ISSN: 2645-8837
HUMANITAS - Uluslararası Sosyal Bilimler Dergisi
HUMANITAS - International Journal of Social Sciences
2024, *12*(23), 287-312

Date Received : 09.11.2023
Date Accepted : 27.02.2024

https://doi.org/10.20304/humanitas.1388211

Kılıç, M. A. & Bodur, M. Y. (2024). Between empowerment and surveillance: Forced migration and information and communication technologies. *HUMANITAS - International Journal of Social Sciences, 12*(23), 287-312. https://doi.org/10.20304/humanitas.1388211

BETWEEN EMPOWERMENT AND SURVEILLANCE: FORCED MIGRATION AND INFORMATION AND COMMUNICATION TECHNOLOGIES

Mustafa Ammar KILIÇ[1], Muhammed Yasir BODUR[2]

ABSTRACT

Amidst a surge in migration from conflict zones across the Middle East and Africa, leading to the arrival of more than a million displaced individuals in Europe, a nascent research field, primarily explored by European scholars, examines how information and communication technologies (ICTs) reshape refugees' experiences during and after migration. This emerging inquiry explores how ICTs can empower displaced migrants, enhancing their resilience and enabling survival, family connection, adaptation, inclusion, and rights advocacy. Concurrently, recent studies in the area of border and surveillance underscore technology's pivotal role in shaping security-oriented agendas within migration and mobility regimes across the US, EU, and other nations. This study systematically and critically reviews digital migration literature from 2006 to 2021 with metadata obtained and synthesized from *Scopus* and *Dimensions* databases, investigating the interplay between forced migrants' use of digital technologies to navigate restrictive migration systems and their interaction with surveillance technologies. It seeks to identify the ambivalent positions in digital migration studies and assess migrants' potential empowerment through ICTs.

Keywords: Forced migration, Information and communication technologies, Surveillance, Digital migration, Critical literature review

[1] *Res. Asst., Tekirdağ Namık Kemal University, Faculty of Arts and Sciences, makilic@nku.edu.tr, https://orcid.org/0000-0002-7498-4650*
[2] *Res. Asst., Sakarya University, Middle East Institute, yasirbodur@sakarya.edu.tr, https://orcid.org/0000-0002-0906-9966*

ISSN: 2645-8837
HUMANITAS - Uluslararası Sosyal Bilimler Dergisi
HUMANITAS - International Journal of Social Sciences
2024, *12*(23), 287-312

Geliş Tarihi : 09.11.2023
Kabul Tarihi : 27.02.2024

https://doi.org/10.20304/humanitas.1388211

Kılıç, A. M. & Bodur, M. Y. (2024). Güçlendirme ve gözetim arasında: Zorunlu göç ve bilgi ve iletişim teknolojileri. *HUMANITAS - Uluslararası Sosyal Bilimler Dergisi, 12*(23), 287-312. https://doi.org/10.20304/humanitas.1388211

GÜÇLENDİRME VE GÖZETİM ARASINDA: ZORUNLU GÖÇ VE BİLGİ VE İLETİŞİM TEKNOLOJİLERİ

Mustafa Ammar KILIÇ[1], Muhammed Yasir BODUR[2]

ÖZ

Orta Doğu ve Afrika'daki çatışma bölgelerinden gelen göç akışı, neredeyse bir milyondan fazla yerinden edilmiş insanın Avrupa'ya varmasıyla sonuçlanınca, özellikle 2015'ten itibaren Avrupalı akademisyenlerin ön ayak olduğu yeni bir araştırma alanı ortaya çıktı. Bilgi ve iletişim teknolojilerinin (BİT) mültecilerin göç süreçlerindeki ve sonrasındaki deneyimlerini nasıl dönüştürdüğünü inceleyen bu araştırma gündemi, bir yandan yerinden edilmiş göçmenlerin BİT'leri hayatta kalma mekanizmalarını güçlendirecek şekilde nasıl kullandıklarını incelemekte; öte yandan bu araçların aile bağları, uyum ve hak arama gibi alanlarda onlara nasıl destek sağladığını ele almaktadır. Aynı zamanda, sınır ve gözetim çalışmalarındaki son gelişmeler, göç rejimlerindeki güvenlik odaklı hedeflerin şekillenmesinde teknolojinin kritik rolünü vurgulamaktadır. Bu çalışma, *Scopus* ve *Dimensions* veritabanlarından elde edilen ve sentezlenen meta verilerle 2006-2021 arasındaki dijital göç literatürünü sistematik ve eleştirel bir şekilde gözden geçirerek, zorunlu göçmenlerin kısıtlayıcı göç sistemleriyle başa çıkmak için dijital teknolojileri nasıl kullandıklarını ve gözetim teknolojileri ile girdikleri etkileşimleri incelemektedir. Böylece, dijital göç çalışmalarına hâkim bu ikircikli pozisyonların teşhis edilmesini ve BİT'lerin göçmenleri güçlendirme olasılığı konusunda bir çıkarıma varmayı amaçlamaktadır.

Anahtar Kelimeler: Zorunlu göç, Bilgi ve iletişim teknolojileri, Gözetim, Dijital göç, Eleştirel literatür incelemesi

[1] *Arş. Gör., Tekirdağ Namık Kemal Üniversitesi, Fen Edebiyat Fakültesi, makilic@nku.edu.tr, https://orcid.org/0000-0002-7498-4650*
[2] *Arş. Gör, Sakarya Üniversitesi, Ortadoğu Enstitüsü, yasirbodur@sakarya.edu.tr, https://orcid.org/0000-0002-0906-9966*

Introduction

Over the course of the past ten years, there has been an observable and notable growth in the migration scholarship that acknowledges the progressively expanding role that digital tools play in refugee experience. This awareness occurred in conjunction with the remarkable advancements made in the realm of information and communication technologies (ICTs thereafter), coinciding with a substantial and noteworthy increase in global cases of forced migration in the decades that have come before (UNHCR, 2021).

"Digital migration" studies (Leurs and Smets, 2018) that underscore the significance of polymedia technologies within transnational migrant communities have been in existence since the onset of the new millennium. However, these studies focused on the consumption of pre-internet media, 2G mobile phones, international call centers, or computer-based internet and social media within diaspora communities. Smartphones had not yet emerged, nor had the "European migration crisis" unfolded to reveal the migrants' connection with smartphones. Additionally, these studies gave only limited consideration to asylum seekers, refugees, migrant workers, and those at the far end of the spectrum, namely undocumented, irregular, and illegal immigrants (Patil, 2019). These investigations primarily pertained to "elite" immigrants possessing strong mobilization skills and substantial social and cultural capital (Leurs & Smets, 2018).

