision on chain migration processes between country of origin and country of arrival.

The paper is organised as follows. The next section introduces the methodology of the explorative study. Section 3 discusses the impact of digital transformation on social behaviour, followed by the discussion of migrant networks and their role in migration processes (section 4) and temporary proximity in section 5. The sixth section summarises the results, while section 7 provides conclusions.

2 Methodology

The present study was conceptualised in July 2017, when in comparison to 2016 with 722,370 first-time applications for asylum in Germany alone, the figure declined to 198,317 (-72.5%) in 2017 (BAMF, 2019). It bases on empirical data drawn from immigrants in Germany and Italy who regard themselves as refugees or own the official status of "recognised or tolerated refugee". Data are obtained from a standardised online questionnaire administered to refugees in the two countries by a press call and through intermediary organisations. Due to the nature of the survey a key informant design was applied. The sample of 29 respondents, 13 in Germany and 16 in Italy, is rather small and does not claim representatively. It is, nevertheless, suitable to identify certain trends that give raise for further investigation. Accordingly, results have to be interpreted with caution. The relative low response rate is attributable to the circumstances: (1) The survey was provided in English, French, German and Italian, but not in the native languages of the target group of refugees; (2) The accessibility and the direct approach of the target group as well as the visibility of the study for the target group was challenging, as the communication between refugees and researchers were indirect, channelled by intermediaries (mostly refugees themselves as peers, media, press releases); only in the German region North-Rhine Westphalia and the Italian region Marche potential survey participants were approached directly; (3) Additionally, at first glance, participation in the study did not yield an added value for the target group, accordingly, the motivation was low.

The questionnaire was structured into six sections A-F. While section A asked for personal data, section B was requesting the status of the refugees and their biographies of escape. Section C was dedicated to the usage of smartphones. Section D centred on the role of networks and

information exchange. Section E formulated questions to collect information on the role of temporary proximity in refugee shelters and afterwards. Myths, narratives and chain migration were topics of the final section F. Data was collected from August/2017 December/2017.

3 The Impact of Digital Transformation on Societies and Social Behaviour – Framing the Survey

Digital transformation is regarded as a continuous process affecting virtually every area of life in societies worldwide. In the public debate, however, much confusion exists with regard to the terms “digitisation”, “digitalisation” and “digital transformation”.³ To shed light on the many meanings, Bloomberg (2018) inspired by Gartner’s IT Glossary⁴ defines *digitisation* as the process of changing from analogue to digital form, also known as digital enablement. Moving forward from a clear definition of *digitisation* to the conceptual term of *digitalisation*, it becomes evident, that the two are often used interchangeably in literature. Brennen and Kreiss (2016) define digitalisation as the way in which many domains of social life are restructured around digital communication and media infrastructures. Bloomberg (2018) explains that as interactions move away from analogue technologies (e.g. telephone calls) to digital ones (email, chat, social media), both work and leisure domains become in a sense digitalised. However, digitalisation is also used in many other contexts such as economics, for instance “digital businesses (creation)”, “digital business models” (Hamburg & Lütgen, 2019) or in the labour market discussion “digital workplaces innovations” (Kleverbeck & Terstriep, 2017).

In the context of labour markets, digitalisation is often associated with a negative connotation, especially when discussed in view of job losses due to the displacement of work forces by digital technologies (David et al., 2017). This is, however, no new phenomenon. In the 1930s Keynes (1936) already claimed that new technologies may once reduce human labour and several colleagues followed that line of reasoning, among them e.g. Leontief (1983), Rifkin (1995) and Ford (2009). The concept of “New Work” first introduced by the social philosopher Bergmann in the 1970s and revitalised more recently in the discussion on leadership and digitalisation, on the other hand, explains how digital transformation helps to enable people to find their real call in career life.⁵

In addition, one finds a broad literature on digital innovation (OECD, 2019) in general and how digital innovation influences different sectors such as health and care (Menvielle et al., 2017) or education and training (Hamburg et al. 2017). In this vein, Loebbecke and Picot (2015) describe how digitalisation and *datification* penetrate all areas of life and create new ways of communicating, cooperating, working and living and impact processes and products as well as consumers.

³ Forbes: Digitization, Digitalization, And Digital Transformation: Confuse Them At Your Peril by Jason Bloomberg: <https://www.forbes.com/sites/jasonbloomberg/2018/04/29/digitization-digitalization-and-digital-transformation-confuse-them-at-your-peril/#6c5ac48b2f2c> (accessed: 25 May 2019).

⁴ Gartner’s IT Glossary <https://www.gartner.com/it-glossary/digitization/> (accessed: 25 May 2019).

⁵ Digital Pioneers: <https://t3n.de/magazin/new-work-urvater-frithjof-bergmann-alte-mann-mehr-247621/> (accessed: 25 May 2019).

