

## **Payment system design and the financial inclusion gender gap**

Will implementing the Level One Project Principles benefit women?

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Caribou Digital is a research and delivery consultancy dedicated to building ethical, sustainable digital economies. Collectively they have decades of experience in delivering digital technology projects on the ground in emerging markets and researching the impact of digital platforms on primarily low-income users, including women.



The DFS Lab is an early-stage fintech accelerator and investor focused on Africa and South Asia. DFS Lab's goal is to bring cutting edge global mentorship and fintech insight together with granular on-the-ground knowledge of how to launch and build fintech businesses for African and South Asian consumers. DFS Lab has helped its companies go from idea to fully funded startup attracting investment from well known international venture firms including: Accel, NYCA, Anthemis group, 500 startups, Y Combinator, Omidyar Network, Accion, Open Space Ventures, Alpha Group, Consonance, and others.



Caribou Data provides quantified insights into market trends and consumers' digital behaviour in emerging economies. Through representative panels of anonymous users, we construct comprehensive, 360-degree pictures of consumers' digital activity and behaviours, with insights across apps, platforms, networks, and financial transactions. Built on a commitment to individual privacy, transparency in how we handle data, and fairness in how we compensate our panelists, Caribou Data analytics are always effectively anonymous and GDPR-compliant.



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## Executive Summary

*The gender gap in financial inclusion is stubborn. Between 2011 and 2017, the world saw strong progress which brought 1.2 billion people into the global financial system for the first time. But, the gap between the proportion of men and women who had an account with a financial institution in low- and middle-income markets stayed stuck at 9 percentage points.<sup>1</sup>*

Why—despite the reduction of financial inclusion barriers overall—do so many women remain outside the formal financial system? What barriers exclude them in greater numbers than men? Is it culture? Institutions? Or a failure on the part of financial providers to design products that interest them? A good deal of research and product market experimentation has tried to address this dilemma—with only mixed results.

In this paper, we explore this phenomenon from a different angle. We ask, *can better digital payment system design create the conditions for more women to use digital financial tools?* At first blush, this question may seem out of place. Why would we expect to see some underlying gender bias in the choice between real-time transfers and T+1 settlements or between interoperable and closed-loop systems? While these highly technical choices seem far removed from women’s daily lives, our research indicates that better payment system design *can* create a financial system that is more open and accessible and, by doing so, creates the conditions for more women to use the system.

This paper explores this proposition in the context of the Level One Project (L1P) Principles for payment system design put forward by the Bill & Melinda Gates Foundation. Our primary aim is to examine the principles for their potential impact on the financial inclusion gender gap through in-depth research consisting of three complementary approaches: (1) qualitative focus group discussions and in-depth interviews with hundreds of women and men in Kenya and Côte d’Ivoire; (2) quantitative population-level data collection and analyses in five countries (Côte d’Ivoire, Bangladesh, Kenya, Nigeria, South Africa); and (3) a global literature review supplemented by a series of expert interviews. Our aim is to predict the likely impact of L1P Principles on relevant gender gaps. This is by no means an impact measurement of the principles in practice—most payment systems in countries have some elements which are aligned to the L1P Principles, and some which are not. Instead, we speculate (as rigorously and logically as possible) about the individual and cumulative impacts of the principles on the gender gap in financial inclusion using the data we gathered in more aligned and less aligned countries as comparison.

Generally, our analysis predicts that adoption of an L1P system has positive benefits for women relative to the typical digital payments system. Our research emphasises that women’s exclusion is driven by structural-cultural and socio-economic issues. Such issues include the fact that many societies invest less in building women’s knowledge

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<sup>1</sup> Demircüç-Kunt et al., 2018.

and trust of financial products. Also, the fact that women are more often budget and time constrained than men and thus more sensitive to cost and time barriers, and they face more specific structural barriers, like owning lower-end phones or lacking necessary ID documents. Better payment system design features and policies can help address these barriers. Key areas where we believe L1P would be an improvement on the typical digital payments system and reduce the gender gap include:

- 1 Interoperability:** Interoperability lowers barriers to entry and experimentation and also incentivises merchants to join the system en masse. This will be especially beneficial for women because it will lead to more convenience as well as new kinds of more specialised DFS products that meet women's specific needs. Locked savings accounts are one example enabled through interoperability—others will be revealed by market experimentation and so are hard to predict.
- 2 Low cost and pricing transparency:** While lower costs benefit everyone, women appeared to be more price sensitive, both in our focus groups and in other research studies. The quantitative data also showed that women paid more in fees in Kenya, and hence would benefit from lower tariff rates.
- 3 Tiered KYC:** Population-level data from other research, as well as results from qualitative interviews, show that women are much more likely to have limited forms of ID and thus will benefit significantly from the availability of accounts with lower KYC requirements.
- 4 Low-end phones:** Women are more likely to have feature phones or low-end Android devices and thus payment systems and financial services that don't accommodate these users will disadvantage women disproportionately.
- 5 Access points (agent availability):** In focus groups in both Kenya and Côte d'Ivoire, women often spoke about agents being their main point of contact for information and help in using financial products. This principle is especially important in bank-based systems, where branches or ATMs are often scarcer than agents and are less welcoming places for women to find help than the neighborhood shop owner (agent).

Additionally, we have recommended minor modifications to some of the principles to increase their impact in closing the gender gap, such as changes to principles that address irrevocability, account identifiers and directories, pricing transparency, user experience, and consumer education. Beyond these, we have also recommended better articulation and organisation of the principles, including enabling inexpensive user devices and notifications, and we are happy to see these suggestions have already been integrated into the official principles. In some cases, the principles may be sound but implementation by financial service providers needs to be guided so that users, especially women, are not left behind. For example, in the case of interoperability, while women valued the ability to transfer money between service providers in focus groups, they also recounted times when their transfers were left "hanging" (failed to complete

but delayed in recrediting the money and notifying the user) between two systems—likely caused by poor implementation on the part of services providers.

This report is structured in five sections:

- the first section provides more information about the gender norms and biases that exist in cultures and societies and how these impact women at the macro and micro level, such as through policies and laws as well as daily interactions;
  - the second section outlines our research approach and methodologies;
  - the third section maps the predicted impacts of the L1P Principles on gender dynamics and the gender gap, both cumulatively and individually—here we also identify our recommended changes to the principles;
  - the fourth section outlines our recommendations for the wider industry, particularly DFS providers; and
  - the fifth section contains our concluding remarks.
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## Understanding gender dynamics in finance

*Various factors are at play when considering gender dynamics in finance. Foremost are cultural norms and gender biases, which are deeply ingrained and often have similar features across societies and contexts (though clear differences do exist between cultures and countries). In turn, these cultural dynamics impact in a variety of ways that we break down into macro factors in the environment, such as legal and policy barriers, as well as into the micro factors which play out in women's daily interactions.*

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### Some common social dynamics around gender and finance

Cultural norms and biases can impact access to and usage of digital financial services, particularly for women.<sup>2</sup> These norms and biases tend to arise in many different ways, but there are often similarities across societies (though certainly not the same everywhere). Some of the most widespread and damaging gender norms we found include:

- the expectation that men can appropriate money from wives and female family members;
- the expectation that men can control or direct how money is spent by women;
- a limited investment in building financial knowledge and intuition in women and girls;
- the expectation that women use money for the benefit of their families/communities; and
- ambivalence or even antagonism towards women's financial independence and adoption of new products or communications tools.

These norms become further institutionalised by the following macro and micro factors:

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<sup>2</sup> CGAP, 2017; IDEO, 2019; OECD, 2018; Pitcathly et al., 2016; Potnis, 2016; World Bank, 2019.

## Macro factors in the environment

There are many ways in which cultural norms get baked into the social and economic environment, limiting financial inclusion either through explicit laws and policies or through long-term accumulations of biases. Within a macro context, these factors include:

- **Legal and policy barriers:** Many laws persist that discriminate against women and indirectly or directly contribute to the financial inclusion gender gap and which impact DFS access and usage for women.<sup>3</sup> Legal discrimination persists in property ownership, obtaining identification documents, working and travelling outside the home, and inheritance, among others.<sup>4</sup>
- **Mobile device ownership gaps:** Though mobile devices are critical for DFS to flourish, women are less likely than men to own them. More than 390 million women in low- and middle-income countries remain unconnected, and 165 million fewer women than men own mobile devices.<sup>5</sup> When they do have a phone they are more likely to have a basic or feature phone, while men more often have smartphones.<sup>6</sup>
- **Socio-economic realities:** Women are more likely to be poor, to experience time poverty and pay gaps, and to be out of the workforce or participate in the informal sector (with no legal protection or social benefits)—all factors that make it harder to access or adopt digital financial services.<sup>7</sup>
- **DFS literacy, broader digital familiarity, and education gaps:** Low levels of traditional education and literacy (including reading, writing, and numeracy), digital/technical familiarity, and financial literacy are widely recognised as barriers to DFS access and use, and affect women disproportionately.<sup>8</sup>
- **Service delivery models, products, and marketing biased towards men:** DFS providers often bias their product design and marketing towards men for a variety of reasons.<sup>9</sup> DFS marketing is usually oriented toward remittance senders, who are often men, while women are more likely to receive money.<sup>10</sup> Further, agents may be harder for women to visit due to social norms or economic factors, such as limits in mobility or taboos against women interacting with men they are not related to.<sup>11</sup>

3 AFI, 2017; Demirgüç-Kunt et al., 2013; World Bank, 2018.

4 World Bank, 2018.

5 Rowntree, 2020.

6 Rowntree, 2020.

7 Demirgüç-Kunt et al., 2013; Pitcaithly et al., 2016, World Economic Forum, 2018.

8 Rowntree, 2018; Burjorjee and Bin-Humam, 2018; Genesis Analytics, 2018; Pitcaithly et al., 2016; Hasler and Lusardi, 2017; Belalcázar, 2015; GSMA, 2015; Klapper, 2015; Scharwatt and Minischetti, 2014.

9 Klapper, 2015;

10 Pitcaithly et al., 2016; Klapper, 2015; Helms, 2013; UNCDF, 2019b; Scharwatt and Minischetti, 2014; GSMA, 2013.

11 GSMA, 2013; ODI, 2015.



## Micro factors in women's daily interactions

Beyond the macro factors, cultural and gender dynamics also play out in daily interactions so that men and women live very different experiences with respect to their financial options. These result in women having greater needs for:

- **Secrecy and privacy:** Women exhibit a preference for secrecy when it comes to DFS.<sup>12</sup> In Uganda, women who were able to hide money from their husbands showed better economic outcomes.<sup>13</sup>
- **Accounts and products that allow self-imposed restrictions:** With less control over resources and household decision-making, women often value features like the ability to hide funds, limit access over time, or pre-commit to spending. Default (opt-in or opt-out) savings interventions are more effective at influencing women's longer-term savings than men's.<sup>14</sup>
- **Features that help establish trust and confidence:** Trust and risk (potentially driven by lack of investment in women's financial literacy and/or consumer education) were cited as important factors for women when adopting and using DFS.<sup>15</sup> Women's financial decisions are more influenced by perceived risk, and women often make adoption decisions more cautiously.<sup>16</sup>
- **Emphasis on health, children, and household in allocating both time and money:** When women have discretion over their financial choices, they are more likely than men to prioritise spending that benefits the entire family, such as health care, education, and housing.<sup>17</sup> Women are also more time constrained, often taking on the entirety of the upkeep of the household and childcare as well as pursuing income-earning activities.
- **Distribution/delivery models that achieve greater proximity, engagement, and accommodation:** Face-to-face interactions with agents are often a preferred source of information and education on financial services. Also, because many women in emerging markets are less mobile and often more time constrained, women may benefit from closer and denser DFS access points.<sup>18</sup>
- **Reliance on social networks:** Women are very influenced by other women and peers and rely on their social networks to determine which financial products to adopt.<sup>19</sup>

12 GSMA, 2013; Klapper, 2015; Pitcaithly et al., 2016; Fiorillo, 2017; UNCDF, 2019b

13 Fiala, 2017.

14 Chetty et al., 2018.

15 Burjorjee and Bin-Humam, 2018; Ng'weno et al., 2018; Women's World Banking, 2019; UNCDF, 2019a; UNCDF, 2019b; Koblanck et al., 2017.

