Transitioning from Services to Platforms: The Financial Services Industry

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Table of Contents

Introduction

The financial services industry is in a period of rapid transition as platform business models pioneered by the major technology firms are having increasingly significant impacts on traditional banking, insurance, and investment advisory services. In response, major incumbent firms are in the process of building digital financial services platforms in order to stay competitive and responsive to customer expectations. Following practices observed from other industries, the goal of such efforts is to develop and engage a vibrant ecosystem of partners and resellers who build innovative solutions that will bring customers to the platform for most of their financial needs.

We gratefully acknowledge the support provided by Deutsche Bank that allowed the MIT Initiative on the Digital Economy to survey the financial services industry's platform challenges and opportunities. The following report summarizes the results of that research. The analysis includes an overview of existing platform business practices, as well as best practices and leading-edge recommendations for firms that wish to transition from a traditional to a platform business model.

Platform Principles

This section covers the core principles of platforms, including the platform definition, and understanding closed versus open platform structures. The content in the principles section draws heavily from joint work by Parker and Van Alstyne (2012; 2014).

Literature

Various definitions of platforms have been introduced, as it is hard to correctly identify the elements that form a multi-sided platform without being too broad or too specific. One definition of a platform is a collection of products or services that generate value by bringing different parties together and enabling interactions between various groups of participants (Hagiu, 2014). Another definition by Gawer (2009) defines a platform as the building blocks that act as a foundation upon which an array of firms can develop complementary products, technologies or services. As more companies start working together in creating integrated solutions with the goal of becoming a one-stop-shop to customers, the multi-sided platforms are developing into even more important ecosystems for collaboration. Cusumano (2010) cites two important differences between industry platforms and product platforms. One is that, similar to an in-house product platform with a common foundation for the firm to reuse in different product variations, an industry platform provides such functionality as part of a technology "system", whose components come from different companies often called "complementors". Second, the industry platform has relatively little value to users without these complementary products or services. Finally, a third essential difference for industry-wide platforms is the "network effects" (Eisenman, Parker & Van Alstyne 2006, 2011). These are demand-side economies of scale such that the value to existing consumers rises as new consumers adopt the platform. Firms with larger user networks can do a better job of matching supply and demand, and own richer data that can further improve these matches (Van Alstyne, Parker, Choudary, 2016). As demand-side economies of scale, network effects are distinct from supply-side economies of scale that come from high fixed and low marginal costs. Network effects can also be observed across "two-sided" markets where an increase in the number of consumers increases the attractiveness of the platform for developers, while more development increases the attractiveness of the platform to consumers (Parker & Van Alstyne 2005).

Platform Definition

Broadly defined, platforms bring together producers and consumers in high-value exchanges of information and interactions. These exchanges generate enhanced value for

involved parties and increase their competitive advantage (Van Alstyne, Parker, Choudary, 2016). A list of example platforms is included below:

Examples:
1. Desktop OS: Unix, Mac, Windows
2. PDAs: Palm, Psion, Newton
3. Game Consoles: Wii, Xbox, Playstation
4. Network Switches: Cisco, IBM, HP
5. Multimedia: Adobe/Flash, MS/Silverlight, Google-Apple/HTML5
6. Payment Systems: Paypal, Visa, Apple, Mobile Felica, Square
7. Mobile Devices: iPhone, Android, Symbian, Blackberry
8. Enterprise Systems: Salesforce, Oracle, i2, IBM, SAP
9. Social Networks: Facebook, LinkedIn, Twitter
10. Voice over Internet Protocol (VOIP): Skype, Nextiva
11. Web Search: Google, Bing + Yahoo!, Baidu
12. Ebooks: Kindle, iPad, Nook, Sony

Key Platform Concepts

Platforms require a non-traditional business model and a different way of working. Because of the nature of networks that are built through them, platforms do not have standard linear supply chains. They are not one-off products, but rather ecosystems with many cross-dependencies. As a result, the design, governance and execution require a more holistic approach such that the interests of ecosystem partners are balanced. Decisions regarding (i) open versus closed, (ii) free versus charged, and (iii) cooperation versus competition, will influence the success of the platform in both size and longevity.

Key considerations in platform design are:
1. Market creation
2. The size and sustainability of the ecosystem
3. The ability of the platform to encourage and capture network effects

Key themes in platform design can be summarized as follows:

- Great platforms beat great products. Apple became valuable by developing a great platform. It offered an inferior gaming device relative to the dedicated Sony PSP, and an inferior camera relative to the dedicated Canon Powershot, yet iPhone outsells both of them.

- The overall ecosystem that is built around the platform is what makes the platform work; therefore, an understanding of the components of the ecosystem is necessary to develop the required platform.
- The platform must have standards to provide clarity for how components interact.
- The platform must have rules that define how various parties interact. The rules of participation make the ecosystem work for the benefit of all parties.
- Governance must establish responsibility and accountability. This includes commitments on what the platform will promise developers. It also ensures that participants are rewarded for the value they add to the network overall. Platforms can fail when the owner thinks only of what to take from the ecosystem and not what to give back.
- Network effects result from both a volume of users and a volume of content, creating a virtuous circle. The more users you have, the more valuable the network becomes to existing users.
- In the open vs. closed choice, a closed architecture is more profitable for short-term gains, but will limit the size in the long-term. Being too closed can even cause the platform to collapse as Apple learned in the 1990s.
- The more commoditized the service/solution, the more open the platform must be.
- A proper functioning network rewards participants for the value they bring and fosters creativity and innovation across the ecosystem. Creativity and innovation ensure that the platform remains relevant over the long-term.

Key Platform Roles

Key stakeholders on a platform can be organized into four main groups. These groups are based on developing a platform (and supporting ecosystem around that platform) for a two-sided network.

- Users (demand-side): The target consumers of the platform solutions and services. They can be individuals, businesses, and organizations.
- Users (supply-side): The content and application developers that provide the specific items that attract the users to the platform – music, games, information, services, answers.
- Platform provider: The point of contact for all users – both the consumers and the developers of content. The provider is responsible for the common components, rules and architecture of the platform.
- Platform sponsor: The overall designer of the rules and the components of the platform. The sponsor sets the direction, controls the underlying platform technology, and determines who can participate as providers and users.

Role of the Platform Provider and the Platform Sponsor

Eisenmann, Parker and Van Alstyne (2006), provide models for how to organize platforms in the provider and sponsor roles. These roles form the basis of the platform and ecosystem. The sponsor is critical to success and serves as a social planner, providing the organizing structure for the ecosystem ensuring that the right balance of openness is achieved to encourage participation and innovation and to discourage "take-overs". The sponsor helps to consummate the match between the demand side and the supply side so that both parties benefit. As the ecosystem evolves, this may mean that the sponsor absorbs common components to ensure standardization, control over development direction, and interoperability. This also ensures that the sponsor remains relevant to the ecosystem.

The sponsor also needs to be aware of how the underlying technology is evolving. It is necessary to recognize the areas where the best technologies are still emerging, and be prepared to change directions as the users and content providers move. Reminder: platforms are only successful when they are able to facilitate a match between content providers and the consumers of that content – volume matters. If the underlying technology does not facilitate the match, the sponsor needs to be ready to change and adapt. Other critical decisions include determining which functionalities are part of the platform versus supply-side content, and which components are parts of the provider layer versus the sponsor layer.

