This policy brief examines the implications of digitalization in Fragile and Conflict-Affected Situations (FCS). Digitalization has a transformative potential but simultaneously presents distinctive challenges, particularly in FCS characterized by infrastructural limitations, weak governance, and socio-economic disparities. The OECD identifies digitalisation as one of the intensifying factors for the growing inequality between FCS and the rest of the world. However, in FCS the story extends beyond inequalities between countries to inequalities within countries which are more critical for the FCS context as inequalities exacerbate fragility and conflict. This brief highlights three points. The first point explores the dual impact of digitalization on FCS business environments. Digital tools can overcome infrastructure barriers, thereby fostering economic growth and enhancing market dynamics through increased transparency. However, digital technologies create information asymmetry, resulting in widening the gap between those who can participate in the digital economy and those who are left behind, subsequently exacerbating socio-economic inequalities, fostering exploitative working conditions, and potentially escalating instability in fragile and conflict-affected regions. The second point focuses on the labour markets, where digitalization through the online gig economy can create job opportunities and improve labour mobility. However, it can also undermine labour protection and contribute to wage disparity and issues relating to workers’ rights, accentuating inequality and exclusion, particularly in FCS. The third part investigates the role of digitalization in Communications and Information Security. Digital tools can empower communities to resist oppressive regimes but can also be exploited for surveillance and censorship, fuelling conflict and exacerbating social tensions. The brief concludes with policy recommendations aimed at integrating digital inclusion principles in FCS strategies, emphasizing equitable digital initiatives, and adopting conflict-sensitive and equitable digital policies. The recommendations underscore the need for a balanced approach to digitalization, fostering innovation while providing protection from contributing to fragility and conflict.

Introduction

Digitalization is ushering in profound changes in societies. In the context of the Industrial Revolution 4.0, digitalization is thought to represent a transformative shift in operation models and business models, characterized by the integration of newly acquired capacities through value-added digitization efforts. Think of a bookstore owner in a small town who integrates newly acquired knowledge of online marketing and e-commerce platforms to digitize their inventory, expand their customer base, and offer personalized book recommendations, transforming their business in the digital age. This revolution emphasizes the potential for increased productivity, economic growth, and efficiency gains through automation, artificial intelligence, and data-driven technologies. Just as electricity transformed industries and improved the quality of life, digitalization is assumed to have a similar transformative power.

One example of the transformative power of digitalization can be seen with the rise of the platform or gig economy. This shift has transformed the labour market by providing flexible working options that provide individuals with more autonomy and adaptability in their work and its platforms can make the labour markets function more smoothly by making access to the labour supply easier and quicker, thus increasing its match with global demand. However, alongside these advantages, online gig work bears inherent risks, including potential isolation, challenges in achieving a work-life balance, discriminatory practices, and labour exploitation. It is crucial to recognize that online gig work platforms frequently operate without adequate regulations or adherence to established norms that could safeguard and offer advantages to workers.

The fact that digitalisation can bring about both positive and negative impacts highlights governments’ role in shaping policies and regulations that strike a balance between fostering innovation and safeguarding the rights of individuals. In developed contexts with strong institutions and the rule of law, governments can leverage their actions to maximize the benefits of digitalization while effectively addressing potential challenges.

4 The concept of the 4th Industrial Revolution (4IR) encompasses various technological advancements that make use of digitization and information technology. It involves the integration of physical, technological, and biological systems, creating a synergy among them. In this era, data and the exchange of knowledge play a vital role and are considered to be fundamental resources. Additionally, there is a notable acceleration in the pace of development, leading to rapid innovation and progress. Klaus Schwab, The Fourth Industrial Revolution (Currency, 2017).
However, digitalization is not limited to developed contexts; it is also progressing in FCS. For example, despite the challenges it faces, internet usage in these situations has seen a notable increase between 1990 and 2022 (see figure 1).

The significant rise in internet usage indicates the increasing adoption and integration of mobile technology, emphasizing the increasing opportunities of digitalization in FCS. However, realizing the full benefits of digitalization becomes more complex and challenging in these contexts, as the specific circumstances present in FCS can amplify both the positive and negative impacts.

