

FinTECHTalents

VOX
POP

Is the future for
FinServ Open Source?

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Is Open Source the Future for Financial Services?

It can be common, in today's world, to hear a digital leader proclaim that their organisation is 'no longer a bank' but a 'technology' company with a banking licence! Their inspiration for innovating financial services is more likely to come from Silicon Valley-style industry disruptors like Netflix, Uber and Spotify.

In order to fully embrace using technology to deliver financial services, a move towards Open Source projects has often become the catalyst for digital transformation. Open Source has moved beyond a loose collection of hobbyist coders and is now seen by senior management as a strategic tool to drive enterprise transformation.

However, despite many firms claiming to be 'the Uber of the industry' (whose technology was built on Open Source) there are many barriers and challenges to its use in financial services.

These barriers hold financial services companies back from realising many of the transformative benefits. Open Source can be hard to integrate and the pace of its evolution and adoption can sometimes outpace the maturity of its ecosystem. Best practices for support and engagement models are evolving. Issues around budget cycles, funding, resource and time management, as well as misalignments with strategic goals, have caused many Open Source projects within financial institutions to fall short of expectations.

At the end of the day, with Open Source, everything must be done in an open and transparent manner – characteristics often not found in the highly regimented and regulated financial services industry.

Along with our partner, GitHub, we aimed to gather a snapshot of viewpoints from senior leaders in the industry to look at whether Open Source is the Future for Financial Services. Please enjoy our 'Vox Pop' report featuring NatWest Markets, HSBC, OCBC Bank, Santander UK, Finastra, FINOS and GitHub.



John Smith, Chief Information Officer, NatWest Markets

Are you a member of the FinTech Open Source Foundation (FINOS)? If not, do you have any plans to be?

NatWest Markets is involved in a number of FINOS projects such as FDC3 and actively engaging with Open Source projects, including Waltz. Joining FINOS in the future is a likely possibility. For now, we're focussing on Open Source software and new opportunities for collaboration.

Open Source is a well-established and proven model, the benefits of which the financial services community hasn't yet fully realised.

Why do you think that is?

Very often, infrastructure modernisation takes considerable effort and commitment from technology investment and resources at Financial Institutions, given their typical legacy estate. Equally, because we operate within a complex regulatory landscape, innovations can often be slow to develop and advance.

However, technology transformation seems to be progressing at pace in our industry and I'd expect to see an increase in freed up resources to focus on areas like Open Source software. At NatWest Markets we want to utilise technology capabilities that support our core businesses and where we can make a real difference for our clients. In the past we would have looked at building these solutions internally, while now we are weighing up benefits of that approach versus leveraging Open Source solutions.

How important is it to have an in-house 'Open Source' evangelist within an organisation? What benefits do they bring?

We aim for change that is organic and long lasting. Our view is that it is better to embed Open Source principles into existing governance structures like enterprise architecture, where we already have the expertise and knowledge about how our technology stack works and how best to make changes to our development principles.

While we do not have a full time Open Source evangelist, we have seen great benefits in our technology leaders reaching out beyond their current roles to engage with the Open Source community.



How do you ensure work is done in a collaborative and transparent manner?

It helps that by its very nature Open Source is transparent. The governance of Open Source shouldn't differ too much from the good practises we apply to governance in any other part of our business. Collaborative development mainly relies on a combination of aligning the priorities of all the people managing our development community and equipping them with the skills and tools they need to help them succeed.

How does the governance work?

We have a mandatory set of approval policies. The basic steps are that any Open Source collaboration has to go through an advisory group of senior technology experts from around the business, who then recommend approval or rejection to a formal governance body.

Anyone who wants to collaborate on Open Source projects has to outline the business benefits for our organisation and prove that we aren't letting go of intellectual property or exposing ourselves to risk. After that is done, we have a combination of automated and manual controls to govern the actual publishing.

What type of project works well in an Open Source environment?

The best kind of Open Source projects we have seen are those that bring a group of like-minded people or organisations together to solve a challenging problem. Willingness to collaborate and momentum are more important than the type of software being worked on.

What benefits have you seen with project development so far?

Waltz has immediately become an important tool for us. It's helping us considerably to understand our application estate. And FINOS' FDC3 project is a core part of our integration of Scout (our Symphony RFQ bot) and is something we will be looking to contribute to directly in the near future.

"It helps that by its very nature Open Source is transparent. The governance of Open Source shouldn't differ too much from the good practises we apply to governance in any other part of our business."



Mike Warriner,
Digital CIO, HSBC



Open Source is a well-established and proven model, the benefits of which the financial services community hasn't yet fully realised.

Why do you think that is?

