mastercard foundation

Partnership for **FINANCE** *in a* **DIGITAL AFRICA**

Client

How can users begin to keep value digital, longer?

Caribou Digital

Learning Themes 6

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NOTES

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ABOUT THE PARTNERSHIP

The Mastercard Foundation Partnership for Finance in a Digital Africa (the "Partnership"), an initiative of the Foundation's Financial Inclusion Program, catalyzes knowledge and insights to promote meaningful financial inclusion in an increasingly digital world. Led and hosted by Caribou Digital, the Partnership works closely with leading organizations and companies across the digital finance space. By aggregating and synthesizing knowledge, conducting research to address key gaps, and identifying implications for the diverse actors working in the space, the Partnership strives to inform decisions with facts, and to accelerate meaningful financial inclusion for people across sub-Saharan Africa.

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Introduction

Clients "keep value digital" by saving, storing, or circulating it within the digital ecosystem. Both saving and storing digital money involves keeping value digital, but these behaviors have different end goals. While saving involves putting money aside in a dedicated savings account, storing money refers to holding digital money within a digital wallet. Digital storing is akin to keeping money in a current account (or physical wallet), while digital saving is placing money in a deposit account. We discuss both in this Snapshot.

Clients keep value digital either with the intention of saving up for a future (expected or unexpected) expense, or for convenience. Storing money in a digital wallet, rather than converting it into physical cash, benefits clients who are able to instantly access the increasing array of digital financial services on offer. Saving benefits clients on a number of levels, from helping them better manage their money to dealing with unexpected financial shocks.

Beyond the financial inclusion returns of saving or storing money digitally, digital finance providers are eager to drive these behaviors for the return-on-investment from increased transactions taking place within the ecosystem as well as from financial intermediation on the back-end. With infrequent, sporadic use common across many digital finance networks, driving value to be kept digital is high on the digital finance agenda. In this Snapshot we discuss the challenges of encouraging clients to store or save money digitally and what digital finance providers can do to incentivize users to keep value digital longer.

What we know

More customers are saving and storing money digitally

Incentivizing DFS customers to store or save money digitally is an enduring, and important, challenge. Looking globally at digital value held in mobile money wallets — i.e., accounts used for digital cash storage — the share of accounts with positive balances continues to grow. Between September 2014 and June 2015 the number of accounts with a positive balance doubled to 46%, with a median balance of $4.70.[1] Of all global accounts with a positive balance, the majority (55.6%) are from South Asia.[2] Dedicated savings services are also seeing encouraging growth.

More customers are also beginning to save digital money in dedicated savings accounts. The percentage of savings accounts with a positive balance increased by 16% between June 2014 and June 2016 to 69%, with the average balance on active savings accounts increasing by more than a third in the same period to $16.18.[3] Within Africa, increased innovation and uptake has been observed around digital savings. Equity Bank in Kenya, after establishing agency banking in 2011, now mobilizes 20% of its total deposits through its agent network. Digital savings services in East Africa are often integrated with micro-credit offerings, such as M-Pawa in Tanzania, M-Shwari in Kenya, and MoKash in Uganda. Two years after the launch of M-Shwari, in the fourth quarter of 2014, 9.2 million savings accounts had been opened; 4.7 million of these were active on a 90 day basis.[4] In Uganda, three months after the launch of MoKash, 30% of its 1 million registered customers were actively saving.[5]

And for good reasons

Incentivizing the saving or storing of digital money is important for many reasons across the client, institution, ecosystem, and impact levels. Mas et al. highlight five benefits of driving customers to keep value digital.[6] These include:

- Savings services open up more routes to client level impact by enabling users to better manage their resources and smooth financial shocks.
- Storing money digitally can help unlock merchant payments by putting people in a position in which they want to pay for things electronically.
- Savings habits contribute to customers' digital data trails against which other financial services can be offered.
- Improved savings behaviors result in a greater base of low-cost deposit funding and thus greater lending capacity.
- Providers can build deeper relationships and stronger loyalty with their customers with savings, and thus money management, at the center of value propositions.