These contexts impart two defining characteristics to digitalization. Firstly, digitalization is influenced by the economic, social, and political environment. Challenges such as limited infrastructure, weak governance structures, and socio-economic adversity, including poverty and inequality, shapes digitalization in FCS in its full form, which is why we see the prevalence of issues such as the digital divide that hinder the progress of digitalization. Secondly, the adoption of digital tools in FCS differs from non-fragile contexts. Instead of being driven primarily by motives like productivity and efficiency, digitalization in fragile situations arises from the necessity to adapt and find solutions amidst a challenging environment.

Therefore, understanding the symbiotic interaction between fragility and digitalization is pivotal for harnessing the transformative power of digitalization while mitigating its potential detriments in FCS. This brief examines the relationship between fragility and digitalization and its impact on development outcomes in FCS by navigating three main areas. Firstly, we examine digitalization’s role in FCS business environments and its implications for economic progress. Secondly, we probe into the effects of digitalization on the labour markets, discussing both the opportunities and the risks. Lastly, we scrutinize the digital impact on communications and information security in FCS. Our aim is to shed light on how digitalization distinctly impacts FCS through these focal points.

Through exploring the adoption of digital tools in various domains, we can better understand how the positive and negative impact resulting from the interaction between fragility and digitalization manifests itself.

**Digitalization broadens opportunities yet deepens inequalities in the FCS business environment**

While digitalization in such FCS brings positive impacts to the development of an enabling business environment through wider market access and compensating for poor infrastructure, it also introduces negative implications regarding inclusivity and equality. Specifically, it raises concerns related to differing degrees of digital adoption and information asymmetry.

---


On the positive side, digitalization helps to overcome the limitations of a poor physical business infrastructure in FCS by providing digital tools such as e-banking, mobile money, and platforms like WhatsApp. This enables small and medium-sized enterprises (SMEs) to gain access to new markets and smooths a number of business operations. Furthermore, digitalization can positively impact market dynamics as it may partially compensate for the lack of adequate consumer protection regulations. It does so as digital platforms may empower consumers with more information, allowing them to make more informed choices and to access a wider range of goods and services. This leads to greater market efficiency and increased opportunities for consumers to find competitive prices and quality products. The expanding digital economy enhances consumer options and facilitates e-commerce, expanding market reach and potentially increasing revenue for businesses. For example, the adoption of fintech (like EVC Plus in Somalia) in fragile and conflict-affected states is driven by the need to overcome constraints on the use of physical cash and a weak financial sector.

14 The graph, based on World Bank criteria, illustrates the range of fragility and conflict-affected situations in countries. It underscores that, despite the challenges posed by fragility and conflict to digitalization, they don't fully hinder its advancement. More details: [https://www.worldbank.org/en/topic/fragility-conflict-violence/brief/harmonized-list-of-fragile-situations]. Source: World Development Indicators.


17 In Somalia, Hormuud Telecom operates a mobile money service called EVC Plus. It has played a significant role in facilitating financial transactions and providing access to financial services in a country with limited banking infrastructure. EVC Plus allows users to send and receive money, pay bills, and purchase goods and services using their mobile phones. It has contributed to the growth of e-commerce and has become an essential tool for financial inclusion in Somalia, particularly in areas affected by conflict and instability. [https://hormuud.com/EvcPlus/]

In Afghanistan Roshan’s M-Paisa was created by Roshan, Afghanistan’s leading telecommunications provider. Roshan partnered with various financial institutions to develop and launch the mobile money service, aiming to provide secure and convenient financial services to the people of Afghanistan [https://roshan.af/m-paisa].
Lacking connectivity to the international banking system, such initiatives are designed primarily to overcome local constraints rather than to realize gains over existing fintech solutions used in more developed contexts. However, besides improving the business environment, the adoption of digital technologies also presents challenges in FCS. SMEs and persons with better access to digital infrastructure and the necessary skills are more likely to take advantage of the opportunities provided by digitalization. In contrast, those with limited access and skills face entry barriers and struggle to compete in the digital economy. This disparity perpetuates existing inequalities, thereby widening the skills and knowledge gap, which subsequently hinders the development of the business environment in FCS because of the disparities in access to innovation and the markets. Also, the expanding digital economy in FCS can exacerbate inequalities by creating information asymmetry, which contributes to widening the gap between those who can effectively participate in the digital economy and those who are left behind. This reinforces existing inequalities and poses a challenge in promoting equitable growth. In particular, it is the digitally literate and the educated, often university graduates, who are more likely to capitalize on digital opportunities due to their higher levels of skill. This contrast becomes more prominent when considering that access to higher education in FCS is often skewed towards certain socio-economic groups.

