



Advancing Financial Inclusion

Why are financial services not used more?

A conceptual framework for drivers of financial service usage

May 2018

Established by



Authors

Kate Rinehart, Leonard Makuvaza, Jeremy Gray
and Christine Hougaard

About insight2impact

Insight2impact | i2i is a resource centre that aims to catalyse the provision and use of data by private and public-sector actors to improve financial inclusion through evidence-based, data-driven policies and client-centric product design.

i2i is funded by the Bill & Melinda Gates Foundation in partnership with The MasterCard Foundation.

For more information:

Visit our website at www.i2ifacility.org.

Email Mari-Lise du Preez (i2i's Partnerships Manager) at mari-lise@i2ifacility.org.

Call us on **+27 21 913 9510**.





Contents

1. Introduction	2
2. The usage journey recapped	4
3. Drivers-of-usage conceptual framework	8
4. Applying the framework	15
5. Conclusion	19
Appendix A: A brief overview of the evolution of human decision-making theories	20
Appendix B: Detailed overview of drivers-of-usage conceptual framework	22
Appendix C: Overview of data sources	36
Bibliography	44

1 Introduction

Usage at the core. Financial inclusion is recognised as a lever to support mainstream policy objectives like economic growth and human development. A key assumption is that the greater the use of financial services, the greater the impact on national policy objectives.

At the same time (as set out in our Measurement Notes series¹), it is increasingly clear that the link between the uptake of financial products and the ongoing use of those products is neither automatic nor certain. For this reason, we endeavoured (in Measurement Note 3) to develop specific indicators of usage to supplement the existing financial inclusion indicators.

From measuring to understanding usage. If uptake does not necessarily translate into usage and if usage is necessary to achieve impact, a natural follow-up question would be: “How can you increase usage?” Understanding how to change the current situation and how to encourage or drive sustained financial service usage requires an understanding of why people use (or don’t use) financial services. That is the focus of the conceptual work outlined in this note. The objective is to create a simplified conceptual framework of what influences consumers’ decisions to make ongoing use of a specific financial device by identifying the most important drivers of use and considering the interplay between these.

Approach. The conceptual framework developed in this note draws on the current understanding of how humans make decisions and interact within societies, drawing on decision-making theory and literature from a range of disciplines, including psychology, economics, anthropology, marketing, sociology and behavioural science². These general human decision-making models were augmented by financial inclusion-specific research that considers how individuals make decisions about the use of financial services³.

From concepts to decisions. A conceptual framework is only of value if it can inform decision-making. The key target audiences for the conceptual framework developed in this note are policymakers, regulators and financial service providers (FSPs), targeted either directly or via the development organisations that work with them and support them. By giving policymakers and FSPs a framework for understanding how consumers make the usage decision, the intention is to inform strategies for encouraging sustained usage – be it related to the enabling environment, the regulatory framework, the financial services offering or by targeting consumer behaviour directly.

1 <http://i2ifacility.org/insights/articles/measuring-impact-in-the-financial-sector?entity=news>

2 Specifically, the framework draws from ecological rationality models, which extend classical decision-making models to also include the effect of the context in which the decision is made. The model also incorporates the bounded rationality theory which accounts for the effect of limitations in internal cognitive capacity on decision-making. By considering both cognitive and non-cognitive elements of decision-making, we incorporate elements of the dual system processing model. The overall model is developed from a review of literature in the fields of psychology, anthropology, marketing and behavioural economics. This is explained further in Annex 1.

3 Previous financial inclusion research that was considered includes, though is not limited to, the Making Access Possible (MAP) diagnostics conducted in 13 different countries. The financial diaries research across multiple countries was also a key input.



A guide and toolkit. A fundamental principle that underlies this work is that, while there are universal core categories of drivers of consumers' financial usage decisions, the relative importance of these will differ based on the financial service in question, the contextual and social environment and the personal characteristics of the consumers. This conceptual framework therefore offers policymakers and FSPs a guide to identify "where to look" to drive usage, as well as a toolkit for "how to look" by considering the appropriate types of data and data collection methodologies to understand the relative importance of each set of drivers across different contexts. The validity of the framework and the relative importance of different driver categories should then be tested against experience at the country level⁴.

Recap: What is a financial device?

As explained in the i2i Measurement Notes, we define a financial device as any physical, social or electronic mechanism that stores, accumulates, distributes or transfers value and that can be used to meet a financial need. The use of this term is intended to broaden the concept of a financial service to also include own or do-it-yourself mechanisms such as saving at home or in livestock or gold, as well as to include social and familial support, savings and borrowing.

“ This conceptual framework offers policymakers and FSPs a guide to identify 'where to look' to drive usage, as well as a toolkit for 'how to look' by considering the appropriate types of data and data collection methodologies to understand the relative importance of each set of drivers across different contexts. ”

⁴ i2i is testing the framework with data collected across a number of countries and welcomes any other initiative to test or critique the framework presented in this note.

2 The usage journey recapped

In Note 3, *Financial service usage: A conceptual model*⁵, we outline the consumer journey to sustained use of financial devices. Figure 1 illustrates our conceptual model of the interim stages in the consumer’s journey from uptake to sustained use:

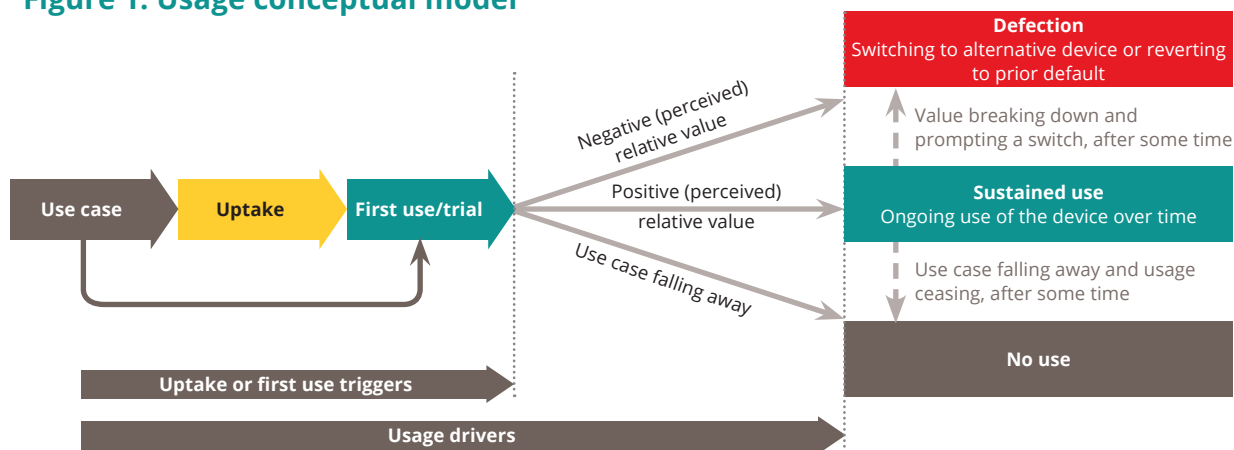
Weighing up alternatives. This usage model applies to usage of a particular device and therefore indicates usage decisions relative to alternative devices.

Access is assumed. The usage model intentionally does not deal with access barriers. Though a person must have access to a device before he or she can take it up or use it, the focus here is on understanding what determines usage if there is

access. Access itself has many well-documented drivers that are often phrased in terms of barriers to be overcome before access is established⁶.

Use case as a starting point. The usage model postulates that usage is triggered by a particular reason for use (or “use case”) – such as the desire to buy a car or the need to cope with the death of a breadwinner. Use cases change over time as people’s circumstances, lifestyle, life stage and choices change. This will affect the mix of devices used by a person at different points in time⁷. The default ways in which people meet any use case in the absence of third-party financial service provision are by living their financial life in cash and drawing on reciprocal (give-and-take) relationships.

Figure 1: Usage conceptual model



Source: Authors’ own

5 http://access.i2ifacility.org/Publications/i2i%20MF%20Note%203%20-%20Financial%20services%20usage_Digital.pdf

6 A number of access factors (such as the fees and charges that affect affordability of using a device, the costs of meeting the eligibility requirements to take up a device and the travel and opportunity cost relating to the proximity of the user to channels for interacting with the device) still enter the usage framework, but not as absolute access barriers. Rather, they are functional cost elements that have an impact on perceived relative value.

7 Changes in an individual’s lifestyle (such as a change of job, or progression through the traditional lifecycle) may disrupt current habits and give rise to a need to use a financial service, or change an existing need. For example, if a main-income earner in the household needs to move far away to secure an income, the household may for the first time need a remittance service. Furthermore, people sometimes make deliberate life-changing decisions, such as planning to start their own business, which may trigger financial service needs.



Recap: What are financial use cases and needs?

Use cases are the discrete purposes for which financial devices are used. Examples include being able to: send money to a relative in another part of the country, pay monthly school fees, purchase enough food, pay for unexpected medical expenses, cope with the death of a breadwinner or provide for old age. Use cases are context and user-specific, but they generally cluster into four core functions or financial needs⁸:

- **Transfer of value:** The need to transfer money or digital value from one person to another. A financial service meets this need by moving value from one person to another in a manner that is safe and creates certainty. Transferring value is a core functional need to enable people to live their economic lives, as it enables consumption, gifting and receiving of income. It is also a prerequisite for accessing savings, credit and insurance and, in some way or another, underlies each of the other core needs. Value transfer is furthermore core to the maintenance and utilisation of social capital. Value transfers take place at local, national and cross-border level and can be required or unrequired.
- **Liquidity:** Liquidity refers to people's ability to meet expenses in each income cycle. It is essential for survival and to maintain productive relationships. Financial services enable liquidity by allowing a person to accumulate a pool of resources that are available on demand, or by providing the option to borrow funds on a short-term, flexible basis.
- **Resilience:** Resilience entails the ability to deal with unexpected shocks that have a financial impact. Thus, this need goes beyond short-term liquidity management to the need to avoid falling into poverty or reducing living standards due to the impact of risk events. Financial services generate a safety net and certainty, either by pooling and transferring risks (insurance), or by allowing a person access to a large enough pool of resources to draw on (through savings or credit).
- **Meeting goals:** The need to meet foreseeable life objectives or life-stage or social obligations. These can include: developing human capital through maintaining health and education, providing security (for example for old age), taking productive risks, accumulating assets, and providing for lifecycle events such as weddings and births. These needs all require accumulating larger amounts of money than the person or household can fund from a single income cycle, hence financial services (savings, credit or payments) serve a facilitating function in meeting goals.

These needs tend to apply to most adults in any given society. However, the exact nature of the needs will vary across individuals, based on their demographic and socioeconomic context.

⁸ See the i2i Note 4: Financial needs measurement framework at www.i2ifacility.org for a more in-depth overview.



Uptake as a stepping stone. For some devices (like bank accounts), uptake (opening the account in this case) may happen without the device being used yet. For other devices, like over-the-counter money transfers, uptake goes hand in hand with usage⁹. Thus, the diagram indicates two paths for the progression from use case to trial use: The one indicates uptake separately while the other goes straight to trial use.

Uptake or trial-use triggers. Something will prompt a person to adopt a financial device, be it to take it up or to start using it for the first time. Triggers are defined as any specific event, circumstance, initiative or personal encouragement that prompts the initial uptake and use of a given financial device to overcome switching costs and the status quo bias¹⁰. Triggers are differentiated from drivers in that their effect reduces over time. Triggers, by themselves, are therefore unlikely to drive ongoing usage.

The fork in the road. After trying out the device, one of three paths ensue:

- 1 *Sustained use.* The first usage path is that a person may continue to use that device.
- 2 *Defection.* A person may stop using the device in favour of switching to another device. This may include reverting to his or her prior “default” device, such as cash or reciprocal relationships.
- 3 *No use.* Alternatively, the use case may eventually fall away, meaning that usage will cease. For example, once there are no longer any school-going children in a family, the family will no longer have the need to deploy a financial device to pay school fees.

Usage may break down at various points in time. In the case of defection or discontinued use, the breakdown in usage may either happen soon after first or trial use or may occur after some period of sustained usage (as indicated by the dashed arrows in the diagram).

Dormancy as result. Where a device entails an underlying contractual relationship, both defection and the cessation of a use case can lead to dormancy. Dormancy means that the uptake relationship is maintained but that usage activity is suspended¹¹. Thus, measuring dormancy is only meaningful if one also measures or understands the underlying reasons for dormancy.

9 Even though you may still have to fulfil some eligibility requirements to make a money transfer (so uptake is still technically a separate step to usage), no account relationship is established that can exist without usage as would be the case for a bank account. To take up the money transfer service is to use it. The same would hold for a loan or an insurance policy. The act of taking it up necessarily implies usage.