Research has also shown that savings can promote positive borrowing outcomes when offered in the same wallet as credit.[7] On a macroeconomic level, strong savings rates are seen as a good predictor of future economic growth.[8]

1 GSMA, "2015: Mobile Insurance, Savings & Credit Report."
2 Ibid.
3 GSMA, "State of the Industry Report on Mobile Money: Decade Edition: 2006-2016."
4 Tamara Cook and Claudia McKay, "How M-Shwari Works: The Story So Far."
5 MM4P, "Three Months down the Road in Uganda."
6 Mas, Ephraim, and Mhina, "The Next Digital Finance Frontier: Filling the Accounts."
7 Mazer, Ravichandar, and Dyer, "Can Digital Savings Reduce Risks in Digital Credit?"
8 Karlan, Ratan, and Zinman, "Savings by and for the Poor."

But encouraging clients to hold or spend value digitally is still a challenge

It is no secret, however, that over half of digital finance accounts are empty or hold relatively small balances. The popular characteristic of "mailbox" accounts, in which money is deposited into an account and almost immediately withdrawn, contributes to this situation.[9] A paper analyzing millions of Tigo Tanzania mobile money transactions between December 2013 and January 2014 found that 90% of electronic money is cashed-out and leaves the network within five days of being cashed-in.[10] Similarly, 2013 data from Safaricom Kenya found a low tendency to store value digitally — one week being the average time that a unit of M-Pesa remains on a user's phone.[11] Mbiti and Weil's early analysis[12] that most M-Pesa transactions follow a "deposit-transfer-withdraw" journey, and thus have a short "e-money loop,"[13] is typical of many digital transactions today.

The ongoing struggle to keeping value digital

There are a number of contributing factors to the challenge of keeping money digital. While some are specific to digital, others are more general problems — such as savings behaviors or mistrust in financial institutions — that we see with both digital and non-digital savings interactions.

— *Providers' attitudes to storing money digitally*

Many "mailbox accounts" are linked to recipients of social payments,[14] particularly those that receive humanitarian cash transfers. Immediate cashing out is a typical behavior, driven, in some cases, by humanitarian organizations that require that funds be withdrawn instantly for "immediate use" to meet "immediate needs."[15] Contrary to the views of financial inclusion advocates, many humanitarian donors believe that if an individual is saving or storing money in a wallet then they do not qualify as needing cash assistance. In Uganda, beneficiaries receiving humanitarian mobile money aid were required to withdraw the full amount within two weeks of receipt.[16] These attitudes, and rules, clearly influence clients' digital savings behaviors.

— *Limited mobile money use cases*

While the ecosystem of products is expanding beyond traditional digital payment and transfer offerings,[17] use of mobile money remains irregular even among active users. The average, active mobile money user only conducts 11 transactions per month.[18] Limited use of DFS is influenced by the inconvenience of paying for small daily transactions, such as buying milk or paying a bus fare, digitally. Paying for proximate, low value transactions using digital finance is currently less convenient than cash in terms of both cost and time. Further up the ecosystem, a study of digital retail payments in Kenya found that e-payment solutions were not seamlessly intertwined between merchants and suppliers. As a result, a survey of 207 merchants revealed that 51% still pay their top suppliers in cash.[19] With DFS struggling to replace cash in day-to-day transactions, customers are disincentivized to store money in their digital wallet, preferring instead to keep cash on hand.

— *Lack of interconnected digital finance services*

While account-to-account interoperability is now live across 15 markets, a variety of technical and commercial models are being pursued, and the majority of many digital finance markets are yet to interconnect their digital finance networks.[20] Interoperability between providers enables value to be retained within the e-money ecosystem — while keeping the end-to-end transactions digital — eliminating the need to frequently convert to cash.[21] The ability to send digital money to individuals across different digital finance networks will inevitably impact behaviors around storage of value.

