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The Design and Use of Digital Technologies in the Context of South–South Migration

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Introduction

Migrants are people, little different from you the reader, and we the authors. Across the world, migrants use digital technologies for a wide range of purposes and in a variety of ways, just as “we” do. Two of the authors of this chapter are long-term migrants, and we therefore draw on our own individual experiences of migrating as well as recent research within the Migration for Development and Equality (MIDEQ) Hub¹ to craft a review of relevant English language literatures on migration between countries in Africa, Asia and Latin America (including the Caribbean). This introduction provides an overview of our approach. The chapter is subsequently divided into five sections summarising our review of the literature, and then compares and contrasts this briefly with the findings of our empirical research, mainly in

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Brazil, Ghana, Nepal, Malaysia and South Africa. A final section highlights neglected areas of research that we believe are of importance.

It is difficult to generalise about migrant behaviour (see also Mazzilli et al., in this volume). Migrants are a diverse group of people, with different demographic, economic, ethnic, social, cultural and political statuses and interests. The context in which migration occurs also matters very significantly for any analysis of how and why migrants use digital technology (tech). Moreover, migrants' uses of these technologies also often vary at different stages in their journeys, and it is important to recognise that although migrants are often marginalised and peripheral in their host countries, they and their families can frequently be privileged in their countries of origin. Furthermore, although much of the literature and practice addresses the positive benefits and potential of digital tech, it is also essential to explore the negative and unintended effects of its use.

This chapter draws on a review of existing literature on the use of digital technologies by migrants specifically between countries in Africa, Asia and Latin America (including the Caribbean). We adopt a structured approach to identifying and analysing the literature but did not aim to undertake a formal systematic review, not least because of the problems of interpretation with such reviews, especially in the social sciences (Hammersley, 2020). Although we explored the possibility of reviewing in multiple languages, we ultimately focused just on English, in part since we found rather few directly relevant papers in other languages. We acknowledge that some very useful material is published in other languages but have chosen to focus on English alone here because our sample size was already quite large, and we wished to have a consistent body of literature to review. In essence, we focused on analysing material identified in Web of Science Core (in Clarivate), supported by Google Scholar and our own knowledge of the literature. These were searched online using combinations of the following terms: Africa, Asia, Caribbean, global south, ICT, digital technolog*, Latin America, migra*, migrant, migration, mobile, refugee, South–South and tech. We then reduced the total number (>1500) of results to 74 that we agreed were most relevant and important.² There were two steps in the subsequent analysis: first, we categorised each publication according to a 33-point classification, and then all the material was reviewed in detail by at least one of us.

Eight overarching observations about these 74 papers were revealed through our categorisation process. First, the papers were from a rich diversity of disciplinary backgrounds, with first authors being from 37 differently styled departments,³ and from 36 countries.⁴ The most frequent disciplines represented were Communication (8, with 7 further jointly named),

Transnational Families and Digital Tech

A substantial proportion of the literature, particularly from the Southeast Asian region, focuses on how digital technologies are implicated in the lives of both migrants and their left-behind families. Papers in this category resonate with issues related to social and emotional aspects as well as caring at a distance and the rhythms of mundane family life affected by spatial and temporal boundaries. Although there is much focus on benefits from digital tech, there is also evidence of the pressures arising from constant digital connections and the strategies employed by migrants to cope with them.

Wellbeing vs Pressure

Digital technologies in general, and smartphones in particular, are often discussed in the literature as a lifeline for transnational migrant families. However, this can be a blessing and a curse for migrants. Much of the literature focuses on the benefits from digital tech for the continuation of family life (Meyers & Rugunanan, 2020), intimacy-at-a-distance (Acedera & Yeoh, 2019) and the wellbeing benefits for connected migrants (Benitez, 2012; Netto et al., 2022). Here, digitally mediated communications become embedded into the everyday helping overcome distance and sustain family life and social bonds.

However, the constant connectivity enabled through digital technologies such as smartphones also comes at a cost to migrants living precarious lives in their host countries. These include the pressure for remittances from families back home (Porter et al., 2018) as well as the relentless pressure to connect with loved ones online which in turn can lead to superficial interactions lacking in intimacy as shown by the work of Acedera and Yeoh (2018). The evidence is antithetical: while digital tech can facilitate constant co-presence, when migrants are online for long periods at a time taking part virtually in daily family rituals, such intense and prolonged digital interaction can also create unreasonable demands on migrants, especially women, irrespective of time differences and work expectations in the host country. Thus, both digital and offline relationships seem to be subject to the same power geometries that characterise the social milieu of the migrant wherever they are based.