10 Note 3: Financial service usage: A conceptual model discusses these triggers in more detail. Common triggers include advertising, promotions and trials that prompt a person to start using a financial device.

11 Alternatively, the account or relationship may be terminated altogether. Where termination takes place, uptake requirements would again need to be fulfilled, should the person wish to start using the device again.



Various drivers of use or defection. A person will decide whether to continue to use the particular financial device or defect to another, based on whether it provides them with positive relative value versus alternative devices that could fulfil the same use case – formal and informal, across different product and provider types. Positive relative value, in turn, depends on the functional benefits derived¹² versus the costs incurred, as well as on a range of factors that relate to the person’s ingrained preferences and tendencies, their personal characteristics, or the social or external environment in which they operate¹³.

“ A person will decide whether to continue to use the particular financial device or defect to another, based on whether it provides them with positive relative value versus alternative devices that could fulfil the same use case – formal and informal, across different product and provider types. ”

Compulsion or auto-enrolment has an impact across the framework. The model outlined above is a decision-making model. This assumes that the consumer has a choice as to whether to use a financial device. However, people may also be compelled by law and/or contract to take up and use financial devices in a certain way. Thus, compulsion or auto-enrolment can override the other triggers and drivers by: (i) imposing uptake, (ii) acting as a trigger, and (iii) leading to some form of ongoing use (such as a person receiving and then withdrawing monthly social security payments).

A closer look at drivers. The factors that drive usage are nuanced and interrelated. The rest of this note describes the various potential drivers of usage to render policy-relevant insights and inform FSPs in their quest to drive sustained use of their financial devices.

12 The extent to which needs are met, and how well they are met.

13 Note that the drivers can also serve as triggers of uptake or trial use. Unlike true triggers (of which the effect erodes over time), they then also determine whether a consumer continues to use a device after the initial trial.



3 Drivers-of-usage conceptual framework

Perceptions and tacit considerations matter.

Basic neoclassical economic theory assumes that individuals are rational economic agents that will make decisions to optimise net value (value derived minus cost). These models have been challenged by advancements in psychology. The elements included in the conceptual framework developed in this note are based on the underlying assumption that individuals make rational decisions within their context and that perceived value (rather than actual value) drives decisions. Simply put, consumers must implicitly weigh up whether the perceived benefits of the device exceed the perceived costs of using it, i.e. whether they derive net value. Even if they do not explicitly tally up the pros and cons, there will be some implicit assessment of whether usage is “worthwhile”.

Moreover, people derive value and experience costs based not only on functional factors (like the extent to which a device meets their financial need and the direct cost of that product), but also on tacit factors like the extent of trust they feel towards the provider and how they feel when using the financial device. In addition to the notion of net perceived value, a range of factors related to the person’s preferences, behaviour, external context and social context will therefore play a role in the usage decision.

The drivers-of-usage framework outlined below considers all these factors. It has been developed based on a review of decision-making theories and literature in the fields of psychology, anthropology, marketing and behavioural economics. It draws on the ecological rationality decision-making theory by including the effect of the context in which the decision is made; and it acknowledges, from the bounded rationality theory, the impact of the limitations in internal cognitive capacity on decision-making. By considering both cognitive and non-cognitive elements of decision-making, we incorporate elements of the dual-system processing model based on Kahneman’s reasoning (Kahneman, 2003). See Appendix A for an overview of the decision-making theories on which this note draws.

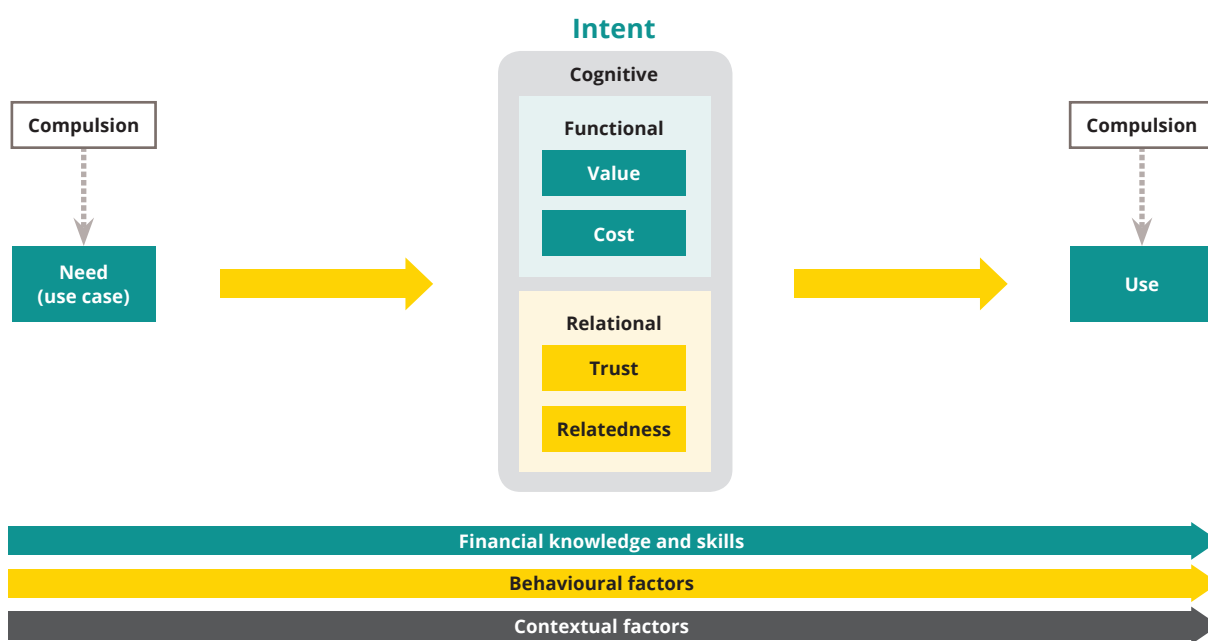
Drivers definition. We adopt the following working definition of drivers of usage: “All factors, both positive and negative, that play a substantive role in shaping a person’s usage patterns of a specific financial device”¹⁴.

Elements of the framework. Figure 2 offers a graphical representation of the primary drivers of usage, how they interrelate and how they combine to determine a consumer’s usage decision.

¹⁴ Note that this definition has been adjusted from that applied in Note 3, to more broadly include all factors that shape usage patterns, not only those that drive the decision to use.



Figure 2: Framework for drivers of financial device usage



Source: Authors' own

Use case as a starting point. As outlined in Section 2, the point of departure is that a person will only consider using a given financial device if they think it can meet an existing financial use case. The specific device that is used to meet this use case will then be chosen based on the set of drivers outlined in Figure 2 and explained above.

Intent vs use. The framework distinguishes between intent and use. The intent (or decision) to perform a behaviour or action – such as to use a given financial device – can be distinguished from the actual behaviour or action (Arjen, 2002). The intended behaviour will not always manifest, as other factors (such as behavioural biases) may subvert the intention of the decision-maker¹⁵.

The individual's ability to execute a financial action will also determine whether intention to use translates into actual usage. For instance, a person may intend to use internet banking but may end up going into the branch to make the payment if they do not know how to conduct internet banking. Moreover, Carrington (2010) highlights that when enacting a decision, the individual interacts with contextual factors that might not be present during the formation of intent (you may have decided to use internet banking, but when you want to start using it the internet is down).

15 This is because intention is a cognitive mental state – one cannot intend to do something subconsciously – and therefore non-cognitive factors such as behavioural biases and heuristics may cause a breakdown between the intent to use and actual use – for example when you make up your mind to do something, but then procrastinate.



Thus Figure 2 distinguishes between drivers that only influence the intent to use, and those that may influence either the intent to use or usage directly:

Drivers of intent

Cognition is the mental action or process of acquiring knowledge and understanding through thought, experience and the senses¹⁶. The intent to use a financial service is therefore cognitive. Figure 2 defines two categories of cognitive drivers: **functional** (value and cost) and **relational** (trust and relatedness).

Functional drivers: As noted above, as part of their usage decision, consumers will implicitly weigh up the value derived from using the device against the cost relative to alternative devices:

- **Functional value is derived when use case is met.** As discussed, the use case forms the initial purpose or rationale for uptake or usage of a financial device. How well the device meets the use case relative to alternative devices will then also be a driver of continued or discontinued use. Functional value refers to the value derived when the product performs its functional, utilitarian or physical purpose, that is: when it fulfils the particular use case¹⁷. Perceptions of functional value will be affected, among others, by experience of service efficiency and convenience.
- **Explicit and implicit costs.** On the negative side of the functional equation are various costs that people explicitly or implicitly account for. For example, a core driver of informal usage

may be that it meets functional needs at a lower cost than formal alternatives. Traditionally, financial service costs have been measured as the fees, charges, premiums or interest levied by FSPs. However, if transaction and opportunity costs are also considered, the pricing of the service could be but a small element of the total actual and perceived costs faced by consumers. We therefore define functional costs as any factors that impose an explicit or implicit monetary cost on the consumer to access, use or interact with the financial device. This includes fees and charges but also costs incurred in meeting eligibility requirements (such as the need to provide photos or to obtain proof of identity and the need to meet minimum account balance requirements), as well as opportunity cost (such as the foregone income due to the time required to access, use or interact with a financial device).

Relational drivers: Human decision-making and behaviour are personal and complex. Decisions are not just based on a functional cost-benefit analysis, but are often influenced by factors that appeal to emotions regarding how the person “connects with” the provider or device. In our conceptual framework, we refer to these as relational drivers and define them as *“decision-making considerations that are associated with the way in which consumers relate or connect to a financial provider or device.”*

We have identified two interlinked relational drivers that play a critical role in consumers’ decisions to use financial devices: trust and relatedness:

¹⁶ <https://en.oxforddictionaries.com/definition/cognition>

¹⁷ In a forthcoming note on outcomes of financial service usage, we consider the matter of how to evaluate the meeting of functional needs.



- **Trust: a composite driver comprising several building blocks.** Trust has been shown to be a significant determinant of consumer attitudes and behaviour and is often a self-reported driver of behaviour (Maduku, et al., 2016). However, trust is a highly complex social construct that is the result of a number of underlying factors (Mayer, et al., 1995; Castelfranchi & Falcone, 2010). Our conceptual framework seeks to understand which factors contribute to trust in FSPs or devices and how it relates to the financial usage decision. For the purpose of this framework, we have defined trust as: “a consumer’s belief that a provider will deliver on what is expected and will act in the consumer’s interest.” Through our literature review, we have identified three pertinent building blocks that either build or erode trust as part of the usage decision: predictability, the perception that the service provider acts in consumers’ interest (or, at least, will not harm consumer interests) which, in turn, is affected by perceptions of motives and competence, and the perceived effectiveness of recourse mechanisms. Each of these building blocks is unpacked in detail in Appendix B.
- **Relatedness: belonging, respect and status.** Consumers want to feel that their lifestyles, aspirations and challenges are understood by providers and reflected in the services and products offered. They want to feel that they can relate to the provider or the device. We refer to this driver of behaviour as “relatedness” and have defined it as: “*The level of comfort or discomfort associated with interactions with*

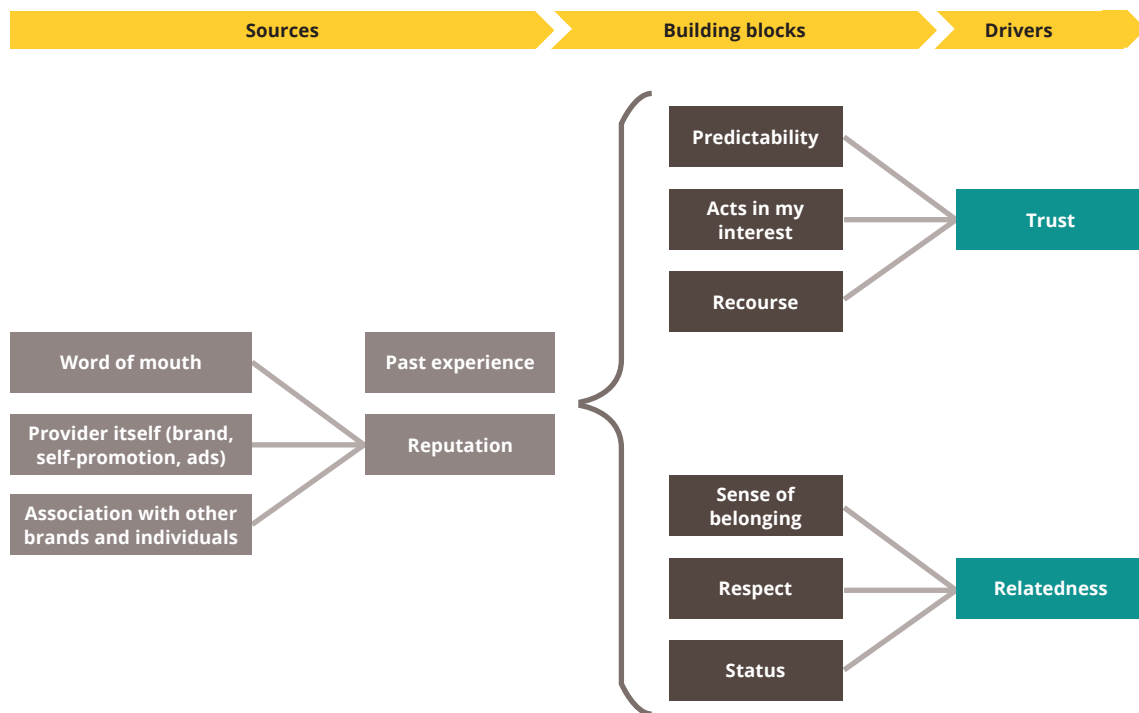
the provider or device due to perceived level of similarity, respect and status gained from the interaction.” Similar to trust, we have identified three core building blocks that make up relatedness and that influence the usage intention: (i) the need to belong, (ii) the need to feel accepted and respected by the provider or device, and (iii) status as an expression of concerns around how others perceive them and will react. See Appendix B for an overview of each.