The provider role is the point of contact with the users on both sides of the network. This is a valuable position, as the provider quickly learns what is of value to both the user and the content providers. Providers are in a position to see what is valued, what creates traffic, and identifies trends. The ecosystem sponsor needs to be working with the providers to be able to identify commonly used/needed functionalities from the supply side, as well as how and when to absorb those functionalities into the platform.

Open vs. Closed Platforms

Given the four layers of a two-sided network platform, different levels of openness are possible. An open structure means that the platform creators are willing to give up some of their own profits in order to seed interest, increase overall value, and build an ecosystem through others.

The platform provider has to decide the right level of openness that is acceptable and viable for their business. At one end of the spectrum are companies, such as Linux, with no one driving the bus. Typically, in such cases, the value of the platform fails to reach the optimum levels, and therefore the platform builds a smaller network. The other end of the spectrum would imply too much control by the platform owner over the ecosystem, which may limit innovation or the creation of meaningful and relevant content. Therefore a closed platform may also lead to a smaller ecosystem, which would fail to create a meaningful match. An example of this type of closedness is Apple in the 1990's. Hence, the correct level of openness is a balance that provides value to the ecosystem partners and value to the platform.

While closed platforms *do* create value, they tend to be limited in both scope and market penetration. When Facebook opened itself to developers, they experienced massive growth relative to MySpace, that had entered the market earlier. Openness in the right place works because developers then push out the demand curve themselves by innovating and creating more value. It happens over and over again. Openness at the demand and supply sides is critical to building out the ecosystem, creating volume and thus value.

Platform scope represents a decision regarding the complements that are made by the platform owner vs. the ones that will be developed by the third parties in the ecosystem. Ideally, the platform sponsor would want to develop the most valuable complements to its platform while letting external developers address niche applications, or those that are in the long tail of applications developed on the platform. If a platform sponsor tries to capture *all applications*, it fails to create an innovative ecosystem. If a platform sponsor captures *none* of the applications, it risks being disintermediated and pushed down the value stack.

The advantage of letting third-party developers create niche applications can be directly seen in stronger network effects, as the platform acquires more customers that it would otherwise have lost to competing applications or platforms.

The platform provider needs to truly understand the critical control points in the overall ecosystem and how to own them. These are the highest value elements, without which the ecosystem and therefore the platform will not thrive.

Users, Behaviors, Data

This section covers the types of platform users we expect to see on a financial services platform, their ways of interaction with and through the platform, and the considerations of the platform provider for data sharing and storage.

Key Stakeholders of the Platform

Multiple parties would be involved in the platform, taking on different roles; sharing services, goods, and information. The potential stakeholders on the platform can be categorized as:

Content providers	**Consumers**
Developers: • Startups • Firms	Customers: • Existing • New
Bank clients	Large technology companies

Content providers: Content providers are the parties that produce the services and products that attract the users to the platform. Partnerships with content providers can be a convenient and efficient way of bringing new services to the platform instead of building everything in-house. For a financial services platform, we group the content providers into three main groups:

*Developers***:** Developers can be startups as well as other established firms that would like to take part in the ecosystem as service providers.

- Startups: Partnerships with platforms lessen the back-end burden for startups and enable them to focus on product development. The opportunity to access a sizeable user pool through the platform is appealing and would help startups scale, channeling their limited resources to build better products. A successful example for such partnerships is *salesforce.com,* a customer relationship management (CRM) platform that built a robust ecosystem where many other companies were able to flourish[1].

[1] https://www.salesforce.com/blog/2016/03/build-a-business-on-salesforce.html

Another benefit of such partnerships for startups would be the potential funding opportunities. Startups tend to be cash constrained, which is why they can benefit from the potential funding available through partnership arrangements with the platform provider. On the other hand, the platform provider can leverage startups to plug new financial products into the platform ecosystem more rapidly instead of investing both time and capital on the in-house development of new technology.

As noted earlier, the platform owner needs to be aware of how underlying technology is evolving. The platform providers need to identify the right partners, and it can be difficult to discern which products will become market leaders in certain fields. Investing in the wrong startup may mean that the platform owner is stuck with the weaker partner. A solution to this problem has been contests organized by platforms, which puts the risk back onto startups, but can be an effective method to identify the leading players. For example, Google has deployed this method to launch apps on android, offering $5M in prizes to developers who design the best apps in various categories. This strategy provided Google with a strong product portfolio, attracting many customers[2].

- Other firms: An advantage of working with such firms is that the larger, more established firms are not resource constrained like startups. The platform provider will likely not invest in them, and the partnership deal would focus more on the terms of splitting the benefits and value sharing.

Bank clients: The users of the platform, who are also business owners, would be in a unique position to see the needs of the platform and identify the required functionalities. In some cases, these customers would switch seats and become content providers as well, introducing their products as part of the platform ecosystem.

Consumers: Consumers on the platform can include existing clients, newcomers, and other large technology companies that can benefit from the services offered and information accumulated through the platform.

[2] https://arstechnica.com/gadgets/2007/11/google-announces-10-million-contest-for-android-devs-early-look-sdk/

Customers: The existing customers of the other services provided by the platform owner will provide the backbone of users; a growing base that will expand with the newcomers.

- Existing customers: These users, who are currently carrying out transactions on separate systems of the financial services firm, form the most likely user group to transfer their relationship onto the platform. These customers are an important data source for the platform, and their willingness to share personal data will be a crucial component of the benefit that content providers can drive from using this platform. Further details on data sharing by customers are discussed in the next section.

- New customers**:** The growth in the portfolio of services and third party integrations, both financial and beyond banking may attract brand new customers, in addition to the existing customers transferring their relationships onto the platform. This user pool is likely to attract more developers who want to reach the growing consumer base, creating a positive feedback loop.

Other technology companies: In the case of a financial services platform integrating the marketplace, the technology giants, such as Google and Amazon, may also be interested in becoming clients to access the significant client data owned by the platform provider. The most recent news on this topic is that Amazon is considering a checking-account-like product to offer its customers[3]. A potential threat for the platform provider would be the possibility of one of the technology giants becoming the aggregation layer instead. By using the customer data from the platform, these companies may then reap the benefits from the datasets of the financial institutions. Technology giants offer many advantages of established platforms businesses, such as superior user interface and customer relationships with masses that are already using their online services. If one of these companies uses these advantages to start their own financial services platform, it can rapidly plug in many other financial institutions into their ecosystem.

Platform Capabilities

The platform's goal would be to develop an ecosystem of comprehensive services, with different components developed by different firms. For a financial services platform, below is a list of service categories that we believe would be crucial in ensuring consistent and widespread usage of the platform by consumers.

[3] https://www.wsj.com/articles/are-you-ready-for-an-amazon-branded-checking-account-1520251200

Data aggregation: Account aggregation services have the potential to be one of the core services of a financial services platform. Providing money-tracking services through a single platform to view all accounts of a customer on a single page can be a core driver of customer traffic. Such an offering would require cooperation among major banks, but also raises issues around regulation and data privacy. As a solution to such regulatory complications, companies providing aggregation services have emerged. As more nimble and faster partners, these aggregators can add to the platform the capacity to become the single access point to all financial accounts of its customers.