9 Zimmerman and Baur, "Understanding How Consumer Risks in Digital Social Payments Can Erode Their Financial Inclusion Potential"; Baur, "Accessible, Robust, Integrated: Identifying Good Payment Programs."

10 Economides and Jeziorski, "Mobile Money in Tanzania."

11 Mbiti and Weil, "The Home Economics of E-Money," 373.

12 Mbiti and Weil, "Mobile Banking," 5.

13 Defined as the number of transactions a digital unit of money goes through before being deposited or withdrawn

14 Zimmerman and Baur, "Understanding How Consumer Risks in Digital Social Payments Can Erode Their Financial Inclusion Potential"; Donner and Tellez, "Mobile Banking and Economic Development."

15 GSMA, "Landscape Report: Mobile Money, Humanitarian Cash Transfers and Displaced Populations," 26.

16 Ibid.

17 GSMA, "2015: Mobile Insurance, Savings & Credit Report."

18 GSMA, "State of the Industry Report on Mobile Money: Decade Edition: 2006-2016."

19 Zollmann, "Digital Retail Payments in Kenya: Making Them Matter for Merchants."

20 GSMA, "State of the Industry Report on Mobile Money: Decade Edition: 2006-2016."

21 Gilman, "The Impact of Mobile Money Interoperability in Tanzania."

— *Savings products often struggle to mimic informal savings practices and behaviors*

Despite the widespread idea that the poor survive hand to mouth with limited finances, in reality many employ complex money management strategies in which they invest, access credit, and save.[22] On the savings side, household surveys show the poor *"have substantial (latent) demand for savings."*[23] CGAP's human centered design research analyzed the savings habits and behaviors of low-income people across various developing markets. They found that *"poor people save, but saving is highly nuanced and takes a variety of forms."*[24] These forms vary from **susu collectors** in Ghana, to households in Mexico physically dividing cash into separate bags often tied to a goal or purpose. Ignacio Mas has termed this behavior — in which the poor *"manage their money by fragmenting it, mentally assigning it to different purposes and physically storing it in different receptacles"*[25] — as *mental accounting.*[26] The idea behind this separation of money is to make it *"less fungible, less infinitely divisible, less hastily spendable."*[27] Along with the compartmentalization of money into different "buckets" for future expenses, informal mechanisms of saving often offer much needed discipline without foregoing liquidity.[28]

Digitizing money presents a number of challenges to these nuanced savings behaviors. Firstly, classic savings accounts do not tend to provide this separation of money into multiple pots. While a number of providers have experimented with developing accounts for specific purposes, such as M-Pesa's M-Tiba account,[29] many have struggled to digitize the ways in which individuals conceptualize and manage their money as a whole. Specifically, the tendency to save in multiple buckets, move money between these buckets, and simultaneously provide discipline and liquidity, or "friction and flow,"[30] has been a challenge. While some savings services have been meaningfully designed, allowing for goal specific saving — such as Equitel's "**Save for a Goal**" and ICICI's "**Pockets**" — in general providers struggle to mimic informal practices.

The critical role of savings cooperatives, such as ROSCAS (Rotating Savings and Credit Associations), stood out in each story in the Kenya Financial Diaries work.[31] In both Kenya and beyond, these groups are still greatly valued among low-income members of society, especially women. In Kenya, Zollmann and Wanjala argue that, despite the risks associated with ROSCAs,[32] *"the losses haven't been sufficient to drown out their value."*[33] Many of the benefits of face-to-face savings groups are associated with the *"power of peers."*[34] While digital finance providers have invested a great deal in innovation to digitize these groups,[35] it is unclear if digital offerings provide superior benefits to the analog alternatives. In particular, there are concerns around how digital savings groups strip out face-to-face social interactions integral to the design of traditional savings groups. A research study in the Philippines highlighted the negative impact mobile banking had on social relations within a savings group.[36] In the shift to mobile banking, transactions were individualized and group cohesion weakened, negatively affecting the peer-enforcing effects of the savings group format. The research revealed that in areas that converted to mobile banking, the average daily balance and frequency of deposits declined by 20% over two years.[37]