Nevertheless, following Bloomberg (2018) digitalisation overlaps with forms of *digital transformation*. He argues that the digital transformation is nothing that companies can implement in projects but rather is the overall ability to deal with changes induced by digital technologies. For companies this means being prepared for future customers and their behaviour, primarily driven by novel digital occurrences. For everyday life, this means the transformation of societies and their behavioural changes driven by digital technologies.

From a macro-perspective, thus, digital transformation also influences social phenomena such as migration processes. Firstly, digital tools enable network building among migrants, not only based on strong, but also on weak ties – a concept introduced by Granovetter (1973). Allowing to tie several geographical places together, digital apps, for example, help migration networks to grow transnationally (Pries, 2011; Schmiz, 2011). In doing so, information exchange and knowledge spillovers among groups emerge simultaneously (David, 2015). This makes it possible to interact in a created digital “third space” (Bhabha, 2000) where time, national borders, national belonging, space, culture play subordinated roles. Secondly, using digitalisation migrants can react, in the sense of digital transformation, to unexpected events by e.g. changing the plan to migrate in terms of time and place, and being informed on the political as well as socio-economic developments in the destination countries.

In addition, social media, as part of digitalisation supports the formation of migration narratives and creates both positive and negative myths. While once it took several weeks or month to share new information and pictures of the migration process (e.g. escape route) today it is just one single click away to present “true” or “fake” news from the points of destination and the current life situation. Fake news in this context are not faked to seduce but to give the ones “left behind” the feeling of a successful migration process that was worth the undertaking under “often very difficult” conditions. Unfortunately, what often is well-intentioned for it should calm family and friends who are in worries, provides new myths and imaginations far from reality, which motivate chain migrations processes to the “new world”.

How and if the digital transformation also impacted the newest refugee migration processes was investigated in the sections A-D of the survey, which will be presented below.

4 Migration Networks and their Role in Migration Processes

4.1 Background

Introducing the idea of actors' networks and their outstanding role and potential they can offer to regions, processes and persons, the literature of Bourdieu (1983) on social capital has proven its worth. In Bourdieu's concept (1983: 248) social capital is “[...] the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition.” Only several years later Coleman (1988: 98) followed him in explicating the theory behind the term as “[...] a variety of entities with two elements in common: They all consist of some aspect of social structures, and they facilitate certain actions of actors – whether personal or corporate actors – within the structure.” Following this, further colleagues such as Putnam (1993) as well as Serageldin and Grootaert

(1997) considered social capital as potential and resources which play out in beneficial, collective and economic ways (David, 2015). As these benefits refer to collaborations between individuals and groups, so-called social actor networks are of value (Putnam, 2000). The most recent definitions of Durlauf and Fafchamps (2004: 5) state, “[...] social capital is [...] network-based processes that generate beneficial outcomes through norms and trust.” Based on the previous definitions, in retrospect David (2015) summarises the following traits of social capital: (1) social capital generates positive external effects for members of a group, (2) these external effects are realized through shared trust, norms, and values and their consequent effects on expectations and behaviour, (3) shared trust, norms, and values result from informal forms of organizations based on social networks and associations.

Social capital consists of a group/collective nature and an individual nature (Coleman 1990). Referring to the group-level, Coleman (1990) and following him Boshuizen (2009) define social capital as not being driven solely by individual interests and goals and independent actions, but rather as being bound by a social system that combines individual actions and interests to a whole social occurrence (David, 2015). The individual nature of social capital, by contrast is defined as “[...] the individual resource accessible via a social network of direct and indirect contacts” (Boshuizen, 2009: 29). Following this, social capital is regarded as a ground for collective and individual beneficiaries of e.g. regions, processes and people. Putnam (2000: 319) claims, “[...] where trust and social networks flourish, individuals, firms, neighbourhoods, and even nations prosper.” Based on the previous findings, actor networks can and should be considered as social capital.

By nature, actor networks are social organisations (David, 2015; Cooke, 1996) that follow a specific dynamic and life cycle and are the link between independent actors of at least three equal member parties (Butzin, 2000). Likewise, actor networks are more flexible and faster in responding to socio-economic regional challenges than further entities such as governments or organisations, which depend on strong hierarchies and long communication channels. For instance, Granovetter (1973: 1360) argues that networks show “[...] how interaction in small groups aggregates to form large-scale patterns [...]”. For this, actor networks, which are founded on trust and reciprocity (Boshuizen, 2009), based on shared norms and values form part social capital, which can bring benefits to groups and individuals.