Following the surge in migration triggered by the Syrian civil war, as well as ongoing conflicts in Iraq and Afghanistan, which led to the arrival of nearly 1 million displaced individuals in Europe, a novel realm of research has emerged. Primarily undertaken by European scholars, this research agenda delves into how ICTs reshape the experiences of refugees both before, during, and after their migration journey. This burgeoning line of inquiry investigates, on one hand, the innovative use of ICTs by displaced migrant populations to fortify their vulnerable status during flight, potentially turning adversity into opportunity. On the other hand, it explores how these technologies aid in survival, facilitating family connections, adaptation, inclusion, and the pursuit of rights in transit or host countries.

Concurrently, recent exploration in border studies, surveillance, and security has underscored the pivotal role technology plays in the evolving security-oriented goals implemented by migration regimes. As Nedelcu and Soysüren (2020) maintain, against the backdrop of heightened uncertainty following the events of 9/11 and subsequent attacks, the United States (US), European Union (EU), and various nation-states have formulated migration policies and border control strategies utilizing cutting-edge surveillance technologies. Consequently, migration technologies are profoundly reshaping the processes of border control inherent in the wider migration management framework.

In relation to what Nedelcu and Soysüren (2020) term the "empowerment-control nexus," one can discern a dualistic facet in the utilization of ICTs among forced migrants: 1) ICTs can be harnessed in a creative manner by refugee communities and civil society entities, in accordance with their objectives of enhancing refugees' prospects of successfully reaching their intended destination countries and ameliorating their living conditions upon arrival. 2) Conversely, in the hands of supranational institutions and governmental bodies, digital technologies hold the potential to establish new "e-borders" and expand the monitoring and

control capabilities of states. This augmentation of state authority can, in turn, heighten the vulnerability of refugees, curtail their mobility, and subject them to potential risks such as continuous surveillance, detainment, and deportation.

This study represents a critical review of the existing body of literature on digital migration. It seeks to explore the intricate interplay between

1) the capacity of forced migrants to employ digital technologies (a bottom-up approach) as a means to navigate restrictive migration regulations, and
2) the utilization of migration control technologies (a top-down approach).

In essence, the study aims to uncover the ambivalent dynamics prevalent in the realm of ICT and migration literature, and to draw insights regarding the potential of migrants to attain empowerment through the utilization of ICTs.

The primary focus of this review is encapsulated within the following inquiry: "To what extent do mobile technologies, particularly smartphones, contribute to refugees' ability to effectively address challenges encountered during the migration process? Does this utilization enhance their safety, empowerment, acculturation, and overall well-being, or does it render them susceptible in the face of the control and surveillance technologies employed by nation-states, transnational entities, and actors engaged in the management of migration?"

The study not only addresses the main question but also delves into several nuanced sub-questions that amplify the complexity of the nexus. These inquiries explore diverse dimensions, such as the potential "emancipating" roles ICTs play for forced migrants at different stages of their journey, the influence of geography, class, and gender on ICT access and use among migrants, strategies migrants employ to navigate surveillance and control technologies, efforts by states and border agencies to disrupt migrants' ICT usage, and the interplay between migrants' ICT utilization and top-down strategies, revealing insights about ICTs' capacity to empower migrants. This holistic approach enriches the examination of the intricate relationship between ICTs, migrant agency, and the broader context of migration management.

The review begins by establishing the methodological parameters for identifying the literature to be examined. The initial section concentrates on scrutinizing "bottom-up" aspects of digital migration. Following this, attention shifts to the exploration of studies centered around "top-down" approaches to ICT employment, characterized by surveillance and control mechanisms. The final segment of the study is dedicated to drawing conclusions based on the insights garnered from the literature. This concluding portion offers critical perspectives on the capacity of ICTs to alleviate the vulnerabilities faced by displaced individuals. Moreover, the study aims to provide recommendations for enhancing this relatively novel body of literature through additional avenues of exploration.

Methodology

In the study, we benefited from the techniques and tools of systematic review. Systematic literature review is the process of systematically collecting, analyzing, and synthesizing existing studies in the scientific literature to answer a specific research question. It employs clear and systematic techniques specifically chosen to reduce bias, thereby yielding more dependable

results from which conclusions can be drawn and decisions can be made. This type of review is conducted to gain an in-depth understanding of the available evidence and findings on a topic or area of research, to assess how previous research has influenced the work being done, and to provide a basis for future research (Higgins et al., 2020; Petticrew & Roberts, 2009).

We searched for studies written in English in *Scopus* and *Dimensions*, two of the largest digital databases in the social sciences that yielded the most and relevant results according to a comprehensive analysis (Martín-Martín et al., 2020). The keywords and the number of articles corresponding to the search are as follows.

Table 1.
Database search results

Database	Search Terms	Results	Duplicates	Excluded	Added
Scopus	("information and communication technologies" OR "ICTs" OR "technology use" OR "big data") AND ("international migration" OR "transnational migration" OR "refugee" OR "migrants" OR "transnationalism")	290			
			98	279	9
Dimensions	("information and communication technologies" OR "ICTs" OR "technology use" OR "big data") AND ("international migration" OR "transnational migration" OR "refugee" OR "migrants" OR "transnationalism")	158			
Total		448	350	71	80

We imported the metadata retrieved from these two databases into the *Zotero* bibliography management software. Having removed the duplicate articles (98) from the two databases, we obtained a total of 350 articles. These articles were selected by reading their abstracts, and ultimately 71 studies were deemed fit to be included in this review. In addition, while reading the literature, it was decided to include 9 relevant texts from the bibliographies of some studies, which pulled the number up to 80.

The scope of this review centered predominantly around forced migrants, asylum seekers, and refugees. The contributions were incorporated into the study if they directly encompass the role of ICT use throughout and subsequent to the forced migration trajectory. Consequently, publications addressing voluntary and regular migrants—such as economic or circular migrants (e.g., seasonal agricultural workers, domestic staff, highly skilled professionals)—who do not align with the criteria for forced or irregular/undocumented migration, were excluded from this examination.