— *Psychological barriers to saving*

CGAP's HCD research unearthed some of the psychological challenges of saving.[38] They found customers' goals to be short-term. Consequently, the concept of saving for the future was difficult to imagine. Most people, they found, *"would like to be nudged to set goals and to imagine a path to accomplishing their distant dreams."*[39] To reduce

22 Kendall, "A Penny Saved: How Do Savings Accounts Help the Poor?"; Zollmann, "Kenya Financial Diaries: Shilingi Kwa Shilingi, the Financial Lives of the Poor"; McCaffrey and Schiff, "Finclusion to Fintech: Fintech Product Development for Low-Income Markets."

23 Karlan, Ratan, and Zinman, "Savings by and for the Poor."

24 CGAP, "Insights into Action: What Human Centered Design Means for Financial Inclusion," 14.

25 Mas, "'Can We Make Savings a Little Bit More Interesting for People, Please?'"

26 Dizon, Gong, and Jones, "Mental Accounting and Mobile Banking."

27 Mas, "Money Resolutions, Digital Simulations."

28 Ibid.; Mas, Ephraim, and Mhina, "The Next Digital Finance Frontier: Filling the Accounts."

29 M-Tiba is a service provided by Safaricom Kenya in collaboration with Care Pay, UAP and Old Mutual. The service enables customers to save, send, and spend funds specifically for medical treatment.

30 Mas, Ephraim, and Mhina, "The Next Digital Finance Frontier: Filling the Accounts."

31 Zollmann and Wanjala, "Finance & Fortune: The Role Financial Services Did – and Didn't – Play in the Life Trajectories of Financial Diaries Households."

32 Riquet, "Savers Deserve More Attention and Protection."

33 Zollmann and Wanjala, "Finance & Fortune: The Role Financial Services Did – and Didn't – Play in the Life Trajectories of Financial Diaries Households."

34 Karlan, Ratan, and Zinman, "Savings by and for the Poor."

35 FSD Africa and AlliedCrowds, "East Africa Crowdfunding Landscape Study"; Patel, Plaisted, and Widjaja, "Digital Savings Circles: Challenges and the Road Ahead."

36 Harigaya, "Effects of Digitization on Financial Behaviors."

37 Ibid.

38 CGAP, "Insights into Action: What Human Centered Design Means for Financial Inclusion," 16.

39 Ibid.

barriers to saving, impact evaluation studies have shown that savings rates are higher when saving is the default option and not dependent on self-imposed discipline.[40] This is rarely the norm among the digital savings services on offer.

— *Trust and information gaps*

Trust issues may also explain some of the challenges around encouraging customers to save money digitally. While not an analysis of digital finance *per se*, a qualitative study of the gap between uptake and low usage of a free savings account offered through a bank in Kenya found that low trust in the bank was often cited as a key concern in deterring use.[41] In Tanzania, an interactive SMS learning platform was used to close some of the information gaps for farmers wanting to use the M-Pawa digital savings and credit service. During a pilot conducted by Arifu, the nearly 3,000 farmers that accessed the *"learning platform saved at rates more than five times those of farmers who did not access the learning platform."*[42] Improved understanding of the credit and savings service incentivized and encouraged use of these services.

Increased understanding of the incentives to save

While the DFS community is beginning to understand more about the disincentives to saving, our awareness of the incentives to saving is also growing. As mentioned above, products designed around the money management strategies and behaviors of the poor, such as mental accounting, could be one approach to incentivizing users to keep value digital longer. For example, in terms of user experience (UX) design, evidence from research conducted by M-Shwari found that clear instructions, personalized messaging, and placing key information at the beginning of a message can help activate savings accounts.[43]

Nudges — such as reminders to save — have also proven to be popular drivers of savings behavior. Findings from three field experiments in Peru, Bolivia, and the Philippines found that reminders increased savings, especially those that highlight the importance of an expenditure.[44]

Automatic contributions have also proven to mobilize savings. In Afghanistan employees who were assigned default contribution rates of 5% to a savings account were 40% more likely to contribute to the account six months later than individuals assigned a contribution rate of zero.[45] After the trial, 45% of employees elected to continue contributing. Survey data provided no indication that defaulting employees reduced savings in other common savings instruments such as at a bank, in cash, or through loans.