Sources of relational drivers. The building blocks of both trust and relatedness are influenced either by own experience or by the reputation of the device or service provider which, in turn, is influenced either by word of mouth, the associations that the device or provider’s brand evoke or the image that the provider or device portrays about itself. See Appendix B for a full overview of each building block. Figure 3, on the next page, provides a schematic representation of the relational drivers, building blocks and sources.

“ Consumers want to feel that their lifestyles, aspirations and challenges are understood by providers and reflected in the services and products offered. They want to feel that they can relate to the provider or the device. ”



Figure 3: Building blocks of relational drivers



Source: Authors' own



Cross-cutting drivers of intent or use

Three categories of factors are illustrated as cutting across the model: a person’s financial capability, behavioural factors and contextual factors. These can directly influence all stages of the model, from determining the use case to influencing the different drivers that make up intent, through to affecting usage independently of intent.

1 Financial knowledge and skills affect intent and action. Financial knowledge and skills play a role in the formation of intent. Skills also matter for usage itself: evidence shows that people are only likely to act if they feel they can successfully implement their decision (Ajzen, 2002). Thus, a lack of financial knowledge and skills can mean that intent does not translate into usage¹⁸. Financial knowledge comprises a few distinct components, namely: awareness, knowledge of financial concepts, practical know-how, understanding of financial records and confidence to seek financial advice. Financial

skills refer to the skills needed to engage with financial devices. Not having the requisite skills may result in a consumer not utilising a product even if they hold strong intentions (World Bank, 2013). Relevant financial skills for financial service usage include basic literacy and numeracy skills and the ability to compare financial devices and features (World Bank, 2013; CGAP, 2012)¹⁹.

2 Behavioural drivers of use stem from deep-seated preferences, beliefs and decision-making tendencies. A deep set of research shows that, in addition to the various cognitive drivers, many drivers of human decision-making are non-cognitive in nature. Behavioural biases²⁰ and mental shortcuts (heuristics²¹) directly but unconsciously influence how individuals reach a decision, as well as how they act. Research shows that even when people are aware of these biases and heuristics, they are usually unable to cognitively account for them in specific decisions (Kahneman, 2003). Following DellaVigna (2009), we have classified

Figure 4: Categorisation of main behavioural factors

Behavioural factors									
Non-standard preference			Non-standard beliefs		Non-standard decision-making				
Examples	Present bias	Loss aversion bias	Status quo bias	Over-confidence	Law of small numbers	Saliency	Mental accounting	Messenger affect	Affect bias

Source: Derived from DellaVigna (2009)

18 As per the example quoted earlier, an individual may decide to use an internet banking platform to make a payment, but an inability to navigate the platform due to limited skills may hinder their attempts to actually use that payments device.

19 See Appendix B for an overview of each element of financial knowledge and skills introduced here.

20 Behavioural biases are defined as deviations from rationality, usually emanating from information limitations (Decliche, 2016).

21 Heuristics are defined as mental shortcuts employed by individuals in decision making (Decliche, 2016).



the behavioural factors that affect the usage decision into three broad categories, as illustrated in Figure 4 on the previous page²².

It is important to note that the three categories are not strictly separated and, at times, do overlap. In Appendix B, we discuss each category and further explore how each individual bias or heuristic can influence consumers' use of financial devices.

3 Context shapes usage and intent. The principle of ecological rationality suggests that consumers make rational decisions given their context. The implication is that contextual factors play a substantial role in shaping consumer decisions. We define contextual factors as the pre-existing conditions (such as gender or societal context) that influence uptake and usage of financial services but over which the individual, policymaker or FSP will have no or very little control. Contextual factors affect the intention to use a financial device as well as actual usage behaviour. We

have identified three categories of contextual factors as relevant to financial usage decisions, as illustrated in Figure 5 below. Each of these categories is explained in Appendix B.

Role of compulsion

When consumers are compelled to take up a specific financial device, compulsion determines the use case and acts as a trigger for uptake. Compulsion may also be an ongoing driver of use. This would, for example, be the case if an employer insists that a person opens a bank account for salary receipts or if social grant recipients need to receive their grants into a bank account. The person must then continue to use the account at least for the withdrawal of the deposited funds. In this case, compulsion affects usage directly, but does not impact on intent, as the consumer has no choice in the minimum compulsory usage, and hence the cognitive drivers do not come into play. Further work is required to gauge the impact of compulsion on ongoing use beyond the required minimum²³.

Figure 5: Contextual factors

Contextual factors								
Personality characteristics			Social factors			External content		
Examples	Income	Life stage	Gender	Norms	Societal functioning	Religion	Macroeconomic environment	Policy environment

Source: Authors' own

22 There are many more biases and heuristics that fit into the below categories than those indicated in Figure 4; our aim was to identify those that are most pertinent to usage intention or usage behaviour.

23 A recent study commissioned by FinMark Trust found similar usage patterns between bank account holders triggered by compulsion and those triggered by voluntary triggers, when the accounts had comparable functionality. This study suggested that lower usage by consumers who are compelled to take up a product may be due to the absence of another driver within the model, rather than simply because it was compelled. In South Africa, grant recipients displayed lower use of accounts that they were compelled to open to receive their grants because these accounts offered poor functionality and did not meet their needs, rather than due to the compulsion in itself (Gray & Esser, 2016).

4 Applying the framework

Informing real-world questions. The conceptual categorisation of the different drivers and how they interact is intended to provide a framework to explore the effects of different drivers, as well as those elements that contribute to the core drivers, so as to render insights to policymakers on what interventions to target to increase usage²⁴. Potential policy and market strategy applications of this framework include:

- **Exploring specific challenges in financial inclusion in a particular jurisdiction,** for example to identify and understand systematic biases against digital adoption.
- **Identifying reasons for the low use of devices.** Many providers struggle to understand the reasons for low use of individual financial devices. High initial uptake, but low use thereafter is usually harmful to providers' business cases.
- **Testing the private or individual response to public programmes.** Unpacking why individuals do or don't use public schemes, like national health insurance, may help to improve the feasibility of such schemes.
- **Anticipating risks in the system.** High levels of mistrust throughout a consumer base, for example, will contribute to systemic risk.
- **Identification of and segmentation of consumer target markets.** An understanding of the relative importance of different drivers of use across different target market segments can help to inform the parameters of segmentation, enabling more refined product design and approaches.

The challenge to move from concepts to measurement. To reach these policy and market strategy insights, one must be able to determine which drivers or factors are the most influential in determining usage in different contexts and across different providers or devices. Isolating the effects of different drivers is not a simple exercise, however, as many of these drivers interact with and influence one another. The drivers that matter most will also differ substantially across use cases and based on factors like local context, device type, provider type and consumer characteristics. For example: cost and convenience (how close you are to an access point) are likely to matter more for a transfer-of-value use case than for the use case to buy a house via a mortgage; and relatedness may be a stronger driver in collectively functioning societies than in individualistic societies.

“ The conceptual categorisation of the different drivers and how they interact is intended to provide a framework to explore the effects of different drivers, as well as those elements that contribute to the core drivers, so as to render insights to policymakers on what interventions to target to increase usage. ”

²⁴ For instance, demand-side research may identify a lack of trust as a primary reason for limited formal financial service usage. To alter this situation, it is critical to understand why that lack of trust exists, as those driver building blocks will be levers that can be pulled to achieve change.



Different data sources inform different driver categories. To determine and rank the most influential drivers and, by extension, to identify interventions that are most likely to lead to greater use, the relative importance of each of these driver categories for different consumer groups should be tested in different contexts and for different financial devices. Depending on the context and policy priorities, a combination of data sources would be needed to render the insights required for decision-making, as no single data source can inform all the driver categories. For example:

- **Supply-side data tracks significance of contextual factors but misses relational drivers.** Supply-side data refers to data that FSPs collect on their clients and client interactions or that describes supply elements such as product features or access points. The two main sources of supply-side data are aggregated regulatory data, collected by Central Banks and market regulators, and customer engagement data. The latter includes transactional/financial service engagement data, know-your-customer (KYC) data and unstructured internal FSP data like sentiment analysis and audio, voice or speech analytics. Drawing on supply-side data allows one to understand the demographics and usage patterns of consumers in an objective way. Supply-side data is also well suited to render insights into the functional drivers such as cost and value, as well as the contextual factors. However, such data cannot inform the relational drivers category. An FSP experiencing low usage may analyse its own consumer data and find a negative correlation between consumer income

and usage. Without a broader understanding of the full set of drivers and without being able to effectively capture relatedness within supply-side data, the conclusion may simply be that the cost of using the product is too high for lower-income consumers, when in fact the most important driver may be that lower-income consumers feel uncomfortable when dealing with the provider (“the bank is not for people like me”). Demand-side data may therefore have identified a perceived lack of relatedness as underlying the correlation between income and use. This example shows how the mix of data sources used may have real implications for the choice and effectiveness of interventions pursued and that only drawing on a single data source can result in a faulty diagnosis of the problem.

- **Demand-side data informs most driver categories but may miss certain functional drivers.** Demand-side data includes quantitative data obtained from consumer surveys²⁵ and qualitative data rendered by a range of instruments – from focus groups or consumer interviews to ethnographic immersions and financial diaries. As demand-side data is collected directly from consumers, it can offer insights into how and why consumers make certain decisions regarding the usage of financial services. Demand-side research is therefore a good source for relational drivers, as well as for certain contextual drivers and to gauge financial knowledge and skills. Such data sources can also inform perceptions of functional value and cost and can be used to explore whether financial needs are being met.

²⁵ Potential alternatives to traditional financial inclusion survey questionnaire design include scenario-based questions, the conjoint (analysis) methodology, also known as discrete choice modelling and psychometric tests. See Appendix 2 for an overview of each.



Demand-side data may, however, fail to fully or objectively account for all functional drivers. For example, a pure segmentation approach developed from consumer-focused research (which considers the profile of consumers as the core driver of financial service behaviour) is not able to articulate the nature of customers' needs and use cases, the type of device and product design characteristics, and how effectively those devices meet the consumers' existing needs.

- **Experiments allow for the exploration of several drivers, specifically behavioural factors.** Experiments are a specialised form of demand-side data-gathering designed to test hypotheses by observing the impact of (a) specific intervention(s) in a treatment group versus a control group – for example to test the behavioural impact of different SMS communication versions on clients. Experiments can be conducted either in the field or in a laboratory setting. At least four types of experiments are relevant to the drivers-of-usage framework: A/B testing, randomised control trials (RCTs), lab experiments and field experiments.

- **Data from outside typical supply-side or demand-side sources may provide insight into behaviour and context.** Social media data, website usage data and other unstructured online data are emerging as alternative data sources that could help to inform the drivers framework, for example by drawing on sentiment analysis to infer insights on relational drivers. For the contextual factors, national databases and geographical information system (GIS) data might also aid in understanding usage behaviour, as may macroeconomic data on, for example, inflation and socio-economic data such as income levels.

Appendix C provides a detailed overview of each of the data sources introduced above. Table 1, on the next page, summarises the applicability of the different data sources to the various elements of the driver framework.

