

The impact of API maturity on the Financial Inclusion agenda

Preamble

The Sustainable Development Goals¹ (SDGs) adopted in 2015 by the UN underpin the development agenda's for all 193 UN member states through to 2030. Financial Inclusion in Emerging Markets is fundamental to the achievement of a number of the SDGs. Financial Inclusion can broadly be defined as the responsible and sustainable delivery of a wide range of quality financial services (such as savings, credit, insurance, and payments), affordably provided to disadvantaged and low-income segments of society by a range of providers in a well-regulated environment.

The Financial Inclusion agenda in Emerging Markets is fundamental to a number of the SDGs². The GSMA 2015 State of the Industry Mobile Money Report³ highlights the criticality of industry collaboration and the build out the financial services ecosystem. The report by the World Bank Development Research Group, the Better Than Cash Alliance, and the Bill & Melinda Gates Foundation to the G20 Global Partnership for Financial Inclusion specifically highlights the development and extension of digital platforms and payments, so that the "speed, security, transparency, and cost efficiency needed to increase Financial Inclusion at the scale required" can be delivered.⁴

Executive Summary

The Financial Inclusion (FI) agenda entails many stakeholders, programs and initiatives, one of which is technical in nature. As indicated above, the technical initiative requires the development and extension of digital platforms through connecting different services and associated systems (savings / loans / insurance / payments / mobile networks / banks etc.) to facilitate the build out of high quality, affordable, inclusive financial ecosystems.

Connecting different systems is made possible by Application Program Interfaces (APIs). APIs are akin to electrical plug-sockets, in that they enable systems to be connected to other systems. The collective of such inter-connected systems makes up what's often referred to as a financial ecosystem. In isolation, each system is unable to deliver meaningful value (if any); however, as more and more such systems are inter-connected, the value of these connected systems exceeds the sum of their individual parts – this is the power of the financial ecosystem.

As the APIs of FI focused systems become more open and mature the impact and pace of the contribution those systems have on the Financial Inclusion agenda increases. Today, however, there is considerable room for improvement in relation to the opening up of API's and for maturing them.

Looking at it in another way, the current lack of openness and maturity in general across these systems' APIs is a key factor in the unsatisfactory progress⁵ being made on the Financial Inclusion agenda.

"Financial services are out of many people's reach because market and government failures pushed the costs of these services to prohibitively high levels," said World Bank Director of Research Asli Demirguc-Kunt, who co-authored the 2014 Global Financial Development Report: Financial Inclusion⁶.

Despite the significant funding⁷ being invested in Financial Inclusion (by the likes of the WorldBank, IFC, the Gates Foundation, the Centre for Financial Inclusion, Omidyar Network, GSMA, CGAP, numerous financial institutions and many more), there remains a lack of a coordinated approach to addressing these issues.

¹ <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

² <http://www.finca.org/blogs/what-you-need-to-know-about-sdgs-and-financial-inclusion/>

³ http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/04/SOTIR_2015.pdf

⁴ <http://www.gpfi.org/publications/opportunities-digitizing-payments>.

⁵ <http://nextbillion.net/rating-progress-toward-financial-inclusion/>

⁶ <http://www.worldbank.org/en/publication/gfdr>

⁷ <http://www.cgap.org/data/infographic-international-financial-inclusion-funding-2014>

In this paper we contextualize the value of ‘open’ and ‘mature’ APIs and what that means. We outline some of the key characteristics of what APIs for such Emerging Market, Financial Inclusion focused systems are and the challenges being faced. We explore some of the (disjointed) efforts being made to address the gaps and in leading to the objective of this paper – which is to initiate meaningful discussion around this topic with a view to finding viable solution/s to the challenges laid out - we put forward our thoughts on what some possible solutions would look like.

Why Open, Mature APIs?

An ‘open’ API is an interface to a functional system that has been designed to be easily accessible by both developers inside the organization that published the API and by any developers outside that organization who wish to access that system’s functionality.

It is clear that consensus is building around the importance of open APIs for Financial Inclusion as cited by this CGAP report⁸ where 6 key business rationales for opening APIs are presented – in summary as follows: 1 - Cost reduction and greater efficiency in systems integration, 2 - Increased mobile money usage, 3 - Access to more data, 4 - Gaining access to new revenue streams, 5 - Customer satisfaction and loyalty, and 6 - Enhancing brand value. In a related CGAP report⁹, the maturity of APIs is further raised as being key to the Financial Inclusion agenda.

There isn’t a singular definition of what constitutes a ‘mature’ API. For the purposes of this paper, ‘API maturity’ refers to the extent to which an API is ‘open’ but more so (and with an Emerging Market context in mind), it is our view that mature API’s should be:

1 – Fit for purpose: Overly complex and difficult to understand APIs cause problems from the get go. Often platform and solution vendors cram too much functionality into a single API leading to confusion and waste. The simpler and easier to consume and use an API is, the better.

2 – Documented for the right audience: API specifications and associated documents are often overly complex and difficult to understand. Some lack sufficient business domain context that is understandable by the Business Analyst audience, while others lack sufficient technical detail that is needed for Developers to effectively operate. See some of the good work the OpenAPI Initiative¹⁰ is doing in this space, but impact in Emerging Markets seems a long way off.

3 – Accurately and consistently documented: Gaps in API specs and misalignment between the API version of the production system and the documentation is a far too common reality. This leads to time and cost wastage. Furthermore, API specs and supporting materials vary vastly in their structure, content, approach and consistency. There is no common language or standard.