Savings products that provide a level of friction and flow may also incentivize saving. While commitment devices offer an opportunity to restrict unnecessary spending, severe restrictions can deter participation. In Uganda, a study tested a school-based commitment savings device for educational expenses. The study compared an account fully committed to educational expenses to an account in which savings are available for cash withdrawal but intended for educational expenses. The weaker commitment device generated increased savings in the program accounts, and, when combined with a parent outreach program, higher expenditures on educational supplies.[46] Soft commitment devices may provide more uptake of DFS than hard commitment devices that do not allow the flexibility that low-income individuals and households require.[47]

There is less evidence that offering interest on savings accounts could be an incentive. Evidence suggests that there is a relatively high opportunity cost to holding funds in the mobile wallet. Therefore, even if M-PESA was to pay interest at the same rate as banks, this would not significantly change savings behavior.[48]

40 Radcliffe and Voorhies, "A Digital Pathway to Financial Inclusion."
41 Karlan, Ratan, and Zinman, "Savings by and for the Poor," 44.
42 Mazer, "Interactive SMS Drives Digital Savings and Borrowing in Tanzania."
43 FSD Africa, "The Growth of M-Shwari in Kenya – A Market Development Story."
44 Karlan et al., "Getting to the Top of Mind."
45 Blumenstock, Callen, and Ghani, "Mobile-izing Savings with Automatic Contributions."
46 Karlan and Linden, "Loose Knots."
47 Karlan, Ratan, and Zinman, "Savings by and for the Poor."
48 Mbiti and Weil, "Mobile Banking."

Notable new learning

Overemphasis on credit, insufficient emphasis on savings

We are beginning to see a proliferation of digital credit offerings, especially in sub-Saharan Africa. A recent report found 19 digital credit providers in Kenya alone, many offering real-time, small scale loans to individuals with thin credit files.[49] Worrying trends are emerging with this proliferation of instant credit offerings, such as multiple borrowing, accessing loans to settle others, and the inevitable defaults and credit bureau black listing. Since the launch of M-Shwari, nearly 10% of the Kenyan population (2.7 million people) have been blacklisted by the credit bureau.[50] While digital credit solutions multiply, less attention has been paid to the importance of savings. Bundled savings and credit services, such as M-Pawa and M-Shwari, *"mercifully do not make savings compulsory… but they are still the secondary service that feeds the algorithms that dictate loan amounts."*[51] It is reported that customers may play the system, depositing money purely in a bid to increase their loan limit. This overemphasis on credit within the digital finance space has, **as highlighted by Graham A.N. Wright from *Microsave***, worrying comparisons to the microfinance crisis.

49 Wright et al., "Where Credit Is Due – Customer Experience of Digital Credit in Kenya."

50 Wright, "Key New Year Resolutions for the Success of Digital Financial Services."

51 Wright, "Digital Credit – Have We Not Been Here before with Microfinance?"

Implications

In this Snapshot, the "implications" are best expressed as a set of recommendations for the digital finance community. Implementing these recommendations will require input from a variety of actors. Working together, we believe these steps will drive users to keep value digital longer.

Encourage humanitarian organizations to regard mobile money as more than a cash transfer tool. More than just a convenient, cost-effective, traceable tool for delivering cash-based interventions, mobile money can also be a means of building resilience and financially including displaced populations. Humanitarian organizations should think long-term with regard to the impact of mobile money services within the environments they work. Each humanitarian context, however, must have certain prerequisites in place in order for digital finance to become the most appropriate mechanism for disbursement. A mobile money ecosystem will struggle in environments ill-suited to mobile money adoption and use.