Limited access to digital infrastructure and a lack of digital skills can significantly impede the development of the business environment in certain areas. This issue is especially prominent in FCS, where those with greater financial resources can leverage digital tools and skills, while others encounter reinforced barriers to market entry due to their lack of access to these resources. This is likely to perpetuate or aggravate existing inequalities by disadvantaging SMEs lacking digital resources, thus hindering the growth of SMEs. Moreover, when digitalization exacerbates the differences between (richer and poorer) groups or (rural and urban) regions that are already at odds, it may aggravate tensions and increase the risk of conflict. For example, poor areas with limited digital possibilities struggle to develop economically, thereby widening existing disparities. Marginalized populations, who often face low literacy levels, are unable to benefit from the expanding IT sector, which predominantly favours English-speaking university graduates. This further deepens inequalities and impedes inclusive development.

One example is the situation in Sudan: the country’s major centre-periphery divide is reflected in unequal access to digital infrastructure, with significantly better connectivity in the capital city, thus reinforcing existing inequalities. Furthermore, considering Sudan’s history, the centre-periphery divide has long been a driving factor for conflicts, indicating a heightened risk of conflict in relation to the country’s digital divide (see figure 2).
EVC Plus in Somalia

In Somalia, the adoption of mobile financial services has played a transformative role in addressing challenges related to limited connectivity and a weak financial sector. One prominent example is the success of EVC Plus, a mobile money platform introduced by Hormuud Telecom, one of the leading telecommunications companies in Somalia. As of 2022, EVC Plus has amassed nearly 3 million registered users, demonstrating its widespread adoption and impact. In Somalia, the adoption of mobile money is prevalent due to the continuous problem of counterfeit banknotes and the very low value of currency making payments in Somali Shillings cumbersome. According to a 2018 report by the World Bank, approximately 75% of the Somali population aged 16 and above utilize mobile money, conducting transactions amounting to $2.7 billion per month.

Due to the ongoing conflict and fragile economic conditions in Somalia, traditional banking systems have been severely undermined, leaving many people without access to formal financial services. EVC Plus has emerged as a crucial solution, enabling individuals to engage in secure and convenient financial transactions, even in remote areas with limited infrastructure. This innovative mobile money platform has significantly contributed to overcoming challenges, providing financial inclusion, and empowering individuals to participate in economic activities.

Figure 2 Internet coverage in Sudan by state (%)\(^{23}\)

<table>
<thead>
<tr>
<th>State</th>
<th>Coverage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Khartoum</td>
<td>40</td>
</tr>
<tr>
<td>S. Darfur</td>
<td>20</td>
</tr>
<tr>
<td>Red Sea</td>
<td>10</td>
</tr>
<tr>
<td>W. Darfur</td>
<td>0</td>
</tr>
<tr>
<td>Gedaref</td>
<td>0</td>
</tr>
<tr>
<td>N. Darfur</td>
<td>0</td>
</tr>
<tr>
<td>White Nile</td>
<td>0</td>
</tr>
<tr>
<td>Northern</td>
<td>0</td>
</tr>
<tr>
<td>Gezira</td>
<td>0</td>
</tr>
<tr>
<td>River Nile</td>
<td>0</td>
</tr>
<tr>
<td>Blue Nile</td>
<td>0</td>
</tr>
<tr>
<td>Kassala</td>
<td>0</td>
</tr>
<tr>
<td>Sinnar</td>
<td>0</td>
</tr>
<tr>
<td>S. Kordofan</td>
<td>0</td>
</tr>
<tr>
<td>N. Kordofan</td>
<td>0</td>
</tr>
<tr>
<td>C. Darfur</td>
<td>0</td>
</tr>
<tr>
<td>E. Darfur</td>
<td>0</td>
</tr>
<tr>
<td>W. Kordofan</td>
<td>0</td>
</tr>
</tbody>
</table>