While this review incorporates a range of theoretical and documentary analyses, along with reports, it predominantly comprises qualitative and ethnographic studies. The nature of the review's question inherently favored the inclusion of qualitative fieldwork, given its alignment with the inquiry's definition and objectives.

Finally, the texts to be analyzed in the literature cover the period between 2006-2021, which coincides with the same period when web-based personal digital affordances became globally widespread.

Findings

Empowerment via ICTs?

The texts of the period 2006-2015 mainly focus on the communities of the global South countries with low social, economic and cultural capital who migrated to the global North with financial concerns, rather than legally recognized refugees or asylum seekers. Although they seem to differ to a certain extent from the refugee communities that have been the subject of post-2015 studies, migrants in both periods share relatively similar experiences in their lives in the host countries. In terms of the question of this study, what differentiates these periods from each other may rather be the types of ICT used and their effects on the migrant experience.

The predominant theme in studies up to 2015 revolves around how ICTs shape transnational migrant family ties and the emotional connections migrants strive to uphold with their country of origin. These works illustrate how ICTs of the time – including telephones, video cameras, mobile phones, text messaging, email, teleconferencing, and video calling tools such as Skype or MSN Messenger – allow migrants to bridge the geographical gap between themselves and their distant families and cultures. This technological bridge creates a "feeling of being at home" (Bacigalupe & Lambe, 2011; Benítez, 2012; Castro & Gonzalez, 2008; Castro & Gonzalez, 2009; Gifford & Wilding, 2013; Íñiguez-Rueda et al., 2012; Nedelcu, 2012; Panagakos & Horst, 2006; Wilding, 2006).

These transnational networks furnish migrants with essential resources encompassing emotional, moral, practical, personal, and financial support (Wilding, 2009). Baldassar (2014; 2016), investigating the emotional labor and remote caregiving strategies of migrants in Australia, highlights that remote migrant families can maintain "a sense of satisfactory distant co-presence" through ICTs. Similarly, Vancea and Olivera (2013), studying migrant women of various ethnic backgrounds in Catalonia, reveal that female migrants sustain family relationships and roles through mobile phones, albeit in modified forms. Comparable outcomes emerge from Madianou's (2012) study that examines distant mothering practices reinforced through ICTs among Filipino migrant women in the UK.

These tools additionally facilitate social inclusion (Alam & Imran, 2015; Andrade & Doolin, 2016; Wilding, 2009) and economic integration (Vancea & Boso, 2015) in the destination country. Harney (2013) highlights how vulnerable migrants in Naples, Italy, effectively employ their mobile phones to advance their economic endeavors. ICTs also serve as the foundation for transnational acculturation, cultivating transnational friendship networks, and encountering diverse socio-ethno-cultural realms through transnational perspectives (Burrell & Anderson, 2008; Nedelcu, 2012).

Wilding (2009) concludes that ICTs expedite the social inclusion of young people with refugee backgrounds in Australia, enabling them to reaffirm their identity, connect with communities beyond their own, and envision their future. In sum, while occasionally acknowledging the challenges, potential burdens, and hazards migrants might face in their ICT usage, and the drawbacks linked to variables like age, class, gender, and geography (Horst, 2006; Panagakos & Horst, 2006; Madianou, 2012), this comprehensive body of work predominantly underscores the favorable and facilitating functions of ICTs in the lives of migrants.

After 2015, the exploration of transnational family ties remained a prominent research focus (Ahn, 2017; Nedelcu, 2017; Nedelcu & Wyss, 2016; Robertson et al., 2016). However, shifts in the role of ICTs within the migration experience introduced fresh and dynamic dimensions to this field. Although initially introduced in 2008, the proliferation of 3G smartphones on a global scale during the 2010s ushered in a new era, allowing individuals to remain constantly connected through mobile internet services. This layer of perpetual digital connectivity intertwined with the inherently mobile nature of the migrant condition.

The swift proliferation of social media platforms and a myriad of life-enriching applications, accessible via smartphones, also unveiled novel avenues for the migrant experience – a divergence from the non-migrant perspective. As the waves of migration towards Europe highlighted this potential in 2015, a debate emerged surrounding migrants' ability to harness ICTs during their migration journeys and how such utilization reshapes the migration experience. It is important to note that this burgeoning situation is not exclusive to migration towards Europe. While almost all studies underpinning this literature review center around the European context, when relevant, we will draw upon the findings of research investigating the influence of smartphones on the lives of forced migrants and refugees in non-European settings.

Refugees on the Move. A substantial body of research underscores the pivotal role that smartphones and social media platforms play in assisting refugees and undocumented migrants to acquire vital information for the successful completion of their journeys. GPS applications, digital maps, and digital platforms for sharing experiences in informal networks (e.g., Google Maps or Yandex, offering offline map access without connectivity) constitute innovative logistics that empower migrants to navigate the ever-evolving social, political, and economic challenges they encounter.

For instance, pioneering research on the use of ICTs by forced migrants during their escape journey by Gillespie et al. (2016; 2018) highlights that smartphones are "as vital as food and water" for Syrian and Iraqi refugees transiting to Europe through Izmir, Turkey. These mobile communication tools enable refugees to navigate and document their journeys while staying in consistent contact with their families and friends. Furthermore, the capacity to be "locatable" while on the move (allowing them to report their whereabouts to coast guards or family members) and to be "visible to ensure their survival at sea" (Gillespie et al., 2018) becomes an essential necessity.

These findings align with Alencar et al.'s (2019) study, which emphasizes that refugees derive a sense of security from smartphone usage. Some participants in the study mentioned feeling relatively safe during periods of danger and stress due to their ability to connect with family, coast guards, or other sources of help. The authors contend that the smartphone indeed acts as a "lifeline" in situations that threaten lives (Alencar et al., 2019).

Smartphones also serve as a crucial means to communicate with smugglers when there are no alternatives (Gillespie et al., 2016; 2018). While the intricacies of human smugglers' utilization of ICTs delve into a somewhat enigmatic realm of study, some investigations, like Dekker et al.'s (2018), conclude that smartphones and information shared on social media reduce refugees' reliance on smuggler networks in Western Europe.