Another interesting feature of the literature is that it is overwhelmingly focused on adult migrants. We found only one study by Acedera and Yeoh (2022) that examined the implications of digital tech use by children of migrant parents and how this might impact their lives. However, even here

the focus is very much on the politics of caring at a distance involving the migrant parent and the proximate carers rather than the dynamics of digital tech use by children per se.

Care vs Control

Most of the literature on digital tech use by migrants tends to focus on how smartphones facilitate care at a distance and in particular, long-distance mothering. There is relatively less focus on the implications of such virtual caring for the migrants involved and the communication strategies that they adopt as a result. A series of studies from Southeast Asia form the exception in this regard. Acedera and Yeoh (2018) not only highlight the double burden on female migrants from having to care for loved ones back home at the same time as holding down often precarious jobs in the host countries, but also shine a light on their strategic use of digital tech which includes regular but mundane conversations with spouses and carefully curated social media presence to maintain relationships with left-behind family and limiting the use of digital tech to avoid surveillance and control from family members. Acedera and Yeoh's (2022) study on "digital kinning" practices also notes such strategic use of digital tech by left-behind children to limit or avoid the "moral gaze" of their migrant parents.

In addition, there is evidence that employers can seek to control migrant workers (especially female domestic workers) by restricting their access to digital tech (Platt et al., 2016). This further adds to the emotional pressures faced by migrant workers who are then dependent on employers for their limited access to family members back home and friends in the host countries.

Gendered Use and Effects of Digital Tech

The possibilities offered by digital technology for agency and empowerment are closely related to socio-cultural issues including gender, class, economic context, ethnicity and educational level of the users (Le-Phuong et al., 2022). The literature showcases how some of these power geometries can be amplified through the use of digital tech.

Acedera and Yeoh (2018) thus warn about how technological "solutions", particularly social media, help to reify existing gender norms and structures while preventing the emergence of more progressive gender identities in transnational spaces. Through specific digital-mediated practices such as

the policing of migrant women's sexuality and public posts, and through carefully curated online presence, migrant or left-behind women are subject to the continuation of patriarchal tensions and expectations of an unequal power structure (Meyers & Rugunanan, 2020).

Similar power dynamics and social norms are visible in the case of left-behind children and their online world mirrors the offline space where girls are often subject to stricter moral control. However, there is also some evidence of digital mediation allowing for different ways of "doing family" and a limited renegotiation of social expectations (Acedera & Yeoh, 2022).

There is also evidence of the gendered effects of increasing digital tech use in the humanitarian sector such as increased domestic violence when female refugees are identified and designated as heads of household reinforcing extant power dynamics, as highlighted by the work of Schoemaker et al., 2021. Nevertheless, they also show that refugees can exercise agency in such situations through selective registrations or by choosing not to register at all where possible to avoid perceived negative consequences of such identification. Indeed, Chib et al. (2021) show that the non-use of digital technologies can be seen as a form of agentic expression by vulnerable migrants, as in the case of trans- and cis-feminine sex workers in Singapore, rather than the passive result of socio-structural factors.

Other studies of vulnerable migrants, such as foreign brides (Chib & Nguyen, 2018), show how digital technologies can be used to break their marginalisation and to strengthen their cultural identities. Digital communications are used to maintain the culture of origin, and proudly to disseminate and enjoy it. Both the consumption and production of cultural products of their country of origin are seen as strategies of resistance against alienation and powerlessness that characterise their lives in the host countries.

Information practices

Acculturation

There is an overwhelming focus in the literature on the positive aspects of mobile phone use in most acculturation studies, despite Aricat's (2015) warnings about the need to include analysis of their negative impacts. Mobile phone use is usually credited with helping migrants navigate new societies through the support of applications available for moving around, learning a language, understanding local cultures and customs, as well as for developing new social ties within the host society (Vuningoma et al., 2021). This can

in turn enable migrants' acculturation strategies and the creation of a hybrid transnational space (Aricat et al., 2015).