A good example of such aggregation services is Intuit's subsidiary company: Mint. Mint's services include tracking bills, credit scores, tracking investments, expenses and savings, creating budgets, receiving alerts on upcoming bills, and budget overages[4]. By providing services other than account overviews, such as bill alerts or savings advice, Mint succeeds in staying relevant and engaging the client on an ongoing basis. Platforms like Mint can serve as valuable partners for financial services platforms to integrate account aggregation services.

The ability to initiate transactions for different accounts through a single platform without the need to switch to another environment would be a key advancement to such aggregation services. Currently users have to handle multiple user names and passwords to navigate their finances across different financial accounts. The capacity to access multiple accounts on one platform can improve the user experience significantly and increase customer loyalty, making the platform a one-stop-shop for most of their financial needs. This, however, may bring additional security concerns and reluctance from customers to trust the platform provider with their credentials. It would be important to take a number of measures to ensure secure access and communicate the capabilities correctly to customers.

Retail deposit marketplace: By creating a curated marketplace for deposit offerings from different banks, the platform customers can choose the offer with the best interest rates. This service can incentivize other banks that are seeking retail deposits from the platform's customers to join the platform. A potential downside is the pressure on the margins of these services as customers can easily compare different products in the market. However, the democratization of the market for vanilla products should increase customer retention and acquisition, which are essential for the platform's success.

[4] https://www.mint.com/how-mint-works

Automated financial planning services (Robo advisor): Easy online access to automated investment services would provide more clients with access to digital financial planning tools, and enable frictionless updates of portfolios responses to the changing risk profiles of customers. The customers with various financial needs, such as advice on investment selection or retirement planning, can be attracted to this low-cost alternative if it is easily accessible as part of their main financial services platform.

Insurance recommendation services: In addition to accumulating transactional services in one place, a platform can benefit from going one step further to drive consistent user traffic through additional services beyond core banking offerings. One of those services could be insurance, where clients can view a variety of offerings on one platform and choose the option that suits them best across the marketplace. Such marketplaces already exist in the US[5]. Integrating the marketplace into the financial services platform would improve ease-of-use for the consumers and provide them with a holistic view of their finances.

Tax solutions: Another service that can be integrated to the platform would be tax-related services. Multiple synergies can be obtained from an integrated tax offer. Pulling information of investments, bank accounts, and retirement accounts all in one place would be useful and time-efficient for customers as they file their taxes. With customer permission, banks can enable exporting tax-related data (e.g. transactions, contracts) to a tax services partner through the platform for faster tax filing. Integrating a tax estimator with a budgeting tool can also be helpful in setting more accurate savings goals.

Beyond core offerings: After identifying the core services to be provided on the platform, there will be plenty of room to integrate third party applications and other services that would meet the needs of various user subgroups. These offerings could include contract management services, insurance applications, invoicing, among many others. Partnering with third parties to provide such offerings will lessen the technological burden for the platform provider. It will also eliminate the need to build in-house expertise in different areas, and instead allow the provider to focus on creating the best integrated platform, encouraging different companies with different areas of expertise to provide the best solutions to platform users.

[5] https://www.healthcare.gov/quick-guide/

Authentication solution: The functionality of registration and identification through a single sign on would provide customers fast and secure digital access to all participating services. The authentication functionality would reduce the burden of login for the platform users, and is likely to increase registration and activation on the integrated services[6].

Key Concepts and Considerations for the Partnerships with Content Providers

Most of the functionalities that will complete the platform will be possible through strong partnerships with content providers. Stable and sustainable relationships with content providers are key to building an exhaustive product portfolio and attracting customers to the platform. Smooth integration and ease-of-use of these services are necessary to retain customers in the long term. It is important for the platform provider to invest in a focused, unified strategy to foster the right relationships and choose the right partners. This will ensure a comprehensive portfolio of strong offerings.

Benefits of partnerships with content providers:

- Providing services at lower cost and effort through a platform instead of building new capabilities from scratch
- Bringing all accounts on one platform and becoming the interface for all providers of financial services
- Helping startups scale products into market faster with the support of the brand value of a platform provider
- Speeding up the innovation process via outsourcing product innovation to startups instead of navigating the internal decision-making processes that can be more cumbersome and time consuming

Potential risks of partnerships with content providers:

- Startup partners tend to be small companies with riskier outlooks. Partnering with the wrong startups may cause delivery of a second-tier service to customers while the market leader dominates that space.
- Smaller startups may struggle to meet the demand while scaling up and bringing more customers on board. Assessing capabilities and establishing a launch strategy accordingly is crucial to providing reliable service to customers.

Important steps in the partner selection process:

- Have a unified strategy around how to choose partners

[6] https://developers.google.com/identity/sign-in/case-studies

    - Build a dedicated team responsible for coordinating the partnership process.
    - Assess the eligibility of potential partner firms, the terms of the partnership, and performance criteria.
    - Provide a complete portfolio of services in the banking industry as well as in adjacencies such as insurance.
- Ensure the services of partners are strategically aligned with that of the platform provider.
- Have a backup plan for services provided by other partners to ensure uninterrupted service and availability of options, which may be crucial for customer retention.
- Build a team to assist the partners through the integration process. Despite the move to digitization, providing assistance services beyond e-mail is crucial. In house experts to understand the needs of the involved parties and coach them through implementation could be an essential element to attracting a strong user base on both sides of the market.

Data Strategy

One of the core decisions every company needs to make is around data. The platform provider needs to decide on the types of data, the time horizon for storing data, the formatting of data as well as the terms of use with different parties. The cost reduction, security concerns, and regulation are the three major factors that affect company decisions on data management.

For all companies, the question of buying or building infrastructure is an important decision. There are advantages to both: end-to-end control with private, versus significant savings and flexibility with the public cloud. Most companies have recognized the cost and convenience advantages of cloud, while the cost savings calculations may vary depending on the assumptions made as well as rapid technological developments (McAfee, 2011). A recent McAfee survey supported the observed trend that more companies are starting to trust cloud providers to store sensitive information, and more companies are moving to a hybrid approach where they meet their needs combining cloud and private servers[7]. It is also important to note that changes in the company data strategy for large financial companies tend to be more complicated and costly due to regulatory restrictions.

[7] https://www.mcafee.com/us/resources/reports/rp-building-trust-cloudy-sky-summary.pdf

The steps taken by companies on data storage and sharing to provide better and more efficient services to clients are effective only if they are secure. The recent cyber-threat landscape has been a cause of concern as the companies themselves bear the liability to protect customer data. Contrary to the common preconception of private data centers being more secure, a properly designed cloud service can be even more secure than private servers[8]. The cloud services tend to need to meet higher security standards, and the have dedicated security personnel[9]. Certifications such as Service Organization Control (SOC) 2 Type II are emerging to enable customers to better assess whether the cloud service providers have the necessary systems in place for securing data[10]. Combined with the cost and convenience advantages, these security assurances are leading more companies to turn to cloud computing and storage platforms. An example from the financial industry is the partnership between the American bank Capital One and Amazon Web Services (AWS) since 2013, starting with experimental projects and later moving to migrating existing functions[11] [12].