Borkert et al.'s (2018) study reaches similar conclusions in the context of Syrian refugees arriving in Germany. Among the various actors contributing significantly to aiding refugees in internet and mobile phone information searches, "friends" (49%) emerge as the primary source, followed by "other refugees" (23%), with smugglers (6%) surprisingly holding an inconsequential role. While this trend may not universally apply to all migration routes (Whittle & Antonopoulos, 2020), it holds validity for at least some well-established, frequently traveled, and densely populated migration paths taken by migrant groups.

Throughout their migration to Europe, refugees engage in the practice of sharing devices and disseminating collective information obtained from prominent migrants, family connections, ethnic networks, and even smugglers via specific media platforms. Several studies assert that refugees derive empowerment from their social media interactions with other migrant cohorts, providing them with invaluable insights and the ability to draw upon the experiences of those who have traversed specific routes and encountered registration processes at European borders (Dekker et al., 2018; Fiedler, 2019). Gillespie et al.'s study (2018) reveals that specific survey participants acknowledge obtaining guidance from fellow refugees within online social groups, focusing on topics like self-representation during interactions with government entities, including appropriate dressing choices. From here, Zijlstra and van Liempt (2017) point out that the migrants intricately blend the categorization of "smuggler" and "migrant" within these digital networks, collectively drawing upon and enriching the extensive pool of information available through social media platforms.

Yet, fresh and comprehensive examinations into the utilization of ICTs by smugglers could illuminate the obscure corners of digital migration and introduce essential nuances to the narrative of empowerment. While asserting that ICTs lessen reliance on smugglers, it is essential to acknowledge that instances of deceit and misinformation encountered by migrants through ICTs are not uncommon.

Several studies have highlighted issues stemming from the inadequacy of information gleaned from social media connections, as refugees in motion are susceptible to what Wall et al. (2017) define as "information precarity". For instance, Alencar et al. (2019, p. 838) recount the story of a Syrian refugee whose substantial funds were stolen by a bogus "Lebanese embassy employee" who, posing as such on Facebook, offered assistance in obtaining a European visa.

As illustrated by the investigation conducted by Borkert et al. (2018), narratives of refugees falling victim to online scams compel refugees to consistently assess the credibility of information sources and devise tactics to safeguard their online identities and shared insights about destination routes. Numerous refugees report, for instance, that they access travel-related information via closed (and relatively secure) Facebook groups while adopting pseudonyms for added security.

After flight: Protracted and resettled refugees. Although studies focusing on refugees on the move occasionally refer to the ambivalent nature of ICT use, one can ultimately argue that the general understanding is that ICTs empower migrants. But the journeys of forced migrants represent only the beginning to understand the role of ICTs in refugee life. Obtaining a legal status in the country of destination is often not easy for forced migrants. How do migrants who have to wait for a long time after applying for asylum, or live a life stuck in refugee camps, or have to be completely undocumented/illegal, use ICTs to cope with this "limbo" position (Alencar, 2020b)? On the other hand, how does this position affect the use of ICT for refugees who have gained legal resettlement?

The long and protracted displacement, asylum, and resettlement processes create a sense of frustration and despair for refugees. Alencar (2020b) highlights a significant theme in the literature, which centers on the interplay between emotional management and the utilization of mobile media by protracted refugees.

In Twigt's (2018) examination of Iraqi refugee households in Jordan, digital connections evoke emotions and leave enduring impressions: Iraqi refugees yearn for physical reunions while harboring apprehensions about a future in Iraq. Encounters with other Iraqis who have managed to travel further reinforce the perception that waiting is an unproductive use of time. These experiences not only intensify sentiments of feeling "stuck" but also accentuate the necessity to preserve hope for a better future elsewhere. Digital technologies function as navigational tools, allowing forced migrants to envision lives beyond Jordan and Iraq. As conveyed by an interviewed refugee, the absence of access to such digital tools would be deeply lamentable (2018, p. 4).

During this period of "in-betweenness," digital technologies prove indispensable in making the protracted refugee existence in Jordan tolerable and fostering an optimistic outlook for the future. Greene's (2020) study involving refugee women awaiting their fate in Greek refugee camps paints a comparable portrait: By employing adaptive practices such as consuming "non-mainstream news as a self-care strategy; engaging in mediated family activities to kindle hope; and pursuing nature photography as a creative outlet" (2020, p. 740), women display specific methods to manage the complex and conflicting emotions arising from their experience of prolonged waiting.

Similarly, for Syrians residing in the Zaatari refugee camp in Jordan (Maitland & Xu, 2015), reaching out to their families and friends left behind provides an avenue to share feelings of both joy and sorrow, while also reminiscing about pivotal moments from their lives in Syria. This connection empowers them to restore a sense of psychological and existential security (Alencar, 2020b).

However, precarious and unstable mobile connectivity can hinder refugees' ability to maintain transnational family relationships, given the context of displacement. Despite the widespread use of smartphones, limited access to stable and reliable mobile networks, insufficient local communication infrastructure, constrained financial resources, and challenges in acquiring phone contracts due to uncertain legal status can undermine refugees' connectivity (Wall et al., 2017; Witteborn, 2014b).

In this scenario, as demonstrated by studies conducted in refugee camps in Jordan, Turkey, and Northwest Brazil, which host displaced Venezuelans (Alencar, 2020a; Maitland & Xu, 2015; Smets, 2018), refugees resort to sharing their mobile phones and SIM cards as innovative strategies to navigate the information uncertainty prevalent in camp and street life. This practice underscores the capacity and resilience of refugees in confronting ICT challenges (Alencar, 2020b). However, the sharing of digital devices within camps is not devoid of gender and power dynamics (Smets, 2018). Wall et al. (2017, p. 246) observe that mobile phone ownership or carrying is typically assumed by men in family groups, while women often rely on them to access mobile-based assistance and make calls.

For ICTs, network problems are not the only problem refugees face. Some studies have pointed to the emotional stress that ICTs cause on refugees in protracted displacement situations. While Harney's study on asylum seekers in Naples, Italy emphasizes the indispensability of mobile phones for them, it also states that they suffer from an emotional burden such as being constantly accessible by their families and having to deal with various problems and demands of their families (Harney, 2013). Interviews by Witteborn (2014a) with asylum seekers in Germany show that some refugees prefer not to open the camera during online family interviews in order to hide their frustrations about not being able to meet the sociocultural and economic expectations of the family. Belloni's (2020) Eritrean refugees in Italy similarly stated that they did not call their parents to avoid "suffocating familial expectation" until they proved that they had a dignified life and now able to support their families. The author argues that the efforts of migrants to eliminate this state of embarrassment are to re-establish contact with their families.