16 Chetty et al., 2018; Pitcaithly et al., 2016.

17 Iskenderian, 2017.

18 Ng'weno et al., 2018; World Bank, 2018; Gammage et al., 2017; Pitcaithly et al., 2016; Klapper, 2015; Belalcázar, 2015.

19 Chetty et al., 2018; OECD, 2018; DFS Lab 2019.

In our qualitative interviews, we found most of these elements at play to some degree or another. We found that women were significantly more risk averse than men and relied on agents or their social network to make decisions and that women were more time and budget constrained, thus more impacted by convenience and cost. The wider literature also confirms that women tend to have lower-end phones and many women lack the ID documents needed for full KYC.

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## Our research approach and methods

*Primary research questions: Is the adoption of the L1P Principles likely to affect end user experience of using digital financial services? Will it affect women's experience in different ways than men? If so, how will the L1P Principles likely affect the gender gap in financial inclusion? Based on the answers to these questions, we also made recommendations for how the L1P Principles could be improved.*

The L1P Principles have individual impacts as well as cumulative impacts (the impacts that come from the reinforcing effect of their being enabled simultaneously) on end user experiences. It's not easy to unravel the likely relationship between the principles and women's financial empowerment because (i) there are few active deployments of fully L1P-aligned systems,<sup>20</sup> and (ii) the causal chain between payment system design features and end-user outcomes can be quite obscure and difficult to unravel.

**Methods:** due to the challenges inherent in this research, we decided to explore these questions through a variety of lenses and thus took three complementary methodological approaches:

- 1 We conducted qualitative focus group discussions, in-depth user interviews, and expert interviews in Kenya and Côte d'Ivoire.
- 2 We conducted quantitative research comparing high resolution data capturing digital and financial behaviours of women and men in Bangladesh, Côte d'Ivoire, Kenya, Nigeria, and South Africa.
- 3 We surveyed existing research and spoke to both local and global experts.

With our qualitative work and quantitative data analyses, the goal is to use the lived experiences and digital transactional histories of men and women in these markets to assess the likely gender impacts of having a fully implemented L1P system. The payment systems in each country have some L1P-aligned elements (e.g., mobile money systems in Kenya, Côte d'Ivoire, and Bangladesh feature real-time, push payments) as well as some elements which are not L1P aligned (e.g., most mobile money systems are not interoperable, and some payments are revocable in an ad hoc manner).

Exploring how people use those aligned features and discussing their experiences allows us to infer how users will benefit (or not) from those features. Similarly, observing how users react to elements that are not L1P aligned can shed light on the value of switching to an L1P system. Looking at differences in men's and women's experiences across these contexts gives us a further understanding of how the adoption of L1P Principles might impact women and their usage of digital financial services.

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<sup>20</sup> There are eight FSP (financial services for the poor) countries: Kenya, Tanzania, Uganda, Nigeria, India, Pakistan, Bangladesh, and Indonesia.

We recognise that our approaches come with a few caveats. For instance, it was sometimes hard to discern why women and men reacted differently in our focus group discussions—whether the topic at hand was truly a gender-based issue or whether women were just more likely to speak about it in the focus group setting. In general, we decided that a *gender impact* is likely if women experience something that may affect their usage of digital financial services differently than men do, and thus ultimately affect the gender gap in financial inclusion.

Given the above, there are a few key concepts to keep in mind when interpreting our findings:

- **Prediction vs. assessment:** There is no way to do a randomised assessment of the impacts of L1P-aligned systems because there are no fully L1P-aligned systems in operation (although we recognise that Kenya and India come close). Our goal is instead to predict likely gender impacts if a fully aligned system was put in place.
- **Gender impacts:** We defined gender impacts as impacts in which a greater response from women or men is observed, rather than including only those effects which we could trace back to a particular definition of gender discrimination or cultural bias. For example, women are usually lower income on average than men and they may be more sensitive to price for this reason. Nevertheless, we would include price sensitivity as a gender impact because it affected women more.<sup>21</sup>
- **Methodological considerations:**
  - Neither our quantitative or qualitative data are truly representative for different reasons. The quantitative data collected by Caribou Data is based on representative panels of smartphone (Android) users and therefore skew higher-income; and qualitative research via focus groups engaged with only 80 men and women in each country, mostly near the respective capitals. Together, however, we believe they provide solid insights into user experiences and challenges.
  - It is always challenging to ask hypothetical questions around use. For example, a question such as, “would access from one account vs. having to use multiple accounts simplify your usage?” (with regards to interoperability) would most likely lead to a positive response but without nuance. We tried to be careful in our discussions and interviews to avoid such loaded questions, but they highlight the challenge of hypothetical scenarios. And finance is always a sensitive subject to discuss.

To better explore the predicted impact of the L1P Principles on end users, we selected five different countries for qualitative and quantitative assessment. For our qualitative research, we selected Kenya and Côte d’Ivoire—two markets with differing levels of DFS adoption and usage, as well as alignment with the principles, though they were similar in that they have prevalent mobile money adoption. Through this approach, we

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<sup>21</sup> We found it impossible to decide ex ante which effects were due to related factors like income vs. some measurable definition of gender discrimination, and, in any case, even factors like lower income, at their root, are often related to gender discrimination.

aimed to find common themes but also meaningful, comparable nuances and results. We selected Kenya because it is a market with a high use of mobile money that mimics interoperability by being a near-DFS monopoly but with a lack of seamless integration between mobile money and banking systems. Comparatively, Côte d'Ivoire is a more nascent DFS market, with multiple mobile money deployments and growing DFS adoption and usage. To complement the findings from the qualitative research, we selected five countries as part of our quantitative assessment: Kenya, Côte d'Ivoire, Bangladesh, Nigeria, and South Africa. These countries illustrate varied levels of development and alignment to the L1P Principles, and they offer important quantitative differences in our findings (the table below contains a few key figures for each country). Annex 5 provides more details on the qualitative and quantitative methodologies and approaches used in this research.

Key country facts (sources)	KEN	CIV	NGA	ZAF	BDG
GDP per capita \$US (World Bank)	\$1,710	\$1,715	\$2,028	\$6,374	\$1,698
Fin. inclusion, % Adults (Findex)*	82%	41%	40%	69%	50%
Registered mobile money accounts per 1,000 adults (GSMA)	1,548	1,630**	77	NA <sup>^</sup>	582
Access point density per 1,000 SQ Km (IMF FAS) <sup>22</sup>	369.2	469.5**	71.1	26.0	7,003
Mobile penetration (GSMA) <sup>^^</sup>	99%	131%**	84%	177%	100%
<b>FI Gender gap—2017 (Findex)*</b>	<b>8%</b>	<b>11%</b>	<b>24%</b>	<b>-2%</b>	<b>29%</b>

<sup>^</sup>While we have no data for registered mobile money accounts in South Africa, the number is effectively zero as mobile money adoption there is limited.

<sup>^^</sup>Phone penetration can be higher than 100% where people own multiple phones or SIMs.

\*Financial inclusion gender gap is the percent of men financially included minus the percent of women who have an account at a bank, mobile money operator, or MFI.

\*\*CIV is a multi-operator market where many people hold multiple mobile devices and mobile money accounts and many agents sign up with more than one operator leading to overcounting of connectivity, accounts, and access points.

22 Due to double counting across multiple operators, markets like Côte d'Ivoire with multiple active MNOs will over state the agent count by a significant margin.

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# Evaluation of the impact of L1P Principles on gender dynamics and the gender gap

*What follows are the expected market outcomes and impact on women and the financial inclusion gender gap for the L1P Principles.*

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## Mapping cumulative user impacts of L1P Principles

In addition to evaluating the impact of each individual principle below, we also look at cumulative overarching impacts under the assumption that the whole will be greater than the sum of its parts. The advent of “lower and more transparent fees and costs” and “greater innovation and variety of financial choice” are two likely outcomes from the L1P Principles that transcend individual principles because many separate principles contribute to each of these goals.

### **Lower and more transparent fees and overall costs matter equally to men and women but may have a greater impact on women’s limited budgets**

Most of the L1P Principles contribute to lowering the cost-to-serve and the inherent costs of financial transactions. While lower costs are clearly good for both men and women, we sought to better understand whether women are more sensitive to cost and would thus benefit more than, less than, or the same as men. Elsewhere, research and literature has found that women tend to be more price sensitive, particularly to mobile money transaction fees.<sup>23</sup> Further, when assessing mobile money services, cost and affordability remain a key consideration for low-income women.<sup>24</sup>

Our analysis predicts a slightly greater benefit for women than men. Women appeared more price sensitive than men in focus groups. Generally in the quantitative data we collected, women made fewer and larger transactions which would normally result in lower percentage fees. However, our transactional analysis showed that in Kenya women pay on average US\$0.10 in fees per P2P transaction, compared to \$0.07 for their male counterparts, in part because men were more likely to make payments below the fee threshold of Ksh100 (US\$0.98). This could be because women are too pressed for time to spend the extra minutes breaking larger transactions into many smaller free ones, or they may be less aware of how to navigate fee thresholds (pointing to lower digital financial literacy than men). Additionally, our review of the literature and our focus groups indicate women are more often the day-to-day money managers within households, conducting more high-frequency, small-value transactions for purchases and weekly savings. In contrast men were described as more often engaging in larger transactions. Smaller, high frequency savings and weekly money management behaviour is often done in cash because high fee structures make it infeasible for women to do digitally.

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<sup>23</sup> GSMA Connected Women, 2016; GSMA Connected Women, 2017; Scharwatt, 2017;

<sup>24</sup> Burjorjee and Bin-Humam, 2018.

On balance, we believe that lower and more transparent fees which enable high-frequency, small-value transactions will bring about a greater benefit for women compared to men.

### **Enabling financial innovation and product diversity through interconnected systems will impact women more than men**

In addition to lowering costs, the L1P principles create a more open, interconnected, standards-based and low-cost system that reduces entry barriers. Taken as a whole, these features are likely to spur new entrants and the development of more innovative and interconnected products that bundle capabilities from multiple providers (e.g., M-Shwari in Kenya which links an M-Pesa account with a CBA bank account and loan facility).