23 Source: Telecommunications and Post Regulatory Authority (TPRA) – Sudan.
Digitalization enhances job opportunities but Intensifies inequalities in the FCS labour markets

In terms of the labour markets, fragility, conflicts and a history of violence tend to increase informal, non-contractual, and unregistered work. Additionally, conflict and fragility limit access to social protection and fundamental rights at work. This trend is primarily because of a weak rule of law and occasional predatory behaviour by the state concerning certain economic sectors, leading people to rely more heavily on informality to sustain their livelihoods. Lebanon presents a compelling case in this context, as the nation grapples with a significant economic crisis exacerbated by issues such as elite capture and regional conflict. These factors have indirectly fostered a sizeable informal economy. With stringent labour market rules, high regulatory overheads, political instability, poor institutional quality and governance, along with heavy taxation, the formal economy has become progressively more challenging to navigate. Consequently, such conditions have driven workers and firms to choose informal means of labour activity.

On the flip side, issues like unemployment and a lack of good, steady jobs can contribute to instability and conflicts. If people’s fundamental labour rights are denied, if they feel that they do not have fair economic opportunities, and if there is no platform for open dialogue on these issues, it can fuel discontent and potentially trigger conflicts.

Digitalization has a dual impact on the labour markets, with both positive and negative consequences. On the positive side, it creates job opportunities and improves labour mobility, especially in the digital economy. Workers can break through geographical barriers and increase their income by matching their skills with remote work options or job opportunities in other regions. This is particularly relevant in fragile states and developing countries, as it helps to retain highly skilled individuals within their own countries by providing suitable job opportunities.

In FCS, the challenges of inadequate infrastructure, deep-rooted inequality, and weak governance have a particularly significant impact on the online gig economy. Weak governance exacerbates these issues by obstructing effective policy-making and the regulation of gig workers’ rights. It can result in a regulatory vacuum where labour laws and protections are inadequately enforced, if at all. Consequently, gig workers are often left unprotected against potentially exploitative working conditions. This lack of a safety net increases their vulnerability, as they are left to negotiate their terms of work, wages, and dispute resolution on their own, often in an unequal power dynamic with employers or platform operators. Together, these challenges magnify the difficulties faced by individuals in FCS in accessing and benefiting from gig work, perpetuating socio-economic disparities and hindering inclusive development.

While digitalization can generate essential jobs and foster entrepreneurialism, the weak governance structure hampers effective policy-making and the regulation of gig economy jobs in these contexts. For example, the gig economy can undermine labour protection and contribute to a “global race to the bottom” in terms of wages and workers’ rights. In Kenya, for instance, local employees of the tech company Sama had to endure troubling conditions, bringing attention to the adverse effects of the gig economy. A detailed report highlighted a bleak...

---

environment within a non-descript office building near a Nairobi slum, where nearly 200 young men and women from different African nations were assigned the task of viewing and moderating graphic content. This content included instances of murder, rape, suicide, and child abuse. Despite marketing itself as an “ethical AI” outsourcing firm with its headquarters in California, Sama’s case exemplifies how the gig economy can restrict access to decent work and subject workers to challenging circumstances.

Despite Kenya’s reputation as an advanced model of digitalization in Sub-Saharan Africa and the government’s prioritization of business process outsourcing in its Vision 2030, the troubling conditions faced by workers in the gig economy reveal the limitations on access to decent work. These observations raise concerns about how the gig economy may impact fragile contexts and their potential implications.

The consequences of digitalization on the labour markets are globally significant, but they carry particular weight in fragile contexts. According to the International Labour Organization, the impact on decent work in FCS directly contributes to the exacerbation of fragility and undermines peacebuilding efforts. Therefore, addressing the direct implications of digitalization on decent work is crucial for the well-being and livelihoods of individuals in FCS, as well as for broader stability and peacebuilding efforts in these contexts.