Some studies have focused on self-presentations on social media to deal with the socially exclusionary potential of migrants' "asylum-seeker" or "refuge" stigmas. Examining the transition of refugees from a wide variety of ethnic backgrounds in Germany between "perceptible" and "imperceptible" identities on these platforms, Witteborn (2014a) shows that ICTs, depending the context, are used either for escaping stigmas (for example, creating a Facebook profile where refugee identity is invisible) or making them political/activist tool (participating in online struggles and discussions for asylum right in Facebook groups or blogs). Another investigation (Leurs, 2014) observed the online actions of Somali refugee youth in Ethiopia, who simulate living abroad, as a tactical means to foster non-Ethiopian connections that could potentially aid their departure from Addis Ababa. Furthermore, a study by Dahya and Dryden-Peterson (2017) delves into the experiences of Somali women refugees residing in the Dadaab refugee camp in Kenya. This research examines how these women employ mobile technologies to access information regarding higher education, particularly in an environment where ICT infrastructure remains relatively deficient and patriarchal community norms hold sway. Online social networks have disrupted the inequitable norms within the camp's physical and geopolitical realm, presenting opportunities for select women to pursue higher education within and sometimes beyond the confines of the refugee camp.

As for the resettled refugees, the most important issue for these migrant communities who have obtained legal refugee status, or international or temporary protection status, and freed from the transit situation is to engage in the possibilities that make it possible to envision a future in the host country. Access to education, work and health infrastructures, maintaining

daily life, strengthening social relations with the host community, overcoming cultural exclusion and language barrier and similar needs are undeniably crucial for resettled refugees. Many studies have indicated that mobile technologies play a vital role in meeting these needs, especially during hard times such as Covid-19 crisis (Turner & Gülerce, 2021).

As observed by Andrade and Doolin (2016) in their examination of 50 resettled refugees in the United States, ICTs provide a means to acquire five key capabilities: engagement in an information society, efficient communication, comprehension of a novel societal environment, establishment of social connections, and expression of cultural identity. Refugees who harness these proficiencies via ICT use enhance their self-presentation and well-being, facilitating their effective integration into a fresh society and enabling them to regain mastery over their disrupted lives.

O'Mara's work (2014) with Vietnamese, Sudanese and Samoan refugees in Melbourne, Australia, explores how young refugees' participation in mobile technology-mediated creative artistic production can help them express themselves, learn the language and culture of the host country, and improve their ability to collaborate with their peers. Overall, the research highlights that the mobile phones can promote learning and skills development among refugees, both inside and outside of educational settings. A study on Arab refugees in Sweden measures the effect of a language-learning app for refugees and concludes that it increases refugees' speaking rate and confidence (Bradley et al., 2017).

Alternatively, the practical capabilities of smartphones are extensively explored within the resettlement research. Various studies highlight how mobile technologies serve as valuable resources for refugees, aiding in administrative tasks, facilitating navigation within the city, and surmounting numerous challenges tied to forging a fresh start. Research centered on the European resettlement of Syrian refugees underscores their active utilization of digital instruments, serving purposes ranging from entertainment and education to linguistic communication in their daily lives (Graf, 2018; Veronis et al., 2018; Alencar & Tsagkroni, 2019; AbuJarour et al., 2019; Alencar, 2018; Kaufmann, 2018).

Additionally, as previously highlighted, the utilization of ICTs to bridge transnational family and kinship bonds, a pivotal theme within transnationalism literature, as well as the desire to stay connected with the cultural and political landscape of their country of origin, signify another essential aspect that extends to resettled refugees. In this regard, it becomes evident that refugees have become active participants in the realm of "e-diaspora" through their engagement with ICTs (Sreenivasan et al., 2017; Udwan et al., 2020).

In a recent study set in the context of the Global South, Pandey and Ilavarasan (2019) delve into how Afghan Sikh refugees in India have harnessed mobile technologies to unite their scattered communities due to forced migration. These refugees endeavor to establish networks that keep their religious, traditional, and cultural identities thriving, achieved through Facebook and WhatsApp groups. Moreover, they consistently share information about opportunities available for refugees in India, facilitated by the internet. Despite their aspiration to assimilate into Indian society and leave Afghanistan behind, their connection to their homeland persists, owing to the precarious refugee status in India and the challenges associated with attaining Indian citizenship, resulting in an identity that remains incomplete. As the authors highlight,

the social and symbolic capital acquired by refugees through their use of ICTs empowers them to navigate complex social identities. This empowers them to embrace their cultural identity, fostering a sense of affiliation, belonging, and connection to their own community.

The prevailing idea in the literature that ICTs create an empowerment and resilience capability for refugees, however, should not prevent us from seeing the differentiations between refugee groups with various (economic, social, cultural and symbolic) capital levels. Some researchers argue that socioeconomic, linguistic, and cultural barriers and low digital literacy levels among refugees can hinder their ability to use ICT and have significant consequences for their social inclusion. To illustrate, the study conducted by Alam and Imran (2015) underscores the existence of a digital divide among distinct refugee migrant groups in Australia, stemming from challenges related to income, mobility, and affordability. This divide is particularly pronounced among refugee groups situated in regions grappling with financial constraints, inadequate transportation, and limited internet access. Notably, this digital exclusion disproportionately affects newly arrived refugee migrants, who encounter barriers encompassing affordability, language proficiency, and literacy, hindering their ability to access the internet. Moreover, globally, the digital gap regarding the difference in ICT access of urban and rural refugees (90% and 17%, respectively) is also quite high (Patil, 2019).