We use a ton of Open Source already - by lines of code our mobile applications are about 90% Open Source(!). However, we're still unable to contribute back to Open Source projects from within the bank due to security and trust concerns. Honestly, these are pretty easy to fix, but there just isn't enough benefit to the bank to fix them compared to the multitude of other issues that abound.

What has been the biggest barrier to introducing open collaboration for technology and tools into your organisation?

The main barrier is central teams determining that they own collaboration tooling and then blocking progress because at the scale of 250,000 people, almost any tool is unaffordable. This is especially a problem where existing enterprise suppliers (e.g. Microsoft) have products in the collaboration space that Microsoft can bundle but that our teams don't want to use. We have been able to bring in tools where there isn't an obvious enterprise standard, such as Jira/Confluence. We also spent two years getting Slack deployed to the Digital teams, but rolling out Slack further continues to be a political nightmare.



How important is it to have an in-house ‘Open Source evangelist’ within an organisation?

Hugely important, almost nothing will happen in the Open Source domain without such a person.

What benefits do they bring?

The energy to get Open Source projects through our approval process so that they can be used internally.

What resources do they need to succeed?

Mainly energy and time. We have bought Open Source scanning and security tools and have a reasonably robust risk framework to make sure that we don't use anything except the most trusted Open Source code in production systems.

How do you ensure work is done in a collaborative and transparent manner?

Not really an Open Source question - but where it is, we have a portal for 'approved' Open Source versions of software and, in theory at least, a defined and published process for getting new software approved.

How does the governance work?

All contributions to Open Source are completely banned. Any downloads must go through the portal and security review process.

What type of projects work well in an Open Source environment?

Since we don't contribute to Open Source, none really work.

What benefits have you seen with project development so far?

For using Open Source we're getting enormous benefit from this. For collaboration and contributions, zero.

"We use a ton of Open Source already - by lines of code our mobile applications are about 90% Open Source(!). However, we're still unable to contribute back to Open Source projects from within the bank due to security and trust concerns."



Mitesh Soni,

Chief Evangelist, Finastra

Are you a member of the The Fintech Open Source Foundation (FINOS)? If not, do you have any plans to be?

I don't think we are, but it would be a great one for us to consider.

Open Source is a well-established and proven model, the benefits of which the financial services community hasn't yet fully realised.

Why do you think that is?

Financial markets are a heavily regulated industry and the need to be accountable for software end to end has caused complications in the past. Liability issues cause the greatest controversy and we've seen the hybrid model work very well with Linux, for example. Red Hat and other similar companies resolved this problem with great success.

What has been the biggest barrier to introducing open collaboration for technology and tools into your organisation?

Mindset and culture have been the biggest barriers since habits are hard to change and require constant revisiting.

How important is it to have an in-house 'Open Source evangelist' within an organisation?

Communications play a vital role to mobilise teams and catalyse action. More than pure communication, however, is the action-led approach that delivers benefits in short cycles and reinforces strategy positively. The Open Source evangelist can play a pivotal role for this education led strategy.

What benefits do they bring?

Faster software development lifecycles, lower cost maintenance and support together with wider choice of developers for delivery.

How do you ensure work is done in a collaborative and transparent manner?

Many of the DevOps methodologies employ transparent working practices where software dashboards report progress in real-time, chat

"Mindset and culture have been the biggest barriers since habits are hard to change and require constant revisiting."



software ensures immediate connectivity for quick communications and for remote teams an effective video conferencing platform to ensure teams are in sync.

How does the governance work?

The best practices usually follow some form of agile where regular standup meetings keep teams in sync, software tools keep projects on track and an effective integrated development test release process ensures smooth delivery.

What type of projects work well in an Open Source environment?

Projects where there are well defined boundary conditions and definition of requirements tend to work better than highly complex problems that have many decision points along the way.

What benefits have you seen with project development so far?

Open Source brings the talents of a diverse community of talented developers together in unconventional ways. Having a wide team of collaborators from diverse backgrounds and unique capabilities ensures rich and compelling end solutions. It results in highly creative solutions at lower cost and shorter timeframes.



Dilip Krishnan,

Vice President, Digital Transformation,
OCBC Bank – Global Consumer Financial Services

Are you a member of the The Fintech Open Source Foundation (FINOS)? If not, do you have any plans to be?

Not a member as yet. Would be interested to be a member.

Open Source is a well-established and proven model, the benefits of which the financial services community hasn't yet fully realised. Why do you think that is?

This is primarily due to customers' sensitivity around their financial information and regulatory gatekeeping. Business models and new channels evolving out of Open Source need to be realised in a perceivably secure fashion to go mainstream. Customers have started letting financial institutions be a part of their non-financial journeys through open models, but the maturity will come in time with embedded products and secure experiences.

What has been the biggest barrier to introducing open collaboration for technology and tools into your organisation?