The literature on financial inclusion shows women value financial product diversity as much as men, yet their needs are often less likely to be addressed by the existing landscape of available products.<sup>25</sup> Increased innovation and product diversity from new entrants means that women's needs, and the needs of other unserved groups, are more likely to be met. Our qualitative work confirms that women value new services (such as locked savings) that could be linked to their basic accounts.

In focus groups, women also appeared to value the time and cost savings of moving money between networks and the convenience of transacting multiple different mobile money use cases (G2P, bill pay, merchant payment, etc.) through one account more than men did.

Our analysis predicts that this cumulative impact will have a more positive effect on women than men due to increased product variety tailored to their needs and greater convenience and cost savings.

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## Mapping predicted user impacts of individual L1P Principles

Here we assess the likely impacts of each of the principles individually based on the findings from our qualitative and quantitative research in Kenya and Côte d'Ivoire as well as our survey of other research and data sources. Where we are unable to predict an impact on gender based on our research for a principle, we've labelled it "inconclusive gender impact." We have also recommended changes to existing principles, and we are glad to see many of these suggestions have already been implemented.

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<sup>25</sup> Zollman and Sanford, 2016.

**Table 1** Impact at a glance

L1P Principle	Likely to see gender bias in user impact?	Predicted impact on women
<b>Scheme Design</b>		
Interoperable	Greater impact on women than men	Positive
Use Cases for Scale	Greater impact on women than men	Positive
Push/Real-Time	Greater impact on women than men	Slightly more positive for women than men
Irrevocable	Greater impact on women than men	Slightly more negative for women than men
Good Funds	Inconclusive gender impact	N/A
Low Cost Mandate	Inconclusive gender impact	N/A
Fraud Management	Inconclusive gender impact	N/A
Settlement	Inconclusive gender impact	N/A
Third-Party Connection	Inconclusive gender impact	N/A
<b>System Design</b>		
Technology	Inconclusive gender impact	N/A
Identifiers/Directory	Greater impact on women than men	Slightly more positive for women than men
System Components	Inconclusive gender impact	N/A
Common Core	Inconclusive gender impact	N/A
Additional Protocols	Inconclusive gender impact	N/A
System Connections	Inconclusive gender impact	N/A
<b>Governance</b>		
Equal Ownership	Inconclusive gender impact	N/A
Participant Engagement	Inconclusive gender impact	N/A
Not-for-loss utility	Inconclusive gender impact	N/A
<b>Government Support</b>		
Regulation	Inconclusive gender impact	N/A
Supervision	Inconclusive gender impact	N/A
Government Use	Inconclusive gender impact	N/A
Licensing	Inconclusive gender impact	N/A
Tiered KYC	Greater impact on women than men	Positive



End User Impacts		
End User Fees	Greater impact on women than men	Slightly more positive for women than men
Pricing Transparency	Greater impact on women than men	Slightly more positive for women than men
User Experience	Greater impact on women than men	Slightly more positive for women than men
Low-Cost User Devices	Greater impact on women than men	Positive
Access Points	Greater impact on women than men	Positive
Notifications	Greater impact on women than men	Slightly more positive for women than men
Other		
Network Service and Availability	Equal impact on men and women	N/A
Enabling Programs	Inconclusive gender impact	N/A
User Education	Greater impact on women than men	Slightly more positive for women than men
Data Privacy	Inconclusive gender impact	N/A
Gender Disaggregated Data	Greater impact on women than men	Positive

### The Interoperable Principle

DFSPs (Digital Financial Services Providers), including both banks and licensed non-bank transaction account providers, are eligible to be direct participants in the scheme.

#### Likely consequences for end users

The ability to pay and be paid by others regardless of financial services provider will increase convenience for end users and may encourage development and adoption of new merchant payment models. Larger effects may come from lowering entry barriers for new products and DFSPs by spurring more competition and innovation as well as reducing monopolistic power of the larger incumbents. This should result in lower costs and a wider range of services that cater to more diverse user needs. Particularly, we expect to see more specialised DFSPs target traditionally underserved segments (such as women and low-income users) with savings, credit, or insurance offerings for their specific needs. The potential downsides are limited but could include: an over-proliferation of players, some of whom may have lower quality or even exploitative offerings; and increased complexity of the user experience, leading to more errors. We think policymakers and DFSPs will be able to manage these downsides should they emerge.

#### Likely consequences for women

Our analysis predicts that interoperability will have a more positive effect on women than men. Women are typically underserved and have more to gain from new providers and new services that target a wider range of client segments. In Kenya, where the market is more developed, we were able to assess various interoperable services such as M-Shwari and M-Shwari locked accounts in focus groups. We feel these services targeting a specific need are a reasonable proxy for the types of specialised services available with interoperability. In focus group discussions (FGDs) and in-depth interviews (IDIs), more women than men reported valuing the greater sense of control locked accounts provide them. In Côte d'Ivoire, a less developed DFS market with only rudimentary interoperability, women reported primarily moving money between networks by withdrawing and depositing cash. This cost them significantly in time and money—costs they would not face if interoperability were more prevalent in that market. Very few women in Côte d'Ivoire (four among the 80 women with whom we interacted) had locked accounts for savings so it was hard to assess their value for women (no men had used them).

Finally, when presented with interoperability as an option, women take advantage at the same rates as men showing demand exists. Using examples from our quantitative data we show that women make cross-bank payments in Nigeria, have multiple bank accounts in South Africa, and use Kenyan interoperable services (e.g., M-Shwari) as much as men.

#### Overall prediction of impact and recommendation

Overall, women seem likely to benefit more from interoperability than men, both in terms of time and cost savings in moving money between networks and for the value of the new kinds of services (such as locked savings) that could be more easily linked to their basic accounts. However, there is the risk that if not implemented properly interoperability could lead to more challenges with incomplete transactions between systems and user interface complexity that would put women off.

## The Use Cases for Scale Principle

The scheme supports key retail use cases, including P2P, C2B, C2G, G2P, B2C.

### Likely consequences for end users

Assuring the availability of all major retail payment use cases reduces potential user complexity associated with managing different platforms and/or accounts, and it drives volume. For DFSPs, scale should drive volume and thus lower unit costs while allowing one account to link to many different uses. We expect no inherent downsides to scale. UX complexity may increase for certain users who were used to a one-off service or single use case only, but this risk seems very manageable.

### Likely consequences for women

We believe that scale will have a more positive effect on women than men, given women's greater emphasis on time savings and the fact that they have more to gain from digitising currently unserved use cases. The literature review showed that women value DFS attributes of convenience, reliability, confidentiality and security more than men do, and this was largely confirmed in our focus group discussions.<sup>26</sup> Further, solutions that tackle more than one challenge are ideal.<sup>27</sup>

In Kenyan FGDs, women reported valuing the convenience of engaging different mobile money use cases (G2P, bill pay, merchant payment, etc.) through one account.<sup>28</sup> In Côte d'Ivoire, the market is less developed and thus supports fewer use cases. Respondents there rarely reported doing anything other than bill pay (including airtime top-ups) and P2P transfers mediated in person by an agent. Our IDIs indicated that men are better served by the current DFS landscape. A few interviewees explained that men are widely seen as the bill payers (for example, for cable TV, electricity bills, school fees) which is a well served use case whereas women manage household funds, daily purchases, and savings—mostly through informal methods and/or cash because these use cases are not well supported by local mobile money providers. With the gender differences across use cases, a payment system that facilitated more types of payment use cases might benefit women by assuring their use cases were better served (including retail payments and the kinds of transfers that facilitate high-frequency, low-value transactions and savings products).

### Overall prediction of impact and recommendation

In less developed DFS markets, such as Côte d'Ivoire, there is a clear opportunity for digital products to add use cases and thereby meet the payment and savings behaviours exhibited by women. Here, building for scale will ensure product and service diversity once women's trust in DFS grows. Overall, we expect this principle to have a positive impact that might slightly favor women.

<sup>26</sup> GSMA, 2013; Women's World Banking, 2015.

<sup>27</sup> Pitcaithly et al., 2016.

<sup>28</sup> Women frequently reported managing money in different places and keeping pools of funds deliberately separate, even if it costs time and mental energy. However, the L1P Principles do not specifically prevent this practice.

### The Push/Real-Time Principle

The scheme provides push payments cleared on a real-time basis, where payer and payee accounts are immediately updated.

#### Likely consequences for end users

Push/real-time payments are necessary for many day-to-day scenarios including retail purchases, and they increase user trust by providing immediate feedback regarding transaction success. Push payments should reduce the cost of transactions across the system, due to lower levels of repudiation and certain fraud scenarios. The potential downsides include difficulty implementing transaction use cases where the user is not engaged (e.g., automated payments).

#### Likely consequences for women

Our analysis predicts that push/real-time transactions will have a slightly more positive effect on women than men when they provide immediate confirmation of transaction success or failure. More so than for men, trust and risk were cited in focus groups as important factors for women when adopting and using DFS.<sup>29</sup> For example, other research suggests women need more interactions with DFS than men before feeling confident enough to use a service.<sup>30</sup> In our interviews in Kenya and Côte d'Ivoire, we focused on the notifications generated by push/real-time transactions—this was the easiest concept to understand and discuss in a group context. In Kenya, female respondents voiced the value of immediate notifications more so than male respondents—part of the broader pattern that women tend to be more cautious, needing confirmation to build their confidence in the service. Women also appeared to be more concerned when messages did not come through immediately.

“

*I paid a bill and didn't receive a message for two days. My brother-in-law and I went to the agency to file a complaint. It was found that indeed I had paid the bill by mobile money and that I had not received a message.*

— Female respondent, Côte d'Ivoire

Some women also mentioned the value of the fraud notifications that Orange, MTN, and Moov send when they make a deposit in Côte d'Ivoire. Additionally, because many transactions are mediated by agents, agents too pointed out the importance of notifications:

“

*Operators don't systematically send messages. You have the money in the account, but you don't receive a message and you have to ask for a confirmation. Just yesterday, I didn't receive a notification about a transfer I made. Sometimes I get it 2 or 3 days later. I can only start work after I get a confirmation from a client.*

— Mobile money agent, Côte d'Ivoire

29 Burjorjee and Bin-Humam, 2018; Ng'weno et al., 2018; Women's World Banking, 2019; UNCDF, 2019a; UNCDF, 2019b; Koblanck et al., 2017.

30 Fiorillo, 2017; Scharwatt and Minischetti, 2014.

In Côte d'Ivoire, female respondents voiced greater concerns over network issues and worries that transactions were not being completed, contributing to their lower levels of trust in digital finance overall. Many women valued and were reassured by an agent's informal paper receipt from an agent-assisted transaction, especially when the digital confirmation was not conveyed in real time.<sup>31</sup>

“

*Like Equitel ... you don't receive the message of who has sent your money, you don't know your balance, there are no notifications popping out when you receive money or it comes but it hangs a long time... so in the meantime, the money cannot help you.*

— Group of female smallholder farmers and casual workers, rural area, Kenya

**Overall prediction  
of impact and  
recommendation**

If women feel more confident that transactions are processed in real time, it will increase trust in the system and save time spent tracking down incomplete or “hanging” transactions. Overall, we expect this principle will likely have a positive effect on women, though it was not easy to ascertain whether this would be strong enough to be more important to women than men.