The potential benefits of using a cloud service provider are relatively well known, but companies need to review their needs before making a decision to opt for a private vs. a public cloud. For large companies who are able to make the capital investment and have a dedicated in-house team, private servers may be an option, especially for companies operating in regulated industries that have to follow certain data protection rules. Even then, a combination of private and cloud seems to be preferred by many peers, and the move to cloud seems to be a persistent trend.

A wild card would be the emergence of quantum computing technologies. Quantum computing is predicted to have a significant impact on encryption-decryption, and it might render existing encryption methods obsolete. In such a scenario the data security landscape is likely to change significantly, but such developments are not expected to be commercialized in the foreseeable future.

[8] https://www.nytimes.com/2017/01/23/insider/where-does-cloud-storage-really-reside-and-is-it-secure.html
[9] https://enterprise.microsoft.com/en-us/articles/blog/microsoft-in-business/4-reasons-clouds-may-secure-small-business-computer-system/
[10] http://www.lawtechnologytoday.org/2014/07/soc-2-type-ii-certification-means/
[11] https://medium.com/aws-enterprise-collection/capital-ones-cloud-journey-through-the-stages-of-adoption-bb0895d7772c
[12] https://aws.amazon.com/solutions/case-studies/capital-one/

Regardless of the decisions around data storage, each financial services company needs to establish its data strategy and build a consistent data model to allow integration of different business verticals. The first step would be to develop a common data model that unifies the companies' data assets across different verticals. Incumbent firms tend to have legacy IT that is not tightly integrated. Although a costly effort, it is essential in order to implement a platform strategy. Without it, all of the different partners, both internal and external, cannot access the same database to drive insights, develop products and services, and move the enterprise forward.

Data Sharing

The large banks have the advantage of owning significant amounts of client data. Aggregated customer data can be a key attraction to the new platform for developers and content providers. Platform providers can manage the type of access granted to content providers in order to incentivize them for further partnership opportunities. Such data sharing opportunities will lead to value creation, which should be apportioned among the stakeholders appropriately.

In order to make sure both customers and developers can benefit from customer data, the platform provider needs to incentivize customers to continue sharing data with the provider, and obtain permission to share relevant data with the developers. The data will be critical as raw input to improve basic services, and to create new products and services. However, the rights to use the data are not clearly laid out, or even well understood, especially when data from multiple sources are combined to generate new services. To add complexity, the rules governing data use differ by country, while the value of the data increases as businesses aggregate it across regions. Under recent regulations such as the General Data Protection Regulation (GDPR) in Europe, customer cooperation in data sharing will become even more crucial for the platform provider to expand services and attract content developers to join the platform ecosystem.

To help solve the challenge of value sharing, we would call for simplicity and transparency. Contributors of content (or value) should know how their content is used so that they can understand how and why they are being compensated and how they might reach a wider user base. A wise platform would enable creators to bring new interactions to the platform and then reward them for doing so. A test for whether or not to provide access is to ask whether this party can create value and whether they will bring this value to the platform. If a user doesn't create value, they shouldn't gain access. If they create value but siphon network effects by taking that value elsewhere, they shouldn't gain access. Firms should recognize that innovators need not bring only value to the platform. Rather

they simply need to be net-positive, and they must return refreshed data such that the next round of innovators can, in turn, reciprocally add value.

Business Models, Launch Strategies, Network Effects

A well-managed platform can create excess value for its participants through good management by increasing access to markets and tools. It is crucial to identify the right launch and monetization strategies to enhance the positive network effects and realize the full potential of the platform. This section covers various business models we view as suitable for financial services firms, as well as network effects and strategies to launch a platform.

Business Models

Different business models would generate different network effects and monetization opportunities. The platform provider needs to identify the excess value being created by its platform and ways to capture that value in order to effectively monetize the network. Monetization methods can include transaction fees, charging users for enhanced access, charging third party producers for access to a community, and charging a subscription fee. While determining the appropriate monetization strategy, it is important not to create friction that would slow user growth and cause negative network effects.

A financial services company has the option to serve as a builder or as a distributor for the platform. Based on the willingness to invest and the in-house technical capacity, the company has the option to build the platform in-house (builder role) or use a white-labeled financial services platform (distributor role). For these two main roles, there are different business model options to be considered based on the goals and the technical capacity of the firm. This section covers a number of these options and ways to monetize based on the model.

The distributor role

As the distributor, the platform provider can aggregate suppliers on the platform to generate network effects. The platform may serve as the marketplace with various third party providers onboard. By controlling the client facing front end, the platform owner can also be the owner of the client relationship. Through the right partner management systems, the platform can aggregate the suppliers and become a hub for banking as well as non-banking services. Different monetization methods such as charging the client, charging the supplier on sales, or introducing a tiered pricing approach are worth considering in order to capture the value created for users.

Within this model, the platform owner may choose to handle data processing internally, which would provide additional control over client relationships. However, given the highly regulated nature of the financial industry, it may be challenging to handle all data internally. In such cases the platform owner may choose to become primarily an interface for the consumers but have the services delivered off platform through third party apps.

The strategy to generate sales for 3rd party platforms that are then completed off of the main platform would be a viable strategy for services that require infrequent transactions. For these infrequent, but recurring transactions, once the relationship is established through the platform, it will be easier and more convenient for both the customers and the service providers to carryout the transactions directly (off of the platform). This can be avoided for services with much lower frequency transactions, as building a customer relationship would be harder for the involved parties. In such cases the platform may remain as the access point to the best available service in the market. The monetization options under this model would include lead referral fees or revenue share, with the platform provider charging the third-party provider.

The content creator roles

Another avenue for a large financial services company serving as the platform provider could be generating products that are side products of the existing services. The company can carve out certain business functionalities and repackage them as new products, which would allow the platform provider to capitalize on the fixed costs already spent on sustaining the business. An example of such services could be the Know Your Customer (KYC) services.

For the financial services firms that find the associated regulatory and the technological burden too heavy to undertake, a feasible way to participate in the platform economy would be to become a marketplace seller. This means the company can package certain products they already offer to their clients and offer them on a platform that accumulates financial services. Participating as a supplier would still provide benefits from the network effects created through the connections made on the platform. This model would also bring in more clients, but it would also reduce the traditional product margins because of the lead fee charged by the marketplace.

Providing a white-labeled Bank-As-A-Service product is another option. This model would bring the small and mid-sized regional banks as new customers. Companies such as Q2[13] and Fiserv[14] already provide such services in the US, with room for entry for other players.

Launch Strategies

There are many ways to launch a platform to attract a large user base, and it is important for platform providers to identify the right strategy for their company. The chicken-or-egg problem looms over all platforms that are trying to gain traction, and there are a number of ways to overcome this problem by structuring incentives for participation, attracting users, and sustaining active usage.

Looking at the financial industry, large financial companies may have certain advantages in launching a platform, such as their existing customer base and partnerships with other companies. On the other hand, established processes and practices of traditional businesses can bring the risk of slowing down the development of the platform. It is important for the management team to recognize the needs of a new platform and adapt its methods of strategic planning, goal-setting, self-evaluation, and course correction accordingly for a successful launch.