For the consideration of actor networks as co-creators/co-producers as well as influencers of processes and persons - in our case the migration processes and migration behaviours - we need to dig deeper. Burt (2005) explains that in any kind of network, the direct connections as well as the indirect connections are of great importance. Both modes of interconnection which are typed as “weak” and “strong” ties by Granovetter (1973) form a network. In such sense, strong ties are the dense co-operations of a network. These are linear connections with high mutual confidence, reciprocal services, and a high emotional as well as temporary intensity (David, 2015). On contrary, a weak tie involves limited contact in time and intensity (Boshuizen, 2009). The assumption that strong ties, based on face-to-face interaction, provide a network with more information is sometimes misleading. It is often the weak ties that deliver new information and knowledge to the network (members) (David, 2015). This becomes even clearer when one thinks about the fact that close friends and relationships as well as close network interrelations always move in

the same actors' circle, where only a small number of new influences can be identified among the shared information. By contrast, weak ties, which consist of two separate components, can provide networks with new information flows and opportunities for development (David, 2015). Comparable to Granovetter's (1973) conception of the "strength of weak ties", the social capital theory works with variations of social capital and labels them as "bonds" and "bridges" (Putnam, 2000). In line with Granovetter's strong ties, being mainly close friends and family, bonds are defined as links to actors in the sense of common identity. In general, these are people who share the same culture, values and even ethnicity (David, 2015). Bridges, as the other side of the coin, are links that sweep beyond the shared identity. These can be defined as distant friends or second-hand relationships, colleagues and similar (David, 2015).

David (2015) transmitted the ideas of weak and strong ties as well as bonds and bridges to actor networks, being part of the social capital, and concluded that each network has a primary function and a priority focus, but aside from this, networks may also have several side-effect functions or activities which can be explored when required. She argues that, for both the primary and secondary functions, strong ties are required, such as regional bonds, but bridges and weak ties seem to be of even greater importance when redefining networks in accordance with their secondary functions or, as it has been termed, their side-effect activities.

David (2015) goes even a step further and decouples networks from their function by regarding them as ties (by themselves) in a brighter network structure where they can take on a double role. They can be bonds in the sense of strong ties in the region and bridges thanks to weak ties to the outside world. In that sense, the bridging function of a network's weak ties can be regarded as the opening of a region to external flows. These flows can be of migration, knowledge and information and can deliver regions with innovative impulses. The bridging function of actor networks can offer exchange between the local and the global levels and quickly respond to any kind of challenges.

With regards to the previously said, migration networks are social networks consisting of social ties between the domestic and the arrival country/region. Often, migration networks between two regions are established over the long term and date back to earlier times and historical inter-connections between two regions (see as an example the Polish region Silesia and the German region North Rhine-Westphalia) – also some forms of diaspora (David et al., 2012). Thus, many migration networks are path dependent. In their primary function they create social, financial (remittance) and human capital for both the domestic and the arrival region because of the long term needed for their establishment. In the case of preparation for immigration, migration networks are often used to make the "proper" individual migration choice. They regularly function as a "door opener" in the receiving region by finding job opportunities for the "new" immigrants or in helping them to integrate socially. A specific phenomenon of migration networks is transnational migration networks (Pries, 2011), which is associated with the phenomenon of "New Nomads" (David et al., 2012) or "New Argonauts" (Saxenian, 2007). Through the multilayer identity of the so-called transmigrants, transnational migration networks connect various actors from several regions and countries. They are used for fast information exchange and they are possible "influencers" when it comes to migration choices, migration routes, migration destinations and

economic concerns, rather than traditional migration networks are. One can call them the “compass” of migration processes. Often such networks provide regions with knowledge exchange and innovative ideas via digital tools and not seldom use digitalisation to transform migrant’s behaviour and identity and support them going through the often difficult and long-lasting migration process (David, 2015) spreading their ties and bridges to transition and home countries.

4.2 Reflection of the Results⁶

With reference to the methodology the sections A-D give insights into the role of digitalisation and migration networks during the migration process. Here the questions strive to capture in depth knowledge on information exchange, i.e. the content of the information and related sources. In this vein, questions have also been asked referring to the digital tools themselves such as smartphones and digital applications.

In section A personal data of the refugees was required. As stated, the sample of the survey counts 29 persons in total of which 13 respondents were resident at that time in Germany and 16 in Italy. The distribution by gender counts 3 female and 26 male respondents. With reference to the age of the participants, most persons were aged 15-25 (11 persons); followed by the group aged 30-35 with 4 participants. Only 3 participants were 25-30 years old at the time. Regarding the marital status of the refugees 20 persons stated to be single, 8 stated to be married and only one person was engaged. The highest number of participants (8 in total) attended 5-11 years education or training.

Regarding further studies on refugees, for instance, in Germany (cf. Brücker et al., 2016; David et al., 2019) the results of the survey (even with the small sample) are in line with the overall data, verifying that under the group of refugees who have entered Europe between 2015-2017 the target group can be described as young male refugees with a low or an intermediate education level.