Mobile phones are also key to maintaining links with the culture of the country of origin. However, the easy availability through digital technologies of home country news, entertainment and spiritual support from abroad can reduce exposure to the new environment in the host society, increasing dependence on co-ethnic social networks and hindering new opportunities for bridge building (Chib & Nguyen, 2018). Indeed, constant social media communication with co-nationals and family back home has been shown to create cultural isolation from the host society even as digital tech enables migrants to better understand host nationals' attitudes towards migrants (Lim & Pham, 2016).

Migrants' acculturation efforts can also be undermined by discriminatory discourses and practices that underpin their digital tech usage in the host country. As Aricat's (2015) study shows, such discourses often characterise migrants as lazy and unproductive leading to many employers restricting the use of mobiles at workplaces.

Skills and Employment

Lack of access combined with a lack of digital skills are the main factors seen as limiting the use of digital tech (Hechanova et al., 2011). In particular, specific groups, such as women and low-skilled workers face multiple digital inequalities, derived from the wider social and economic inequalities that they experience. Overcoming these inequalities through learning and skills development, and reaching a state of self-pride in using digital tech can nevertheless trigger new entrepreneurial aspirations for engaging in online business activities. The literature discusses the benefits associated with the possibilities offered by digital tech for sharing information, developing new skills, starting new business activities (Ritchie, 2022), finding jobs (Grant et al., 2013; Thomas & Lim, 2010) and developing income generation activities (Hussain & Lee, 2021). At the same time, studies point to systemic political and cultural biases in the host countries (Vuningoma et al., 2021) and the potential reinforcement or creation of social divisions through digital tech (Ritchie, 2022) as often restricting migrants from using digital technologies to seek out employment opportunities.

The literature also suggests that digital tech is essential for fostering business entrepreneurship among refugees and migrants more generally. Digital tech use positively influences migrants' entrepreneurship skills and even if extensive quantitative data are scarce, the qualitative data represented mainly

through case studies, suggest that these technologies often benefit skills development, coordination and business cooperation (Ritchie, 2022).

The main constraints on migrants' skills uptake and business development appear to be limited infrastructural access combined with cultural (inequalities), political (regulatory environments that limit use by migrants and refugees), gendered social dynamics (Canevez et al., 2021) and social restrictions (including patriarchal and hierarchical structures). As Dutta and Kaur-Gill (2018) argue digital technologies do not change these problematic social structures and their power dynamics.

Advocacy and Collective Action

COVID-19 and the lockdowns introduced during the pandemic highlighted a new role for social media. WhatsApp, in particular, helped people on the margins of society such as migrant women to mobilise and respond to challenges while requesting legal support and information (Muswede & Sithole, 2022). This is not, though, the first time that digital tech solutions have been used for advocacy and collective action. The aid sector has long used social media to raise awareness on sensitive topics, to raise funds, to share information and to achieve political influence, particularly regarding working conditions and salaries of migrants (Molland, 2021). Social media furthermore contribute positively to scalability and connectivity between migrant groups and state actors.

Certain collective experiences of marginality shared on social media can also be an opportunity for bonding and mobilisation. For instance, Raheja (2022) reports that Hindu migrant-refugee men in Pakistan bond across castes through the exchange of posts and images that seek to highlight their vulnerability and strengthen their political claims for Indian citizenship. Another example of mobilisation facilitated by digital tech is presented by Hussain and Lee (2021) in relation to Rohingya women who use digital technologies such as smartphones to push back against socio-religious restrictions within refugee settlements in Bangladesh where social and political leaders also employ similar technologies for political and religious mobilisation.

The literature points to linguistic skills, education and a lack of time in addition to access as key reasons that limit participation in social media (Le-Phuong et al., 2022). As seen in relation to the use of digital tech for business improvement, socio-cultural issues connected with gender, class, economic situation and educational divide further affect their uptake.

(Digital) Inequalities

Digital tech use in the migration context often comes with new risks as well as new digital inequalities in relation to differential outcomes from such usage, often determined by limited digital literacy and inadequate understanding of digital safety and security.

The literature has long identified that access to digital tech is but one layer of inequality and that there are further layers of divide such as those associated with usage deriving from social inequalities and those related to outcomes from such usage with the digitally literate benefiting more than others (van Dijk, 2020). There are multiple layers and intersections of inequality, and the use of digital tech all too frequently exacerbates them. The evidence suggests that various socio-economic and cultural factors such as age, gender, communication preferences, linguistic proficiency, familiarity with digital tech and income levels all affect access to and use of digital tech, and therefore influence outcomes (Ritchie, 2022). For instance, Netto's (2022) study of the use of digital tech by Rohingya refugees in Malaysia, highlights how language and literacy play a crucial role in not just the ability to use digital tech but more importantly, to access a range of resilience strategies through that use. Female refugees, particularly older women, are generally less literate both in terms of language and digital literacy and therefore have more barriers to using smartphones to build resilience as well as transnational and intergenerational solidarity.