A combination of launch strategies can lead to the creation of a successful financial services platform. One potential strategy is the piggyback strategy, where the provider connects with an existing user base and recruits those users to participate on the new platform. Most large banks are well positioned to build a comprehensive financial services platform because of their existing user base that is already using certain online services provided by the bank, such as payment applications or online banking tools. The user base of such applications can comprise the core customer base to attract the content providers onto the platform.

The platform provider can also provide certain initial services that might be relevant to certain subgroups of the user base. For a financial services platform, offering specific products such as financial planning and tax solutions might attract users from the start. The platform provider can identify the products that are easy to integrate and likely to bring the highest value to customers, and offer them on the platform through either partnerships or in-house development.

[13] https://www.q2ebanking.com/
[14] https://www.fiserv.com/financial-institutions-lander.aspx

It is important to note that some of these strategies are likely to result in channel conflicts. For example, more financial services handled through a digital platform would mean lower customer volumes in brick and mortar offices. This can create resistance from employees working in the traditional lines of business. The employees in the traditional business lines would serve as a marketing channel for the new digital platform, but their jobs could be negatively affected by the introduction of new technologies. Another potential conflict could arise as a result of the open marketplace services for vanilla products. For example, the retail deposit marketplace is likely to pressure margins as customers will be able to compare options from different banks and choose the most attractive one. Given the pace of technological advancement, we believe the platform provider would benefit more from prioritizing customer retention via its digital services over potential short-term financial impacts, as digitization has proven to be a secular trend. Becoming the aggregation layer for all financial services is likely to provide much more significant financial gains in the long term.

Network Effects

The core challenge of a platform is to generate network effects that make the platform more valuable as more customers use the platform. Traditional firms struggle with this because they are often set up as vertical subunits that address a specific market. By making a single management team responsible for profit and loss in the vertical, traditional firms harness strong performance incentives. However, network effects depend upon lowering friction to use and empowering as many users as possible to participate. This implies the need to design a common data layer and data model so that new data can be easily captured and then reused horizontally across the entire organization. Although creating horizontal data layers may sound simple, it turns out to be very difficult in practice because of the deeply embedded legacy systems. In discussions we have had with senior management teams at Fortune 100 firms, we have frequently heard that creating a common data layer can cost a billion dollars. No wonder these firms can be reluctant to commit such resources; not every firm has had the focus of a GE and the ability to pursue a firm-wide software and data strategy. Nonetheless, we would argue that firms must invest if they wish to pursue a platform strategy and activate the external actors who can contribute value.

Only some of the business models that were discussed earlier would create strong network effects for the platform users. While various ways to integrate new technologies onto the platform can enhance functionality and user satisfaction, they may not always

create network effects. Hence it is critical for the platform provider to distinguish the value creation just from enhanced functionality or increased number of users vs. value that the additional user/service generates for the other platform participants.

A platform business is responsible for managing network effects to scale and for minimizing the negative effects through quality curation. The economies of scale that can be driven on a financial services platform through efficiencies in user networks, demand aggregation, and app development can make the network more valuable to its users. Such value aggregation, once established, would make it difficult for competitors to overcome.

Stimulating user growth is the first step to generate network effects. The platform owner needs to attract participants from both sides of the market. Ensuring the users can onboard quickly and easily, and that both sides of the market grow proportionally is key to scaling the network effectively. For example, an authentication solution discussed earlier could benefit the platform significantly by enabling easy onboarding of users and providing fast and secure digital access.

One method for attracting customers is for the platform provider to invest in certain products that are given away for free, and to provide additional services as premium options. The expectation is that the demand for the premium goods will more than compensate the investment made for the free services (Parker & Van Alstyne, 2005). For a financial services platform, services such as access to an aggregated account view can be a broad-based solution for the entire customer base. Different premium services could be more valuable for different customers subgroups (e.g. small business owners, customers with special tax-filing needs, or those who manage other assets) that would be willing to pay for these value-add services.

Another strategy for platform growth can be subsidizing one side of the market in order to attract more users on the other side. Deciding which side of the market to subsidize depends on the power of the value created by one side to attract users on the other. For example, for products on adjacencies that are deemed essential for customers, the platform provider can establish partnerships with other firms to provide integrated offers, which in turn can improve customer acquisition and retention. If the platform is sufficient to offer a comprehensive product portfolio to meet most financial needs, the customers will be less likely to leave the platform and more likely to invite others to join.

While driving positive network effects, it is important to prevent negative network effects that can hurt the platform. For example, disproportionate growth in users from one side

of the market can lower the value provided by the platform. If there are too many developers working on the same product with not enough demand from the consumer side, the value to the developers from the platform may fall short of what they expected while making the initial investments. The customers would also be inundated with too many options, unable to determine the offer that suits their needs. The platform provider can avoid such cluttering issues through careful curation, making sure that the right content meets the right user group to drive value for both sides. As a result, the platform should experience a balanced, sustained growth in active users on both sides of the market, maximizing the network effects.

Finally, platform design must include the measurements necessary to monitor the health of the system. Critical metrics may include the size, rate of change, and engagement of the user base. In addition, platforms need to measure the success and failure of matches to ensure that users can find valuable interactions. Platforms can use their failures to understand what is missing or not working well on the platform.

Governance Models

Another consideration for the platform launch is the viability of a jointly governed platform model. Partners provide assets, ideas, and adoption. They also drag down decisions and divert profits. Tradeoffs become readily visible in two contrasting stories: One illustrates too little collaboration while one illustrates too much. While a winner-takes-all result seems appealing for the one platform provider that succeeds in becoming the industry standard, in industries such as finance where there are a number of major competitors dominating the space, building a joint back end together could be a viable option.

Bank of America launched the first successful bank-sponsored credit card in 1958 in Fresno, CA where it had 45% market penetration. By mass mailing 60,000 unsolicited cards to consumers, Bank of America managed to convince Fresno merchants to use BankAmericard. Focusing on a local market solved the chicken-or-egg adoption problem: merchants want consumers and consumers want merchants who are using a card before either will adopt. Growth, however, proved elusive. Not only did mass mailings produce mass fraud, but a competing alliance of five banks also launched the MasterCharge system, attracting franchisees more effectively. Licensing stalled until Dee Hock, head of one licensee bank, convinced Bank of America to pass control to a member consortium that could manage, promote, and develop its credit system. Opening voting rights

worked. The system evolved into the Visa credit card, with a parent organization worth $¼ trillion today.

Yet more partners are not always better. Telcos designed the Rich Communication Services JOYN protocol as a messaging and directory service to help them compete with over-the-top services like Skype. Both the opportunity and the problem is that the RCS consortium includes 47 mobile network operators, 11 manufacturers, and 2 operating system providers. As a result, "the culture of internationally agreed standards and glacial accreditation fatally [slowed down] development of operator solutions." Insistence on standardization also denies partners the ability to differentiate as "everyone launches the same thing at the same time."[15]

On one hand, relaxing control and including ecosystem partners encourages adoption, ideation, and builds a flourishing platform. On the other hand, too little control and too many partners discourage action and differentiation, causing a platform to flounder. Determining the right partnerships and a governance model can build the foundation of a successful platform business. A white label system would prevent ruinous competition among major players, while enabling each player to customize their front end to do their own branding. The companies that want to build their financial services platforms should review the potential opportunities for partnerships and do a cost benefit analysis on their part to see which strategy would serve them best based on market dynamics and their internal resources.