We recommend that the Push/Real-Time Principle be updated as follows (changes highlighted): The scheme provides push payments cleared on a real-time basis, where payer and payee accounts are either immediately updated (unqualified acceptance), or provided a qualified acceptance with a qualifier code; or notified of rejection with a rejection code.

<sup>31</sup> It is a common practice in Côte d'Ivoire for agents to help people complete transactions or to do over-the-counter transfers for them and give them informal paper receipts.

### The Irrevocability Principle

Final payment orders cannot be rescinded once they reach the switch, providing assurance that the receiver's account cannot be debited without their consent.

Likely consequences  
for end users

Irrevocability removes costs associated with contested transactions and some switching complexity. However, it will more often result in loss of funds for users due to mistaken transactions, which could prove intimidating for inexperienced users who worry about errors resulting in loss of funds. Further, DFSPs could add user complexity by creating their own bespoke workarounds such as confirmation steps or recall grace periods.<sup>32</sup>

Likely consequences  
for women

Our analysis predicts that irrevocability will have a slightly more negative effect on women than men, primarily because the fear of mistakes and complexity of reversing payments hinders more women than men. In Kenya, female respondents suggested that they had less time, and sometimes less knowledge, to deal with revoking payments when making mistakes. Existing methods to cancel or reverse erroneous mobile money transactions were mentioned by respondents and by our expert interviews as having a more positive impact on women, particularly by increasing trust and assurance.

“

*I used to have a challenge with M-Pesa before... whenever I sent money to a wrong number, it would just go directly. That was before the 25 seconds details confirmation period was introduced. These days, I just confirm the details and if it's wrong, I cancel the transaction.*

— Female smallholder farmer, rural Kenyan area

In Côte d'Ivoire, some female respondents explained that they were particularly nervous about making mistakes and preferred USSD and keypad phones rather than touch-screen keypads, which they found made them more prone to error.

On the other hand, some female small business owners mentioned the potential fear of being defrauded by customers who would buy something and then revoke the payment after they left with the goods, although this had not happened to anyone in our sample. This fear prompted some business owners to require entirely cash payments, or deposits for higher-value products made through mobile money, but the balance paid in cash when the buyer collects the goods so they can't revoke the payment. In these cases, irrevocability would have clear benefits for payees in commercial or retail settings. Processes to revoke transactions were quite challenging in Côte d'Ivoire. If money is mistakenly sent, procedure dictates that users must report it to the police in person and will also often visit an agent to assist in the recovery of the funds. Respondents explained that funds mistakenly sent through Orange can be returned within three days, while with MTN, it is usually a week. These are long periods for people with low incomes.

<sup>32</sup> M-Pesa in Kenya has a 25 second delay period on its P2P transfers which could be implemented in an L1P system by a provider who would just not submit the users request for transfer to the switch until a specific time window has passed. This is similar to Gmail's 5 second recall period whereby an email can be recalled after it is sent.

According to experts we interviewed and some of the women in our FGDs, women are often more time constrained, making this time-consuming process a greater challenge for them than men. They may also experience a higher degree of intimidation in going to the police station and DFSP's local office. Further, respondents explained that reversing a mistaken transaction means losing money along the way. One male agent said:

“

*Last year I was doing my evening courses and the school sent me a number to pay through mobile money. I made a mistake with the number. I contacted the recipient directly who was honest and he sent me back my money. But I had paid 10,600 CFA [\$17.80] and he returned 10,000 CFA [\$16.76] because MTN had already taken 600 CFA [\$0.96]. I got back 9,900 CFA [\$16.60] because 100 CFA [\$0.16] went in state taxes.*

Overall prediction  
of impact and  
recommendation

Irrevocability would mostly benefit recipients in retail and commercial use cases, thus reducing the fear of fraud for business owners. But it was seen as off-putting by most of the women senders in our research sample, particularly if timed confirmation periods didn't exist as they do in Kenya. Experts and respondents explained that women were more cautious and thus the fear of losing money due to a mistaken transaction was more pressing for them.

Overall, we predict that irrevocability will have a slightly more negative effect on the user experience of women than men, though we recognise the key role this plays in overall system functioning. Because it would not be practical to remove irrevocability we suggest modifying the principle to encourage more user features that mitigate the risk of lost transactions.

It will be critical for switches and DFSPs to follow the User Experience Principle below giving users confirmation steps and a recall period to cancel the transaction before it goes to the switch as well as possibly requiring an easy digital process for requesting return of funds from the recipient who must agree.

We recommend that the Irrevocability Principle be updated as follows (changes highlighted): Final payment orders cannot be rescinded once they reach the switch, providing assurance that the receiver's account cannot be debited without their consent. Schemes should mandate an easy digital process for requesting return of funds from the recipient (who must agree) after an erroneous transaction.

### The Identifiers/Directory Principle:

The scheme uses a directory that enables appropriate aliases as the unique identifier.

#### Likely consequences for end users

Multiple options for payments addressing that avoid having to share phone numbers or other sensitive data to complete transactions are beneficial for end-user privacy. It also enables innovation for improved UX that use different forms of addressing (e.g., more memorable usernames). If implemented correctly and with careful attention to UI/UX, it would potentially help reduce user mistakes. The possible downsides include implementation challenges for certain DFSPs, new fraud scenarios, and increased complexity for some users by introducing alphanumeric (from just numeric) identifiers on low-end phones.

#### Likely consequences for women

In our research in Kenya and in Côte d'Ivoire, we did not find any difference between the willingness of female and male respondents to provide phone numbers as identifiers. This may be due to a lack of awareness around other identifier options, or perhaps an implicit acknowledgement of an agent's professionalism. That said, our literature search and expert interviews make us believe this is a bigger issue in other cultural contexts, even within other parts of these countries, such as the Kenyan-Somalia border area, where privacy was reported to be a greater issue for women. In FGDs in Côte d'Ivoire, female respondents did raise fears around making costly errors while using mobile money, so women may prefer another form of identifier simply to avoid making mistakes when typing out a phone number.



*It's not a problem to share our number ... but if we can find another way rather than a phone number, that would be good. Like an ATM doesn't need all our information.*

— Female seamstress and mobile money agent, Côte d'Ivoire

#### Overall prediction of impact and recommendation

Our analysis predicts that the Identifiers/Directory Principle will have a slightly more positive effect on women than men. While our qualitative research in Kenya and Côte d'Ivoire did not reach a strong conclusion on the gender-related impact of this principle, research and expert interviews indicated it would likely be important in other cultural contexts where an unsolicited call or text received by a woman could expose her to approbation or even potential violence from her family.

We recommend updating this principle (changes highlighted): The scheme uses a directory that enables appropriate aliases for payments addressing—this may include phone number, account number, numeric-only national ID, or other numeric identifiers (avoid alpha-numeric account aliases as they are more difficult to input for non-smartphone users). Allowing a non-phone number identifier may be important for ensuring privacy and should be available for users who prefer them.



### The Tiered KYC Principle

The regulatory environment supports tiered KYC for transaction accounts and limits; tier 0 allows for a low-income consumer with limited to no identification to self-issue and holds a basic transaction account with controlled limits; as capabilities increase, KYC requirements increase.

#### Likely consequences for end users

With tiered KYC, low-income users with limited to no identification can self-issue basic accounts, and it allows users to increase account capabilities with their needs. This is critical for women: in low-income countries, more than 45% of women do not have a national ID, compared to only 30% of men.<sup>33</sup> Further, there are still almost 50 legal differences that have been documented between women and men when applying for an ID or passport.<sup>34</sup> Tiered KYC supports a risk-based approach to drive usage and volume. However, DFSPs should ensure no unnecessary user complexity arises with implementation of tiered structure requirements.

#### Likely consequences for women

Our analysis predicts tiered KYC will have a more positive effect on women than men. Women benefited from a tiered KYC approach where they needed minimum credentials (national ID) for a SIM and mobile money account but had to produce several other credentials for a bank account (letter of reference, utility bill, collateral/evidence of salary, etc.) that they might not have. Indeed, Nigeria and Bangladesh have the most difficult KYC requirements in the sample of countries we analysed and have financial inclusion gender gaps of 24% and 29% respectively, whereas Kenya (8%), Côte d'Ivoire (11%), and South Africa (-2%) have much lower gaps.

In Côte d'Ivoire, female respondents were more likely to mention challenges associated with registering a SIM and producing ID while conducting transactions. FGDs revealed that women often use the DFSP with the least strict KYC standards. Women typically had less access to identification, so SIMs were sometimes registered on their friend's or husband's ID.

“

*I had to identify a friend's SIM by my name because she didn't have an ID. We were in Bouaké together. Some months after I moved to Abidjan, this friend lost her phone. I was then the one who had to go to an agency for the removal of her SIM, but given the distance, this was not possible. So she lost her number and took another SIM on behalf of another person because she still does not have her ID documents. This is why you should not identify your number with the name of another person.*

— Female respondent, Côte d'Ivoire

<sup>33</sup> World Bank, 2018.

<sup>34</sup> World Bank, 2018.

**Overall prediction  
of impact and  
recommendation**

Access to a national ID is more of a barrier for women than men, which creates significant challenges. Tiered KYC, including a zero tier where no ID is required, is quite important in making sure women are able to open accounts with minimum ID barriers and would likely improve women's access significantly. Overall, we believe tiered KYC will have significant benefits to women and contribute to closing the gender gap.

### The End-User Fees Principle

Fees to end users (individuals, merchants, billers, government agencies, and other enterprises) should be zero or low, and may vary by use case. DFSPs are expected to realise their revenue from adjacent, value-added services, rather than from payment fees.

**Likely consequences  
for end users**

Zero or low end-user fees help drive DFS usage, scale and volume, especially for low-income and underserved users. Additionally, business models based on adjacencies can offer new revenue opportunities for DFSPs and promote proliferation and creation of additional services and products that are meaningful to end users.<sup>35</sup> However, the downside is that DFSPs may need to adjust their current revenue models, internal processes, and organizational structures and may lead to unwillingness to participate or limited investment in retail or agent networks.