More than barriers, I would qualify them as guidance / gate-keeping principles for FI's, owing to their inherent responsibility of managing customers' finances.

Control and governance are the main pillars which have guided financial institutions in their journey on open collaboration. These guiding / gate-keeping principles need to make way for timeboxed, scalable solutions which would help to realise the potential of open collaboration for technology and tools within an organisation.

How important is it to have an in-house 'Open Source evangelist' within an organisation?

It is very important as they potentially influence decisions and also bring about a culture change. The primary purpose would be to let change-shy organisations become aware of innovative, scalable business models / solutions and allow co-creation opportunities.

Dilip Krishnan,

Vice President, Digital Transformation,
OCBC Bank – Global Consumer Financial Services



What benefits do they bring?

Benefits are along the lines of solving the awareness problem, followed by opening up the additional market / business model opportunities.

What resources do they need to succeed?

A clear agenda and buy-in from top management. Along with it, from a resourcing point of view, it requires a dedicated roadmap of items to potentially timebox, experiment and also dovetail it eventually into BAU pipeline showcasing tangible ROI.

How do you ensure work is done in a collaborative and transparent manner?

Since the teams are cross functional and part of regular sprint sessions, it enables the formation of a self-governing model thereby ensuring individual accountability and eventually project delivery ownership.

How does the governance work?

Team members are accountable to each other as it is a self-governing model with inputs from various stakeholders. Makers and checkers are not assigned but evolved as a result of the team dynamics.

"Customers have started letting financial institutions become a part of their non-financial journeys through open models, but the maturity will come with embedded products and secure experiences."



Javier Martin,

Head of Emtech, Santander UK

Are you a member of The Fintech Open Source Foundation (FINOS)?

No we are not members, we are beginning to engage with them as well as a number of other Open Source communities.

If not, do you have any plans to be?

We already have a number of collaborations in progress with several Open Source projects, but are not always formally engaged with communities, although we are moving in that direction.

Open Source is a well-established and proven model, the benefits of which the financial services community hasn't yet fully realised.

Why do you think that is?

The expansion of Open Source is unstoppable and the benefits are extensive and that has been proven since the late 90's when companies started switching to non-proprietary software. However in financial services, there have historically been some myths around the use of Open Source technologies and decentralised communities of developers that have made it difficult for financial services to adopt. This is more about cultural reasons and surely this is changing and will continue to change at a pace in the coming years.

What has been the biggest barrier to introducing open collaboration for technology and tools into your organisation?

We believe collaboration is key for the success in anything we do but as I said before, cultural and historical reasons made financial services think that by letting go of proprietary tech they would lose competitive advantage, something that has been proven not to be fully correct. These mindsets are changing and we have seen important progress made in the last three years.

"Cultural and historical reasons made financial services think that by letting go of proprietary tech they would lose competitive advantage, something that has been proven not to be fully correct."

Javier Martin,

Head of Emtech, Santander UK

How important is it to have an in-house 'Open Source evangelist' within an organisation?

Going back to mindsets, it is clear that Open Source evangelists are great catalysts in an organisation to inject mindsets but, the role of the organisation is key for that to succeed; providing the right channels, enabling and empowering employees to adopt new ways of working.

What benefits do they bring?

Clearly Open Source advocates bring fresh views, increasing awareness and improving the perception of Open Source software in organisations.

What resources do they need to succeed?

Support from the organisation, at all levels, from very senior management to all employees.

How do you ensure work is done in a collaborative and transparent manner?

Collaboration and transparent communication helps keep everyone informed and often spurs beneficial partnerships. It improves morale, engagement and productivity. It is a virtuous circle that is only realised once the organisation has the right maturity and culture embedded.

How does the governance work?

I feel the term decentralised governance is not fully understood. I see it more as a mix, where different decisions will need different levels of decentralisation and appropriate mechanisms for conflict resolution.

What type of projects work well in an Open Source environment?

Any projects that involve collaborative work with different members working on a common goal and where sharing intellectual property with the wider world can be done in return for gaining access to a vibrant community of developers that can improve their own technology for free.

What benefits have you seen with project development so far?

As I just said, we have seen real benefits when having access to communities that we would not have had any chance if not using Open Source projects.





James McLeod,

Director of Community, FINOS

Are you a member of the Fintech Open Source Foundation (FINOS)?

I'm pleased to have recently joined FINOS as the new Director of Community.

Open Source is a well-established and proven model, the benefits of which the financial services community hasn't yet fully realised.

Why do you think that is?

This question goes straight to the aims of FINOS. While financial services institutions are great consumers of Open Source many still have work to do to unlock the full potential that open collaboration can provide.

This can happen in many ways and isn't always about contributing code, although that's important. There is much to be gained through knowledge sharing, identifying new opportunities to work together, defining new standards and setting the direction for the industry.