While poorer migrants often face digital inequalities, female migrants from more well-off backgrounds can also face a variety of “digital asymmetries” (Wang & Lim, 2021) such as competency asymmetry (i.e. dependency on their children to teach them digital skills), expectation asymmetry (when expected messages from loved ones are late or do not arrive) and autonomy asymmetry (when migrant mothers are required to schedule digitally mediated activities to suit their family members' schedules rather than their own). Such digital asymmetries are a key feature of digitally mediated communications within a context of entrenched social and gender-based inequalities. Indeed, the gendered surveillance often seen in digital interactions serves to exacerbate pre-existing inequalities related to gender and social norms. Our review finds that such gendered power dynamics and inequalities persist irrespective of geographical location and despite various digital coping strategies employed by migrants as discussed in the previous sections.

Digital communications have often been hailed as a facilitator of hybrid, transnational identities, particularly in the case of South–North migration. In the Southern context, however, there are fewer such studies examining issues

around identity and transnationalism. While Benitez's (2012) study highlights the potential for digital communication to foster hybrid transnational identities, it also highlights the effect of digital inequalities and their socio-economic, knowledge, gender, generational, ethnic, language and disability dimensions in relation to access to, use of and outcomes from the use of digital tech. Indeed, there is evidence to suggest that marginalised migrants often retreat into their own culture and identity as a form of resistance which in turn increases social isolation from the host society (Chib & Nguyen, 2018).

Digital Humanitarianism

An important but under-addressed theme that emerges from the literature on digital tech use in African, Asian and Latin American migration contexts is a critique of the use of digital tech in humanitarian situations without regard for data justice. Remote visual technologies are increasingly used to govern refugee camps from a distance, creating what Rothe et al. (2021) call a "visual assemblage" that aims primarily to satisfy the humanitarian care and control needs of public and private actors. While the use of digital tech in this regard is often driven by efficiency considerations, Madianou's (2019) study is an exemplar in this category for its critique of the efficiency logic. Instead, she frames the datafication of humanitarianism as technocolonial extraction for ensuring project funding rather than refugee welfare while biometric data are used to entrench inequalities and power asymmetries between refugees and the humanitarian agencies/government. Thus, data and digital tech are shown to help entrench inequalities through problematic datafication efforts aimed at ensuring accountability, the privileging of digital impact data and efficiency measures for the benefit of donors, the increasing roles for the private sector in the humanitarian field, the rise of solutionism inherent in the accelerating use of hackathons to develop easy fixes for complex social problems and the widespread use of digital tech for border control and surveillance.

The datafication of displaced people is particularly problematic given the lack of regulatory safeguards that are often available in the economically richer countries of the world. This issue is highlighted by Lemberg-Pedersen and Haioty (2020) who argue that the marketisation of refugee data and the designation of the displaced as "unbanked" facilitate their integration into the global financial system. Humanitarian financialisation then serves the multiple interests of aid agencies, international organisations, private data

companies and financial services providers all at the expense of “the surveillance refugee body” whose compliance is a pre-requisite for access to services. A key feature of such datafication is that the migrants whose data are being extracted have no understanding of their data rights nor do they have any knowledge of who has access to their data and how it is used.

The increased visibility caused by the use of digital tech and datafication is a double-edged sword for migrants and refugees. While access to services demands visibility, it also opens up migrants to surveillance by a variety of actors, including governments. While digital visibility enables access to services within refugee camps it also facilitates surveillance, potential denial of service and other harms such as increased personal safety implications for politically active refugees (Schoemaker et al., 2021). Although some migrants may attempt to evade visibility through selective (non)use of digital technologies, the lack of data justice in such humanitarian contexts, particularly the inability to challenge or change data held by others about refugees, further exacerbates such inequalities.

