DEVELOPER PORTALS:

TRANSFORMATIONAL AGILITY FOR THE BANKING SECTOR

1 Backdrop to changing market dynamics

Digital technology – embodied through the Internet, connectivity, mobile devices and multi-tenanted shared services – has enabled new businesses to disrupt industries and established organisations, to rapidly move into new markets.

The impact has resulted in businesses not only fearing that their organisation might be put out of business, but also that their value chains could diminish. We can see, for example, how technology companies, such as Amazon, Apple, Google and Facebook, have taken control of valuable customer relationships across industries as diverse as healthcare, financial services and retail.

To remain relevant, then, it is essential that organisations of all sizes and industries find a way to leverage the digital economy.

SUCCESS FACTORS FOR MARKET DISRUPTERS: SPEED AND AGILITY

The disruptive nature of technology is only set to continue. Technology has enabled businesses that are new to the market and have limited capital to compete with wealthier and more established organisations. Through speed and flexibility, these disruptive businesses have often been able to outmanoeuvre their competitors. They also provide customers with superior experiences that lure them away from traditional suppliers.

These new entrants have far smaller capital investment in technology infrastructure than the incumbents. Lacking complex processes or inter-departmental politics, they are fully able to take advantage of new technologies.

In a push back to new market challengers, many established organisations are becoming disruptors themselves. While size can sometimes present a barrier, it is clear that even large enterprises can be agile, flexible and provide great experiences for customers, employees and partners. This requires change that is often referred to as Digital Transformation.

Just as important is the demand for tools and solutions that can help readdress the imbalance for more established organisations.

EVOLUTION FOR BANKING

Banks are, in many respects, like any other enterprise and so the need for change is driven by the same requirements, such as speed and experiences that can drive down costs and improve productivity and competitiveness. Improved speed can see faster onboarding of new clients. In fact, greater levels of automation, self-service applications and the use of video in decision making processes can help to improve the customer experience within banks and financial institutions.

Like many other organisations covering the financial services market, banks are keenly pursing strategies that allow them to specifically address:

- Cost reduction
- Digital / mobile adoption
- Tech firms entering the Financial Sector
- Continued investment in digital, to make it easier for customers to do business with them
- Implementing tools for front-line colleagues to make better use of their time
- Automating more operations, to get more out of their high-quality, low-cost service centres
- Getting more for less from what they spend on technology

To be successful in the digital economy, banks will have to create, adapt and deliver apps that respond to customer demands quickly.

THE DIGITAL TRANSFORMATION CHALLENGE

A challenge for organisations looking to digitally transform is the ability to innovate and to deliver that innovation to market quickly. This has led to changes in the ways that organisations ideate, design, build, and release applications.

New processes such as Agile and DevOps have seen widespread adoption as a result. New technologies and computing models such as Cloud have also enabled organisations to move faster.

However, there are other blockers to going faster, especially in regulated industries where companies cannot simply forego the necessary governance and compliance requirements in the pursuit of speed. Indeed, regulation in certain industries can prevent organisations innovating into those markets at all.

The question is how can developers innovate faster while still respecting critical issues such as regulation and security, among others?

INNOVATION HURDLES CHALLENGING BANKS

The financial services industry and banks in particular, face the task of being innovative and going faster while still meeting the requirements of regulation. Innovation has become a leading area of competition for banks in recent years: from the advent of online banking, through mobile banking, to the ability to pay using a watch or smartphone.

The industry itself has seen innovation by disruption from new players such as Starling and Monzo. There is also the threat of bigger technology companies moving into the traditional banking space, and new alternatives to banking such as crypto currencies. While these are all challenges for the world's largest banks, they are even more challenging for smaller and mid-size banks with fewer resources to throw at the problem.

A SOFTWARE DEVELOPMENT STRATEGY FOR OVERCOMING HURDLES

A solution for organisations of all sizes is to embrace the use of Application Programming Interfaces (API) - a set of functions and procedures allowing the creation of applications that access the features or data of an operating system, application, or other service. APIs, which are generally seen as web service interfaces, have become increasingly a core component of modern applications. Through technology agnostic interfaces that can be called over private networks or the public internet, developers can quickly integrate with systems and data that their organisation or a third party has created. APIs have become a modern type of middleware in modern distributed applications.