Bring savings out from under the shadow of credit. The DFS space is seeing a proliferation of small size, instant-access credit offerings, which bring both opportunities and risks to low-income individuals. From a provider perspective, the focus on credit rather than savings makes sense given that the former usually generates revenue and the latter generates loss.[52] However, recent data suggests that savings may have a larger part to play. Research from Tanzania showed that increased savings can impact positive borrowing outcomes when offered on the same mobile wallet. When users in the research study received interactive SMS designed to drive increased savings, not only did savings balances more than double but users took out larger loans, had less outstanding payments, and repaid sooner.[53] A re-emphasis on digital savings may actually be what customers want. Zoona, a third-party provider in Zambia, expanded their product range to offer a "storage service" to their customers, ahead of moving into credit. The Sunga micro-savings product was developed in full collaboration with their customers. Customer research revealed that, while credit was in high demand, the demand for savings was higher.[54]

Invest in merchant payments. As discussed, a roadblock to the storing of digital money, is the struggle to capture retail payments digitally. While many providers have invested in developing a merchant network, there has been little success. Consequently, the majority of transactions, even in leading mobile money markets, are still done in cash. McCaffrey and Schiff suggest a number of hurdles that need to be addressed in order to drive digital merchant payments. These range from improvements in the technology used to re-thinking the acquisition of merchants.[55]

Incentivize the design of digital savings products that are relevant and apply to existing strategies. A recent CGAP project, in collaboration with Dalberg and Moonraft Innovation Labs, developed a prototype mobile money app that mimicked customers' savings behaviors. The research was designed to help providers learn more about how to build apps and other tools that low-income customers *"can use to implement their own financial strategies."*[56] The work revealed three

52 Mazer, Ravichandar, and Dyer, "Can Digital Savings Reduce Risks in Digital Credit?"
53 Ibid.
54 "Zambia: Mobile Money Company Zoona, Scoops Prestigious Awards."
55 Schiff and McCaffrey, "Redesigning Digital Finance for Big Data."
56 Murthy, "A Mobile Money App That Helps Poor Customers Strategize."

key lessons to building client-centric digital financial services, highly applicable to digital saving products:

1. Build tools, not products.
2. Focus on relevance over simplicity.
3. Recognize finance is personal and variable.[57]

These principles can be applied as providers develop more client-centric savings offerings for their customers.

Leverage digital attributes. Pilot studies have proven the impact that interactive SMS services can have on clients' savings and, consequently, credit behavior.[58] As more and more of our daily interactions move online, providers could leverage more sophisticated digital attributes, such as chatbots, to drive increased engagement and use of digital savings and storage services. To date it seems that little innovation has taken place in this space.

Encourage the digital payment of digital goods. China has become a digital finance powerhouse, predominantly through the unprecedented success of super-platforms such as Tencent and Alibaba that have moved into the payment and broader finance space. The growth of digital finance in the country has been connected to the development of digital (specifically smartphone) connectivity, infrastructure improvement, and an enabling regulatory framework. However, in terms of value propositions and initial anchor products, success is tied to the selling of digital goods. Tencent's WeChat initially started selling digital goods such as animated emojis and a downloadable sticker pack, purchasable using their WePay service. Later, the sale of virtual "Red Envelopes" — envelopes of money given during holidays or special occasions — drove significant customer registration and uptake of the WeChat digital finance service.[59] By offering customers the purchase of digital goods over their platforms, WeChat built up their customer base and encouraged customers to store money digitally.

57 Murthy, "A Mobile Money App That Helps Poor Customers Strategize."
58 Mazer, Ravichandar, and Dyer, "Can Digital Savings Reduce Risks in Digital Credit?"
59 Chao, "How Social Cash Made WeChat The App For Everything."

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Working Paper, UC Davis, Middlebury College, and IFPRI, 2015.