Results from Section A – Personal Data of Respondents

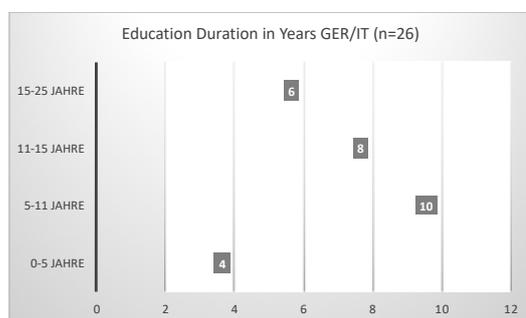


Figure 1. Duration of Education

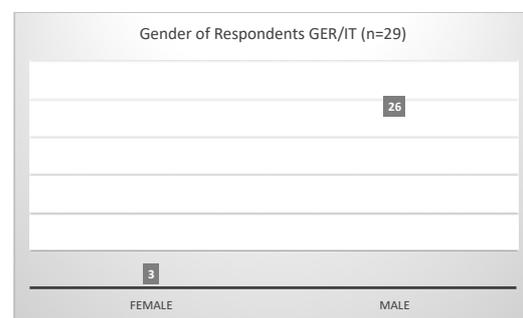


Figure 2. Gender Distribution

⁶ all diagrams are own source and base explicitly on the results of the lime survey



Figure 3. Marital Status

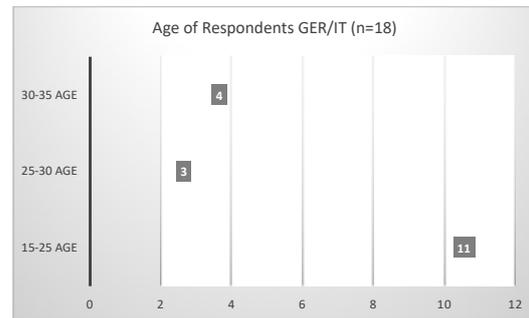


Figure 4. Age Distribution

Section B of the survey asked questions about the country of origin and the country of arrival, the year of arrival and the status of asylum application or a possible recognition as recognised refugee. As shown in figures 5 and 6 the country of origin of the German and Italian respondents differ strongly. While in Germany the respondents mainly list countries of origin which are allocated in the so-called Middle East such as e.g. Syria (7 respondents) or Iran (2 respondents), Afghanistan and Iraq (1 respondent) and 2 respondents from Morocco; in Italy, besides states allocated in the Middle East, several African countries were listed as countries of origin among them Sudan, Senegal, Ghana, Gambia etc. Figure 6 shows no significant differences among the countries when it comes to the distribution of the numbers of participants in Italy. Figure 7 presents that the years of arrival, both in Germany and Italy, cumulate around 2015-2016, which also was verified by further studies as the pick point of the newest refugee immigration from overseas to Europe (Brücker et al., 2016; BAMF, 2017). At the time the survey was accomplished figure 8 presents that a higher number of the respondents (9 in Italy and 7 in Germany) already had a status as recognised refugees in both countries. However, in Italy there are also many participants owning only the tolerated refugee status (7 in total).