Internally created APIs offer an effective platform for reusability of core business functions – enabling faster development of new solutions on top of the API layer. We have seen organisations building out portfolios of APIs over recent years. They were initially driven by the desire to build Rich Internet Applications and more recently mobile apps. But now these API layers can support new Internet of Things solutions and enable organisations to embrace Cloud as a development platform – and call back into the core systems via APIs. Third party APIs, on the other hand, provide access to functionality that an organisation has no ability (or perhaps desire) to create themselves.

2 Advent of the API economy

For years now we have referenced the API Economy to depict the ever-growing number of APIs that developers can use. For some providers APIs are a way to monetise proprietary systems or data. Others offer APIs for free to entice developers to integrate their products or services (that they do charge for) in order to increase customer retention. In some cases, APIs developed for internal purposes can become such third-party APIs used by others.

EXTENSIBILITY OF CORE SERVICES

We have seen third party APIs used to great effect by some vendors. Their APIs have enabled customers to build into the core application and extend it. Customers build their own customised solutions on the platform. Reusable solutions are often then sold in a marketplace for other customers of the application to buy. This further helps developers to move faster and offers monetisation options to developers as well.

By using APIs, an application can obtain the benefits of functionality without the need for the developers of that application to build, maintain or support it. This clearly speeds up initial development as developers are focused on building the parts of an application that are unique to them i.e. the core of their competitive differentiation.

Some modern applications are built almost entirely out of different APIs with the differentiation being the sum of the individual parts. Most organisations will not go this far but they can reap the benefits of using APIs.

While speed is an upside – particularly to third-party APIs, both in the initial build and over time, there are other important considerations, particularly for regulated industries such as banking, which can be prone to issues of governance.

Crucially, to deliver these API feature benefits, important considerations must be addressed.

CRITICAL CONSIDERATIONS TO USING APIS

● Commercial requirements through Service Level Agreements (SLAs)

With respect to commercial APIs, one concern will be the commercial relationship between the developer and the provider of the portal. Such an agreement can provide the developer with a reliable and stable payment model and the benefit of a SLA.

For an API that is a component of applications that might be critical to the business and which in turn may be required to provide an SLA to other applications or solutions, having such binding assurances from the provider of the API is not only beneficial but could be an absolute requirement.

● Trustworthy APIs are a necessity not a nicety

It is, of course, critical that APIs can be trusted. Any output from an API needs to deliver what is required and to the expected standards of accuracy and reliability. They also need to be reliable and performant – if an API is unavailable then the part of an application that calls it will be unable to deliver its own function. And if the API responds slowly then the calling application will also be slow.

● Data protection all the way

In addition, an organisation's data may get passed to an API and, especially in the light of data protection and privacy regulation such as the General Data Protection Regulation (GDPR) – a directive that applies to the handling of data for all EU citizens – it is important that the organisation knows how that data will be handled by the API and that it can be trusted to abide by those commitments.

● Security beyond a hygiene factor

Security is, of course, the critical concern for all those in IT today. High profile cases of data breaches have undermined the reputations and bottom lines of many organisations. When accessing a third-party API, security is therefore an important consideration. The access controls and security interfaces around the API are important in not only ensuring a high level of security but also providing trust in that API.

3 Developer portals: Gateway to the API Economy and business agility just right for banks

Finally, developers need to find and access APIs. One way to do this is through developer portals. Specifically, a developer portal:

- **Can bring together multiple APIs and offer them in a way that is consistent, not just with respect to the design of their interfaces but also in other aspects such as a common billing engine.**
- **Can encapsulate all the necessary documentation to make use of APIs and service other concerns. This can be especially beneficial in large organisations where there are multiple development teams – often geographically distributed and serving different functions within the organisation. A portal provides a single, validated source that they can all use.**
- **Can target a niche within the developer community. In the case of an industry such as banking, a portal that appreciates the needs of a bank or other financial services providers, can tailor itself to better serve those customers. More generalist APIs may not specifically address industry requirements.**
- **Can respects the needs of a given industry like banking, providing a short cut to validated APIs and giving developers access to a curated catalogue. This will provide a level of trust, allowing organisations to have faith in multiple APIs without having to validate each one.**
- **Can provide access to pre-validated solutions, and also to developers and development teams experienced in working with the core platform services.**

VITAL INCLUSIONS: ATTRIBUTES THAT ENCOMPASS MODERN DAY DEVELOPMENT CONCERNS

There are a number of important concepts and foundational strategies that underpin modern day development concerns that need to be addressed effectively. These include support for automation and orchestration and guidance for the effective release of applications to maintain the capability for business agility.