“ Social media data, website usage data and other unstructured online data are emerging as alternative data sources that could help to inform the drivers framework, for example by drawing on sentiment analysis to infer insights on relational drivers. ”



Table 1. Potential data sources for testing the framework for financial device usage drivers

Drivers/factors	Supply			Demand			Other		
	Transactional	KYC	Unstructured	Traditional approaches (FGDs, in-depth interviews)	Surveys (scenario, conjoint, psychometric)	Experiments	Alternative data (social media, web usage)	National databases	GIS
Functional (value and cost)	✓		✓	✓	✓	✓	✓		✓
Relational (trust and relatedness)			✓	✓	✓	✓	✓		
Contextual factors		✓	✓	✓	✓	✓		✓	✓
Behavioural factors					✓ (scenario-based)	✓			
Financial skills and knowledge			✓		✓	✓			

Source: Authors' own

Further work is required to test different methodologies practically, to determine data collection best practices and to pronounce on the relative ranking of drivers for different types of use cases, client groups or contexts. Such results can then guide policymakers, market players and development partners in choosing and implementing the combination of measurement sources and techniques to understand drivers of use in their context.



5 Conclusion

The paradigm shift towards a focus on usage, rather than uptake, begs the question: *How can consumers be encouraged to make sustained use of financial products?* This question is relevant for policymakers, regulators and FSPs alike – if you know why people use or don't use different financial services, you can design interventions to increase usage.

The intention of this note was to outline a framework of driver categories and the potential data sources that could be used to isolate the significance of each driver in a particular context, rather than to pronounce on the relative importance of different driver categories or to identify indicators for measuring each driver. The framework can be used to locate policy and provider strategy questions and to design data collection and analytics efforts to inform specific market gaps and policy concerns.



Appendix A:

A brief overview of the evolution of human decision-making theories

Traditional decision-making theories in the field of economics view consumer decision-making as a cognitive process characterised by a problem-solving scenario. Based on this hypothesis, consumer decision-making models were based on the **utility theory** (Von Neumann & Morgenstern, 1953). This theory views consumers as rational actors who seek to maximise their utility. In a financial service setting, this implies that individuals will evaluate the expected benefit of competing financial products and choose the product that offers them maximum value for money.

The utilitarian approach to decision-making, however, fails to account for situations where individuals do not have adequate time and resources to fully evaluate all alternatives to make a choice that gives them the maximum benefit. The **bounded rationality** theory expands on the expected utility theory to account for constraints faced during the decision-making process, using the **satisficing model**. Constraints such as limited mental bandwidth or limited time to make a decision may lead to consumers acting in an “irrational” way (Simon, 1990). Under the satisficing model, consumers make a choice based on whether their needs have been met without necessarily evaluating all the alternatives as in the utility theory. This implies that once a consumer has a financial product that meets their need, there is little incentive for them to try out other products, which results in some inertia when a better product is introduced.



The **theory of planned behaviour**, from psychology, extends the bounded rationality reasoning to account for social influence in decision-making. From the theory of planned behaviour, the primary determinant of behaviour is the person's intention. In addition to intent, factors such as the ability to enact a decision also come into play when implementing a decision (Arjen, 2002). The theory of planned behaviour outlines the necessary building blocks required to get consumers to want to use financial services. However, the intention to use financial services is not sufficient for usage to occur. It is therefore important to distinguish between intent and usage when exploring the drivers of usage of financial services.

Ecological rationality incorporates both the bounded rationality theory and the theory of planned behaviour by accounting for the effect of the external environment on decision-making. Under ecological rationality, behaviour is shaped by the environmental setting and the individual's ability to enact a decision. Consumers make decisions within their bounds, using a set of simple mechanisms (Todd & Brighton, 2015). The interaction between the consumer and the external environment affects decision-making through biases or the use of heuristics in decision-making. The ecological rationality theory implies that the decision to use a financial product can be influenced by the context in which the decision is made.

Behavioural economics focuses on how behavioural biases and heuristics under the ecological rationality framework influence the way in which individuals make decisions. The decision-making process can be categorised into intuition and reasoning by using the System 1 and System 2 analogy (Kahneman, 2003). This is known as dual-process theory. Kahneman indicates that intuitive or System 1 thinking is fast and automated. This is shaped by habits and is often difficult to manipulate. On the other hand, System 2 reasoning is slower and subject to conscious judgement. The dual-system model highlights the importance of exploring both the cognitive and non-cognitive aspects of decision-making when exploring the use of financial services.



Appendix B:

Detailed overview of drivers-of-usage conceptual framework

The sub-sections below discuss each element of the conceptual model introduced in Section 3 in more detail. In addition to identifying the core drivers that constitute each category, we also unpack the primary factors that contribute towards each driver.

7.1 Functional drivers

Functional drivers refer to the extent to which the financial device provides value, weighed against the fees, charges and other costs associated with using the specific financial device.

7.1.1 Value

Functional value is derived when the use case is met. As discussed, the use case forms the initial purpose or rationale for uptake or usage of a financial device. How well the device meets the use case relative to alternative devices will then also be a driver of continued or discontinued use. Functional value refers to the value derived when the product performs its functional, utilitarian or physical purpose, that is when it fulfils the particular use case²⁶. Perceptions of functional value will be affected, among others, by experience of service efficiency and convenience.

7.1.2 Cost

Explicit and implicit costs. On the negative side of the functional equation are various costs that people explicitly or implicitly account for. For example, a core driver of informal usage may be that it meets functional needs at a lower cost than formal alternatives. Traditionally, financial service costs have been measured as the fees, charges, premiums or interest levied by FSPs. However, if transaction and opportunity costs are also considered, the pricing of the service could be but a small element of the total actual and perceived costs faced by consumers. We therefore define functional costs as any factors that impose an explicit or implicit monetary cost on the consumer to access, use or interact with the financial device. This includes fees and charges but also costs incurred in meeting eligibility requirements (such as the need to provide photos or to obtain proof of identity and the need to meet minimum account balance requirements), as well as opportunity cost (such as the foregone income due to the time required to access, use or interact with a financial device).

7.2 Relational drivers

Relational drivers part of human nature. Human decision-making and behaviour are personal and complex. Decisions are not just based on a functional cost-benefit analysis, but are often influenced by factors that appeal to emotions regarding how the person “connects with” the provider or device. In our conceptual framework, we refer to these as relational drivers and define them as “decision-making considerations that are

²⁶ In a forthcoming note on outcomes of financial service usage, we consider the matter of how to evaluate the meeting of functional needs.



associated with the way in which consumers relate or connect to a financial provider or device.”

We have identified two relational drivers that play a critical role in consumers’ decisions to use financial devices: trust and relatedness.

7.2.1 Trust

A salient driver of usage decisions. Trust has been shown to be a significant determinant of consumer attitudes and behaviour and is often a self-reported driver of behaviour (Maduku, et al., 2016). However, trust is a highly complex social construct that is the result of a number of underlying factors (Mayer, et al., 1995; Castelfranchi & Falcone, 2010). Our conceptual framework seeks to understand which factors contribute to trust in FSPs or devices and how they relate to the financial usage decision. For the purpose of this framework, we have defined trust as: “a consumer’s belief that a provider will deliver on what is expected and will act in the consumer’s interest.”

Minimum threshold of trust a necessary but not sufficient condition for usage. Whether you trust a financial provider or device is a binary yes/no decision, but the extent to which you trust is fluid. We postulate that the level of trust must meet a certain threshold for the consumer to use a provider or device. However, while “sufficient trust” is necessary for usage, it does not automatically result in usage, as other functional, relational drivers and contextual or behavioural factors may counteract it, or a person may simply trust another device or provider more.

Three building blocks. Through our literature review, we have identified three pertinent building blocks that either build or erode trust as part of the usage decision:

1 Predictability. The extent to which consumers can predict the future actions of providers and devices greatly affect their level of trust. Predictability stems from consistent, transparent and competent behaviour of providers and devices (Catalyst Fund, 2017). If a provider is transparent about the products and services it offers and about what is expected of the customer in return, the customer is more likely to perceive the provider or devices as predictable. This, in turn, builds trust, as the customer will be in a better position to judge or forecast whether the provider will indeed deliver on what is expected. Consistency (for example in terms of charges levied or, in the case of insurers, in terms of the claims payment track record) is also central to predictability. Something as simple as charging a different bank fee each month could destroy consumers’ trust in banks (Catalyst Fund, 2017), while qualitative research has shown how perceived inconsistencies in claims payments erode trust in insurance²⁷.

²⁷ For example, a farmer in Swaziland was unwilling to use funeral insurance because he did not trust that the insurance company would pay out his policy in the event of death, as he had witnessed instances in the past in which the insurer did not pay out to others in the community (MAP Swaziland Qualitative Interviews, 2014, unpublished).



2 Acting in consumers' interests. Trust requires that the provider be perceived as acting in the interest of the consumer – or at least not acting against the interests of consumers. While predictability is based on reliability, transparency and competency, acting in the interest of the consumer is based on perceived motives as well as competency:

- **Motives:** Trusting that the provider has sound motives relies on the concept of goodwill between two parties (Sako, 1992). For example, to open a bank account or access credit, consumers often have to disclose personal, confidential information to the provider. For the consumer to be willing to share this information with the provider, it is likely that the consumer must believe that the provider will act in the consumer's interest by not sharing their confidential information with third parties. Many formal providers are subject to legal requirements that prohibit them from sharing consumers' confidential information. In this sense, regulation can be seen to build trust.
- **Competence:** When consumers deposit money with FSPs or pay premiums to an insurer in the expectation of a future claim, they expect the provider to not only show goodwill to them, but also to be sufficiently competent to safeguard their money or make good on their promise. Thus, the competence of the service provider and their ability to do what is expected contribute to the perception of acting in consumers' interest²⁸. Once again, regulation may build trust by putting safeguards in place.

3 Perceived effectiveness of recourse mechanisms. If the provider of the device does not fulfil the action that the consumer expects, it is imperative that the consumer feels that they have recourse. Recourse, in this sense, is not meant as legal action per se. Rather, it refers to whether the consumer knows what to do or who to confront and that they have confidence that the matter will be resolved fairly.

How complaints are settled and how recourse mechanisms are perceived may differ between formal and informal providers. For instance, complaints against formal providers are usually governed by strict protocols and submitted through call centres or electronically. On the other hand, clients of informal services may seek recourse directly, through face-to-face interactions and based on existing relationships.

7.2.2 Relatedness

Human relations matter. How humans relate to one another, perceive similarity, the level of comfort associated with specific interactions and the need for status have long been studied in anthropology and sociology (Sawady & Tescher, 2008; Hagerty, et al., 1993). Consumers want to feel that their lifestyles, aspirations and challenges are understood by providers and reflected in the services and products offered. They want to feel that they are respected by, and can relate to, the provider or the device and, in some instances, gain status by using the device. We refer to this driver of behaviour as "relatedness" and have defined it as: "The level of comfort or discomfort associated

²⁸ For example, a qualitative respondent in the Democratic Republic of the Congo suggested that he did not trust banks and cooperatives because they were not competent enough to act in his best interest: "There is no confidence in the banks and cooperatives because they have lost their money in those sectors. Personally, I have little confidence." (MAP DRC Qualitative Interviews, 2016, unpublished).



with interactions with the provider or device due to perceived level of similarity, respect and status gained from the interaction.”

Similar to trust, we have identified three core building blocks that make up relatedness and that influence the usage intention:

- 1 The need to belong.** Maslow identified belonging as a basic human need, ranking it third in his hierarchy of needs. Humans have an inherent desire to belong and be a part of something greater than themselves. Therefore, consumers need to feel valued and to perceive commonalities between the provider’s values and beliefs and their own (Sawady & Tescher, 2008). Complicated products, policies and services can lead to confusion and can cause less sophisticated consumers to feel as though they do not belong. Similarly, requiring a minimum opening balance can lead low-income individuals to perceive that formal financial institutions are for people with money and not for people like them, or smart branding and offices in upmarket locations may create “doorstep barriers” for certain market segments²⁹. The extent to which consumers
- 2 Feeling respected.** All humans have the need for positive regard and a desire to be valued by others (Rogers, 1959). Consumers want to feel accepted and respected by the provider or device. Therefore, respect is strongly linked to relatedness. Even if a provider meets its contractual obligations and provides a product that meets a consumer’s functional needs, simple service aspects such as a staff member showing visible annoyance or the need to queue for a long time could generate, among customers, a feeling of being disrespected³⁰. Maintaining self-respect and being treated with dignity have been found to be critical to low-income consumers (Williams, 2013).
- 3 Status.** Humans are often concerned with how others perceive them and base their decisions on how they believe others will react. Perceived status has been linked to using specific financial providers or devices, such as debit or credit cards³¹. Conversely, the perception of low status attached to entry-level accounts may undermine usage of such accounts³².

29 For example, a respondent in the DRC said, “*In Kinshasa, we don’t know how banks work... ..they are reserved for rich people who have lots of money*” (MAP DRC Qualitative Interviews, 2015, unpublished). In Myanmar, a respondent noted that one reason they did not use commercial banks was because they felt like they did not belong, and this feeling was generated by seeing other customers waiting to deposit large bags of money into their accounts while they themselves had only a small bag of money to deposit (forthcoming report prepared for MADB).

