



Cost

Cost of mobile / internet

This barrier points to the cost of data services to access the internet over smartphones.

Why is this barrier important?

Cost of mobile/internet has been cited as a top reason for not having a mobile device or using mobile internet (relevant to Segments 1 and 2), which prevents adoption of the tools needed for DFS. The high cost of mobile/internet has also been cited as a barrier for Segments 3 and 4 as it restricts the products/services the Segments can engage with. This barrier is also relevant for MSMEs as they attempt to explore more options in the e-commerce world and the digital economy.

Connected Barriers



Prerequisites

- Phone/SIM ownership
- Internet/ Mobile connectivity



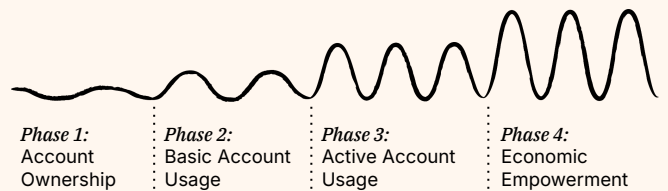
Cost

- Cost of using DFS (incl. transaction cost)
- Perceived and/or lack of money

Most Relevant Segments

1	2	3	4
Excluded, marginalized	Excluded, high potential	Included, underserved	Included, Not underserved

Customer Journey Relevance





Key evidence relevant to this barrier

- Affordability has worsened nearly everywhere in 2020, with the median cost of an entry-level, internet-enabled handset as a share of monthly GDP per capita increasing in all regions, except Sub-Saharan Africa (GSMA, 2021). Across eight countries surveyed in GSMA's *Consumer Survey* (2020) (Algeria, Kenya, Mozambique, Nigeria, Guatemala, Bangladesh, India, and Pakistan), "affordability" was the **2nd most cited barrier to using mobile internet by both men and women** (GSMA, 2021).
- "Affordability is a significant barrier for the poorest individuals. The poorest 20% in terms of income would currently expect, on average, to spend **more than 65%** of their monthly income on an entry-level internet enabled handset, and more than 7% of their monthly income on a data plan. This increases to more than 100% and 15% respectively in Sub-Saharan Africa." (GSMA, 2021).
- "The median cost of one GB of data as a share of monthly GDP per capita increased from 2.0% in 2019 to 2.2% in 2020, which means that more than half of LMICs are falling short of the Broadband Commission's affordability target. This represents **68 out of 128 countries** with pricing data... Mobile data remains least affordable in Sub-Saharan Africa, where the median cost as a share of monthly GDP per capita has remained relatively flat at around 4%." (GSMA, 2021).
- According to MSC, "**50%** of the population of Africa has almost no spending power. **Down payments and the cost of data preclude the vast majority from smartphone ownership.**" On a scale of 1 to 155 (from least to most expensive), IFS focus countries rank the following **in terms of cost per GB**: Pakistan ranks 16 at \$0.69 per GB; Bangladesh ranks 18 at \$0.70; Tanzania ranks 21 at \$0.73; Kenya ranks 39 at \$1.05; Nigeria ranks 51 at \$1.39; Uganda ranks 62 at \$1.62; Ethiopia ranks 81 at \$2.44 (2022).
- The cost of data affects the degree to which people are able to engage with DFS. For example, the GSMA *State of Mobile Internet Connectivity Report (2021)* found that 61% of mobile internet users across LMICs changed settings on a mobile device to set limit on data usage. Users across surveyed countries in Sub-Saharan Africa were also more likely than those in South Asia to set limits on data usage. GSMA posits that this is likely because **data is less affordable in the region**. Dialogue from the FinEquity community also showed that the cost of mobile data in Ethiopia affects *how* women entrepreneurs use their phones. The Innovations in Financing Women Entrepreneurs project team found that many women just used their phones for messages rather than for DFS (*Summary of FinEquity Facilitated Dialogue, BMGF, 2021*).
- Cost of internet particularly affects MSMEs who are looking to transition to the digital economy:
 - Research from Microsave on the daily financial life of 25 corner shops in Indonesia and India found that entrepreneurs cite concerns about the cost of internet data potentially driving low adoption of DFS (2021).
 - According to the IMF, "SMEs' growth prospects can be significantly boosted through enhanced access to affordable broadband internet and digital technologies. Going online enables SMEs to reach new clients and markets at low cost, reduce communication costs, and conduct business during the lockdowns." However, the high cost of internet can delay the digital transformation of SMEs in MENAP, with the average cost of broadband packages declining but remaining unaffordable in several low-income countries (2020).
- A study looking at Kenyan farmers' use of market information services (MIS)—SMS mobile applications that send text messages about crop prices—found that farmers maintained small amounts of airtime—