REGULATORY COMPLIANCE – A MARKET-OPENER FOR ALL

In regulated industries a further benefit of APIs is that they can be responsible for meeting the requirements of regulation. E-commerce sites, for instance, have been able to take advantage of online payments without the need for the sites themselves to meet the regulations of the payment processor. The credit card processor does the heavy lifting.

Anyone today can build an application that uses a financial services function (payments) without them having to go through the burden of regulation.

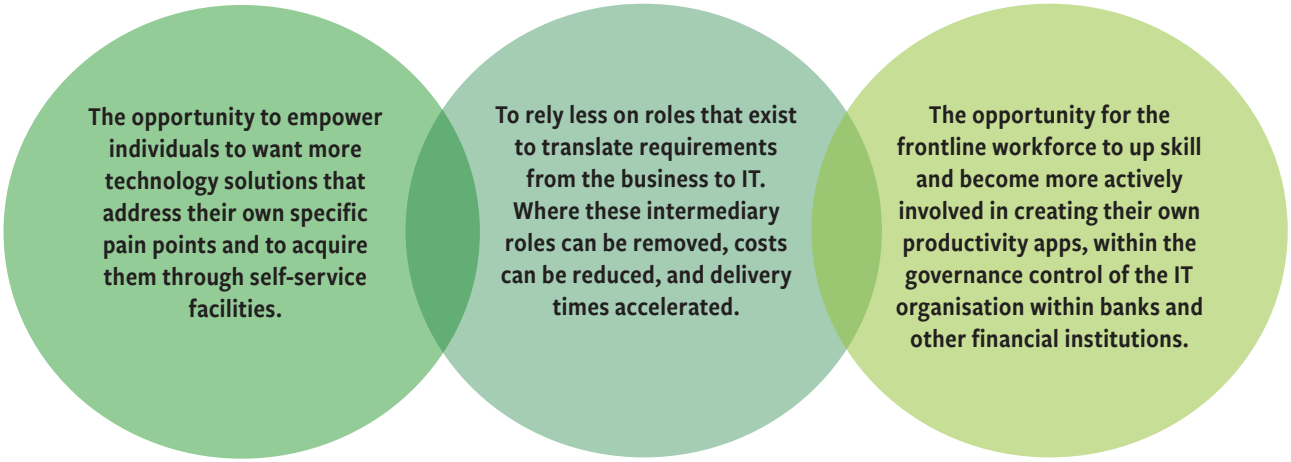
Having APIs that meet the required regulatory standards is not just of benefit to those in the industry. For example, a bank that is regulated may need the assurance that an API it uses as part of an application also complies with the regulation. Organisations outside of the regulated industry can more easily and cost-effectively move into the financial market space.

Like the e-commerce and online payments example, organisations in other industries can take advantage of elements of the financial services, or start-ups can innovate around financial services and banking. All of them are free from regulation.

INTENDED CONSEQUENCES: ADDITIONAL BENEFITS OF A DEVELOPER PORTAL

Where there is a shortage of skilled IT professionals to deliver all the solutions that a business demands, empowering some of those with domain-specific knowledge to create their own solutions removes a blocker to better outcomes. This is, of course, best done in an officially-sanctioned, regulated and monitored way, that highlights the further benefits of a developer portal, but requires changes within IT. The key is for IT to provision platforms that inherently support key concerns, such as security and regulation, but that non-professional developers can also leverage. Doing so offers beneficial returns at both the business and operational level.