4 – Easy to access and consume: It is unusual for FinTech solution vendors to offer a basic API Test bed or Sandbox environment. Accessing such APIs, if they exist, is typically hindered by unnecessary red tape, secrecy and inefficiency. Furthermore, the availability of SDKs (Software Developer Kits), automated test packs, stubs, and associated tools is sorely lacking.

5 – Well supported: Processes related to ensuring backwards compatibility of API versions, dissemination of API update notifications, co-ordination of production system updates, and access to vendor support engineers remain consistently problematic, and generally leaves the consumer of the API out on their own. Along with these process gaps come skills gaps, there is a massive need for skilled people to effectively support their own APIs.

⁸ <http://www.cgap.org/blog/can-open-apis-accelerate-digital-finance-ecosystem>

⁹ <http://www.cgap.org/blog/why-open-apis-matter-tech-partnerships-power-development>

¹⁰ <https://openapis.org/>

6 – Cost to utilize: In many cases a sophisticated Enterprise Service Bus (ESB) is required to manage the workflow and integration to the API. Alternatively bespoke code may be built. Either way, these approaches typically entail extensive budget outlay which puts excessive pressure on the business case for each new integration.

With this backdrop in mind, some of the ‘big players’ in this space have ‘Open API’ initiatives underway. However, they all still have a long way to go¹¹ to achieve the sort of ‘openness’ one sees for example at Google Play – arguably the world’s largest open API environment with a developers’ portal that allows developers to register and then access reams of standardized materials covering topics such as IP rights, revenue share agreements, business and technical processes and all possible technical materials one could need for integration. The entire approach is about handling scale efficiently.

As for the groundswell of innovative, value adding and even disrupting FI focused FinTech startups, they are likewise facing similar challenges - despite their agility advantage. Understandably, the investment in API maturity is often seen as a ‘grudge’ purchase that slips down the product roadmap as client and market driven functional and non-functional requirements take investment decision priority. The integration efforts (often into the ‘big players’ systems) become bespoke, unnecessarily complex work that is slow and expensive to implement and onerous to support. Market expansion expectations (of investors) are not met and business cases are put under pressure.

So for the big players and the startups alike, this challenge of maturing APIs is very, very real ... but at the end of the day, it’s the impact on those still without access to financial services where this impact is hardest felt.

So what is being done?

The challenges outlined above are being recognized and some fairly significant initiatives are underway to try to address some of them, such as...

1 – Open API Initiative¹² – is focused on creating, evolving and promoting a vendor neutral API description format.

2 – Open Bank Project¹³ – is an open source API and App store for banks that empowers financial institutions to securely and rapidly enhance their digital offerings using an ecosystem of 3rd party applications and services.

3 - ISO20022 Initiative¹⁴ – an ISO standard for which SWIFT is the registration authority – it is a methodology for creating financial messaging standards. It can be used by anyone in the industry and implemented on any network.

4 – BIAN¹⁵ - focuses on [amongst other objectives] the ease of integration of their defined ‘Banking Services Landscape’¹⁶ by encouraging the adoption of existing or new industry semantic standards for messaging (i.e. APIs and integration).

5 – PesaAPI¹⁷ - is an open source API for mobile money systems with some traction across about 6 African countries; however, all development is done on a volunteer basis and hence there is no defined timeline for development.

... and there are others.

¹¹ <http://www.cgap.org/blog/just-how-open-safaricom%E2%80%99s-open-api>

¹² <https://openapis.org/>

¹³ <https://openbankproject.com/>

¹⁴ <https://www.iso20022.org/>

¹⁵ <https://bian.org>

¹⁶ <https://bian.org/assets/bian-standards/>

¹⁷ <http://www.pesapi.com/>

In conclusion...

While such initiatives are bearing some fruit, their impact on the actual cost and efficiency of building FI focused ecosystems specifically in Emerging Markets is limited.

A much more pragmatic, focused, coordinated, solution to these challenges needs to be found.

These challenges are by no means insurmountable, so to bring this paper back to its objective, some thoughts on what such solutions could look like are outlined below that will hopefully trigger further discussion towards finding a viable solution ...

- A support resource is needed where Emerging Market FinTech Platform Vendors are provided with a centralized repository for all their API materials. Submission of such materials into this repository would require compliance to a set of fundamental standards in relation to documentation structure and quality, process maturity, and accessibility.
- Support would need to extend to providing guidance and training on how best to approach building, documenting, consuming and supporting mature APIs from the outset for Startups and for how to get there faster for those already grappling with the challenge.
- Some of the existing initiatives (from those mentioned above or any others) already underway could help to fast-track development of the People, Process and Technology standards that would be needed.
- This would ideally be non-profit led. To that end, there are organizational structures such as within the Worldbank Financial Inclusion Support Framework¹⁸ (FISF) – Knowledge Agenda that could potentially host such a resource. Or, the GSMA has an API exchange¹⁹ in place to enable mobile operators to federate between their individual APIs to deliver cross-operator reach ... could this not be expanded to Mobile Wallet and associate solution providers to deliver a consistent, centralized catalogue of APIs and associated resources? And CGAP's Financial Inclusion Focus Area²⁰ could be another.

Regardless of which entity leads such an initiative, the key will be for a unified, collaborative and very determined effort from all concerned if the impact API immaturity is having on the Financial Inclusion Agenda is ever going to be addressed.

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¹⁸ <http://www.worldbank.org/en/topic/financialinclusion/brief/financial-inclusion-support-framework>

¹⁹ <http://www.gsma.com/personaldata/api-exchange>

²⁰ <http://www.cgap.org/topics/financial-inclusion>