30 For example, in Myanmar, commercial banks capitalised on consumers’ desire to be respected in driving continued usage of their services. Qualitative respondents praised the banks for their service, with the most important component being the ushers, who assisted consumers by helping them to fill in the necessary forms and providing them with tea and sweets. The staff of the commercial banks were experienced as friendly, warm and welcoming. This face-to-face, direct interaction with the ushers made the respondents feel as though the bank respected them and really cared about them. In this instance, commercial banks were able to drive usage by acting in a culturally respectful manner (MADB report, forthcoming).

31 Survey data from 2016 in South Africa and Zimbabwe indicated that there is a specific social status associated with using a card to make payments and that this was a key reason why individuals used digital payments (FinMark Trust, 2016).

32 The Mzansi account in South Africa (which was a low-income bank account that offered an agreed bundle of services, a cap on pricing and no monthly fee) is a case in point. After high initial take-up, it was eventually discontinued due to low levels of account usage (The National Treasury and AFI Financial Inclusion Data Working Group, 2014). One reason cited in qualitative research for the lack of ongoing appeal was that consumers thought it was a poor person’s account and therefore did not want to be associated with it.



Relational drivers strongly interlink. It is apparent that there are interlinkages between trust and relatedness. The more perceived similarities a consumer has with a provider and the more respected a consumer feels, the more likely he or she is to trust the motives and competence of the provider. Therefore, relatedness affects a consumer's level of trust in FSPs or devices.

7.2.3 Sources of relational drivers

Both trust and relatedness are perceptions. These perceptions are based either on the consumer's own experience or on the reputation of the financial device or provider.

Past experience a valuable source of information. Experience with FSPs or devices affect how consumers perceive, connect and relate to the provider or device. Just as positive experiences with a financial device can build trust and relatedness, negative experiences can erode it. For example, a bad experience at a bank will affect a consumer's willingness to engage with this institution and to use its products and services in the future. Individuals' inclination to trust or feel comfortable interacting with a financial device is not only related to their experience with that specific device, but also to past interactions with other financial devices or providers.

Reputation influences perception. There are three main channels that affect the reputation of providers or devices:

- 1 Word of mouth:** In the absence of personal experiences through direct interaction, individuals tend to rely on information from others to inform their beliefs and influence their decisions. Thus, word of mouth can have an important impact on financial service usage³³.
- 2 Promotion of product, service or brand by the FSP itself:** The way a service or brand is portrayed through advertising can be as powerful as word of mouth³⁴.
- 1 Associations with other brands or individuals:** The brands, companies or individuals with which a financial device associates itself can influence its reputation and can ultimately affect the usage decision³⁵.

33 Word of mouth about bad claims experiences is often quoted in qualitative demand-side research as a reason for lack of trust in insurance. Word of mouth is also important for digital applications. In Tanzania, several customers cited the reason for downloading and using a mobile-based credit-lending app as being that their friends had posted about it on Facebook (Nordin, 2017). Similarly, a recent report by the Omidyar Network found that consumer adoption of mobile-phone applications was largely driven by the recommendation of a master user, who is typically a young, tech-savvy male (Omidyar Network, 2017).

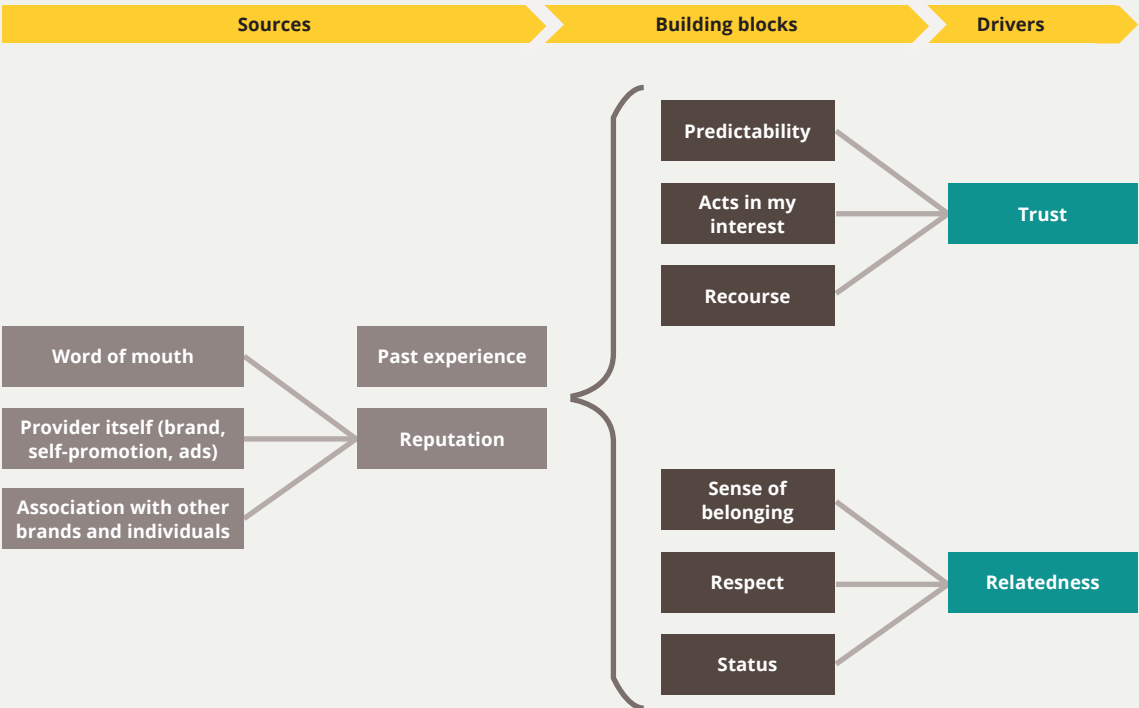
34 For example, a mobile-money service in Thailand found that using aspirational imagery in an advertisement to promote its service actually alienated future users, as they described the service as being for "business people" rather than people like them (Davidson & McCarty, 2011).

35 For example, one customer of the lender Branch in Tanzania emphasised the importance of partnering with a trusted third party that had a good reputation: "Once I found that Branch was having a payment number on Vodacom M-PESA menu, I was gain confidence of using their service. To my experience and knowledge, only trusted companies may have their payment number on Vodacom M-PESA menu" [sic] (Branch Qualitative Interviews, 2016, unpublished).



The figure below visualises the sources and building blocks of the relational drivers discussed.

Figure 3. Building blocks of relational drivers



Source: Authors' own

“ Experience with FSPs or devices affect how consumers perceive, connect and relate to the provider or device. Just as positive experiences with a financial device can build trust and relatedness, negative experiences can erode it. ”



7.3 Financial knowledge and skills

Ability affects intent and action. Financial knowledge and skills play a role in the formation of intent. Skills also matter for usage itself: evidence shows that people are only likely to act if they feel they can successfully implement their decision (Ajzen, 2002). Thus, lack of financial knowledge and skills can mean that intent does not translate into usage³⁶.

Financial knowledge comprises the following distinct components (CGAP, 2012):

- *Awareness* of the available financial devices is fundamental for the usage of financial services to take place³⁷. Knowledge of financial devices and how they work will also inform users' perceptions of value. Moreover, consumers must know which organisations to approach and their roles in financial services provision.
- *Knowledge* of financial concepts influences both uptake and usage of financial services. Lack of knowledge of key financial concepts can result in suboptimal usage.
- *Practical know-how* on the features of a particular financial device is key to the usage decision and might affect the way people use a device. A lack of practical know-how may reduce the functional value derived from a financial device or impede ability to interact with multiple features of complex devices.

- *Understanding financial records* is another important dimension of financial knowledge. The ability to engage with financial records enables the consumer to assess the value derived from a financial device by weighing the benefits associated with usage of a financial product against the cost of using the financial service.
- *Confidence to seek financial advice* is the last dimension of financial knowledge that influences usage. This is a subjective process whereby consumers assess their financial knowledge against the requisite knowledge to engage with a financial device. Overconfidence on the part of the consumer may undermine the seeking of advice.

Financial skills refer to the skills needed to engage with financial devices. Not having the requisite skills may result in a consumer not utilising a product, even if they hold strong intentions (World Bank, 2013). The following financial skills matter for financial service usage (CGAP, 2012):

- *Basic literacy* and numeracy skills are required to engage with most financial devices. This requirement is one of the major barriers to the usage of formal products in developing economies.
- *The ability to compare* financial devices and features enables the consumer to choose a device that offers the best value proposition.

36 As per the example quoted earlier, an individual may decide to use an internet banking platform to make a payment, but an inability to navigate the platform due to limited skills may hinder their attempts to actually use that payments device.

37 Conversely, limited awareness of options may cause a person to use only what is known to them, even if it's not the optimal choice.



7.4 Behavioural factors

Non-cognitive drivers of use. A deep set of research shows that, in addition to the various cognitive drivers, many drivers of human decision-making are non-cognitive in nature. Behavioural biases³⁸ and heuristics³⁹ directly but unconsciously influence how individuals reach a decision. Research shows that even when people are aware of these biases and heuristics, they are usually unable to cognitively account for them in specific decisions (Kahneman, 2003).

Preferences, beliefs and decision-making.

Following DellaVigna (2009), we have classified into three broad categories the behavioural factors that affect the usage decision, as illustrated in Figure 4 below. These categories illustrate how individuals deviate from standard economic models in which they are treated as rational actors. There are many more biases and heuristics that fit into the below categories than those indicated in Figure 4; our aim was to identify those that are most pertinent to usage intention or usage behaviour.

It is important to note that the three categories are not strictly separated and, at times, do overlap. In the sub-sections below, we discuss each category and further explore how each individual bias or heuristic can influence consumers' use of financial devices.

Behavioural factors enter the model at various points. The biases and heuristics highlighted below will likely affect every element in the drivers-of-usage conceptual framework. Although the way in which specific biases and heuristics affect usage intention or behaviour has not been well established in the literature, we have hypothesised which elements in the framework each behavioural factor will have the biggest impact on, based on the existing literature. These linkages need to be explored and tested as outlined in Section 4.

Figure 4: Categorisation of main behavioural factors

Behavioural factors									
Non-standard preference			Non-standard beliefs		Non-standard decision-making				
Examples	Present bias	Loss aversion bias	Status quo bias	Over-confidence	Law of small numbers	Saliency	Mental accounting	Messenger affect	Affect bias

Source: Derived from DellaVigna (2009)

38 Behavioural biases are defined as deviations from rationality, usually emanating from information limitations (Decliche, 2016).

39 Heuristics are defined as mental shortcuts employed by individuals in decision making (Decliche, 2016).



7.4.1 Non-standard preferences

In standard economic theory, individuals are assumed to be rational when their preferences are consistent with the expected utility framework in which they make decisions that maximise utility. However, it has since been proven that individuals have non-standard preferences that deviate from the rationality assumption (DellaVigna, 2009). This is evidenced by individuals that evaluate choices under the expected utility framework yet make decisions that do not maximise utility and therefore are not in their best interest. The non-standard preferences that are likely to have the biggest impact on consumers' financial usage decisions include: present bias, loss aversion and status quo bias.

Present bias: valuing the present over the future. Consumers often prefer immediate over future gratification. This is known as present bias, also commonly referred to as hyperbolic discounting (DellaVigna, 2009). This bias manifests in the prioritisation of spending in the present, which is experienced as more pressing, over saving for retirement or other longer-term goals, even if the future reward is much larger than the immediate reward of spending. Present bias explains why even "sophisticated" individuals have a demand for illiquid financial facilities or commitment financial devices to help them make decisions that emphasise their future state over their current state (Erta et al., 2013).

Consumers' desire for immediate gratification most significantly affects the functional drivers of the framework, namely cost and value. Present bias affects how consumers value a product or perceive the costs associated with it. Consumers will perceive the value derived from a provider or device as greater if it provides them with an

immediate or tangible benefit, such as demand deposits that provide immediate access to funds or insurance that pays out in kind.

Loss aversion: consumers more sensitive to losses. Loss aversion will affect the functional drivers in our model, namely cost and value. Psychologically, losses are felt roughly twice as much as gains of the same magnitude. As a result, consumers underweigh gains and overweigh losses (Kahneman et al., 1991). This has strong implications for uptake of financial services as well as switching between alternative financial devices. For instance, a field experiment in Israel found that the utilisation of credit cards and the amount spent on the cards were more than double when the message was framed in terms of the losses that individuals could suffer by not using the card (the danger of cash being lost or stolen and the lack of access to credit), compared to when it was framed in terms of the benefits they would gain from using the card (Ganzach & Karsahi, 1995). Exploiting the loss aversion bias allowed the provider to change the way that consumers perceived the value of the device, and thus increased its usage.