Gender is also one of the essential dimensions of ICT use. There are contrasting findings on the access and use of mobile technologies by women refugees. While many studies argue that ICTs increase women's survival and resilience capacities against the challenges of migration (Cruz, 2014; Dahya & Dryden-Peterson, 2017; Greene, 2020; Kaufmann, 2018; Sun, 2016; Vancea & Boso, 2015; Vancea & Olivera, 2013; Witteborn, 2018), others highlight the division characterized by women's less than men's access to ICTs and information precarity (Cuban, 2018; Pandey & Ilavarasan, 2019; Smets, 2018; Wall et al., 2017). This distinction becomes even more evident in examples such as rural and precarious migrant female agricultural workers (Garcia, 2011). Cuban's study (2018) of 60 migrant women in the US offers a more sophisticated picture of women's empowerment through ICTs by allowing us to think gender and class together: Migrant women from highly educated and professional occupations ("high-skilled") were able to successfully use their social capital to build and expand digital networks, compared to migrant women from low-education and poor rural areas ("low-skilled" and many of them undocumented). Having a highly skilled background, these women sought to improve their status and effectively mobilize their interests by engaging in virtual worlds. On the other hand, low-skilled migrant women have not been able to develop their socioeconomic capital due to the scarcity of technological devices, combined digital infrastructure problems in both the host country and the country of origin, and the lack of mother-tongue literacy, digital literacy and English.

Cuban (2018) asserts that the distinct variations observed among female migrants in terms of their financial prospects render it unfeasible to devise a singular intervention, program, or policy that can effectively address their unique challenges and requirements. This notion holds true not only for female migrants but extends across all facets and segments of refugee populations, encompassing factors such as class, geographic origin, gender, age, and ethnicity. Presently, the existing literature appears to lack a systematic approach to comprehensively

address these differentiations. Rather, it tends to overly emphasize the narrative of empowerment through ICTs.

Surveillance and Control via ICTs?

Surveillance has been studied from several different aspects in the literature. When defined at the micro-level, it refers to a control mechanism regarding transnational family ties. For example, as Leurs' study (2014) shows in the example of Somali youth stranded in Ethiopia, parents can restrict their young children's autonomy to call when they need to and find out where they are. In another instance, as Hannaford (2015) has found, the virtual presence of Senegalese migrant husbands can often represent a specter of suspicion, control and surveillance over the wives they leave behind, rather than enabling "emotional intimacy".

At the meso-level, the theme of surveillance aligns with the strategies identified in the previously mentioned empowerment studies, which involve forced migrants employing tactics to evade authorities in their home countries during their journey and resettlement phases. Numerous studies have brought to light migrants' utilization of tactics of "invisibility" to circumvent surveillance. For instance, refugees fleeing from conflict zones like Syria and Iraq have recounted closing their accounts or erasing their online presence, prompted by the demands of Syrian authorities or groups like ISIS for access to their social media passwords at checkpoints (Gillespie et al., 2018). Such risks often lead to responses like adopting disposable SIM cards to evade government surveillance or refraining from using social media entirely, as evidenced among asylum seekers in Germany (Alencar, 2020b).

Furthermore, in the case of Afghan Sikhs seeking refuge in India, the adoption of pseudonyms within public Facebook groups serves as a precautionary measure, stemming from a heightened sense of vulnerability and concerns over potential surveillance by organizations dedicated to refugee affairs. This strategy enables them to access shared information without divulging their true identities (Pandey & Ilavarasan, 2019). Likewise, the apprehensions of Sri Lankan Tamil refugees in Indian camps regarding potential surveillance while using mobile phones are underscored by Sreenivasan et al. (2017).

However, the connotations of surveillance and invisibility for refugees can be nuanced and contingent on their chosen escape routes and final destinations. A pertinent illustration of this can be found in studies focusing on the perilous journey to Europe in 2015, where refugees, navigating treacherous waters of the Aegean and Mediterranean, employ a recurrent survival strategy. Upon entering European territorial waters, they swiftly establish contact with coast guards through mobile phones and share their GPS coordinates (Gillespie et al., 2018). Interestingly, these studies reveal a paradox, as compared to the apprehension of online surveillance by state entities in their countries of origin, very few refugees exhibit similar concerns in Europe.

In essence, refugees find themselves treading a delicate balance between remaining inconspicuous to certain actors and organizations, while concurrently relying on smartphones for essential support and protection (Gillespie et al., 2018). Furthermore, the deliberate engagement of refugees with this surveillance network can be contingent on the identity of the surveillant. A case in point is Noori's (2020) exploration of the "Alarm Phone" app, an initiative by WatchTheMed comprising over 100 activists from Europe and North Africa. This app sheds

light on how migrants clandestinely navigate the sea and, when imperative, strategically disclose their presence to solicit aid in perilous situations, harnessing the potency of humanitarian activism. The data amassed from their smartphones enables activists to map and monitor migrants' positions at sea, thereby compelling Greek and Turkish coast guards to undertake rescue operations. Furthermore, migrants are empowered to capture images during coast guard interventions and relay them to the Alarm Phone. This empowers transnational activists to scrutinize instances where migrant boats face expulsion, unearthing instances of human rights violations, such as failing to aid migrants in life-threatening predicaments.

Thus, smartphones not only furnish a means for activists to intervene within a realm traditionally dominated by state actors, but also facilitate counter-information and counter-applications. These newfound avenues, enabled by digital tools, empower documentation, interrogation, and resistance against migrant governmentality. This transformative potential is also discernible in the endeavors of human rights organizations like Forensic Architecture, exposing the involvement of national and transnational entities in refugee fatalities in the Mediterranean (Heller & Pezzani, 2012; Leurs & Smets, 2018).

The theme of surveillance at the macro level, on the other hand, turns to national, regional and international border control methods and technologies of irregular migration management, where the narrative of optimism that migrants are empowered agents through ICTs has little focus. This aspect of the literature aims to reveal how legal governments use these technologies to keep out, monitor, control, discipline, verify, criminalize, and in the most general sense, manage the irregular migrants who try to use mobile technologies creatively for the sake of crossing borders.

Although both the border studies and the efforts of states and regional unions to secure borders can be traced back a long time, particularly the post-September 11 period represents an essential milestone in the institutionalization of security concerns. Migration towards rich Northern nations, particularly the USA and EU, has transitioned from being merely an economic issue to a burgeoning security preoccupation, although this paradigm is not exclusive to Northern countries. As highlighted by Castles (2004), the regulation of migration and border control fundamentally revolves around managing North-South global dynamics and perpetuating existing inequalities. Migrants are often portrayed as a looming threat, prompting the implementation of extraordinary measures aimed at safeguarding a distinct "European way of life" (Goodman et al., 2017).