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10 Must Reads in this space

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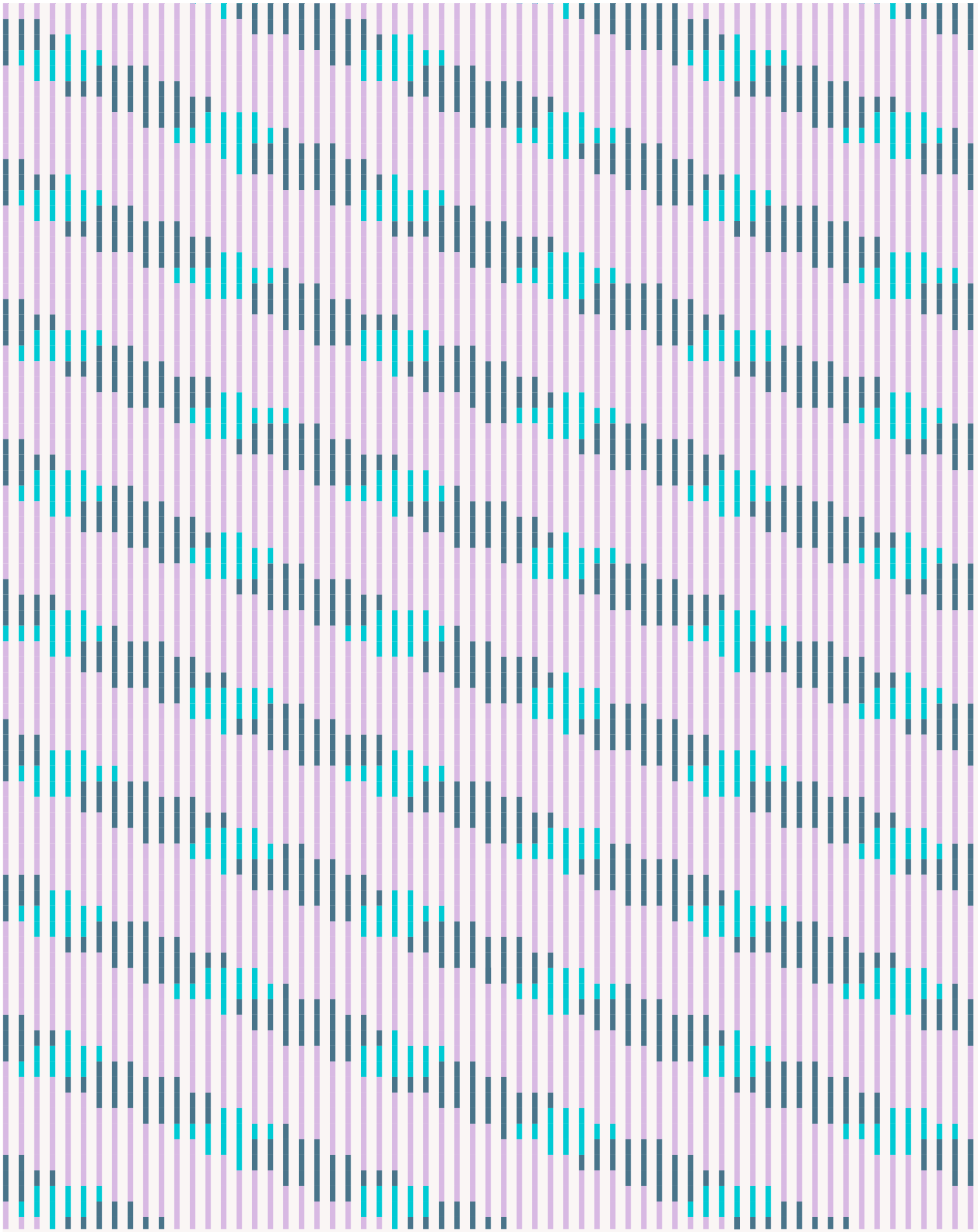

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