Status quo bias: the tendency to go with the flow. Consumers tend to have a preference for the current state of affairs. This can manifest itself in the form of financial habits. The default option or baseline (i.e. status quo) is often perceived as a reference point, causing consumers to identify any deviation from this default or baseline as a loss (Ly et al., 2013). This can affect consumers' usage intentions and behaviour. For example, a field experiment in Guatemala found that the savings rates and financial balances of microfinance customers who set a specific goal upfront (which they had to opt out of deliberately) were higher



than those of customers who either were not encouraged to set a specific savings goal or were asked to set their own savings goal (Atkinson, et al., 2013). In this instance, exploiting the status quo bias in the form of default options directly affected these consumers' use of the savings product. While the status quo bias can affect the functional drivers of intent, it can also directly affect the consumers' actual usage behaviour.

7.4.2 *Non-standard beliefs*

According to standard economic theory, rational actors are assumed to have rational beliefs, which they update when they receive new information. However, experiments have suggested that consumers have systemically incorrect beliefs and ways of processing information, which affect their formation of intentions as well as their behaviour. Non-standard beliefs are typically related to the part of the decision-making process in which probabilities and the likelihood of different outcomes need to be considered (Erta et al., 2013).

Overconfidence: consumers overestimate their abilities. Overconfidence is the excessive belief in one's ability to make financial decisions and to evaluate the likelihood of outcomes (DellaVigna, 2009). Overconfidence may cause consumers to overestimate their ability to predict future outcomes of financial device usage and to overweight the likelihood of "good" outcomes. Therefore, individuals might, for example, expose themselves to over-indebtedness. Overconfidence has been linked to contextual factors like age, gender and life-stage. Studies have shown women to be relatively less overconfident than men, and younger individuals to be more overconfident (Hershey et al., 1997). Overconfidence in a positive financial usage outcome may affect the functional

drivers in our framework by causing consumers to inaccurately gauge the relative value that a provider or device will offer.

Law of small numbers: making decisions on limited information. People often make predictions based on only a few observations, implicitly believing that these observations are representative and suggest real patterns or trends. As a result, people also underestimate uncertainty (Erta et al., 2013). When a financial provider or a device is unfamiliar to a person, he/she is likely to make use of limited information to assess potential outcomes resulting from use. Experience and reputation play a large role in providing consumers with the information used to inform their decisions. For example, a farmer interviewed in qualitative demand-side research in Swaziland indicated reluctance to buy insurance due to a negative claims experience that he had heard about. His trust in insurance was completely eroded due to one instance in which one provider did not do what was expected (MAP Swaziland Qualitative research, 2014, unpublished). Similarly, if an individual derives little or no value from a specific digital payment mechanism, it is likely to affect his/her choice to use other digital-payment mechanisms in the future. The law of small numbers affects especially the functional and relational drivers of our framework.

7.4.3 *Non-standard decision-making*

Non-standard decision-making occurs when individuals are rational in the sense that they have sensible preferences and beliefs, yet employ a non-standard process when making a decision. Typically, this occurs when individuals make use of mental shortcuts (heuristics) to assess the available information in their environment. Consumers choose whichever option gets them closest to what



they want, given their preferences and beliefs. While these non-standard decision-making shortcuts can save consumers time and effort, they can also lead to irrational choices. These shortcuts play a pivotal role in consumers' usage intention formation as well as actual behaviour (DellaVigna, 2009).

Salience: consumers respond to novelty, simplicity and convenience. People overvalue the way in which a device is presented, or they attach additional value to the device if it is presented in an attractive way (e.g. a "gold" bank card) (Erta et al., 2013). People are more likely to register stimuli that are novel, accessible and simple (Houser, Reiley & Urbancic, 2008). Simplicity (and salience) is important because our attention is much more likely to be drawn to things that we can understand. Salience is likely to affect all drivers in the framework, but it more significantly affects the functional driver of value, specifically in terms of convenience. For example, participants in a field experiment in Ghana were 39% more likely to open a savings account if they could do so at their place of work. They were also 13% more likely to use the account at least once (McConnell, 2012).

Mental accounting: compartmentalising helps with managing financial decisions. People treat money allocated for different purposes differently. This is due to mental accounting, a heuristic that people apply to make decisions more manageable (Erta et al., 2013). The act of labelling different expenditures or savings for an intended purpose will have the most significant impact on the functional driver of value, specifically the extent to which the consumer perceives the product to meet their need. For instance, a lab experiment in Rome among Filipino migrants found that introducing an "educational purposes" label on a remittance

service resulted in a 15% increase in remittances (De Arcangelis, et al., 2013).

Messenger effect: It matters who you interact with. The weight people give to information depends greatly on the automatic reactions to the perceived authority or relatability of the source of that information – the "messenger". There is evidence that people are more likely to act on information when the messenger has characteristics that are similar to their own characteristics (Durantini, Albarracín, Mitchell, Earl, & Gillette, 2006). In terms of our framework, the messenger effect is likely to affect the relational drivers – trust and relatedness. For example, in the case of mobile money agents and microfinance, there is evidence that people are more likely to use a service sold by people who are more like them, as this creates a sense of trust and relatedness, which in turn causes them to be more likely to continue using the provider or device (Karlan & Appel, 2011).

Affect bias: consumers respond to emotions. Consumers' affective feelings are often at play when making a decision. We infer judgements from our moods and emotions that strongly influence our decisions and actions. For example, consumers in a good mood are more likely to take time to learn about a new device. Theoretically, a provider that can determine a consumer's mood during an interaction can better frame devices to encourage usage. Evidence shows that individuals who are experiencing negative emotions tend to make impulsive decisions because they selectively ignore pertinent information, or they avoid making a decision altogether (McCord, 2014). When a decision is made under these conditions, an individual will likely experience suboptimal financial outcomes, which could, in turn, affect sustained usage.



7.5 Contextual factors

Context shapes usage and intent. The principle of ecological rationality suggests that consumers make rational decisions given their context. The implication is that contextual factors play a substantial role in shaping consumer decisions. We define contextual factors as the pre-existing conditions (such as gender) that influence uptake and usage of financial services but that the individual, policymaker or FSP will have no or very little control over. Contextual factors affect the intention to use a financial device as well as actual usage behaviour. We have identified three categories of contextual factors as relevant to financial usage decisions:

“ Contextual factors are the pre-existing conditions that influence uptake and usage of financial services but that the individual, policymaker or FSP will have no or very little control over. Contextual factors affect the intention to use a financial device as well as actual usage behaviour. ”

Figure 5: Contextual factors

Contextual factors								
Personality characteristics			Social factors			External content		
Examples	Income	Life stage	Gender	Norms	Societal functioning	Religion	Macroeconomic environment	Policy environment

Source: Authors' own

“ Income is the most important factor in driving people’s financial behaviour. Individuals who have higher incomes are reported to have greater ease of savings, greater access to credit and fewer financial emergencies. Income levels shape financial service use cases. ”



Personal characteristics set the parameters.

Personal characteristics are pre-existing conditions that affect a person at an individual level. Some examples of personal characteristics that are likely to have a significant impact on financial services usage behaviour include income, life-stage and gender:

- *Income* is the most important factor in driving people's financial behaviour (Dalberg, 2016). Individuals who have higher incomes are reported to have greater ease of savings, greater access to credit and fewer financial emergencies. Income levels shape financial service use cases. In addition, income dynamics affect the internal decision-making process. Scarcity is a behavioural bias associated with low income. Research shows two ways in which scarcity affects decision-making (Gandy, 2016). First, low incomes are strongly associated with negative emotions. These emotions result in hyperbolic discounting – short-term gratification at the expense of long-term benefits. Second, income deprivation has been shown to diminish mental bandwidth. This, in turn, limits the cognitive abilities of individuals, thus leading to a tendency to use automated thinking in making financial decisions, which may result in sub-optimal outcomes. These biases influence the formation of intent as well as the ultimate decision made when deciding to use a financial device.
- *Life-stage*: The decision-making process tends to change as individuals age. The lifecycle hypothesis explains the effect of life-stage on behaviour. This theory states that young people tend to place greater value on short-term consumption, but as they grow older they start saving for retirement. Thus life-stage shapes the use cases of different individuals. Life stage also contributes to how people perceive value and, ultimately, their intent. In addition, life-stage is associated with other factors that have financial implications, such as marital status and child bearing.
- *Gender*: Financial diaries have revealed that women face more interruptions to their livelihoods than men do (Zollman & Stanford, 2016). These interruptions may be major drivers of the nature of their use cases and will affect financial decision-making through the income effect.
- *Personality traits*. Every person has a unique personality with distinct preferences and tendencies. Whereas one may be risk-averse and thrifty, another may tend to act impulsively. Personality traits are different to behavioural tendencies in that they are ingrained and unlikely to change, plus can be evaluated via psychometric testing⁴⁰.

⁴⁰ The global segmentation framework project funded by the Bill & Melinda Gates Foundation and the Rockefeller Foundation draws to a large extent on psychometrics for its segmentation. Factors considered include perceived control and confidence in the future (including self-efficacy, locus of control, self-esteem, attitude to the future), dutifulness and openness (conscientiousness, dependability, openness and respect for authority) and financial habits (deliberateness, impulsivity and debt orientation). Other factors included are community bonds (which we cover under social factors as well as relational drivers) and attitudes to financial services (discussed under financial knowledge and skills in our framework).



Social factors set the paradigm. We define social factors as the social setting in which people exist. The interaction of people with these social factors strongly determines their intention to use financial services. This is because people have a natural desire to conform to norms and standards that exist within their communities and to enjoy status. Notable social factors include:

- *Norms:* Societal norms determine the attitude towards financial services, which in turn influence usage intent. Research also shows that the use of formal financial services is constrained by financial norms (World Bank, 2013). Financial norms include tendencies to save in commodities, cash, livestock or gold, or a “savings” or “spending” culture.
- *Societal functioning:* Another significant social factor that explains the use of financial services is societal functioning. Societal functioning refers to the manner in which individuals relate to one another. For example, a collectively functioning society may prefer the use of group-based financial devices (such as group saving schemes), while an individualistic society may prefer individual accounts. Societal functioning has emerged as a consistently strong driver of financial behaviour in MAP qualitative demand-side research conducted in 10 countries.
- *Religion:* In some countries, religion plays a prominent role in explaining financial behaviour. For example, the MAP qualitative work in Myanmar showed that Buddhist values explain good repayment behaviour.

External context forms the backdrop. The external context refers to the impact of the external environment or context in which the decision to use a financial service is made. Here we single out the macroeconomic and policy environment:

- *Macroeconomic environment:* The decision or intent to use a financial service is influenced by the prevailing economic conditions. They may also act on the link between intent and usage. An example is when inflationary conditions inhibit people’s ability to translate savings intent into action. Adverse economic conditions such as liquidity challenges may also prompt people to switch to alternative devices. In Zimbabwe, limited cash availability increased the use of mobile money. It is now the biggest channel for electronic transactions.
- *Policy environment:* The policy environment may influence the decision to use financial devices. For example, governments can use G2P payments to drive financial inclusion by stipulating the channels through which these payments should be distributed.

Appendix C:

Overview of data sources

As there have been rapid technological advancements in the past decade, the amount and types of data being collected on individuals have increased, and the methodologies and techniques used to interpret this data have evolved rapidly. These novel data sources and techniques may soon be mainstream. The discussion below considers the more established data sources, as well as some of the new, emerging data sources, collection methodologies and analytical techniques that have the potential to form an understanding of the usage behaviour of consumers.

Supply-side data

Supply-side data refers to data that FSPs collect on their clients and client interactions or that describes supply elements such as product features or access points. Drawing on supply-side data allows one to understand the demographics and usage patterns of consumers in an objective way. Supply-side data is well suited to render insight into the functional drivers such as cost and value, as well as the contextual factors. The two main sources of supply-side data are aggregated regulatory data and customer engagement data.

Aggregated data can potentially be used to explore drivers that influence usage at a macro level.

Most Central Banks and market regulators collect data on financial services to monitor risks as part of the regulation of the financial sector. The advantage of using aggregated regulatory data is that it is readily available to the public and has fewer privacy restrictions compared to individual level data. The disadvantage is that regulatory data is not identical across markets and may be high level (for example, tracking number of accounts rather than usage of such accounts). Its usefulness depends on the nature of data collected in each country.

Customer engagement data can provide insights on both functional and contextual drivers.

The three main sources of customer engagement data are transactional data, know-your-customer (KYC) data and unstructured internal FSP data:

- *Transactional data* indicates the direct cost of engaging with a financial device. This can be obtained through transactional profiles of individuals and an analysis of service fees. For



example, differences in service charges on internet banking and branch-based transactions can be useful in explaining how customers engage with a bank when transacting. In addition to providing information on cost, transactional data can provide insights into functional value. Sustained usage of a device implies that a customer is deriving value from a device. Different usage profiles across financial devices can be modelled into proxy measures of value. The disadvantage of the use of transactional data is that access is restricted because of privacy concerns. Furthermore, the use of transactional data to get insights into the financial life of an individual is limited because it does not have sight of the financial behaviour exhibited in the use of informal alternatives, which are very prevalent in the financial inclusion space.