Results from Section B – Country of Origin, Country of Arrival & Status

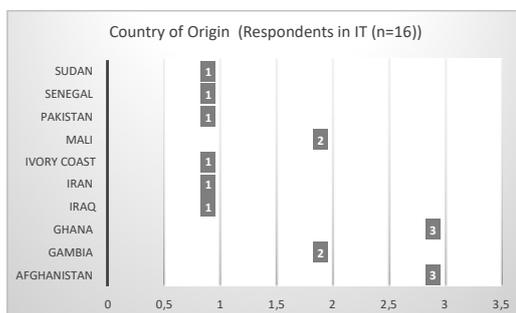


Figure 5. Country of Origin – All respondents

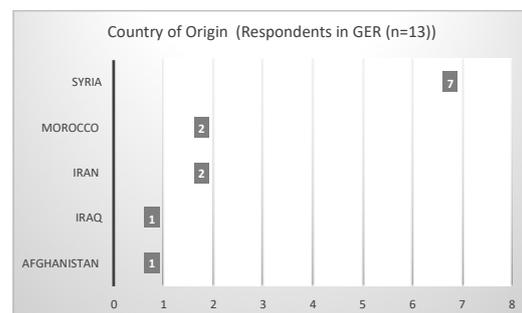


Figure 6. Germany - Country of Origin

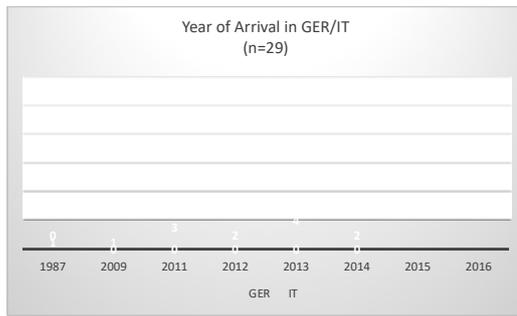


Figure 7. Year of Arrival

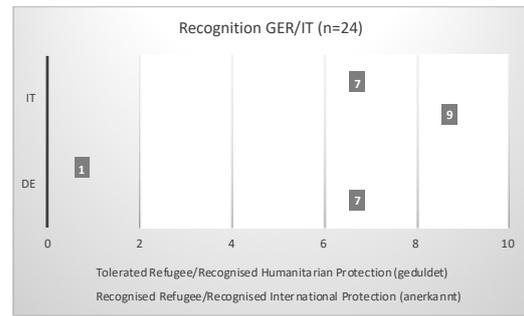


Figure 8. Societal Perceptions

The usage of the smartphones was topic to section C. Against the often-spread populist prejudices that refugees and further groups of immigrants entering South-Western Europe possess luxury goods such as high numbers of smartphone per capita, the results of our survey show the opposite. The majority of the respondents in Germany and Italy (24 in total) are owners of one smartphone. In both countries the frequency of their usage clearly states several times a day. When asking the target group for what main reasons they use the smartphone the most common answers in Italy and Germany were phone calls, closely followed by the usage of WhatsApp or further messengers.

Results from Section C – Usage of SmartPhones/Frequency, Reasons and Numbers

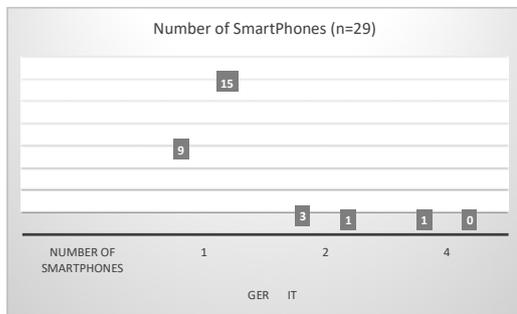


Figure 9. Number of Smartphones

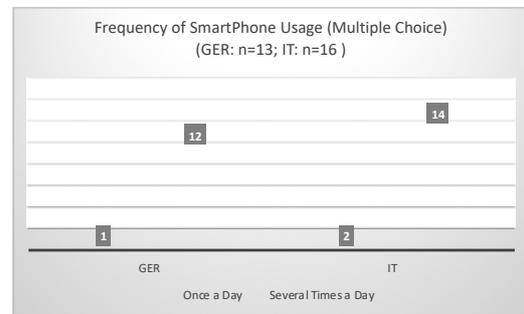


Figure 10. Frequency of Smartphone Usage

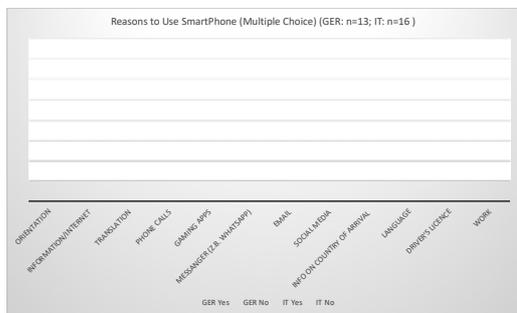


Figure 11. Reasons for Smartphone Usage

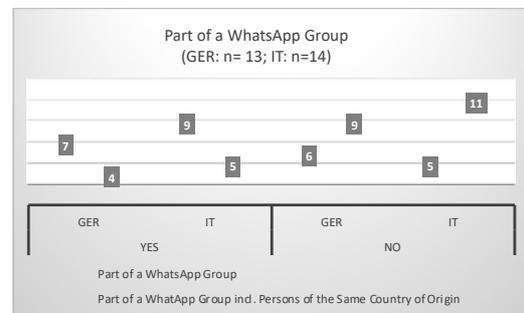


Figure 12. WhatsApp Group Member

With section D the survey concentrated on network activities of refugees generally and during the run. The intention was to figure out with whom (who are the networks) the respondents

communicated via smartphones and what kind of information was exchanged generally and during the migration process (during the escape). It was also asked if the contact with the listed groups was already existent during the time of escape. In this vein, the question arose, if the info exchanged by smartphones had influence on the rout of escape.