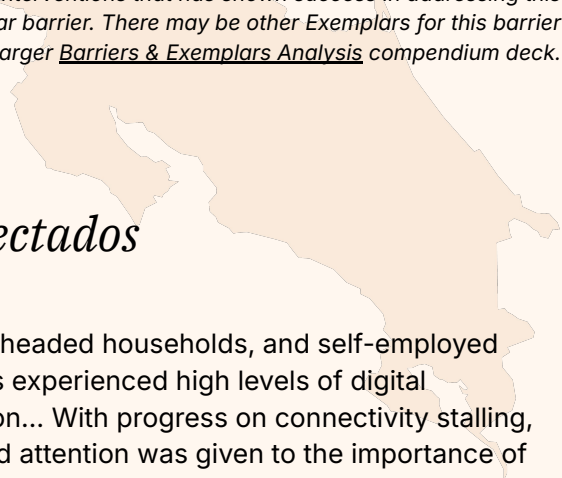


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- on their phones (usually zero) as a result of not having enough money which prevented the farmers from maximizing the use of the MIS on their phones. The study also found that the financial cost of sending text messages were significant for the smallholder farmers. The cost of sending text messages became a problem when the resulting messages concerning crop prices were disappointing (i.e. MIS did not have information regarding the requested crop). The authors of the study posit that the benefits of the MIS were not worth the cost of sending the text messages ([Steinfeld et al., 2015](#)).
- A household survey of 577 Kenyan farmers found that **“purchasing airtime credit and/or data bundles is the chief reason why respondents do not use their phones (of any type) as much as they would like”** resulting in the conclusion that “across all phone types, cost is still the greatest inhibitor of mobile phones and m-services use.” ([Krell et al., 2020](#)).
 - Research indicates the following concerning prepaid mobile plans ([Mesak et al., 2020](#)):
 - Prepaid plans played an important role in stimulating the adoption of mobile phones in emerging markets.
 - In 2012, an estimated 87% of mobile subscriptions in emerging markets were prepaid.
 - There is a correlation between prepaid mobile plans and lower per capita GNP.
 - Low-income users under 30 years old prefer prepaid plans.
 - In South Africa, “the numbers of prepaid subscribers is considerably larger than the number of postpaid subscribers, likely because of South Africa’s current economic situation, **in which many lower-income people can only afford prepaid services**, as the postpaid service package is often more expensive and needs to be paid monthly.” ([Gao, 2021](#)).
 - In IFS target markets, the percentage of pre-paid mobile subscriptions (as a percentage of all mobile subscriptions) is as follows: Bangladesh – 97.3%, India – 82.6%, Indonesia – 97%, Ethiopia – 99.4%, Nigeria – 95.5%, Tanzania – 95.7%, Uganda – 96.2%, Pakistan – 96.1%, Kenya – 97.9%. **Prepaid mobile subscriptions are considerably more popular than postpaid mobile subscriptions in these markets** (cited from reports in [DataReportal, 2021](#)).



The following Exemplar represents one evidence-based interventions that has shown success in addressing this particular barrier. There may be other Exemplars for this barrier in the larger [Barriers & Exemplars Analysis](#) compendium deck.