The Schengen Agreement (1995), while eliminating internal borders within the EU, paradoxically catalyzed the reinforcement of its external borders. The apprehension that the freedom of movement within the EU necessitates limitations on entry and exclusion of non-natives has fostered notions of an ethnically and culturally harmonious Europe (Latonero & Kift, 2018; Wasilewski, 2020). This sentiment has gained momentum due to the North African border region's volatility following the Arab uprisings, coupled with persistent conflicts in the Middle East. Consequently, the influx of migrants, displaced individuals, and asylum seekers at European borders has surged (Latonero & Kift, 2018). This unfolding scenario has intertwined the securitization of migration and the enforcement of stringent migration and

asylum policies with the utilization and advancement of top-down ICTs (Dijstelbloem & Meijer, 2011).

Numerous studies scrutinize how the EU's biopolitical technologies, developed in response to escalating migration pressures and perceived security threats, contribute to the dehumanization of migrants. The EU's reinforcement of border controls extends beyond physical barriers like checkpoints and fences to include a digital surveillance infrastructure, complementing existing maritime and territorial setups. These digital initiatives, however, often remain inconspicuous, overshadowed by the more visible controversies surrounding the erection of new barbed wire fences in Eastern Europe and the Western Balkans post-2015 (Wasilewski, 2020).

Within this framework, several studies (Ajana, 2013; Broeders & Hampshire, 2013; Broeders, 2007; Dijstelbloem & Meijer, 2011; Latonero & Kift, 2018; Witteborn, 2021) underscore specific EU institutions, systems, and regulations of note. Notable among these are biometric information systems like the Schengen Information System, Visa Information System, and Eurodac, which compile and retain migrant data at borders for security purposes. Surveillance systems such as Eurosur, aimed at monitoring the Mediterranean using drones and satellites, also warrant attention. Furthermore, border and coast guard agencies like Frontex actively engage with these systems.

Europe's digitally advanced migration regime encompasses various strategies such as fingerprinting refugees or irregular migrants at borders and deploying a range of tactics in Mediterranean regions, including mass deportation, surveillance, deterrence, predictive analysis of social media activity, offshore detection, and the utilization of drones to prevent illegal boat crossings (Leurs & Smets, 2018). The technology harnessed by Eurosur integrates automatic ship tracking and detection capabilities, software algorithms for intricate calculations to identify anomalies and predict ship positions, precise weather and ocean forecasts, optical and radar technology for precise ship localization, and diverse analytical tools (Wasilewski, 2020).

In her research, Ajana (2013) investigates the Eurodac system and the UK asylum Application Registration Cards through the lens of Agamben's theory of biopolitics and the state of exception. Ajana elucidates how the system, originally designed under the Dublin Protocol to prevent refugees from submitting multiple asylum applications across various EU countries, was later expanded to encompass irregular migrants. The study sheds light on the criminalizing aspect of this biometric control mechanism against migrants and delves into how the system categorizes immigrants as either desirable or undesirable, subjecting them to an algorithmic screening process that designates them as an "acceptable immigrant."

Latonero and Kift's research (2018, p. 2) highlights the distinct yet interconnected objectives underlying the use of drones and biometrics in Eurosur and Eurodac: While Eurosur externalizes the physical border by utilizing satellites and drones to deter asylum seekers and 'illegal' migrants from reaching the continent, Eurodac "pushes the border inwards" by employing biometric information technologies to "inscribe the border into the bodies" of asylum seekers in Europe. Just as migrants' interpretation of surveillance adapts according to context, the surveillance rationale behind migration control policies also varies across different

spatial and temporal dimensions. According to the authors, Eurosur refrains from individually identifying individuals on boats, thus evading potential accountability for any fatalities or rights violations. In contrast, once migrants and refugees successfully cross into European territory, Eurodac assumes the role of determining their identities, transforming them into "hyperindividualized entities" subject to sustained surveillance and control through comprehensive biometric records (Latonero & Kift, 2018, p. 6).

The proliferation of these digital surveillance systems should be considered together with the growing influence and authority of border agencies such as Frontex, which actively use them. Established in 2004, after September 11, and tasked with protecting Europe's borders and coastlines, the agency used the 2015 crisis as a chance to test and promote new systems such as biometrics, satellite surveillance, along with tracking systems. Since the crisis, Frontex's annual budget, a significant part of which is spent on ICTs, has been systematically increased. The planned budget for 2020 was 101.4 million Euros, an increase of almost 32.5 percent compared to 2019 (Wasilewski, 2020). In addition, it is intended to permanently expand the Frontex staff from approximately 1500 to 10.000 civil servants by 2027 (Karakülhancı, 2021). Another interesting point here is that the EU is expanding its external borders in some ways besides its own ICT mobilization: Collaborative efforts between Greece, Turkey, Frontex, and NATO are strategically harnessed to stem the influx of migrants into Europe. Notably, Koca's exposition (2020) underscores the EU's burgeoning role within the Turkish border control regime, a role that transcends the conventional precincts of the EU's established border framework. This trajectory gains enhanced significance against the backdrop of the pivotal 2016 agreement between Turkey and the EU, wherein more stringent controls are championed within both Greek and Turkish border domains, paralleled by financial support and advanced technological resources (cf. Wasilewski, 2020).

Amid these regional and supra-national actions, individual government law enforcement agencies also turn to smartphone and social media analytics for the aforementioned objectives. Investigating the response of border control agencies to recently available social media data using surveillance and extensive data analysis, Dekker et al. (2018) highlight that within the Netherlands, digital devices belonging to asylum seekers, such as laptops and smartphones, are subject to a rapid scanning as an integral step of the asylum procedure. In cases requiring additional details, an exhaustive data examination is carried out subsequent to the duplication of relevant information. Latonero and Kift (2018) provide instances of certain EU member states elevating their pursuit of classification and identification. Germany and Belgium's governments have justified accessing asylum seekers' smartphones and social media accounts for identification and security checks, particularly in the absence of identity documents. Remarkably, the German Interior Ministry introduced a legislative proposal in early 2017 to enable authorities to retrieve data from asylum seekers' smartphones and laptops without explicit consent.