Results from Section D – Network activities

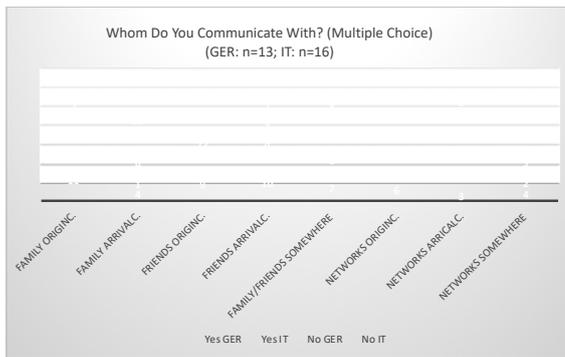


Figure 13. Communication Partner



Figure 14. Existing Contacts

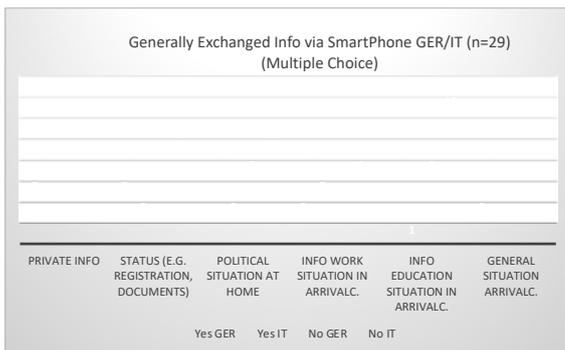


Figure 15. Exchange via Smartphone

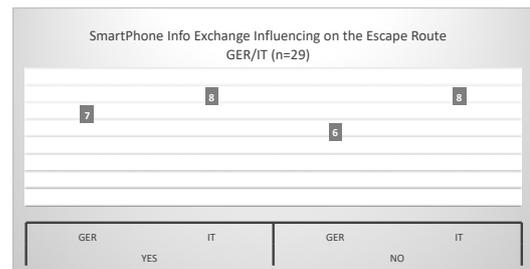


Figure 16. Smartphone Usage to distribute Information on Escape Routes

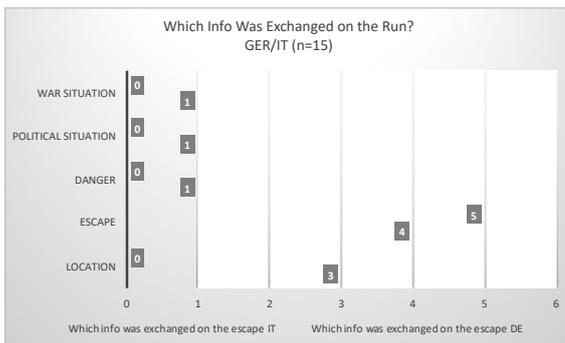


Figure 17. Content of exchanged Information

Figure 15 shows that the majority of respondents in both countries mainly exchange general information on their private situation. There is less exchange on the labour market and education possibilities in the arrival countries. Being on the run, the main info exchanged was on the situation of escape and on the current location (compare figure 17). Investigating whom the refugees

generally communicate with via smartphone showed that by 13 respondents in Italy and 11 in Germany communicate mainly with their families in the home countries, followed by their friends in the home countries (12 respondents in Italy and 9 in Germany). Many respondents also answered that they are in touch via smartphones with their friends in the arrival countries and further networks located there (compare fig. 13).

The answers to the question if the respondents already were connected to the listed groups/networks during the escape, show a discrepancy between in Italian allocated refugees and in Germany resident refugees. Refugees asked in Germany clearly answered that they had already contact to their networks on the run, while the target group in Italy clearly negated this. There was no clear answer given to the question if the info exchange with their networks during the migration process had any influence on the choice of the route during the migration process.

5 Temporary (geographical) Proximity

5.1 Background

The concept of proximity assumes that companies, persons and/or projects have strong tendencies to settle near one another because frequent and repetitive interactions require face-to-face exchange (Bouba-Olga & Ferru, 2012; Torre, 2008; Rychen & Zimmermann, 2008). Furthermore, knowledge transmission is assumed to better function this way. Originally, this concept was mainly used in the context of knowledge transfer among companies and within clusters but can also be translated to each further interaction of groups and entities. Based on the prior, the concept of temporary proximity argues that similar values, cognitive patterns, related histories, and cultural paths of individuals, who interact with each other in a physical place for a limited time, function as supporting factors of confidence building, which in turn allows for a faster and informal exchange of knowledge and information that can again be transmitted to third parties via digital media (Torre, 2008; Boschma, 2005). Temporary proximity means at the same time that the proximity is not lasting, but that each participant knows that the situation will be dissolved within a limited period of time (Torre, 2008). Due to digitalisation and digital transformation, distance plays a minor role in comparison to former decades (Bouba-Olga & Ferru, 2012). However, under certain circumstances the face-to-face interaction still seems to be of importance, foremost in times of uncertainties and for persons who need orientation and reliance entering new situations, such as refugees.