Evidence from MIDEQ Research on Migrant Use of Digital Tech

Our research and practice programme, as part of the MIDEQ Hub,⁵ on the use of digital technologies by migrants and family members in multiple migration corridors (Nepal-Malaysia, Ghana-China, Haiti-Brazil and Ethiopia-South Africa) show that while migrants depend on digital tech for many aspects of their daily lives, they seldom use “migrant apps”⁶ designed specifically for them. Instead, they tend to use digital tech with which they are already familiar, such as Facebook, WhatsApp or Imo (a free app for voice and video calls), depending on the context despite the proliferation of migrant apps funded by international organisations and well-meaning agencies. We also note contradictory influences of digital tech on migrants and family members characterised by the co-existence of increased digital use alongside persisting digital inequalities relating to access, use and outcomes. A key related issue is the pervasive lack of knowledge regarding issues of digital safety and security, and this is concerning given that migrants are increasingly subject to digital interventions from states, employers, and even humanitarian organisations across many South–South migration corridors.

Our findings point to some antithetical influences of digital technologies on the life and wellbeing of the migrants and their families. In the countries of origin, while access to technology increases post-migration, challenges

continue to exist due to connectivity costs that are often higher than in host countries. This is particularly true in the case of remote, rural locations such as those in Nepal. The generally low level of digital skills prior to migration also affects access and use.

In the more affluent destination countries access to modern devices and the Internet is often easier and more affordable, leading to the development of digital skills, incentivised by the necessity to stay in touch with family and friends and to access information, regarding both host society and potential future destinations. Digital technologies, furthermore, help build new bridges in the host country, learn new skills, search for business opportunities and discover local culture as well as maintain links with the culture of origin.

However, our findings also provide evidence for the more dangerous and harmful side of the digital world such as increased pressure from family to be connected or to return home, the challenges associated with social media such as fake news and hacking, and the higher risk of surveillance. Many migrants are aware of the potential harm of using certain digital technologies, for themselves and their families. At the same time, they remain mostly unaware of the range of migrant apps designed specifically to support migrants orient themselves, to access labour and government information and services, to rate employers and recruitment agencies or to register complaints. Where there is some knowledge of such apps there is often a reluctance to download and/or use them due to lack of trust and an overwhelming preference for peer-to-peer support. Moreover, as with Ghanaian migrants in China, there is also evidence of migrants exercising agency by switching between regional dialects when discussing sensitive topics or while using apps that they do not trust.

The research findings disclosed further contradictions connected with the migration journey. Migrants are often balanced in their appraisal of the use of digital technologies and cite both positive and negative aspects. A word used by many migrant interviewees that rarely appears in the literature is “happiness”. Migrants find happiness in their ability to support their family through remittances that improve their economic, and consequently social, circumstances. They are also able to provide better access to educational opportunities for their children or siblings. The other element of satisfaction is represented by the possibility for employment in the host country compared with the lack of such opportunities in the country of origin. Digital technologies offer new means of accessing training, for instance via YouTube that can be helpful for migrants planning to return home to set up small business ventures.

At the other end of the spectrum, there is “sadness” due to the physical distance from the family. Digital technology is cited as a source of great

relief and support as it helps bridge distance from family, culture and opportunities. Nevertheless, virtual proximity is not seen as comparable to the tangibility of physical presence. Migrants express similar sentiments in relation to the limited potential of digital tech, at least in their eyes, to address the insecurity they often face in the host country. In Malaysia, Nepalese migrants state that they need to maintain a low profile and be attentive to their movements as they go about their daily lives due to fear of personal attacks from locals. In South Africa, migrants often recall xenophobic attacks and hate speech. The most common frustration is the feeling of powerlessness to fight and change the systemic discrimination they face. While many migrants do not see digital technologies as a panacea for the intractable challenges associated with migration, there is evidence to show that some migrant networks in host countries are harnessing the power of social media for advocacy and building resilience.

Under-Addressed Themes in the Literature

Our review suggests that there are numerous aspects that require further research on the use of digital technologies in the context of South–South migration and its often paradoxical implications. Most of the literature we explored was derived from qualitative research, and illustrates a rich diversity of migrant experiences. However, there is a distinct opportunity to undertake more studies using quantitative methods. Just three out of the 74 papers focused exclusively on quantitative methods and seven combined surveys alongside qualitative methods. The lack of social network type analysis of migrant flows and digitally mediated networks is also intriguing in a field that is increasingly characterised by datafication.