Regulation

The regulatory environment on data protection is not clearly defined and varies across geographies. The EU is at the forefront of addressing this difference with its new legislation called the General Data Protection Regulation (GDPR). Currently in the US, there is no blanket regulation on data protection at the federal level. Overall efforts in the US have been disjoint, led by certain departments with sectoral laws, but no overarching set of enforceable rules similar to the GDPR. Looking at the rest of the world, there seems to be a push for data localization, but nothing specific stands out on data ownership or privacy (Lovells, 2013). The table below outlines the differences in data protection rules across different geographies.

[15] Ray, B. (2013) "Why no one wants to Joyn GSMA's Skype-killing expedition" The Register; Jan 18. https://forums.theregister.co.uk/forum/1/2013/01/18/joyn_joyn/

Table 1. Data Privacy Regulation Comparison

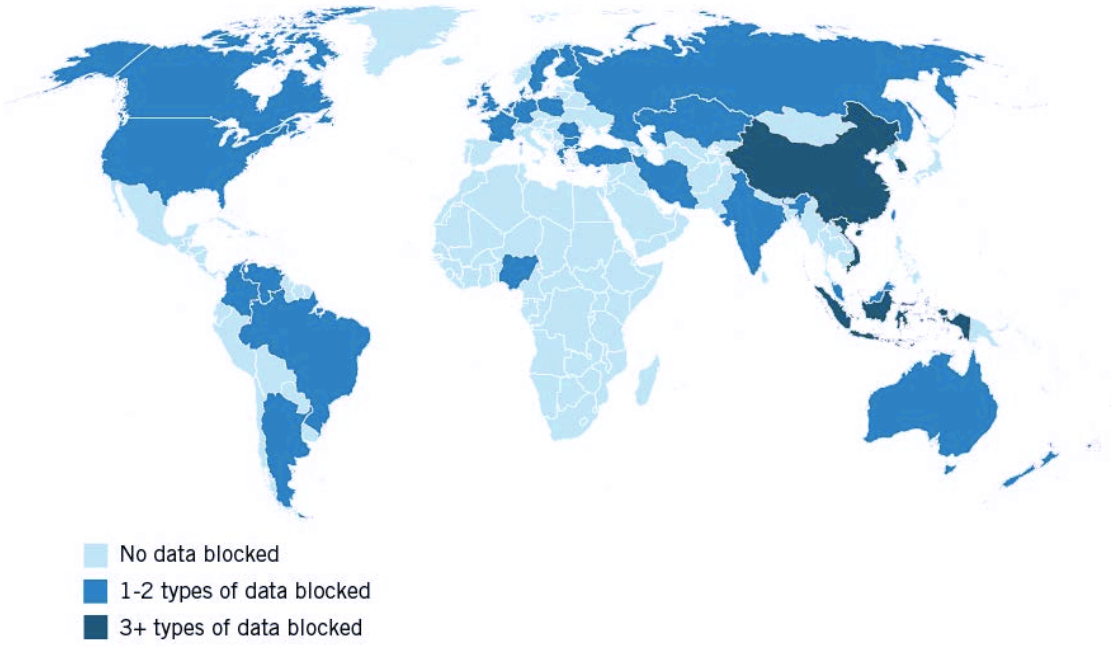
	EU	The US	China	Russia
Definition of sensitive personal information	"Any information related to a 'Data Subject', that can be used to directly/indirectly identify the person, including name, photo, email address, bank details, posts on social networking websites, medical information, computer IP address."	Financial data, data about children, healthcare information (HIPAA), precise geographic location information, and social security numbers	Data which can be used to identify a natural person (name, address, ID number, bank account number, fingerprints, iris), data which contains personal private information (eg health/medical reports, text messages, emails, contact lists), and data which reflects personal use of services (eg purchase records, software / hardware data, geolocation)	Any information that relates directly or indirectly to the specific or defined physical person
Data storage	If data is stored outside the EU, security provided should be as strong as the EU requirements at the minimum	Various federal, state and local governments have different requirements	Requires national storage	Requires national storage
Collect consent	Active opt-in required, asked in "an intelligible and easily accessible form"	HIPAA, FTC Behavioural Advertising Principles, FTC the Children's Online Privacy Protection Act requires opt-in consent before collecting personal data	Consent must be given in an intelligible and easily accessible format	Consent required to be collected in written form
Correction and deletion rights	Allows user to request removal of information from search engines	No blanket rule allowing people to correct/remove information	Subjects can request further dissemination of personal information	
Breach notification	Mandatory notification within 72 hours of the breach of any type of personal data	Limited scope, depends on the state requirements. Notification time limit typically 30-45 days. 3	-	No requirements for repoting breaches

Table 1(cont.). Data Privacy Regulation Comparison

	EU	The US	China	Russia
Right to access	Individual has the right to ask for information on personal data and how it is used from companies free of charge	No federal law/standard currently in place	Subjects have the right to access their personal informatio	Subjects have the right to access their personal information.
Right to be forgotten	Required to delete data upon request from consumer	Only the Children's Online Privacy Protection Act (enforced by FTC) allows for right to delete	Subjects have the right to request erasure of personal information, stop dissemination and processing of the personal information	Subjects have the right to request erasure of personal information
Data transportability	"Personal data can only be transferred to countries outside the EU and the EEA when an adequate level of protection is guaranteed" 3	Some states have restrictions on data access, maintenance and processing from outside the US, but few are restrictive	The new guidelines does not adress cross border transferability	Allows for data to cross-borders, but only after it has been stored nationally
Data minimalization	Only process the data required for the stated purposed	HIPAA Privacy Rule mandates use, request and disclose the minimum amount of protected health information necessary to complete a transaction	-	-
Penalties	Max fine: higher of 4% of annual global turnover for breaching GDPR or €20 Million	FTC penalties usually based on non-compliance to company's defined privacy policy. HIPAA civil penalties US$100 - US$1.5M and criminal penalties upto US$250,000 and/or up to ten years in jail	-	-
Scope	All companies processing EU citizens' data	Various legislation at state / sector level	National	National

Data storage emerges as a subject of interest for most countries due to national security considerations. Some countries and regions tend to favor local data storage, and there is a common perception of local storage of data being associated with higher security and privacy for consumers. An example country for data localization would be China, which requires "critical information infrastructure" providers to store "personal information" and "important data" within China, unless their business requires them to store data overseas and they have passed a security assessment. Note: the definitions of what constitutes as "personal information" or "important data" remain unclear[16]. While some countries have rules that restrict data sharing for certain types of data, the rules tend to be specific to certain sectors and not unified. Certain geographies, such as most countries in Africa, have no blocking on data flows, which may incentivize more trial-and-error type of innovation, but it can also be damaging to consumers.