A developer portal could see an IT organisation that is more actively engaged and responds faster, becoming a valued partner to the business. There are three obvious gains:



4 Real world perspectives: A Developer Portal for leveraging core banking services

For developers in an industry like banking, having access to APIs via a provider well versed in the dynamics of the industry has multiple benefits. It will allow them to:

- Easily find APIs that will help them with their specific industry requirements
- Know that the provider of the service is regulated to the necessary standards
- Be provided with the security and service level agreements that they need
- Access support that understands their industry concerns
- Access an ecosystem and marketplace that provides additional support and pre-built solutions

These benefits are especially useful to those within the industry but also to those with far less experience and knowledge who may wish to extend services into the industry. Therefore, when considering a developer portal for the financial services market – particularly one capable of extending core banking services – it is worth evaluating, in conjunction with the considerations outlined in this report, the following:

Market footprint – A provider with a longstanding history in the banking industry, especially one recognised for delivering core banking services, will fully understand the regulatory and industry needs of banks. This will help developers reap the benefits of working with APIs, while reassuring them that the services they're using are fully compliant.

Access to open API standards – API support and documentation for key industry standards such as the PSD2 regulatory APIs that enable open banking services. The APIs allow for functionality that enable funds transfer, accounts management and payments which can be used without the need for the consumer of the APIs to be regulated. Examples of the PSD2 services include:

- PSD2 Transfer of Funds
- PSD2 Creditor Requested Payments
- PSD2 Account Aggregation
- Retrieving a customer portfolio
- Creating Customer Accounts

A verification process to certify development experience and capability for delivering application solutions and correct use of key APIs and core banking functions.

Access to expert support – Easily accessible documentation is one aspect of support that will be welcome to all users of a portal. But it is access to expert advisers, who have a deep understanding of what's behind the APIs, that can really offer differential support to help customers both in the industry and coming from outside with specific issues.

A managed ecosystem open to collaboration and expansion – For any developer portal to offer real value and a sense of community, it requires the backdrop of an actively-engaged community of developers who can help each other build better solutions. A challenge in industries such as banking is that while there are many great developer communities available – such as Stack Overflow – they tend to address technical issues in a horizontal way. Providing vertical expertise to help developers in scenarios where there are specific industry requirements – such as regulation – is important.

Marketplace – An important aspect of an engaged community is the ability to exchange services, APIs and other components that others can leverage to build out their services. A marketplace where developers can build solutions using the available APIs that other developers have developed is vital. Once again, this reinforces the ability for saving time with respect to development and having to learn the intricacies of certain financial services scenarios (such as workflows). Crucial to an effective marketplace is a common access layer that provides the necessary security and billing capabilities.

5 CCS Insight Analysis:

In an environment where innovation can be a major competitive advantage or an industry disrupter, the ability to deliver innovative applications into the market at speed is critical. Maximising the process of innovation requires collective engagement from multiple sources. For many organisations from the large to the very small (e.g. individuals and start-ups), regulation poses challenges that in some cases may prove to be barriers to entry and engagement.

APIs can greatly speed up the development process and reduce ongoing maintenance overheads, whether through re-use of common functionality or adding third party capabilities. In regulated scenarios, having access to APIs that are regulation-compliant can provide those same level of benefits to regulated organisations – such as banks – while also reducing a barrier to entry into the industries for others. This increases the opportunity for innovation as well as speed.

Ultimately, having access to APIs via a dedicated developer portal can:

- Make giving developers access to curated and approved APIs easier
- Deliver specifically on the needs and concerns of an industry
- Offer a single billing engine to manage cost
- Provide everything a developer needs in a single consistent way to access APIs
- Potentially provide a marketplace of pre-built solutions using the APIs that developers can plug in

In an industry with specific requirements such as regulation, such portals can reduce risk and speed adoption of third-party APIs.

Ultimately, developers are a mixed bag and so their diversity needs to be recognised if one is to engage with them effectively. The challenge for many organisations is that understanding how best to achieve this can be a daunting task. Get it wrong and it could be detrimental to fostering future developer relationships.

A developer portal targeting the banking industry allows it to attract those interested in building new solutions for the financial industry. It would be tempting to make a developer portal that is universally attractive to the broadest spread of developers in the market. However, a developer portal that engages with developers and application solution providers equipped with the skillset and knowledge of the financial industry's regulations, infrastructure dynamics and business imperatives drivers would offer the most effective outcomes.

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