**Likely consequences  
for women**

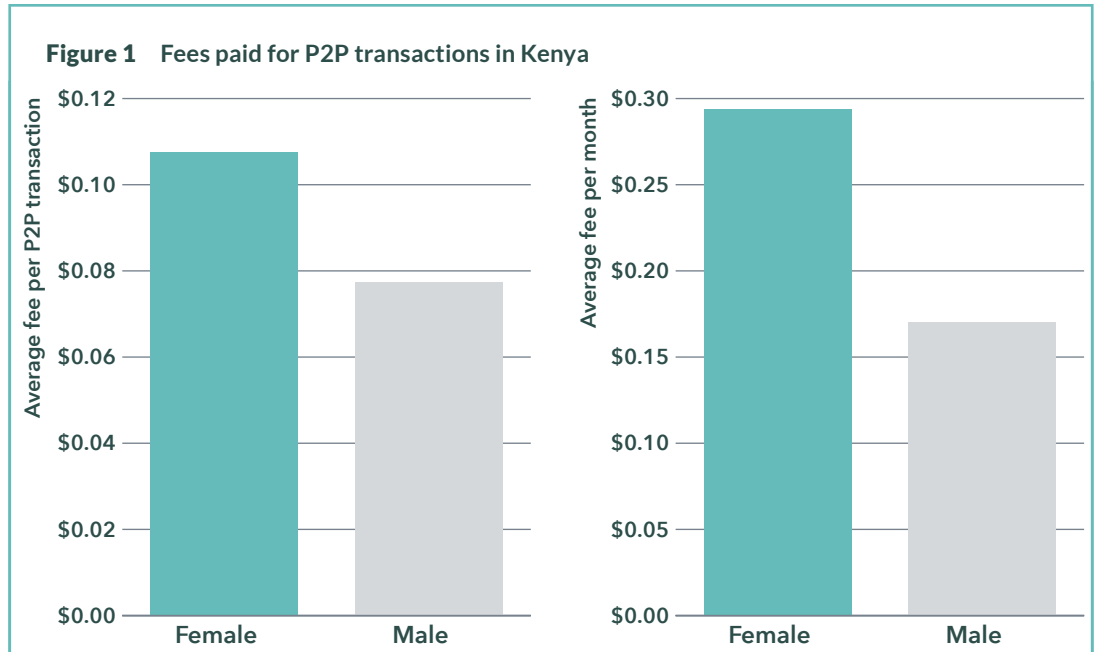
Our analysis predicts a slightly more positive effect on women than men. Existing literature suggests women tend to be more price sensitive, particularly to mobile money transaction fees.<sup>36</sup>

Our transactional analysis produced different results depending on context. With one bank we were able to analyse in South Africa, women paid less in fees despite doing more transactions.<sup>37</sup> In Kenya, where we have some of the most complete data, women pay more in P2P fees on a per-transaction basis on M-Pesa, as well as more overall, compared to their male counterparts. This is mainly because men are making more transactions below the free threshold (Ksh100) whereas women were making a higher percentage of their transactions above the fee threshold. It's possible women are less aware of fee avoidance options, have less time to engage in breaking up transactions into many small amounts that fit below the free threshold, or it could be that men are more likely to use bank transfers, fintech options, or other non-mobile money instruments for larger transactions. In either case, a reduction in fees should reduce mobile money fee burden for women more than men in our Kenya sample.

<sup>35</sup> GSMA, 2016; McKinsey, 2018.

<sup>36</sup> GSMA Connected Women, 2016; GSMA Connected Women 2017; Scharwatt, 2017.

<sup>37</sup> With Capitec Bank, we see men paying slightly more per month in fees, \$3.02 vs. \$2.25 for women, even though women conduct slightly more transactions per month (3.0 vs. 2.7). Because fees are reported inclusive of transaction fees, card fees, balance enquiries, etc., we hypothesise that the higher amount of fees borne by men is not due to inter-bank payments but more likely due to card fees and other maintenance charges.



In Kenya focus groups, both female and male respondents mentioned transaction fees equally—not just in terms of fees within the M-Pesa network, but also between M-Pesa and Airtel, and between DFSPs and banks. Women also appeared to emphasise related concerns more often, such as money left “hanging” between networks when transactions were not completed. As in Kenya, both men and women were concerned about transaction costs in Côte d’Ivoire. However, it appeared to affect more women in our sample than men because women appeared more often to not fully understand the cost breakdown. One issue raised was that high and/or unexpected transaction fees greatly disincentivise women, especially when they don’t understand the fee breakdown:

“ In 2014, I was employed in a company, we saved 10,200 CFA [\$17.00] per month on Orange for 1 year. It was a locked account. After 1 year, the amount to be received was 122,000 CFA [\$203.30]. Hold on tight! Orange paid me only 91,000 [\$151.60] or 92,000 CFA [\$153.30]. I was really angry. Since that day, I no longer wanted to save Orange. After my complaint there was no follow-up. It demotivated me. I borrowed 500 CFA [\$0.83] of airtime from Orange but I do not go further than that.

We did not hear men raise concerns to the same extent as women, while women held the opinion that:

“ ...men are salaried, they have good pay, but women do small informal businesses... all these fees matter more for us.

**Overall prediction of impact and recommendation**

On balance, we believe that lower fees that reduce costs and enable high-frequency, small-value transactions will create more benefits for women, but it’s hard to estimate to what degree this impacts women more than men from our focus groups, interviews, and quantitative data.

### The Pricing Transparency Principle

All fees charged to end users are displayed prior to transaction execution and the paying customer confirms the transaction; foreign exchange fees extracted through less favorable exchange rates are included in this.

*Likely consequences  
for end users*

Pricing transparency promotes greater choice for end users, and it increases user awareness and trust around transaction costs and what will be received by recipients.

*Likely consequences  
for women*

While we observed no measurable difference in the impact of pricing transparency between men and women in Kenya, we did observe differences in Côte d'Ivoire. Here, there was a great deal of confusion among female respondents in our sample on DFS pricing which seemed to risk deterring their usage. Women referenced transaction costs, confused airtime and mobile money costs, and worried about the possibility of monthly fees (which do not exist in mobile money accounts). Clear and transparent pricing would address the issues of trust and confidence that we have observed are among the main barriers to women using DFS.

*Overall prediction  
of impact and  
recommendation*

Our analysis predicts a slightly more positive effect of pricing transparency on women than men. In addition, we recommend updating the principle of pricing transparency as follows (changes highlighted): All fees charged to end-users are displayed prior to transaction execution and the paying customer confirms the transaction; foreign exchange fees extracted through less favorable exchange rates are included in this. Agents, branches, and other access points should be mandated to display relevant costs where appropriate.

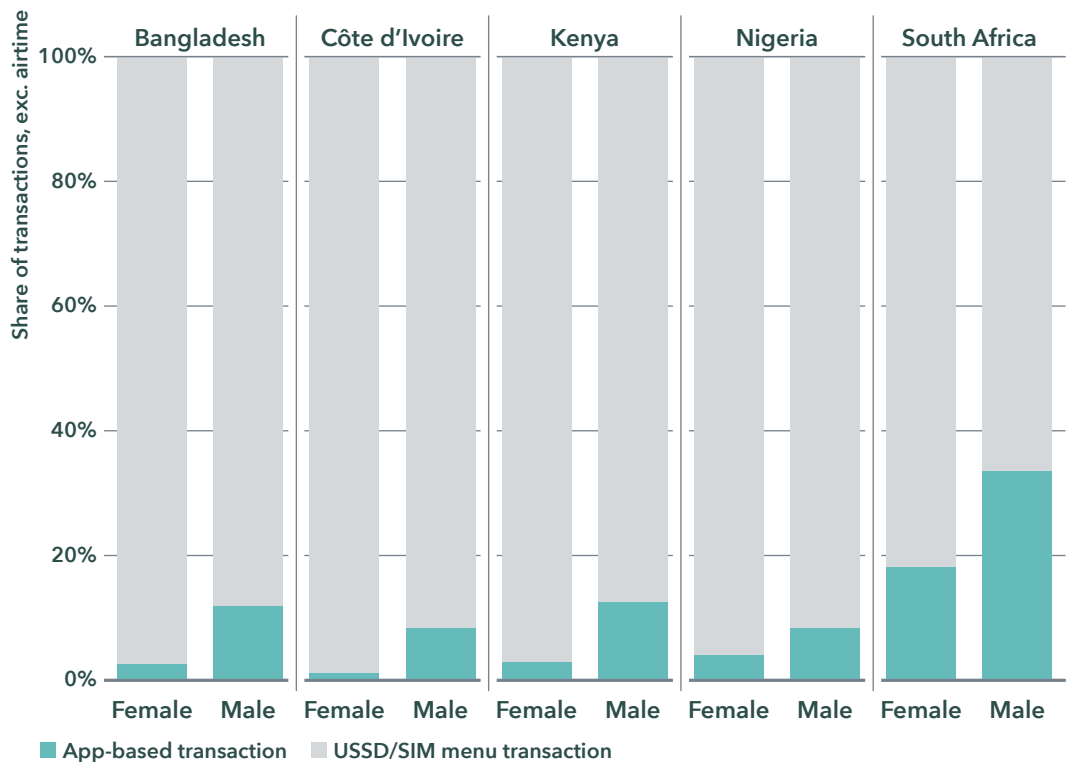
### The User Experience Principle

The user interface is simple and intuitive for a consumer; the user interface is designed to prevent user errors and fraudulent activity.

Likely consequences for end users

Simple and intuitive user interfaces increase a user’s level of comfort, makes transacting more accessible; and allow for customization based on use case or user type. Mobile apps clearly offer much greater potential in terms of building safeguards against errors and fraudulent activity, but these are still only used by a very small segment of users. Many low-income users (even those with smartphones) avoid using apps because they are less familiar or for fear of incurring data charges or draining the battery. Our analysis of transaction data—which is based on smartphones only—showed that just 13% of transactions originated from within a DFS app, while the rest were via USSD or SIM toolkit channels. This suggests that DFSPs still have not convinced people to use their app-based services due to lack of familiarity, poor user experience and fear of incurring data or battery recharge costs and taking up memory on the phone. Therefore, efforts to improve the UX need to look beyond the phone screen to address the full range of user constraints and needs.

Figure 2 Apps vs. USSD/SIM menu for making financial transactions



**Likely consequences  
for women**

A simple user experience is valuable for women—in both Kenya and Côte d’Ivoire, women in our focus groups mentioned this more than men. Women also chose USSD more often than apps in all five countries in the quantitative data (Figure 2), which we believe has something to do with the simplicity and familiarity of the user experience of USSD as well as other factors like cost of data usage.

Good user experience includes clear information, good menu design, an agent you know and trust who is close by for customer service, and features to avoid costly mistakes. In Côte d’Ivoire, women became familiar with the language of one particular DFSP (especially if they were illiterate or had basic literacy) and they would follow the sequences or “syntax” (as respondents termed it) to complete transactions rather than actually reading the menu items each time. These gender differences are important considerations when ensuring the L1P Principles address women.

**Overall prediction  
of impact and  
recommendation**

A good user experience is more important to women to the extent it increases trust and helps women who may have less experience avoid mistakes. On this basis, our analysis predicts a slightly more positive effect on women than men. We recommend updating the principle as follows: The user interface is simple and intuitive for a consumer; the user interface is designed to prevent user errors and fraudulent activity; this includes features like a short recall period before the transaction is sent to the switch, confirming the recipient name and transaction amount prior to transaction, saving frequent transaction addresses, and enabling language localization.

**The Low-Cost User Devices Principle**

All primary functions should be accessible to users with inexpensive basic/feature phones. These functions are typically enabled through USSD interfaces on such devices.