Witteborn's (2021) study on the "datafication" of refugees highlights similar policies in several countries, including the United Kingdom, Denmark, Belgium, Norway, and Austria, where the extraction of metadata from migrants' phones and social media profiles is legitimized. This practice aims to verify narratives related to persecution, escape routes, origin, and ethnicity. In Germany, authorities have the legal authority to access asylum seekers'

metadata, including country codes, geographical locations, languages used in text messages, and images, as a measure against asylum fraud. The acquisition and analysis of these metadata are facilitated by mobile forensic programs such as *Atos* in Germany and *Cellebrite* in the UK. By analyzing geographic locations, language preferences, images, browsing histories, and country codes, authorities can ascertain refugees' physical locations and socio-cultural and political identities. Refugees autonomously create markers of these spaces on social media, utilizing digital place-making applications. These markers can influence asylum claim decisions, potentially determining an individual's social standing and even triggering deportation. Witteborn suggests that these datafication efforts, including real-time visualization of migrant movements, biometric registration, and metadata tracking, are rooted in an "evidence-based" policy approach that streamlines classification, asylum admission, or rejection, especially during future crises akin to the circumstances seen in 2015 (2021, p. 8). Digitalized biographies play a role in shaping where displaced individuals settle and how they integrate into a new country through education, employment, and community involvement. This increasing technologization may potentially lead to the gradual dehumanization of asylum processes in the future.

Requesting social media access is not confined to European governments. In the US, extensive border control projects like SBInet with advanced ICTs are pursued (Vukov & Sheller, 2013). As noted by Latonero and Kift (2018), during the Obama Administration in late 2016, policies requiring social media accounts from foreign visitors were initiated by Customs and Border Protection. In 2017, the Department of Homeland Security under Trump considered reviewing social media of newcomers from Muslim-majority countries. These cases highlight digital platforms enabling mobility also serving as surveillance sites reflecting border control policies. And this is not just a phenomenon limited to authoritarian Middle Eastern governments or actors like ISIS, as some studies tend to claim (Gillespie et al., 2018; Kaufmann, 2018).

It is a fact that this migration control and surveillance policy based on highly complex ICTs would not always work perfectly due to the creative nature of the empowering counter-surveillance tactics we discussed in the previous part. Nevertheless, it is becoming increasingly important as it signals the enthusiasm of political powers to develop mechanisms that have the capacity to exclude irregular migrants. Although most of the studies within the scope of this literature review lean towards the empowerment narrative, one can argue that digital migration studies should hereafter deepen their insights on the surveillance potential of ICTs on forced/irregular migrants.

Concluding Remarks

This article seeks to elucidate how the evolving literature on refugees and ICTs offers valuable theoretical and empirical insights for advancing our comprehension of the reciprocal dynamics between mobile technologies and social behaviors across various stages and contexts of forced migration. Additionally, it undertakes an examination of studies delving into the top-down utilization of ICTs by states and international entities in managing migration and its impact on the refugee experience. Amidst the range of refugee experiences, certain preliminary conclusions emerge from this review:

Firstly, the literature commonly depicts mobile communication technologies as facilitative tools or survival aids that enable multifaceted actions for people on the move. Secondly, studies on refugees' ICT use in protracted displacement or camp settings surpass the utilitarian aspects of these technologies, delving deeper into the emotional experiences and challenges faced by refugees living in an indeterminate state. Thirdly, concerning resettlement, available research correlates the actual potentials offered by mobile phones with the diverse sociocultural, linguistic, economic, political, psychological, and emotional obstacles encountered by refugees while negotiating their needs and aspirations (Alencar, 2020b; Mancini et al., 2019). Ultimately, the available literature highlights instances where grassroots ICT practices empower refugees.

On the other hand, the studies emphasizing surveillance revealed that the states and regional/international institutions and systems (e.g., Frontex, Eurosur, and Eurodac) use ICTs for purposes such as either keeping irregular migrants and refugees out of borders, or surveillance, control, continuous monitoring, data processing, criminalization, and distinguishing between acceptable and undesirable migrants within borders.

However, one can say that very few studies include fieldwork and case studies on the intersection, confrontation and negotiation of these two fields of practice. For example, more in-depth studies are needed to show how migrants try to circumvent surveillance and exclusion practices through ICTs, both during their escape journey and in their undocumented lives in the destination country. Likewise, ethnographic studies revealing how top-down strategies have gripped the daily/practical lives of migrants seem not to be sufficient. Studies on states and border agencies are mostly based on documentary investigations. Hence, there is a gap waiting to be filled between analysis at the micro and macro scale.

Another point is related to the periodical context of the studies. Most European studies focus on the journeys during the 2015 crisis or the resettlement processes of the refugees on those journeys while neglecting the post-2015 escapees (especially after the return agreement with Turkey in 2016). As the control and surveillance on the crossings to Europe via Turkey has been increased after 2016, the crossings over the Aegean and Greek land borders have become quite difficult. The migrant crisis, which once again occurred at the Turkey-Greece border in February 2020 but could not be adequately explored because of the uncertainty caused by the breakout of the Covid-19 pandemic, revealed the aggressive attitudes of the EU, Greece, and Frontex regarding irregular crossings (Ergin, 2020; Strickland, 2020). In this process, the pressure created by the illegal and unlawful attitudes of EU institutions (and, of course, the border control and surveillance technologies used) on forced migrants is often absent in these empowerment narratives in the literature. Escapes are no longer, so to speak, "easy" and "visible" to the public as they were during the mass influx of 2015. This makes it necessary to question the technophilic meanings that are often loaded onto smartphones. We need comparative studies in which the capacity of surveillance ICTs is correlated with the capacity of migrants to respond them after 2016 in European context.

Last but not least, one should draw attention to the geographical context: The literature is largely filled with studies of asylum flows to the global Northern countries. The discursive construction of refugees in Europe in 2015 in the form of a crisis has a great role in this. This

process has been called the “European migration crisis”, but as Leurs and Smets (2018) put it, it is a problematic term because more Syrian refugees were already living in countries like Turkey, Jordan, Egypt and Lebanon before (and after) the arrival of approximately 1 million people (0.5 percent of the European population) into Europe in 2015. Globally, the number of refugees has increased exponentially since 2015. According to 2019 data, 85% of the 79 million forcibly displaced population are hosted in developing countries (UNHCR, 2021). This shows the importance of “decentralizing Europe” in digital migration studies (Leurs & Smets, 2018; Patil, 2019). Undoubtedly, the comparative exploration of bottom-up/empowering and top-down/monitoring ICT uses in South-to-South migration routes and asylum regions would enrich this relatively new field.

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