Exemplar

Comunidades Conectadas y Hogares Conectados

In 2010, Costa Rica’s Constitutional Court positioned internet access as a human right. After this ruling, “the government adopted digital inclusion as a top priority to empower citizens to actively contribute to the nation’s development. By 2012, 93% of Costa Ricans had mobile phone access, yet only 43.7% had access to the internet.” Three years later, just 49.4% of the population used the internet. “One reason for the lack of progress on access was that devices and service costs were still too expensive for the country’s poorest households. Beyond those dealing with poverty, Indigenous people,

female-headed households, and self-employed persons experienced high levels of digital exclusion... With progress on connectivity stalling, renewed attention was given to the importance of delivering universal access for all citizens. This culminated in the launch of CR Digital, a national plan designed to connect the whole country to the internet within two years. Through this plan, FONATEL received an injection of an additional \$300 million dollars and was designated the lead organization for a five-phase plan.” (A4AI, 2019).

Key Activities

The first phase of this plan, *Comunidades Conectadas*, aimed at “building infrastructure (fiber optic networks, telephone towers, among others) to bring telephone and Internet services to populations in coastal, rural and border areas where it was not profitable to invest for telecommunications companies.” (*Comunidades Conectadas*). The program also brought free internet connectivity to schools, clinics and community centers.

“The second phase, *Hogares Conectados* or connected homes, focused on providing every Costa Rican household with fixed-line internet access and devices needed to get online and use the internet. Families eligible for the program typically include those who are poor, Indigenous, disabled, elderly, or low-income entrepreneurs. FONATEL subsidizes the cost of internet connections (up to 80%) and laptop purchases (up to 100%) for families who qualify for support based on their household finances. Program beneficiaries can visit participating service providers and the head of household signs a contract to receive their connection and equipment. After the subsidies are taken into account, families are expected to cover the remaining costs... Since the program launched, private sector and civil society stakeholders have run activities, funded by FONATEL, to build awareness of the benefits—

—of internet access, facilitate training to develop digital literacy, and show how everyday citizens can interact with their government.” (A4AI, 2019).

Outcomes/results

- As of November 2021, nearly 179,000 vulnerable families throughout the country have a computer and an internet connection, thanks to the *Hogares Conectados* program. A total of 610,000 people have gained connectivity from this program.
- “Approximately 95% of the families who have participated in *Hogares Conectados* to date are female-headed households, meaning that more women than before—especially those in rural areas—are benefiting from this plan.” (A4AI, 2019).
- Around 400 rural educational institutions have received an internet connection as part of the *Comunidades Conectadas* program, and reported that access has helped streamline their administrative work and provide classrooms with innovative instructional materials.
- 81% of households said that they did not have Internet and computer services before being part of the *Hogares Conectados* Program.



Key enabling environment factors for intervention

The success of this program resulted from an enabling policy environment introduced by the Government of Costa Rica. First, Costa Rica's Constitutional Court ruled internet access to be a positioned as a human right. Second, the Government of Costa Rica launched CR Digital – a plan to get universal access to the internet through five phases.

Key design elements and principles that led to successful outcomes

- The program was designed to make internet access affordable through subsidized internet connection and laptop costs. This enabled historically marginalized communities to receive internet access and gain connectivity.
- Programs implemented by the private sector and civil society run activities in parallel to Comunidades Conectadas and Hogares Conectados, funded by FONATEL, to develop digital literacy and build awareness of the internet. This component is crucial, as GSMA has stated that access to internet is not sufficient to guarantee that people will adopt it.

Potential for scale/replicability

These programs operated on a national scale and in places where telecommunications companies do not find profitable to invest in, such as coastal areas and rural zones. As the program progressed, it continued to scale, with more mobile network operators joining the programs as partners. To replicate this program in other contexts, the markets should have a conducive enabling environment and governments with a strong political will.

Challenges encountered during the program

CR Digital originally intended for all individuals to have internet access within two years of the program's launch. Although this goal was not met, the number of people accessing the internet continued to increase, digital literacy programs operated in tandem, and mobile network operators/players continued to join the program.

Recommendations from the research

The success of the program highlights the importance of serving communities and areas that are not deemed as profitable for service providers. Additionally, digital literacy trainings operating in tandem with providing internet services are crucial to equip the population with the tools and capacity needed to actually take advantage of the services provided.

Additional Exemplars

- Mobile Phone and Livelihoods of Women Project
- Internet Para Todos
- Aligning Libraries And USAFs For Rural Public Access
- Reducing Tax Costs on Connectivity