Very little existing research applies rigorous theoretical approaches to scaffold their studies or use them as analytical or interpretive lenses, although numerous social science theories were mentioned briefly in many of the reviewed papers. The multidisciplinary nature of the subject and the socio-technical complexity surrounding migration and digital tech both introduce challenges in finding theories that have the scope to help interpret the findings. However, this also implies opportunities for future theory building in the field.

The focus of much of the literature thus far has been on migrants and their families, particularly on familial relations mediated by digital tech. There remain opportunities further to investigate the nuances, including the depth or superficiality, of digital interactions between migrants and family members

as well as their strategic use of digital tech and even digital disconnection. An overarching theme in the literature pertains to persisting gender-based inequalities and power dynamics between female migrants and their left-behind family members. Longitudinal studies could explore if such dynamics change with the passing of time and as migration and caring roles become more firmly established within the family.

There is also a need to examine further the more negative aspects of digital tech in relation to its impact on mental wellbeing among migrants. While our research has highlighted this as an issue, there is limited coverage of wellbeing implications of digital use within the migrant literature. There is also a rather limited focus on children and youth, and there is scope here further to explore the socio-psychological implications of digital parenting. The theme of religious and cultural use of digital tech is also an area that is ripe for further investigation given the rapid expansion of e-religion.

The current literature does not adequately account for the distinction between different types of migrants, and in particular, undocumented migrants and migrants of all genders (including LGBTIQ+). It is also crying out for greater diversity in terms of coverage of regions and countries with Southeast Asia dominating the current English language research landscape. A lack of diversity is also evident in the range of themes addressed. For instance, despite the significance many scholars attach to digital inequalities, it is surprising to see very few studies focused on digital literacy and e-learning in the migration context. There is also limited literature on the use of digital tech for political mobilisation and advocacy by migrant networks in host countries despite the important work they undertake in many regions. In this regard, given the fractured nature of globalisation and rising anti-migrant sentiment across the world, it would also be instructive to (re)examine the nature of online identity formation among migrants in the host country context.

Lastly, given the march towards a “digital first” approach in many parts of the world, there is an urgent need for studies to revisit the use of so-called migrant apps not merely from the point of view of their efficacy but also from the perspective of migrants who are encouraged or required to use them but, as our research suggests, seldom do.

Conclusions: The Promises and Perils of Digital Tech

This chapter has provided an overview of English language publications on migration between countries in Africa, Asia and Latin America (including the Caribbean), and has highlighted five main themes that emerge from the 74 papers reviewed: transnational families, gendered use and effects, information practices, digital inequalities and digital humanitarianism. The use of digital tech pervades all aspects of human life, and migrant experiences thereof represent a particularly interesting sub-set of the literature—the use of mobile technologies by mobile people. Our overwhelming conclusion is that the use of digital technologies generally exacerbates existing inequalities, although the potential still exists for them to be disruptive and to be used to benefit the social, economic, political and cultural experiences of migrant life. Moreover, although the bulk of the literature focuses on perceived positive aspects of digital tech, there is also a much darker side to it that has as yet been insufficiently addressed. The ways through which migrants are increasingly being encouraged or forced into using particular apps, and the rise of digital surveillance of migrants are two topics worthy of much more research and policy influencing. Migrants are often very vulnerable, and it is important that they should all have the benefit of learning how to use digital tech safely, wisely and securely.

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Notes

1. Our working papers containing rich empirical evidence from the research are freely available at <https://ict4d.org.uk/publications/working-papers/>.
2. For a full listing of references, see <https://ict4d.org.uk/technology-inequality-and-migration/litrev/>.
3. Very similarly named departments were treated as the same. Thus, Communication Studies was considered the same as Communication, but different from Communication and New Media.
4. Dominated by 21 researchers in Singapore, 18 in the USA, 10 in the UK and 8 in South Africa.

5. This chapter also draws from 1,335 responses to our online surveys in Nepal, Malaysia, Ghana, South Africa, Haiti and Brazil, online interviews conducted with Nepalese migrants in Malaysia and returnee migrants and family members in Nepal, online interviews conducted with migrants and returnees in Ghana and in-person interviews and focus groups conducted with migrants in South Africa. See our collection of papers at <https://ict4d.org.uk/publications/working-papers/> for detailed results from our online surveys.
6. Both Farbenblum et al. (2018) and Kikkawa et al. (2021) provide reviews of numerous digital applications designed for migrant workers or to facilitate and regulate migrant mobility.

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