- *Know-your-customer (KYC) data* has useful information that can be used to measure contextual drivers. FSPs collect KYC data to identify and verify the identity of clients. This data may include personal characteristics such as income, gender and age (which can serve as a proxy for life-stage). In addition to measuring contextual drivers, addresses in the KYC database can be used to estimate functional drivers in the form of travel costs to access points. Similar to transactional data, access to KYC data can be challenging due to data privacy restrictions.
- *Unstructured internal FSP data* from emails and call centre logs offer potential. This data may be in the form of images, audio, video or text and may derive from, among others, webpages and call centre records. New analytical

techniques are making it possible for providers to utilise unstructured internal data sources to better understand consumers. Below, we outline two analytical techniques that can be used to measure drivers of usage based on unstructured data:

- *Sentiment analysis* is a process that involves mining of attitudes, opinion views and emotions from unstructured data and classifying the findings into categories such as positive or negative sentiments. Drawing on data from customer feedback platforms, FSPs can utilise this technique to analyse people's opinions towards devices, organisations and events (Nordin, 2016). FSPs may be able to utilise these methods to explore social drivers such as the status associated with the use of a specific product. However, this is an emerging tool. Hence the analysis of such data requires specialised skills.
- *Audio, voice or speech analytics* is the process of extracting information, meaning and insights from unstructured audio recordings. Voice analytics is particularly useful for FSPs in answering questions such as "How can we identify the customers that are likely to leave?", "How can we make our operations more efficient?" and "What do customers really think about our brand or product?" This approach can be used to gauge the main drivers that influence consumers' overall perception of a device or service. As this is an emerging tool, FSPs may not yet have adequate resources to use this approach to identify possible drivers (Nordin, 2016).



Demand-side data

As demand-side data is collected directly from consumers, it can offer insights into how and why consumers make certain decisions regarding the usage of financial services. The relational drivers consider how a consumer feels about or perceives a product or provider. Capturing these drivers is therefore likely to require demand-side data. Typically, demand-side data is collected through either quantitative or qualitative approaches:

Quantitative methodologies allow for insight into usage intention. Quantitative research gathers data in numerical form, which can then be put into categories, ranked in order or measured in units. This type of research is generally gathered through surveys, is used to test a theory about a specific phenomenon and is analysed through a variety of statistical methods (Minichiello, et al., 1990). Demand-side surveys offer the potential to capture data on the relational drivers at a population level. However, much work is still required to determine the best way in which to test and isolate each of the relational drivers. Few surveys explore these factors. Those that do this tend to ask consumers directly whether they trust the provider. However, this may not yield accurate or reliable responses. As it is difficult to measure implicit drivers that relate to how consumers feel (such as trust and relatedness), the type of question that is used, how it is phrased and the answer options that are provided need to be thought through in detail.

Below, we outline several survey questionnaire design methods that could be considered as alternatives to traditional financial inclusion survey questionnaire design, but that need to be tested further:

- *Scenario-based questions* are typically found in qualitative approaches, but adopting an adaptation of such questions in a quantitative survey might provide useful insights into what drives consumers to make the decision to either use or not use a financial device or provider. In this instance, scenarios would be designed to capture the essence of the framework, namely the drivers and influencing factors. For example, individuals would be presented with two different scenarios involving different financial devices – say the first a formal bank account and the second a voluntary savings group. The individuals would be asked either to evaluate or to make a decision regarding the financial devices, and to provide a rationale as to why they made this decision. The responses would then be scored across the drivers and influencing factors. The benefit of such an approach is that it can easily be used in conjunction with other survey approaches. There is also room for creativity in the design, so it allows for the testing of more intangible drivers. Furthermore, it may enable more objective responses than questions that rely on self-reported behaviour or perceptions. One drawback of this approach is that scenario-based questions tend to be long. Thus, including more than one scenario in a questionnaire can decrease the quality of answers (Jafarkarimi, et al., 2016). It may also be challenging to design scenario-type questions that isolate the effect of a single factor or driver.



- *The conjoint (analysis) methodology*, also known as discrete choice modelling, was developed to understand how respondents develop preferences for products, services and ideas. The key characteristic of this approach is that it asks respondents to evaluate product profiles that comprise multiple conjoined attributes or features (Green & Srinivsan, 1978). Unlike typical survey approaches that ask individuals what is important in a product or how much they are willing to pay, respondents are asked to choose from variations of realistic product options, which are designed to test their reaction to hypothetical product feature combinations. Based on how respondents evaluate combined features of a product, a preference score can be deduced that quantitatively assigns values to each component of the product. As this type of questionnaire design closely resembles the decision-making process that consumers follow, it allows for data to be compiled on drivers that may otherwise be difficult to measure tangibly, such as relational drivers like trust and relatedness, as well social factors like social norms. It may also be used to gauge the relative importance of the functional and relational drivers, as well as some of the contextual factors. The downside is that conjoint analysis requires specific software packages and complex survey design. It is thus resource-intensive.
- *Psychometric tests* collect and analyse data on an individual's attitudes, skills, beliefs, intelligence, personality and reactions based on a set of circumstances. They are used to measure characteristics such as confidence, autonomy, numerical reasoning skills, conscientiousness and honesty. Each question is worded intentionally to learn something specific about the applicant, such as self-perception, perceived ability to create opportunities for oneself, literacy, familiarity with technology, consistency in stated beliefs, how applicants value their time, risk aversion, etc. Data is also collected at a metalevel on aspects such as how long it took the applicant to answer the question, response time variance, whether they changed their answer, consistency of answers among similar questions and several others (Nordin, 2016). This approach can help to inform the drivers framework by testing the contextual factors, specifically personal characteristics, as well as financial skills and knowledge. On the downside, psychometric tests may contain biases that disadvantage individuals who have language barriers or come from different cultural backgrounds.



Experiments allow for the exploration of several drivers, specifically the behavioural factors.

At least four types of experiments are relevant to the drivers-of-usage framework:

- *A/B testing* is a type of controlled experiment that allows for the testing of a hypothesis by comparing respondents' responses to two versions of something (A and B) to determine which of the two versions is more effective (Martin, 2015). An advantage of A/B testing is that it is a quick and inexpensive way to test different versions of financial devices and providers. It can help FSPs to understand whether and how small changes to their products and services might affect consumer behaviour, such as the decision to continue or stop using their products. As this method allows providers to change and thus test any aspect of their product offering, it can be used to better understand all drivers and influencing factors in our model (Ideas42, 2017). However, the drawback is that because not all conditions are controlled, the root cause of results of the A/B test may be misinterpreted.
- *Randomised control trials (RCTs)* are a type of scientific experiment that seeks to reduce bias by randomly allocating participants to one or more intervention conditions. RCTs can take the shape of either lab or field experiments, each of which is explored below. A key characteristic of an RCT is that there is a comparison between a control group and (an) intervention group(s). This allows the researcher to test the effectiveness of different interventions (in our case, different drivers and influencing factors) while keeping extraneous factors to a minimum. Over the past decade, RCTs have been popularised for testing behavioural interventions. The design of RCTs must be rigorous to ensure that researchers are adequately and reliably measuring the behaviour they aim to influence. A downside is that RCTs are usually labour-, time- and cost-intensive (Jachimowicz, 2015).
- *Lab experiments* are controlled experiments that are used to test hypotheses in which the researcher decides when and where the experiment will take place, as well as the circumstances of it. Generally, lab experiments randomise subjects into treatment and control groups and compare the outcomes between these groups. This provides insight into the outcome that occurs when specific factors are manipulated. Lab experiments could provide insight into all drivers and factors in our framework but will be more useful in gauging the impact of the contextual and behavioural factors. For example, a lab experiment being used to test the effect of loss aversion (a behavioural factor) on the uptake and usage of credit cards could randomly select subjects to be in one of three groups. The first group would be offered a credit card with the benefits of the card being framed in terms of losses. In the second group, the benefits would be framed in terms of gains and the third group would not receive any information about the benefits of the card. The participants would then be asked to decide whether they would sign up for the credit. The outcomes of the three groups would be compared to test the effect of loss aversion on the uptake of credit cards. All of this would happen within the confines of a lab, with the researcher controlling all circumstances of the experiment. An advantage of lab experiments is that they allow for the precise control of the



drivers or factors in question. They are also less labour-, time- and price-intensive than other types of experiments (such as randomised control trials). However, the artificial setting has the potential to produce unnatural behaviour that does not reflect how individuals make decisions in the real world (Hinklemann, 2008).

- *Field experiments* are used to test hypotheses in the environment of the participants. Like lab experiments, they generally randomise subjects into treatment and control groups and compare the outcomes of the groups. They can be used to test all the drivers and influencing factors in our framework and are well positioned to gauge the contextual and behavioural factors. For example, one could conduct the same experiment that tests the behavioural factor of loss aversion as described above, but, instead of doing so in the confines of the lab, implement it in the field. The difference here would be that participants would not be hypothetically asked about whether they would take up the credit card. Rather, one would be able to measure their actual behaviour. The advantage of field experiments is that they allow for outcomes to be observed in the participants' natural setting, so they are often seen as having higher external validity than lab experiments. However, there is less control over extraneous variables that might affect the outcomes and thus might cause researchers to make the wrong assumptions (Hinklemann, 2008).

Qualitative methodologies allow for deeper exploration of underlying forces.

Qualitative research is empirical research that does not render data that can be quantitatively analysed (Punch, 2013). This type of research is often used to understand human behaviour from the participant's perspective. Data is typically collected through interviews or participant observation and is analysed thematically. At least three types of qualitative research are relevant for the drivers-of-usage framework:

- *Traditional qualitative methods like focus group discussions (FGDs)*, in-depth and semi-structured interviews are useful in understanding less tangible drivers. Such methodologies allow researchers to obtain detailed information about consumers' opinions, feelings and perceptions and seek clarification around specific statements. These approaches might allow for the testing of a range of the factors in the drivers-of-usage framework, such as the functional and relational drivers, the contextual factors and financial knowledge and skills. These types of approaches are, however, more expensive to execute at scale than surveys or questionnaires and do not render generalisable results.
- *Ethnographic approaches, like participant observation*, are the systematic study of humans and are often used in the social sciences to understand cultural phenomena. Typically, the researcher observes the group of focus from the point of view of the subject of the study, so they embed themselves in the society and observe the behaviour of the group. Such an approach lends itself well to test the relational drivers and contextual factors, specifically social norms, as it allows the researcher to



observe the behaviour of individuals over an extended period. However, this approach is quite subjective, labour-intensive and time-consuming. As the sample size is quite small and only one homogenous subset of the population is studied, it is hard to generalise the findings (Kawulich, 2005).

- *Financial diaries* are six-month to year-long projects in which researchers visit families regularly (generally every two weeks) to interview them about their financial activities. Each income or expense transaction across all financial devices in the household, formal or informal, is recorded (BFA, 2017). Quantitative data is supplemented with qualitative questions to understand the spending and usage patterns of individuals. This allows for a deep understanding of more implicit drivers, such as trust and relatedness, as well as contextual factors. Financial diaries are, however, resource-intensive and (as with the other qualitative methodologies) give deep rather than broad insights.

Other sources of data

In addition to supply-side and demand-side data, there are other potentially useful data sources that can inform the drivers framework:

Alternative data (such as social media data and website usage data) offers an alternative way to understand the relational drivers:

- *Social media analytics* refers to the analysis of structured and unstructured data from social media channels. Social media is a broad term that encompasses a variety of online platforms that allow users to create and exchange content. Data from social media is increasingly being used to understand consumers' perceptions of specific products and brands (Nordin, 2016). Platforms such as Twitter, Amazon, Instagram and Facebook lend themselves to such analysis, as they allow consumers to interact with a brand, whether it be through commenting or through "likes". For example, Twitter comments about a specific financial device could be analysed to measure the strength of association between the device and a topic of interest, such as a specific driver of usage (Cutler & Culotta, 2016). This type of analytics might allow providers to better understand why consumers continue to use or stop using their product, and thus has the potential to offer insight into all the drivers and influencing factors in the model. Social media is thought to provide context and candour that are not as readily available through traditional research methods. It therefore gives a more holistic view of the consumer. Because social media engagements may be anonymous, it is not guaranteed that responses from social media platforms will be truthful. Another downside of social media data is that it only provides information on people



who are online and have access to a computer, tablet or smartphone.