In section E and F of the survey we argue that once reached the arrival counties, refugees, before holding the status of being recognised, live in refugee shelters. Here they are in touch with further groups of refugees from their own ethnic circle and/or beyond. When considering the information levels that are exchanged in such entities, the question arises whether temporary proximity in refugee shelters has influence on the information content and information flow later transmitted to their (migration) networks by digital media and apps. Additionally, when groups of people meet in new places and situations, the amount of information exchange due to new experiences increases. Hereby, narratives occur and are told in a way that myths are developed which occasionally are further transmitted to the countries of origin. Some of them are fake,

simply because the target group does not want to disappoint their families and friends in the home countries by storytelling on difficulties related to migration processes.

The following questions in section E&F asked which information was exchanged in refugee shelters and if the information changed by the dissolution of temporary places (proximity) e.g. when refugees move places of residence. This section also investigated, if there was an information exchange among different groups of immigrants in the refugee shelters or if the information exchange was solely limited to the own ethnicity. Finally, the question was asked, if the respondents still are in touch with the persons they met in the refugee shelters even after they moved places.

5.2 Reflection of the Results⁷

As the three main information exchanged face-to-face in the refugee camps the respondents in Italy clearly list family issues and *registration/documents* issues. The respondents in Germany also exchange issues of *registration/documents*, but in addition information on *finances* seem to be important as well (compare fig. 18). When asking the target group about the exchange with further immigrant groups during the time they spent together in refugee shelters, in Italy it seems as if the groups of refugees interchanged with other refugees, while in Germany it was less the case (see fig. 20).

After moving places refugees state that information exchange still was the same with reference to the content (compare fig. 19) and Italian respondents remained in touch with people from refugee camps. On contrary, German respondents seem to have less contact to people they once met in refugee camps after the temporary proximity has been dissolved.

Results from Section E – Temporary Proximity in Refugee Shelters and Afterwards

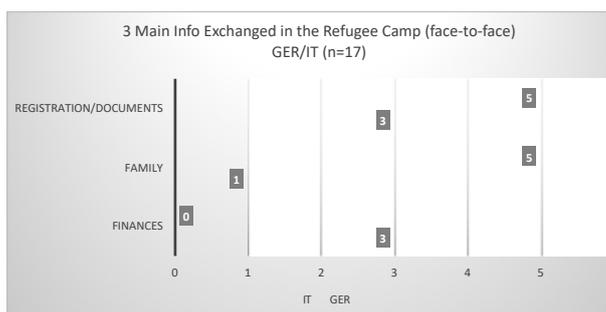


Figure 18. Information exchanged by Topic

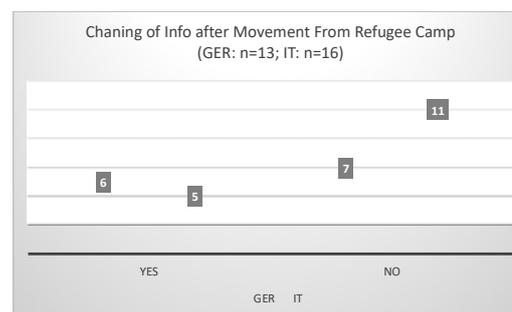


Figure 19.

⁷ All diagrams are own source and base explicitly on the results of the lime survey

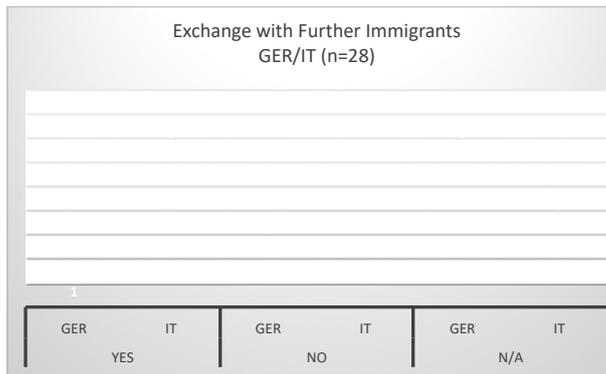


Figure 20. Exchange with other Refugees

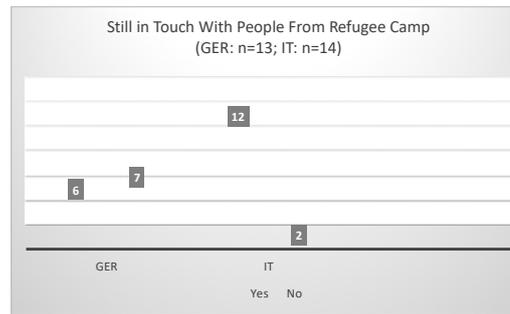


Figure 21. Contacts to Refugees in Camps

Referring to chain migration and the question *if exchange per smartphone can influence the phenomenon that immigrants follow peer immigrants to exactly the same place of arrival (chain migration)*, 8 German respondents answered positively, which is the majority. On contrary, Italian respondents answered in majority negatively to the question. The explanation could lie in migration policies and the related but also limited possibilities of immigration to both countries.