**Likely consequences  
for end users**

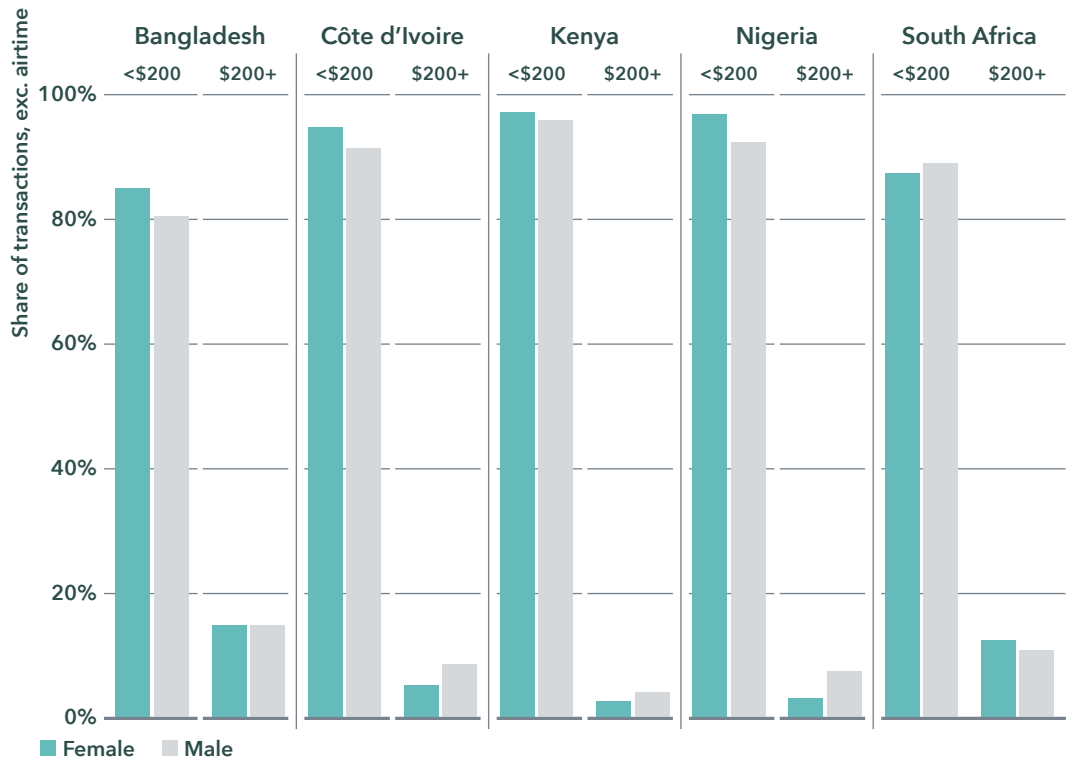
Ensuring that primary functions are accessible on basic devices promotes user access, particularly for low-income consumers who have feature phones. For instance, women are 20% less likely than men to own smartphones in low- and middle-income countries, though notable differences between countries exist.<sup>38</sup> Our quantitative panels showed that even smartphone users predominantly use USSD/SIM channels to make transactions, with app-based transactions comprising only 13% of all activity across our five markets. As app-based transactions become more popular, DFSPs will need to address at least two types of end user experiences (app and USSD)—this could be time consuming and expensive and may limit investment by some DFSPs. In India, a common shortcode \*99# designed at scheme level allows all users to have the same experience regardless of DFSP. This standardisation could help other countries too.

38 Rowntree (GSMA), 2020. For instance, just 14% of women in India own smartphones, while 39% of women in Nigeria do.

Likely consequences for women

In each of the five markets (except South Africa) in our quantitative data analysis, women were more likely to own lower-quality devices, with 59% of <\$200 smartphones owned by women (see Figure 3). In Kenya, FGDs and IDIs did not reveal a strong bias toward the use of low-end phones by women. However in other contexts, we believe this will be a factor. Additionally, macro data and expert interviews both indicate that women more often have low-end devices; not enabling the platform to work on these devices could disenfranchise women.<sup>39</sup> In Côte d'Ivoire, women in our research sample did appear to have more low-end phones when compared to the men, a finding that is affirmed by other data sources. They also expressed preference for USSD rather than an app as they did not “trust the internet”, felt that the app used their data, or worried that it drained their battery.

Figure 3 Mobile handset price distribution



Overall prediction of impact and recommendation

By enabling inexpensive user devices, our analysis predicts that this principle will benefit women more than men. We recommend updating the principles to support low-end devices with a principle that states: All primary functions should be accessible to users with inexpensive basic/feature phones—typically enabled through USSD interfaces on such devices.

39 Fiorillo, 2017; GSMA, 2015; Pew Research Centre, 2018.

## The Access Points Principle

Access points, including merchants, billers, agents, branches, and ATMs are readily available for users to transact, cash in, and cash out

### Likely consequences for end users

Multiple access points ensure a vibrant ecosystem and allows users to conduct all necessary payment activities “as good as cash”. However, if access points are implemented in a phased approach, or if they prove difficult to enable, the network effect of ecosystem growth may be muted.

### Likely consequences for women

Given that many women in emerging markets are less mobile and may experience limitations on their travel, women may benefit from closer DFS access points in their communities.<sup>40</sup> For instance, research found that where agent density had increased in Kenya, female-headed households saw a decrease in extreme poverty and an increase in daily per capita consumption.<sup>41</sup> Our research in Kenya and Côte d’Ivoire showed that women rely on access points (in the case of our FGDs and IDIs, agents) more so than men, particularly because they provide trust, information, and assistance.



*I am talking out of experience, for the past five years as an agent, ladies want to be sure more than the gents. Ladies will come and say ‘I want to withdraw, can you help me and enter the agent number for me.’*

— Male M-Pesa agent, rural Kenyan area



*The majority of women who come need help to validate their transaction. I’m helping. Women need more help than men.”*

— Female agent in Marcory, Côte d’Ivoire

Women were also more likely to value the proximity of agents to their workplace or home, while men were less likely to mention proximity. Men did not mention valuing the presence of agents, appearing to be more comfortable doing most of their transactions by themselves on their phone, and to not be attached to any particular agent as long as the transaction could be done quickly. By and large, women in Kenya and Côte d’Ivoire did not express a particular need or preference for agents staffed by women. In fact, some respondents felt female agents were less available because they may work fewer hours due to the fact that they also manage their own households. One female Kenyan respondent said she would prefer to deposit with a female agent but withdraw anywhere (male or female agent) – seemingly because the male agent would not know how much money she is depositing in her account and could not share that information.

### Overall prediction of impact and recommendation

Agents are the main access points for the majority of women and a key touchpoint for building product trust, knowledge, familiarity, and driving adoption of new products and services. However agents also feel customer education should not be their responsibility. While the Access Points Principle will likely benefit women more than men (who did not appear to be as reliant on agents), agents did not always see customer support as their role.

40 Ng’weno et al., 2018; World Bank, 2018; Gammage et al., 2017; Pitcaithly et al., 2016; Klapper, 2015; Belalcázar, 2015.

41 Suri and Jack, 2016.



## The Notifications Principle

Notification of account activities from all parties controllable by end user.

### Likely consequences for end users

Customisable notifications allow end users to manage privacy preferences, particularly important for those who want to maintain secrecy and privacy with regard to their transaction details and account balances. However, it may add complexity to the user experience and could be difficult to apply to USSD.

### Likely consequences for women

In Kenya and Côte d'Ivoire, female respondents valued real-time transaction notifications as they appear to offer greater confidence the transaction was complete. More women than men relayed that immediate notifications are particularly important to build trust in the system. Although privacy can be compromised with on-screen notifications that reveal transactional details or balances, this was only an issue for a few respondents. Some emphasised that if the messages didn't need to be saved, they could erase them.

### Overall prediction of impact and recommendation

Our analysis predicts that control over notifications will have a slightly more positive effect on women than men. Notifications provide women with confidence in the system, as long as they are in clear and simple language standardised across different DFSPs but also controllable by women (i.e., how long they remain on screen etc.). User control to avoid sharing secret details with male family members or acquaintances was not a strong concern in our interviews but we believe it could be in other countries and cultural contexts based on our wider literature search and conversations with experts. We recommend updating the principles with this new principle: **Notification of account activities from all parties controllable by the end user.**

### The User Education Principle

Appropriate investment is made in user education to drive adoption of products and services, particularly among low-income consumers.

Likely consequences  
for end users

Education is valuable for end users—it increases comfort and trust when using DFS and helps to drive adoption. A key question is whether DFSPs have funds to invest appropriately in user education, particularly to reach certain end users and disadvantaged groups.

Likely consequences  
for women

DFS education impacts women in distinct ways from men. In our research, female respondents stated that they rely more on their peers than communications from DFSPs. Respondents (both experts and end users) in both countries strongly stated that women in lower-income areas trust their peers the most, which is reflected in their greater dependence on the community savings groups, such as tontines. This was affirmed by the literature, which found that women often rely on their peers and their social networks for advice on which products to adopt.<sup>42</sup> User education that ties into social networks and community organizations would likely reach women more effectively.

“

*If the providers could get more elderly people educated to pass the message slowly it would be better than pamphlets or texting. My grandmother, if she receives a call or a pamphlet, she may not accept it, because, she will think 'who do I know [that] has used this type of thing, and can tell me about it, and can tell me that it's good', other than having a total stranger, because nowadays, everyone wants to get money.*

— Female student, Nairobi

Ensuring that users understand the usage and implications of financial services is critical for maintaining trust and control. This was particularly salient in Côte d'Ivoire, where some respondents expressed that mobile money has a bad reputation because of fraud. Given the apparently more cautious behaviour of women cited by male and female respondents, this reputation could hamper DFS uptake among women. Another point which female respondents mentioned was:

“

*...the language is too formal when they contact us. They should understand many of us are illiterate. It needs to be simpler [moins soutenu].*

Female-targeted consumer education programs would likely have a differential benefit for women by helping clarify critical topics and generally build trust through understanding.

<sup>42</sup> Chetty et al., 2018; OECD, 2018.

**Overall prediction  
of impact and  
recommendation**

Our analysis predicts that user education will have a slightly more positive effect on women than men but needs to be tailored to women's needs for this to happen. User education programs should be geared to link into social networks and community organizations to have maximum impact for women. They should focus significantly on avoiding harm from new products that are launching in the market and common fraud scenarios. We suggest the principle be updated as follows (changes highlighted): Appropriate investment is made in user education to drive adoption of products and services, particularly among low-income consumers. The user education programs should be geared to link into social networks and community organizations and tailor content to women's needs to have maximum impact.

### The Gender Disaggregated Data Principle

Data on account holders and usage should be disaggregated to support measurement of gender gaps and related research.

**Likely consequences  
for end users**

Gender (or more commonly used—sex—disaggregated) data is critical to understand gaps, design better policy interventions and drive women-centric innovation.<sup>43</sup> Without gender disaggregated data, we would not have known about the mobile gender gap,<sup>44</sup> financial inclusion gender gap (for example, that the gap widened in Bangladesh between 2011 and 2017 from 9 points to 21 points), or the DFS gender gap.<sup>45</sup> There's an implied need for gender-disaggregated data as it relates to many of the other L1P Principles: phone handsets (inexpensive devices), access points, number of active mobile money accounts, formal bank accounts, tiered KYC differences, and so on.

**Likely consequences  
for women**

We predict that gender-disaggregated data will have a greater impact on women than men. While our qualitative research did not explore this principle with end users, our expert interviews and literature review substantiate this prediction. However, DFSPs and other stakeholders should ensure that data collection does not expose personal information and that it recognises likely inaccuracies due to phone or SIM-card sharing, in addition to registration through different national IDs. For this reason, as with all data, stakeholders will need to examine it critically and wherever possible, triangulate against qualitative end user insights. Gender disaggregated data helps the industry design better, though there's a need to understand how granular we can get with the data while also ensuring we protect women and correct for data collection errors.