Digital tools empower voices yet expose vulnerabilities in FCS communications and information security

Digitalization in the communication and information domain in FCS has brought both opportunities and risks. On the one hand, access to digital tools and social media has provided space for civil society to thrive, empowering communities to resist oppressive regimes. For example, the 2019 uprising in Sudan where the social media played a role in empowering protesters to organize, disseminate information, and mobilize support for their cause. Also in Burkina Faso civil society organizations have utilized digital platforms to amplify their voices, to advocate human rights, and to promote democratic values in the face of political challenges.

In addition, digital tools play a crucial role in facilitating the humanitarian responses that local individuals provide for each other and information sharing on conflict events in FCS. In the case of Syria, mobile technology has played a crucial role in humanitarian service delivery and communication. Smartphones, WhatsApp, Facebook, and Gmail serve as essential tools for Syrians within the country and refugees abroad, providing them with connections to their family, updates on the conflict, and access to humanitarian support. Humanitarian organizations also rely on internet-capable mobile devices and various applications for vital communication, monitoring, and data collection purposes. Interestingly, the widespread use of mobile technology persists regardless of which armed group controls a particular area, thereby demonstrating its relevance throughout.

the Syrian conflict. Despite challenges such as poor internet quality, communities and business owners prioritize the establishment of local internet connections. Internet access, often facilitated through networks established by Local Administrative Councils (LAC) and internet cafes, is available for broader community use in most towns. As communication with social networks was an essential asset for navigating the conflict, Syrians of all ages, except for those in remote and rural areas, leverage internet access to stay connected with their family and friends using applications like WhatsApp.

The potential of humanitarian technology has been increasingly recognized by policymakers, humanitarian professionals, and scholars, who acknowledge its transformative impact.

However, reliance on digital tools also comes with inherent risks. In the context of protests or humanitarian efforts, if organizers or actors heavily depend on digital infrastructure, they can be severely impacted when the government decides to cut off access to that infrastructure. This abrupt disruption can undermine their ability to communicate, coordinate, and carry out their activities effectively. For instance, Internet shutdowns in Ethiopia have often been linked to efforts by the federal government to control the flow of information and suppress dissent. Instances of internet disruptions coincided with events that the government may have sought to conceal, such as reports of human rights abuses during counter-insurgency operations or the violent crackdown on anti-government protests.

The most recent shutdown in November 2021 was suspected to be aimed at obstructing the dissemination of information about the federal army’s defeats, while the internet shutdown in Tigray in November 2020 obscured the severity of the ongoing humanitarian crisis in the region.

Furthermore, investments in digital infrastructure in FCS can also be exploited by authoritarian governments or countries with weak democratic institutions, leading to surveillance and censorship practices that create new threats to fundamental human rights, institutions, and values that underpin a democratic society. These surveillance and censorship practices not only undermine trust in the government but also contribute to a climate of fear and insecurity, exacerbating social tensions within society.

Following the coup in Myanmar, the military junta, known as the State Administration Council (SAC), initiated a series of actions to assert control over the country’s telecommunications sector. One of their first moves was to order the two telecom companies operating in Myanmar, Telenor (a Norwegian firm) and Ooredoo (a Qatar-based company), to hand over all customer data to the junta. This demand violated European law, prompting Telenor to withdraw from Myanmar. Subsequently, Telenor sold its operations to the Lebanese M1 Group, which later transferred its shares to Shwe Byain Phyu, a company with military connections. This deal empowers the Myanmar junta with the ability to monitor all calls and SMS text messages in real time through the former Telenor network. Consequently, the military has almost complete control over traditional telecommunications in the country. Myanmar has reached an unprecedented low point, with the level of digital oppression in the country now comparable to that of China.

Moreover, the digital technologies present in FCS can fuel conflict by facilitating the spread of misinformation, particularly in the absence of trusted and independent media.