When asking about the myth/narrative building, the study formulated the question: *Do you exchange realistic information on the receiving country*, which was both in Germany and Italy answered with a clear yes. However, when changing the question and asking the target group, *if they clean their own situation in the arrival country via social media*, they also clearly affirmed.

Results from Section F – Myths, Narratives and Chain Migration

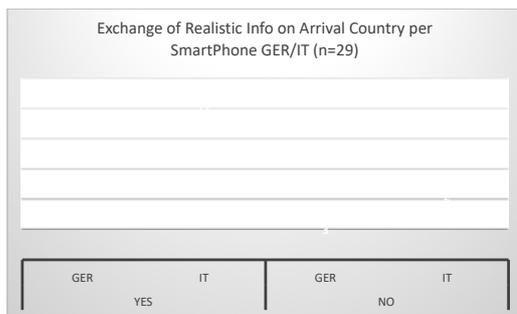


Figure 22. Exchange of 'realistic' Information

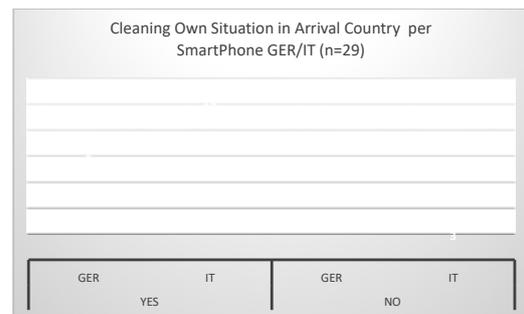


Figure 23. Clarification of own Situation

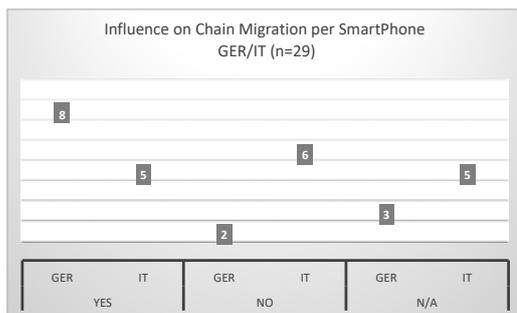


Figure 24. Influence on Chain Migration

6 Summary of Results

With regard to the initial hypotheses the survey outcomes can be summarised as follows:

Hypothesis 1: *Smartphones enable "faster, digital" exchanges for migrants - in our case refugees - with family, friends and other contact persons, and provide both sides synchronously with information from the arrival region quickly transmitting experiences e.g. through the use of digital applications such as WhatsApp.*

The survey indicates that this assumption is right. Smartphones are the "faster windows to the world" for immigrants and in particular for refugees. There is less evidence that smartphones are luxury goods, but rather a digitalisation tool enabling the target group to exchange information in transnational migration networks.

Hypothesis 2: *Content and flows of knowledge exchange is context-dependent while temporary proximity has a major impact.*

No evidence was found that content and flows of knowledge change due to temporary proximity. Accordingly, hypothesis 2 has to be neglected.

Hypothesis 3: *The digital and often synchronous information content between the country of origin and the country of arrival are subject to "myths" and "narratives" around the process of migration.*

Survey results indicate that myths creation by digitalisation is possible, especially in social media, where news is underpinned by pictures and a variety of comments allow "imaginative places" to be created. The question is how long such a fake can be maintained until the reality surfaces.

Hypothesis 4: *Digitally exchanged information can influence the decision on chain migration processes between country of origin and country of arrival.*

Although our findings indicate that the rapid spreading and circulation of information among refugees concerning escape routes, destinations etc. through digital technologies may impact decisions on chain migration, further investigation is necessary to validate this very first impression.

7 Conclusions

The study provides a preliminary path to follow in order to investigate the role of digital tools in shaping migration processes. Although limited, the sample of refugees in the two countries seems to provide some common features and validates the majority of our hypotheses. In particular, digital transformation plays a relevant role in influencing migration processes and digital tools are found to be essential. The findings shed light on the impact of information flows on decisions related to chain migration, indicating the pathway to follow to advance research on digital knowledge. Along with orientation during the escape and arrival in the destination country,

the circulation of information also allows for the creation of myths and narratives in an accelerated way. Results show that digitalisation for refugees opens a real “new window” to the world and directly affects their migration processes. Further researches might concentrate on the relationship within migration, technology and economics of information, considering that asymmetry of information in terms of time, quality and quantity leads to different choices, decisions and outcomes by the migrants. Nonetheless, further investigations might consist of reviewing the questionnaire in accordance with the first inquiry and re-running the survey while hopefully increasing the number of participants and countries.

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