Image 1. Which countries block data flows



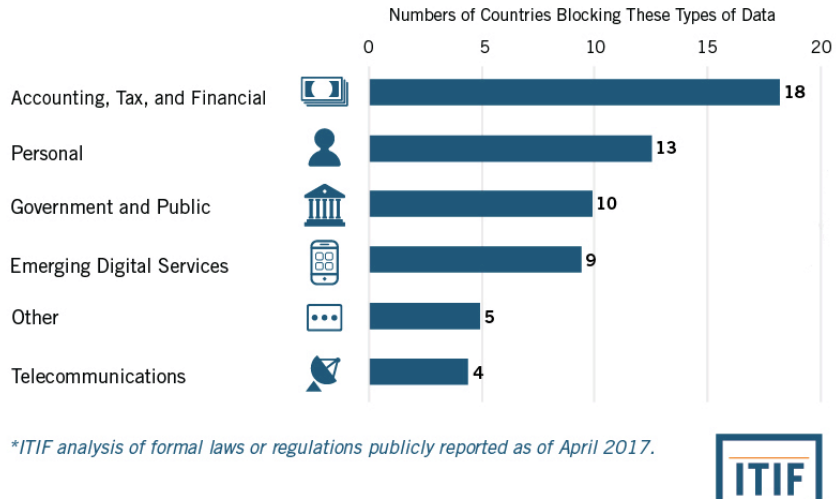
Source: **https://itif.org/publications/2017/05/01/cross-border-data-flows-where-are-barriers-and-what-do-they-cost**

In terms of the types of data that is being regulated, financial and personal data are the top two categories that are considered as sensitive data. Countries continue to change

[16] https://privacylaw.proskauer.com/2017/05/articles/international/a-primer-on-chinas-new-cybersecurity-law-privacy-cross-border-transfer-requirements-and-data-localization/

positions as technological developments enable new, more secure and cost efficient ways of sharing information. For example, the EU is changing its position to support easier data flow for non-personal data to support the digital economy.

Image 2. What types of data are blocked?



Source: https://itif.org/publications/2017/05/01/cross-border-data-flows-where-are-barriers-and-what-do-they-cost

The GDPR includes the right for the consumer to move its data from one provider to another. The goal of this clause is to create room for competition and make it easy for customers to migrate to a better service provider. This would require easy flow of information between different providers and data to be transferable. Based on the comparison table, it is clear that the EU is the leading organization at the forefront of data ownership and privacy issues.

The EU Leading in Data Regulation

The EU is pushing for a sharing of laws across the member states to further integrate the EU economy and create a unified front in data regulation. The two recent regulations in the European Union will impact the financial services industry in the near future: the GDPR and the Revised Payment Service Directive (PSD2). GDPR establishes consumers' rights over their data and requires firms to establish data protection offices. It levies stiff penalties for firms that fail to protect consumer data. Although the regulation is admirable in its goals, the concern is that this regulation will reduce the growth of network firms that operate in the EU, including those that were founded in Europe. By contrast, PSD2 specifically requires banks to open their systems so that non-bank firms

can make payments upon customer accounts. The goal is to spur more innovation in FinTech startup firms. Independently, these regulations might make sense and help to further specific policy objectives. Together, however, they may work at cross-purposes.

General Data Protection Regulation (GDPR)[17]:
GDPR has come into effect in May 2018, and applies to all companies that have EU citizens' personal data, including those located outside the EU. Key rules in the regulation are as follows (Luckerson):

- Consent: Stronger conditions for consent, requested in an intelligible and easily accessible form.
- Right to access: Users have the right to request how data related to them is being processed and for what use. Also, the service provider is responsible for providing copy of consumer's data in electronic format, and free of charge.
- Right to be forgotten: Users have the right to request the service provider to erase their data, including removal from third party services.
- Data portability: Users have the right to receive their personal data and transfer it to another service provider.
- Privacy by design: Inclusion of data protection measures starting in the design phase of new technologies, rather than as a later addition. (This item includes ideas such as data minimization and limiting access to data while processing.)

Payment Services Directive 2 (PSD2)[18]:
The first payment services directive (PSD), adopted in 2007, had the goal of providing a foundation for an integrated and secure payment system. The revised version of the directive, PSD2, was proposed in 2013 to clarify some of the uncertainties in the previous version and include the new services and technologies introduced in the field under the updated directive[19]. The implementation of the updated directive started in January 2018, but some countries are planning to introduce the requirements for a more gradual transition[20]. The main changes in this version are as follows:

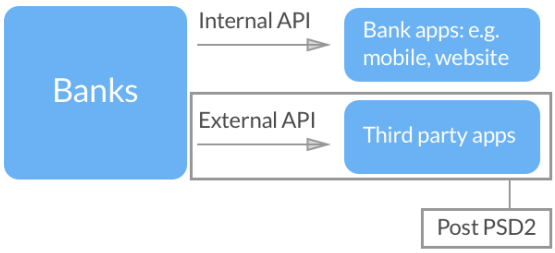
- Third party access: Grant access to third party providers for customer data

[17] http://www.eugdpr.org/key-changes.html

[18] http://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:32015L2366#keyterm_E0001
[19] http://europa.eu/rapid/press-release_MEMO-15-5793_en.htm?locale=en
[20] http://eastandpartners.com/publications/banking-news/europes-banks-prepped-for-psd2-rollout

- Larger scope: Extend the scope to outside Europe to apply to cases in which at least one party is located in the EU
- Access to Payment Initiation Service Providers (PISPs): Allow third parties to initiate payments from customer accounts[18]
- Ban surcharges and cap interchange fees charged between banks for card-based transactions
- Enhanced security requirements for payments services and account information access

Image 3. Banks will be required to have a public API open to third party providers



Source: MIT IDE

Other EU efforts on data flow:
The EU has been historically in favor of data localization rules that restrict service providers in their abilities to store and share data, but this strategy has started to shift in the past few years. In 2014, the Commission established the initial set of measures to support the data economy, which was followed by "the digital single market strategy", focusing on the non-personal data flow. In May 2017, the Commission announced the "data economy" as one of the top three priorities for action[21].

A recent report by the European Commission addressthe fact that data location restrictions can be limiting to the free flow of data, which can hurt "areas characterized by close cooperation between supervisory authorities, such as financial services"[22]. The Commission expects to drive down costs and provide more flexibility to companies, making transition to the cloud easier and opening up new options for relocation of IT services. The value of the digital data in the region is expected to double itself by 2020,

[21] http://www.europarl.europa.eu/RegData/etudes/BRIE/2017/614628/EPRS_BRI%282017%29614628_EN.pdf
[22] http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52017DC0009&from=EN

creating more job opportunities and economic growth[23]. In combination with the GDPR for personal data use, these efforts aim to improve the free flow of data within the EU, provide a comprehensive guide to service providers, and stir innovation while ensuring customer consent and security.

With the new data privacy regulation introduced May 1, 2018, China is also taking a standardized national approach to regulating issues of user consent, personal data collection, data storage and sharing[24]. Despite the fact that how these new regulations will be implemented in the EU and China remains ambiguous, the standardization trend to establish unified data regimes from both of these regions cause divergence from the practices in the US, leaving the EU and China leading the regulatory landscape in the international field regarding data regulation.