43 Broadband Commission, 2017; Maina (GSMA), 2020.

44 See also: <https://www.gsma.com/r/gender-gap/>.

45 Buvinic and Oula (CGD), 2019.

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## A few recommendations for DFSPs

*Our discussions with women uncovered many of the challenges they face in using financial services and mobile money. In many cases, we found the L1P Principles are sound but the implementation or how the features were translated through to product features could be very much improved so that users, especially women, do not fall through the cracks. Below are recommendations to DFSPs on how best to implement these principles:*

- **Irrevocable:** Once sent, funds must always be irrevocable to enable low-cost transactions and decrease fraud. The ability to cancel a payment before it is sent to the switch (as provided by M-Pesa's 25-second window) has been important in increasing women's confidence in using DFS (relating back to trust and control) though different timed lengths could be explored. Additionally, allowing senders to request a return of funds via the system by giving the recipient the ability to consent electronically and the funds returned without additional fees would be helpful. This does not mean funds are revocable, but simply refundable if the DFSP receives consent from the receiver.
- **Third-party connection:** We anticipate women will potentially be positively impacted by more specialised service providers, as third-party providers (e.g., fintechs) with increased access to a wider market should find it profitable to compete for smaller user segments. DFSPs could consider adopting harmonised APIs and simplified partner onboarding processes that would facilitate easier access by fintechs and other third parties.
- **Tiered KYC:** In our research sample, women appreciated tiered KYC as it gave them access to mobile money more easily than bank accounts. Women also voiced the need for ID checks when conducting a cash out, to make sure people were not able to appropriate their money. For countries where an ID is mandated, DFSPs could consider implementing checks at agents where an account holder's partial ID is displayed on an agent's phone which can be matched quickly to the person's ID (e.g., the agent punches in just the 2-3 missing digits to prove he/she has seen the customer's ID) to facilitate rapid transactions (though adding an ID check should not be implemented unless absolutely required by regulation as it can disadvantage low-income and women users).
- **User experience:** An easy user experience is valuable for women and was mentioned more so by women than men. This can include clear information, good menu design, an agent you know well who is close by, and the opportunity to correct any mistakes and get refunds. Part of the user experience is the data cost of using mobile apps which appears to be a significant deterrent for women—DFSPs should consider zero rating their apps and making sure users are aware it's free.

- **Notifications:** Real-time transaction notifications appear to provide confidence that transactions were complete. More women than men relayed that immediate notifications are particularly important to build trust in the system. Ideally all notifications should be sent by the end user's own DFSP to avoid any potential confusion and all DFSPs should ensure there are no delays in sending notifications for transactions made by an individual. Batched transactions such as bulk payments, if executed during the night, could be sent at a more appropriate time (e.g., at 8 a.m.).

A more nuanced exploration of the needs of the users we spoke to can be found in Annexes 2 and 3, which describe the qualitative research findings from Kenya and Côte d'Ivoire in depth.

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## Conclusions

*This research sought to predict the likely gender impacts of the Level 1 Project Principles and determine whether updates or additions to the principles could make them more effective in closing the gender gap in financial inclusion. Using three complementary research approaches, our findings overall predict positive impacts for women when L1P Principles are implemented.*

More specifically, we predict a greater benefit for women than men from 13 principles (see Table 1) when assessing each on an individual basis. When looking at the cumulative impacts of the principles together, we also predict that lower fees, in addition to greater financial innovation and product diversity, will have greater benefit for women than men. Additionally, we have recommended minor modifications to some of the principles to increase their impact in closing the financial inclusion gender gap. These include changes to principles that address irrevocability, account identifiers and directories, pricing transparency, user experience, and consumer education. Beyond these, we've also recommended new principles, including enabling inexpensive user devices and putting users in control of notifications, and other minor updates.

Overall, our research indicates that better payment system design can create a financial system that is more open and accessible and by doing so, creates the conditions for more women to use the system. We expect the L1P Principles will make it easier for women to use digital financial tools and will ultimately contribute to closing the gender gap in financial inclusion.

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## Annexes

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### Annex 1: Curated reading list

*The following is a selection of key research which helped to shape our literature review on the financial inclusion gender gap in addition to supporting our research approaches.*

**Bill & Melinda Gates Foundation. “Women’s Digital Financial Inclusion in Africa.” 2019.**

This report draws on the lessons the Foundation has learned about financial services for the poor since they started investing in the area about 15 years ago. It identifies five key ways in which G7 countries can support African countries as their leaders seek to include more than 400 million people, most of them women, in the digital economy for the first time.

See more: [https://docs.gatesfoundation.org/Documents/WomensDigitalFinancialInclusioninAfrica\\_English.pdf](https://docs.gatesfoundation.org/Documents/WomensDigitalFinancialInclusioninAfrica_English.pdf)

**Chetty, Rinelle, Louise de Villiers, Brittney Dudar, and Herman Smit. “What Can Behavioural Science Tell Us about the Financial Decisions of Women?” IDRC, 2018.**

This paper reports on the effectiveness of behavioural interventions that could reasonably be applied by financial services providers by examining the evidence on interventions that influence savings, credit, payments and insurance decisions.

See more: <https://idl-bnc-idrc.dspacedirect.org/bitstream/handle/10625/57159/IDL-57159.pdf>

**Demirgüç-Kunt, Asli, Leora Klapper, and Dorothe Singer. “Financial Inclusion and Legal Discrimination Against Women : Evidence from Developing Countries.” World Bank, 2013.**

This working paper documents and analyses gender differences in the use of financial services using individual-level data from 98 developing countries. The data, drawn from the Global Financial Inclusion database, highlight the existence of significant gender gaps in ownership of accounts and usage of savings and credit products.

See more: <https://openknowledge.worldbank.org/handle/10986/15553>



**Gamage, Sarah, Aslihan Kes, Liliane Winograd, Naziha Sultana, Sara Hiller, and Shelby Bourgault. “Gender and Digital Financial Inclusion: What Do We Know and What Do We Need to Know?” International Center for Research on Women, 2017.**

This research undertakes a systematic review of key literature to explore recent research on gender and financial inclusion and gender and digital financial inclusion to inform the broader donor and practitioner field about gaps in and opportunities for investments in both research and interventions.

See more: <https://www.icrw.org/wp-content/uploads/2017/11/Gender-and-digital-financial-inclusion.pdf>

**GSMA. “The Mobile Gender Gap Report 2020,” 2020.**

The third edition of this annual survey provides updated figures on gender gaps in mobile ownership and mobile internet use in low- and middle-income countries. This edition also includes data on the smartphone gender gap.

See more: <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2020/02/GSMA-The-Mobile-Gender-Gap-Report-2020.pdf>

**IDEO.org. “Women & Money: Insights and A Path to Close the Gender Gap,” 2019.**

This report is based on human-centred design research in rural areas of six emerging market contexts to better understand women’s relationship with money, including the key challenges women face, the power and workarounds they demonstrate in the face of these barriers, and the design opportunities for the financial sector and other stakeholders.

See more: <https://www.womenandmoney.design/>

**Klapper, Leora. “Digital Financial Solutions to Advance Women’s Economic Participation.” World Bank, 2015.**

This report outlines the role of digital financial services in improving women’s economic participation, the challenges of increasing women’s access to digital financial services, and the opportunities governments and other sectors have to foster an inclusive global economy.

See more: [https://btca-prod.s3.amazonaws.com/documents/122/english\\_attachments/Women’s\\_Economic\\_Participation\\_Report\\_16\\_November\\_2015.pdf?1447440924](https://btca-prod.s3.amazonaws.com/documents/122/english_attachments/Women’s_Economic_Participation_Report_16_November_2015.pdf?1447440924)

**Molinier, H el ene. “Leveraging Digital Finance for Gender Equality and Women’s Empowerment.” UN Women, 2019.**

This working paper provides a thorough review of the barriers, risks and opportunities related to gender and the accessibility and utilisation of digital finance for women. It also helps identify pathways that could be leveraged for potential impactful investment returns for women.

See more: <https://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2019/leveraging-digital-finance-for-gender-equality-and-womens-empowerment-en.pdf?la=en&vs=4715>

**OECD. “Bridging the Digital Gender Divide: Include, Upskill, Innovate,” 2018.**

This report explores a range of factors that underpin the digital gender divide and finds that hurdles to access, affordability, lack of education as well as inherent biases and sociocultural norms curtail women and girls’ ability to benefit from the opportunities offered by the digital transformation.

See more: <http://www.oecd.org/internet/bridging-the-digital-gender-divide.pdf>

**Pitcaithly, Lee-Anne, Margarete O. Biallas, Rubin Japhta, and Prashant Murthy. “Research and Literature Review of Challenges to Women Accessing Digital Financial Services.” The World Bank, 2016.**

This report examines the current situation of financial exclusion for women globally, with a specific emphasis on the Pacific region by highlighting the barriers and other exclusionary factors that women face in accessing formal financial services and providing options for how digital financial services can help to address these barriers.

See more: <http://documents.worldbank.org/curated/en/293211501140944710/Research-and-literature-review-of-challenges-to-women-accessing-digital-financial-services>

**Roessler, P. “The Mobile Phone Revolution and Digital Inequality: Scope, Determinants and Consequences.” United Kingdom: Pathways for Prosperity Commission, 2018.**

This background paper provides information on the state of mobile phone access over time, the factors which account for unequal access and the policy solutions which may be effective at addressing these usage barriers.

See more: [https://pathwayscommission.bsg.ox.ac.uk/sites/default/files/2019-09/the\\_mobile\\_phone\\_revolution\\_and\\_digital\\_inequality.pdf](https://pathwayscommission.bsg.ox.ac.uk/sites/default/files/2019-09/the_mobile_phone_revolution_and_digital_inequality.pdf)

### **Women's World Banking. "Acquisition and Engagement Strategies to Reach Women with Digital Financial Services," 2019.**

This case study explores two different approaches by Women's World Banking in Nigeria and Pakistan to increase both the acquisition and engagement of women customers with digital financial services.

See more: [http://womenswb.wpengine.com/wp-content/uploads/2019/03/Aquisition-Engagement-Strategies\\_WomensWorldBanking.pdf](http://womenswb.wpengine.com/wp-content/uploads/2019/03/Aquisition-Engagement-Strategies_WomensWorldBanking.pdf)

### **World Bank. "Women, Business and the Law 2019," 2019.**

This report examines ten years of legal discrimination towards women's employment, entrepreneurship and economic inclusion.

See more: <http://pubdocs.worldbank.org/en/702301554216687135/WBL-DECADE-OF-REFORM-2019-WEB-04-01.pdf>

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## Annex 2: Kenya qual report

Full results from Kenya qual work.

[https://docs.google.com/document/d/1AmPOAU9AnZ22hPUR6a\\_R5s1fBpVqEkeG1Xyy1L13aaU/edit?usp=sharing](https://docs.google.com/document/d/1AmPOAU9AnZ22hPUR6a_R5s1fBpVqEkeG1Xyy1L13aaU/edit?usp=sharing)

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## Annex 3: Côte d'Ivoire qual report

Full results from Côte d'Ivoire qual work.