35 Ibid.
outlets. For example, online spaces frequently reflect Iraq’s ethnic and sectarian conflicts, as disputants employ misinformation tactics to target minorities or solicit empathy and backing from those who are marginalized\(^\text{37}\). However, these same technologies also offer an opportunity for civil society to counter misinformation campaigns, to advocate for peace, and to provide platforms for alternative narratives and dialogue, A noteworthy case study in Nigeria highlights the contributions of interfaith groups and traditional media, such as Unity FM Radio in Jos, which has actively engaged in fact-checking and mitigating digital threats by scrutinizing and debunking false information circulated on social media platforms\(^\text{38}\).

Thus, recognizing the positive and negative impact of digital technologies is essential in promoting stability and supporting peacebuilding efforts in FCVs. It requires a balancing of the risks and benefits, ensuring that digitalization is used as a tool for empowerment, peacebuilding, and safeguarding human rights, rather than as a means for surveillance and control.

**Policy recommendations**

Digitalization, marked by the integration of value-added digitization efforts and newer technologies, has transformative potential for societies, reshaping traditional business models and labour markets. However, this transformation brings both opportunities and challenges. On the one hand, digitalization can drive productivity, economic growth, and innovation, as well as providing flexible work options. On the other hand, it can exacerbate risks such as labour exploitation, isolation, and discriminatory practices. These benefits and challenges become even more complex in fragile and conflict-affected contexts, where infrastructural limitations, weak governance, and socio-economic inequalities can slow down digitalization, even though they increase the need for it.

Governments and institutions should strive to formulate comprehensive policies and regulations that balance the fostering of digital innovation while simultaneously mitigating the risks of conflict, specifically in FCS. It is essential to address the multifaceted implications of digitalization for stability, peacebuilding, and development outcomes in these complex contexts. Building on that, this policy brief identifies the following three policy recommendations for digitalisation in FCS:

1. **Integration of Digital Inclusion Principles in FCS Strategies:** International development actors should ensure that their digitalization strategies targeting FCS are prioritizing digital inclusion. Recognizing the potential of digitalization to either drive development or deepen existing inequalities, interventions must be designed to prevent a digital divide, especially in societies with significant divisions or tensions. This could include investing in digital infrastructure in underserved areas, advocating for digital literacy and skills training especially in areas where there are usually less opportunities for education, and ensuring the affordability and accessibility of digital services for all societal sectors.

2. **Adoption of Conflict-Sensitive Digital Policies:** Digital initiatives in FCS should be carried out with a keen understanding of local dynamics and interests to minimize potential misuse or the exacerbation of conflict. This includes conducting comprehensive assessments, digital readiness for potential conflict flashpoints, and developing effective mitigation strategies to ensure that the initiatives are conflict-sensitive. By taking a balanced approach, we can harness the positive potential of digital technologies while minimizing their risks, thereby contributing to a more peaceful and equitable digital transformation in FCS.

---

38 Ibid.
3. **Build on the resilience narrative but with caution:** In the context of FCS, digitalization should be viewed as a means to overcome systemic constraints and to foster resilience, rather than simply a catalyst for economic growth. Fintech innovations like mobile money platforms tackle immediate issues such as cash shortages. Policymakers, however, must realize that these digital interventions, while helpful, are not all-encompassing remedies due to infrastructure deficits, connectivity issues, and adoption challenges that are common in FCS regions. Thus, a holistic approach to digitalization in FCS is necessary, combining quick adaptive actions with long-term strategies to tackle root problems like cash scarcity. This balanced strategy aims for sustainable development and improved livelihoods, rather than a singular focus on economic growth.
About the Clingendael Institute
Clingendael – the Netherlands Institute of International Relations – is a leading think tank and academy on international affairs. Through our analyses, training and public debate we aim to inspire and equip governments, businesses, and civil society in order to contribute to a secure, sustainable and just world.

www.clingendael.org/cru
@clingendaelorg
cru@clingendael.org
@clingendael.org
+31 70 324 53 84
The Clingendael Institute
The Clingendael Institute
Clingendael Institute
Clingendael Institute
Newsletter

About the author

Moneera Yassien is a Junior Research Fellow with the Conflict Research Unit (CRU) of Clingendael. She contributes to the work of the Horn of Africa team as an economist and data analyst.