New Regulations and Their Impacts on the Financial Services

The EU is taking significant steps in its efforts to regulate the financial space. These new rules bring significant new responsibilities and are likely to shape the competitive landscape going forward. However, the ways in which these new rules will be implemented and enforced will unfold in the coming months. Below is a list of what we see as the potential implications of the new regulations for the financial services industry:

- **Banks are forced to adapt:** Most banks have been burdened by multiple independent legacy systems they have been using for a long time. The new requirements such as "the right to be forgotten" demand banks to aggregate customer data and keep track of storage across different systems, while also providing easy access to other service providers by creating APIs.

- **Higher costs associated with new data requirements:** Data portability requirements may cause significant cost increases in the short term to improve technology infrastructure to comply with the updated requirements. This can cause companies to shift their focus from other priorities and hinder other efforts to modernize their systems.

- **More non-bank players entering the market:** The new regulatory changes will make it easier for third parties to access information. This can increase the number

[23] http://europa.eu/rapid/press-release_MEMO-17-3191_en.htm
[24] https://www.csis.org/analysis/new-china-data-privacy-standard-looks-more-far-reaching-gdpr

of players entering the market, providing customers with more options while increasing the competition for the existing players in the market.

- **Increased competition:** Standardization may make the continental European market more appealing to platform companies and allow tech giants to enter the market. As the barriers to entry are reduced, large technology companies may change their FinTech strategy by adding new financial services to their portfolio. In such a scenario, banks risk becoming utility providers while technology giants or financial services firms with strong user interfaces and large customer bases may take over customer relationships.

- **Potential pressure on margins:** Standardization of services may lead to more transparency across different providers, which can pressure the margins. For example, if a financial services platform starts showing credit offers from different banks to clients who want to borrow money, the transparent marketplace would enable easier comparison, which would lead to banks providing better rates to attract customers and lowering their margins. In the past, banks have been able to depend on income from margins on commodity services, but the increased transparency of the new market will force margins down and make it harder for banks to sell vanilla products at reasonable profitability.

- **Small players and consumers likely to gain the most:** Small companies and consumers are likely to benefit the most from easier market entry and standardization of marketplaces. The smaller companies will have a better chance of reaching customers and launching their products, while customers will be able to choose the cheapest product that meets their needs.

Recommendations

It is crucial for the financial industry to position itself correctly to become a platform business in the coming years and to expand its ecosystem, generate value, and avoid becoming a utility service provider:

1. Our research has led us to believe that the ideal option would be to build a platform from scratch, as the many legacy systems that are already in place would be very costly to replace. For such an undertaking, the banks would have to conduct a cost benefit analysis in order to assess whether they should continue working with legacy systems or scrap them. However, this calculation will be very sensitive to out year benefits, and the cost numbers would be more accurate than

the benefit numbers. Hence, the decision is more likely to be made strategically than based on a precise discounted cash flow analysis. One wild card that can change this calculation would be the emergence of middleware software that can effectively translate legacy systems to a common platform layer. Considering the fact that incumbent financial institutions have many legacy systems, the ability to translate these systems would be a significant development.

2. Consistent data strategy is key to platform success. The first step for any company working on their platform strategy should be developing a common data model that unifies the companies' data assets across different verticals. Incumbent firms tend to have legacy IT that is not tightly integrated within the firm. Although costly, such integration is essential in order to implement a successful platform strategy. Without it, all of the different partners, both internal and external, cannot access the same database to drive insights, develop products and services, and move the enterprise forward.

3. Determine which services will constitute the core offerings of the platform that will be built in-house vs. those provided through partnerships. The platform provider needs to have a unified strategy in choosing the right partners to ensure a comprehensive product portfolio. Providing the core functions to attract successful content providers will be crucial in delivering services to a growing customer base. Finding the right ecosystem partners for integrating other adjacent services (e.g. insurance) with a strong user interface can lead the platform to become a one-stop-shop for customers and increase stickiness.

4. It is important to provide the necessary support services to developers—to establish methods to work with developers in order to update them on upcoming changes and ensure continued investment by developers. The platform facilitates value creation by providing the necessary tools to create, curate, and host content for others to consume. An even deeper level of value creation occurs when external developers build new products and services using platform resources. In designing systems to facilitate new product development we note that it is important to recognize the difference between internal vs. external developer motivations. Internal developers are often more willing to overcome barriers to adoption versus external developers who can be motivated by challenging problems, but are less willing to incur substantial adoption costs.[25] Another layer

[25] Sam Ramji of Google highlighted the key differences at the MIT Platform Strategy Summit, July 14, 2017.

of value creation occurs when external networks, such as Automated Data Processing (ADP), partner with firms such as SAP to join their networks together. In this way, one large player might host the services of another large player.

5. Be prepared to make investments in human resources. Most incumbent firms do not have the human resources with the right skillsets, which can prevent them from executing strategies effectively. Hence it is crucial to identify these gaps in the organization and bring in the necessary talent.

6. Be prepared to incur significant launch costs and to potentially subsidize the creation of a minimum set of content. Note the Android example discussed earlier, where the innovation contests the company initially organized resulted in a strong product portfolio. Though it can be resource intensive, it makes sense to put some money on the table from the start to attract the right ecosystem partners onto the platform.

7. Consider the possibility of a joint platform sponsorship. A joint effort can avoid ruinous competition. A white label solution with a joint back end and customized front end may create a strong, market leading platform that can become the aggregation layer for most financial services and beyond.

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References

Cusumano, M., "Technology Strategy and Management: The Evolution of Platform Thinking." Communications of the ACM, January 2010; 53(1): 32-34. 2010.

Cusumano, M, Staying Power. New York: Oxford University Press Inc, 2010.

Gawer. A,. Platforms, markets and innovation. Cheltenham. Edward Elgar, 2009.

Hagiu. A. “Strategic Decisions for Multisided Platforms” MIT Sloan Management Review, 2014.

Eisenmann, T. G. Parker & M. Van Alstyne. “Strategies for Two-Sided Markets” Harvard Business Review (2006) October, pp. 92-101.

Eisenmann, T, G. Parker & M. Van Alstyne (2011) “Platform Envelopment,” Strategic Management Journal 32(12) 1270-1285.

McAfee, A. “What Every CEO Needs to Know About Cloud”, MIT Sloan Management Review, 2011.

Parker G. & M. Van Alstyne. (2005) “Two-Sided Network Effects: A Theory of Information Product Design”. Management Science; 51(10). Oct. pp. 1494-1504.

Parker, G., M. Van Alstyne (2012). “A Digital Postal Platform: Definitions and a Roadmap.” White paper prepared for the International Post Corporation.

Parker, G., M. Van Alstyne (2014) “Platform Strategy.” In the Palgrave Encyclopedia of Strategic Management. M. Augier and D. Teece (eds.).

Parker, G. G., Van Alstyne, M. W., & Choudary, S. P. (2016). *Platform Revolution: How Networked Markets Are Transforming the Economy and How to Make Them Work for You*. WW Norton & Company.

Van Alstyne, Marshall W., Geoffrey G. Parker, and Sangeet Paul Choudary. "Pipelines, platforms, and the new rules of strategy." Harvard Business Review 94.4 (2016): 54-62.