[https://docs.google.com/document/d/1fXkJHct9\\_7I4gMG3Rn7wCLJNPwByC3XE6qwlWvOoXhM/edit?usp=sharing](https://docs.google.com/document/d/1fXkJHct9_7I4gMG3Rn7wCLJNPwByC3XE6qwlWvOoXhM/edit?usp=sharing)

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## Annex 4: Cross country quant comparison of gender behaviour

South Africa, Kenya, Nigeria, Côte d'Ivoire, Bangladesh—comparison of differences between men and women's financial behaviour and attempt to link these to differences in the institutional environment, cultural or consumer behaviour, and market structure.

[https://docs.google.com/presentation/d/1Ezy3n3F5nuzxid-vIUWJL8vn5x2og8XcG9Vq6gzFhUE/edit#slide=id.g7763c64ae6\\_0\\_1218](https://docs.google.com/presentation/d/1Ezy3n3F5nuzxid-vIUWJL8vn5x2og8XcG9Vq6gzFhUE/edit#slide=id.g7763c64ae6_0_1218)

## Annex 5: Methods

**Table 2** Overview of Market Ecosystems and Research Methods

Market	Method	Phase	Ecosystem
Kenya	Qual	Pilot	High use of mobile money—73% penetration (Findex, 2017)
	Quant	phase/ main phase	Fairly equal MM penetration (77%/69%) (Findex, 2017) Kenya mimics interop by being a monopoly but breaks interop with the banking sector with which M-Pesa doesn't connect well
Côte d'Ivoire	Qual	Main phase	Growing use of mobile money—34% (Findex, 2017) but has probably risen much higher than that in the last two years
	Quant		Fairly equal MM penetration (38%/30%) (Findex, 2017)
Bangladesh	Quant	Main phase	Bank-led model, with dominant mobile money service (bKash)  Strong gender imbalance in terms of mobile money usage, smartphone ownership, and other financial inclusion metrics
Nigeria	Quant	Main phase	Low-mid usage—primarily of bank based products Key African market
South Africa	Quant	Main phase	High DFS usage, mostly bank based Higher income and high bank penetration offers interesting comparison with other markets

### Qualitative work

We used five main research methods.

- Quick literature reviews on gender and DFS in Kenya and Côte d'Ivoire
- Country expert interviews (to surface the relevance of L1P Principles)
- Interviews with intermediaries/frontline workers (such as DFS agents)
- End user FGDs (focus group discussions to surface group issues, tensions, workarounds which IDIs will not be able to generate in the same way), and
- End user IDIs (in-depth interviews for exploring concepts and ideas more deeply and with nuance, especially on sensitive matters such as borrowing)
- End user FGDs and IDIs were with both men and women, using snowball sampling and working with local recruiters.

The Kenya fieldwork was conducted in two stages—a pilot and core research stage between November and December 2019. The Côte d’Ivoire fieldwork was conducted mainly in January 2020, with expert interviews both before and after country fieldwork. In both countries, we spoke to country experts, split across fintech, government, NGO, journalism, and other fields, as well as “end users”. In terms of experts, we spoke to:

**Table 3 Gender and DFS experts**

Kenya		Côte d’Ivoire	
Gates Foundation, East Africa Lead	November 2019	CGAP, Senior Financial Sector Specialist	November 2019
M-KOPA, Director; Head of Research	November 2019	Julaya, Head of Communications	January 2020
GMaurich (consultancy for FSD Kenya), Head of Research	November 2019	GSMA, Market Engagement Officer Côte d’Ivoire	February 2020
FSD Kenya, CEO; Head of Research	November 2019	IFC, Mobile Financial Usage Specialist	February 2020
CGAP Kenya, Senior Financial Specialist	November 2019	IFC, Applied Research and Learning, Financial Institutions Group Lead	February 2020
The Standard, fintech journalist	December 2019	EmpowHer, Founder	February 2020
BFA Kenya, Associate	December 2019	Independent DFS Consultant	February 2020
GSMA Kenya, Connected Women lead	December 2019	Qantara Digital, Founder	March 2020
Equity Bank, Digital Lending Team	December 2019		
Safaricom	January 2020		
Pesalink CEO	January 2020		

In both Kenya and Côte d'Ivoire we spoke to 80 end users, both male and female (oversampling on females). In Kenya, end users were from urban (Kenyatta University students), peri-urban (Korocho, Gathundu, Nyayo and Gikomba), and rural (Lari) areas of Kenya; and in Côte d'Ivoire, these were conducted in peri-urban areas (Yopougon and Koumassi), the urban area of the capital Abidjan (Marcory), and rural areas (Mondoukou and Akoupe Zeudji). As part of our sample, we also spoke to “intermediaries” such as DFS agents and super-users.

The breakdown was as follows:

**Table 4** End user breakdown

Method	Kenya		Côte d'Ivoire	
	Demographics	Location	Demographics	Location
FGD	Students (Kenyatta University)	Nairobi	Young men with small jobs as repairmen, football players, motorcycle drivers	Yopougon (peri-urban)
FGD	Female SME owners	Korogocho (peri-urban)	Young women with small jobs, mostly selling food on the main road, cleaning or housewives	Yopougon (peri-urban)
FGD	Male SME owners	Korogocho (peri-urban)	Older women, selling food or retired	Yopougon (peri-urban)
FGD	Female head of households	Korogocho (peri-urban)	Men, small business owners or employees, one retired	Yopougon (peri-urban)
FGD	Female small farmer	Lari (rural)	Young female students and entrepreneurs, beauticians, hairdressers (including online business)	Koumassi (peri-urban)
FGD	Male SME owners	Lari (rural)	Male and female students and SME owners	Koumassi (peri-urban)
FGD	Mixed Youth	Lari (rural)	Female students	Mondoukou (rural)
FGD	Housewives	Lari (rural)	Female housewives or selling food	Akoupe Zeudji (rural)
FGD	Male MSME owners and sellers	Gikomba (peri-urban)	Male vendors	Akoupe Zeudji (rural)
FGD	Male MSME owners and sellers	Kagwe (rural)	Male and Female small business employees	Marcory (urban)

<b>FGD</b>	Female and Male MSME owners and sellers	Kagwe (rural)	Young female street shop sellers	Marcory (urban)
<b>FGD</b>	Female MSME owners and sellers	Gikomba (peri-urban)	Older female vendors (food and clothes selling)	Marcory (urban)
<b>FGD</b>	Female, at home	Kibera (peri-urban)		
<b>FGD</b>	Female MSME owners and sellers	Kibera (peri-urban)		
<b>FGD</b>	Female, at home	Kagwe (rural)		
<b>IDI</b>	Male M-Pesa agent	Lari (rural)	Male football player	Mondoukou (rural)
<b>IDI</b>	Female M-Pesa agent	Gikomba (peri-urban)	Young female student	Yopougou (peri-urban)
<b>IDI</b>	Male MSME owner	Gikomba (peri-urban)	Young male entrepreneur	Yopougou (peri-urban)
<b>IDI</b>	Male MSME seller	Gikomba (peri-urban)	Older male teacher	Yopougou (peri-urban)
<b>IDI</b>	Female M-Pesa agent	Githiga (rural)	Female MM agent	Yopougou (peri-urban)
<b>IDI</b>	Female small farmer	Githiga (rural)	Male MM agent	Yopougou (peri-urban)
<b>IDI</b>	Female MSME owner	Githiga (rural)	Older female widow	Yopougou (peri-urban)
<b>IDI</b>	Female teacher	Githiga (rural)	Male preacher and restaurant owner	Koumassi (peri-urban)
<b>IDI</b>	Female widower	Githiga (rural)	Female MM agent	Koumassi (peri-urban)
<b>IDI</b>	Female at home	Kibera	Female MM agent	Akoupe Zeudji (rural)
<b>IDI</b>			Male MFI agent	Akoupe Zeudji (rural)
<b>IDI</b>			Male MM agent	Marcory (urban)
<b>IDI</b>			Male tailor and MM agent	Marcory (urban)
<b>IDI</b>			Female tailor	Marcory (urban)

**Table 5** End user totals by gender and occupation

Country	Type	Frontline worker female	Frontline worker male	End user female	End user male	End user mix (youth)	Total
Kenya (pilot)	IDI	1	1	1			3
	FGD (6-7 persons)			2	1	1	4
Kenya (core)	IDI	3	1	5	1		10
	FGD (6 persons)			5	2	1	8
Côte d'Ivoire	IDI	3	4	3	4		14
	FGD (6 persons)			7	3	2	12

As seen in Table 5, we also made a point to speak to “intermediaries” such as M-Pesa agents in Kenya and Orange, Moov and MTN agents in Côte d’Ivoire (male and female agents) and super-users such as small business owners (both male and female).

As mobile money is well-embedded in Kenya, respondents were very familiar with the issues being discussed, though we found high-level topics such as international standards and irrevocability harder to translate on the ground. That said, it is important to remember that questions relating to finances (even when not asking directly about money) are not spoken about openly, especially with earning women.

While Côte d’Ivoire is often used as an example of rapid growth of mobile money, the gender gap is still relatively high. Some of the L1P Principles were challenging to explain as there were fewer examples of local products that embodied them than in Kenya (e.g., interoperability or scale).

As always with qualitative research, there is also a challenge of respondent bias, particularly when speaking in a focus group.<sup>46</sup>

For more details on our methods, the full list of questions, consent forms, code of conduct or anything related to this section, please email the authors for more information at [L1Pteam@cariboudigital.net](mailto:L1Pteam@cariboudigital.net).

46 Cyr, J. (2016). The pitfalls and promise of focus groups as a data collection method. *Sociological Methods & Research*, 45(2), 231-259.



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## Annex 6: The Level One Principles

Scheme design	<ul style="list-style-type: none"> <li>Interoperable</li> <li>Use cases for scale</li> <li>Push/Real-time</li> <li>Irrevocable</li> <li>Good Funds</li> <li>Low cost mandate</li> <li>Fraud management</li> <li>Settlement</li> <li>Third-party connection</li> </ul>
System design	<ul style="list-style-type: none"> <li>Technology</li> <li>Identifiers/Directory</li> <li>System components</li> <li>Common core</li> <li>Additional protocols</li> <li>System connections</li> </ul>
Governance	<ul style="list-style-type: none"> <li>Equal ownership</li> <li>Participant engagement</li> <li>Not-for-loss utility</li> </ul>
Government support	<ul style="list-style-type: none"> <li>Regulation</li> <li>Supervision</li> <li>Government use</li> <li>Licensing</li> <li>Tiered KYC</li> </ul>
End user impact	<ul style="list-style-type: none"> <li>End user fees</li> <li>Pricing transparency</li> <li>User experience</li> <li>Low-cost user devices</li> <li>Access points</li> <li>Notifications</li> </ul>
Other	<ul style="list-style-type: none"> <li>Network service and availability</li> <li>Enabling programs</li> <li>User education</li> <li>Data privacy</li> <li>Gender disaggregated data</li> </ul>

## Annex 7: Bibliography

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