- *Web analytics* analyses and reports on webpage usage and visits (clickstream data). There are two categories of web analytics: onsite and offsite, depending on whether the data is about activity on a service provider's own website or about activity that occurs elsewhere on the web that is about the provider's products and services (Cooper, 2012). Onsite web analytics is used to answer questions such as: "Which pages do people visit?", "How does this change with date and time?" and "Where do visitors come from geographically?" Offsite analytics is used to answer questions such as: "What is being said about the company or the products?" and "What effect did our advertising have?" While web analytics allows for the understanding of users' behaviour, it would be difficult to derive deep insights into why individuals make specific decisions around financial devices or providers, as that would require consumers to make explicit statements on websites around the drivers and influencing factors. Such data also suffers from the same disadvantages of social media analytics in that anonymity may lead to untruthful statements, plus that only those who have access to devices that allow them to use the internet will be included.


Geographic information systems (GIS) can be used to inform functional drivers. GIS data allows for the visualisation of data points on a map. It allows users to identify the exact location of specific financial touchpoints such as locations of branches and agents. GIS data can be overlaid with contextual data, such as existing infrastructure, poverty levels and population density (AFI, 2016) to help inform the drivers framework. Functional cost, for example, may be measured using a combination

of supply-side and GIS data to consider direct product cost and average travel cost and times. GIS data tends to be limited to the supply of formal financial services, however. It is also expensive to collect; and, as financial service distribution points change frequently, it requires consistent updating.

National databases might provide insights into contextual factors. Key macroeconomic variables can provide insights of contextual factors that will shape the use of financial services, such as inflation, poverty levels and GDP. Macroeconomic variables are readily available in statistical databases in most countries. National databases are publicly available and can usually be accessed at low or no cost. However, the data provided is not individual-specific, thus data on important drivers such as income can only be analysed in the form of national averages, e.g. GDP per capita. The use of averages makes it difficult to use such variables to explain financial behaviour.

Bibliography

- AFI. (2016). Financial Inclusion Data Tracking and Measurement: GIS Mapping to Inform Policymaking. Available online at: https://www.afi-global.org/sites/default/files/publications/2017-02/FID_GN_24_AW_digital.pdf [Accessed December 2017]
- Ajzen, I. (2002). Perceived Behavioural Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behaviour. *Journal of Applied Social Psychology*, 32, 665-683
- Arnold, D.G. & Valentin, A. 2013. Corporate social responsibility at the base of the pyramid. *Journal of business research*, 66(10): 1904-1914.
- Aglionby, J., 2016. Fintech takes off in Africa as lenders tap into mobile technology. *Financial Times*, 17 May.
- Atkinson, J., McIntosh, C. & Sadoulet, E., 2013. Prompting microfinance borrowers to save: A field experiment from Guatemala. *Development and Cultural Change*, 62(1), pp. 21-64.
- Bester, H., Hougaard, C., Gray, J. & Saunders, D., 2016. Homefield advantage: Learning from the popularity of local financial service providers. Available online at: <http://cenfri.org/documents/MAP/2016/Insight%20Note%203%20-%20Homefield%20advantage.pdf> [Accessed October 2017].
- Byun, J., 2015. Zoona: A Case Study on Third-Party Innovation in Digital Finance, s.l.: FSD Zambia.
- C3IT, 2016. Software as a Service: Why Should I Care About the Cloud?, s.l.: s.n.
- Castelfranchi, C. & Falcone, R., 2010. *Socio-Cognitive Theory of Trust*. s.l.: Wiley.
- Catalyst Fund, 2017. *Toolkit: Design for Trust*. Available online at: <https://www.cftoolkit.org/design-for-trust-index#toolkit-design-for-trust> [Accessed 10 2017].
- Cate, F. H., Cullen, P. & Mayer-Schonberger, V., 2014. *Data Protection Principles for the 21st Century*, s.l.: Oxford Internet Institute.
- Cenfri, 2016. *Making Access Possible (MAP) Zimbabwe: Financial Inclusion Country Report*, Cape Town: The Centre for Financial Regulation.
- Chan, G. & Faz, X., 2015. *The potential of digital data: How far can it advance financial inclusion?*, s.l.: CGAP.
- Collins, D., Morduch, J., Rutherford, S. & Ruthven, O., 2009. *Portfolios of the poor: How the world's poor live on \$2 day*. Princeton: Princeton University Press.
- Constine, J., 2014. Facebook Hits 100 Million Users in Africa, Half the Continent's Internet-Connected Population, s.l.: Tech Crunch.
- Cook, T. & McKay, C., 2015. *How M-Shwari works: the story so far*, s.l.: CGAP and FSD Kenya.
- Cook, T. & McKay, C., 2015. *Top 10 things to know about M-Shwari*. Available online at: www.cgap.org
- Costa, A., Deb, A. & Kubzansky, M., 2015. *Big Data, Small Credit: The digital revolution and its impact on emerging market consumers*, s.l.: Omidyar Network.
- Crowley, A., 2015. *Microcredit Brief: South Africa's Jumo launches microcredit borrower assessment technology based on mobile phone usage data*, s.l.: MicroCapital.



Davidson, N. & McCarty, Y., 2011. Driving Customer Usage of Mobile Money for the Unpacked. Available online at: <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2012/03/drivingcustomerusagefinalallowres.pdf> [Accessed June 2017].

Davis, T., 2013. Open Data Barometer: 2013 Global Report, s.l.: Open Data Institute and World Wide Web Foundation.

De Arcangelis, G. et al., 2013. Directing remittances to education with soft and hard commitments: Evidence from a lab-in-the field experiment and new product take-up among Filipino migrants in Rome. *Journal of Economic Behavior & Organisation*, 2015, Volume 111, pp. 197-208.

DellaVigna, S., 2009. Psychology and Economics: Evidence from the Field. *Journal of Economic Literature*, pp. 315-272.

Entrepreneurial Finance Lab, 2016. EFL's Official Website, s.l.: s.n.

Facebook, 2014. Connecting 100 Million People in Africa, s.l.: Facebook for Business.

Far, X. & Chan, G., 2016. The Open Data Index. Available online at: <http://global.census.okfn.org/> [Accessed July 2016].

Financial Inclusion Insights, 2015. Value added financial services in Kenya: M-Shwari, s.l.: InterMedia Corporation.

FinMark Trust, 2016. Why Use Accounts? Understanding account usage through a consumer lens, s.l.: s.n.

Gantz, J. & Reinsel, D., 2010. The Digital Universe Decade - Are You Ready?, s.l.: International Data Corporation.

Ganzach, Y. & Karsahi, N., 1995. Message framing and buying behavior: A field experiment. *Journal of Business Research*, Volume 32, pp. 11-17.

Groenfeldt, T., 2015. Lenddo Creates Credit Scores Using Social Media. *Digitalist Magazine*, 5 February.

GSMA, 2015. State of Industry: Mobile money. Available online at: http://www.gsamobileeconomyafrica.com/GSMA_ME_SubSaharanAfrica_Web_Singles.pdf [Accessed 12 July 2016].

GSMA, 2015. The Mobile Economy: Sub-Sharan Africa, s.l.: GSMA.

Hagerty, B., Lynch-Sauer, J., Patusky, K. & Bouwsema, M., 1993. An Emerging Theory of Human Relatedness. *Journal of Nursing Scholarship*, 25(4).

IBM, 2016. IBM. Available online at: <https://www-01.ibm.com/software/data/bigdata/what-is-big-data.html> [Accessed 12 July 2016].

IDC, 2014. The Digital Universe of Opportunities: Rich Data and the Increasing Value of the Internet of Things, s.l.: International Data Corporation.

Internet World Stats, 2015. Africa Internet Users November 2015, s.l.: Internet World Stats.


Jamal, F., Luft, J., Shakhovskoy, M. & Wallace, S., 2016. The Rise of the Data Scientist: How big data and data science are changing smallholder finance, s.l.: The Initiative for Smallholder Finance.

Kahneman, D., 2003. Maps of bounded rationality: Psychology for behavioural economics. *The American review*, 93(5), pp. 1449-1475.

Kelly, H., 2012. Lenddo Uses Social Networks to Give Loans and Improve Credit, s.l.: Venture Beat.



- Leganza, G. & Angel, N., 2016. What You Need to Go from Data-Rich to Insights-Driven: Becoming Customer-Obsessed Requires People, Process, Technology, and Data Changes, s.l.: Forrester.
- Macmillan, R., 2016. Digital Financial Services: Regulating for Financial Inclusion, s.l.: ICT.
- Maduku, D., Mpinganjira, M. & Duh, H., 2016. Understanding mobile marketing adoption intention by South Africa SME's: A multi-perspective framework. *International Journal of Information Management*, 36(1), pp. 711-723.
- Maduku, D., Mpinganjira, M. & Duh, H., 2016. Understanding mobile marketing adoption intention by South Africa SME's: A multi-perspective framework. *International Journal of Information Management*, 36(1), pp. 711-723.
- Mayer, R., Davis, J. & Schoorman, D., 1995. An Integrative Model of Organisational Trust. *The Academy of Management Review*, 20(3), pp. 709-734.
- McConnell, M., 2012. Between Intention and Action: An Experiment on Individual Savings. Available online at: https://www.poverty-action.org/sites/default/files/publications/ipa_0475_intentionsavings.pdf [Accessed 09 2017].
- McKay, C., 2015. Emerging Applications of Data Analytics: The case of M-Shwari. s.l., CGAP.
- Musarirwa, T., 2016. Econet Not Surprised by the \$105.2 Million Revenue Decline. *Techno Mag*.
- Nordin, K. H. R. a. A. A., 2017. Case study: Branch, s.l.: i2i Facility, available online at: http://access.i2ifacility.org/Publications/i2i_Branch_Case%20Study.pdf.
- Norton Rose Fulbright, 2014. Global Data Privacy Directory, s.l.: Norton Rose Fulbright.
- Omidyar Network, 2017. Currency of Trust: Consumer Behaviours and Attitudes Toward Digital Financial Services in India. Available online at: https://www.omidyar.com/sites/default/files/file_archive/CofTrust/17-05-15_Currency_of_Trust_Report_DIGITAL_FINAL.pdf [Accessed August].
- Out-law.com, 2016. Open APIs for UK Banking: It's Happening, People, s.l.: The Register.
- Pelto, T., 2013. Is Social Media Impacting Your Credit?, s.l.: Quicken Loans.
- Raj, V., 2015. Financial Inclusion Trends and Innovators-2015, s.l.: The Centre for Financial Inclusion & Accion.
- Sako, M., 1992. Prices, quality and trust: inter-firm relations in Britain and Japan. Cambridge University Press.
- Sawady, E. & Tescher, J., 2008. Financial Decision-making Process of Low-income Individuals, s.l.: Joint Center for Housing Studies, Harvard University.
- Simon, H., 1990. Invariants of human behaviour. *Annual review of psychology*, 41(1), pp. 1-2.
- Social Lender, 2016. How Social Lender Works, s.l.: Social Lender.
- The National Treasury and AFI Financial Inclusion Data Working Group, 2014. The Mzansi Story and Beyond, s.l.: Global Partnership for Financial Inclusion.
- Todd, P.M, & Brighton, H. (2015). Building the Theory of Ecological Rationality. Springer
- TransUnion & Versta Research, 2015. The State of Alternative Data: Benchmark survey of 300+ lenders reveals insights into the adoption and competitive impact of alternative data, s.l.: TransUnion.



Williams, E., 2013. Respect as a factor influencing the value proposition for low income customers. Available online at: https://repository.up.ac.za/bitstream/handle/2263/40659/Williams_Respect_2013.pdf;sequence=1 [Accessed November 2017].

World Bank, 2015. Private Credit Bureau Coverage in Sub-Saharan Africa, s.l.: Trading Economics.

Zollman, J., 2014. Kenya Financial Diaries. Shilingi kwa Shilingi. The financial lives of the poor. Available online at: <http://fsdkenya.org/publication/kenya-financial-diaries-shilingi-kwa-shilingi-the-financial-lives-of-the-poor/>.

Zollman, J. & Sandford, C., 2016. A Buck Short. What financial diaries tell us about building financial services that matter for low-income women. Boston: Bankable Frontier Associates.



How to find us:

Get involved. Contact us.

Kate Rinehart

kate@i2ifacility.org

Leonard Makuvaza

leonard@i2ifacility.org

Jeremy Gray

jeremy@cenfri.org

Christine Hougaard

christine@cenfri.org

+27 11 315 9197

i2ifacility.org

 [@i2ifacility](https://twitter.com/i2ifacility)

 [/insight2impact](https://www.linkedin.com/company/i2ifacility)

 [/insight2impact](https://www.facebook.com/i2ifacility)

 [/i2ifacility](https://www.instagram.com/i2ifacility)

Established by



Sponsored by

BILL & MELINDA
GATES *foundation*