If a financial services institution can't yet contribute code there are other ways to be involved with the Open Source community such as joining meetups, writing blog posts, contributing to technical standards, mentoring others and learning about what's happening in the industry. These can all have a positive impact for both the individual and the company.

What has been the biggest barrier to introducing open collaboration for technology and tools into organisations?

Within FINOS the barriers are low, but we work with many organisations who do face challenges and we offer guidance, practices and tools through our Open Source Readiness and Open Developer Platform initiatives. Some of the barriers we see are the need for a cultural shift required in traditionally competitive organisations and the time it can take to set up enterprise level policies, processes and tools to govern Open Source consumption and contribution. It takes coordination across many different teams and divisions.



How important is it to have an in-house 'Open Source' evangelist within an organisation?

What benefits do they bring?

All firms should have an Open Source champion as there will be many passionate discussions to conduct right across the organisation. Transitioning to Open Source is more than a box ticking exercise, so a person who can communicate, educate and mentor the benefits of Open Source is crucial for the transition to succeed.

What resources do they need to succeed?

All Open Source champions need the backing of their firm's leadership as Open Source can be a real contrast to existing cultures of writing and maintaining your own software built upon proprietary licenses. Leadership advocacy is vital when shifting mindsets from proprietary and closed to open and collaborative.

How do you ensure work is done in a collaborative and transparent manner?

The first step towards open collaboration is recognising the value in teams communicating and sharing ideas. Once teams acknowledge the value in retrospectives, demos, meetups and lightning talks to learn and grow, the path to Open Source appears very soon.

How does the governance work?

This can vary from firm to firm but all financial services firms need an Open Source policy that clearly defines how teams contribute and consume Open Source. Ideally a firm establishes an Open Source review board that produces and maintains this, including input and feedback from the many relevant areas of the firm, e.g. software engineering, legal, compliance, risk, security, training. Tooling is also an essential part and will need to provide audit logs, security mechanisms, compliance reporting and much more. Some useful resources are our FOSS reference policy and the OpenChain Curriculum.

What type of project work well in an Open Source environment?

In my opinion, the best Open Source projects are ones where when engineers pull together to increase velocity, efficiency and quality whilst reducing duplication of effort. Within FINOS we have programs that demonstrate all these traits, including FDC3 that defines the standards for passing financial objects across desktop applications in finance.

What benefits have you seen with project development so far?

I might be biased, since I'm the Director of Community, but the greatest benefit of embracing Open Source I see is the cultural difference it makes to people and teams. Once teams start sharing ideas and solutions to problems, innovation flourishes and great products are produced. Plus, there's nothing better and more exciting than working in Open Source teams where members are spread across the globe.

"If a financial services institution can't yet contribute code there are other ways to be involved with the Open Source community such as joining meetups, writing blog posts, contributing to technical standards, mentoring others and learning about what's happening in the industry."

Nigel Abbott,

Regional Director North EMEA, GitHub



Are you a member of the The FinTech Open Source Foundation (FINOS)?

If not, do you have any plans to be? If so, why did you become a member?

GitHub is of course a member of FINOS. It is fantastic for legitimising Open Source in the FSI sector. With numerous examples of member organisations taking full advantage of Open Source, many are realising the huge benefits that this kind of collaboration can bring. In turn, this frees up developer time within member organisations, to focus on more complex solutions that will produce higher customer and shareholder value at a quicker rate.

Open Source is a well-established and proven model, the benefits of which the financial services community hasn't yet fully realised.

Why do you think that is?

Numerous organisations in the FS sector stem from traditional structures. Banks, for example, are often centuries old and operating on the same legacy systems as three decades ago. The culture in these companies are not built for collaboration. Teams are often siloed, and engineers are no exception. This means that teams cannot access, collaborate and submit pull requests on each other's code. If these teams are to break through these silos and embrace Open Source, organisations must rethink their structure and be open to changing their culture and encourage collaboration across teams.

What do you think has been the biggest barrier to introducing open collaboration for technology and tools into financial services organisations?

Regulation has been the biggest barrier to introducing open collaboration. Financial organisations are tightly controlled and regulated (and rightly so). But this is also hindering their chances to compete against the agile challenger banks and embrace Open Banking - both of which are the biggest disruptors in the market. Open Banking has forced UK banks to open their data through secured APIs and as a result, necessitating these organisations to take a different approach. Banks must therefore break their legacy systems and embrace Open Source, not just to keep up with disruptors but to remain compliant.



How important is it to have an in-house 'Open Source evangelist' within an organisation? What benefits do they bring? What resources do they need to succeed?

For financial organisations that are used to operating under strict regulations and age old legacy systems, the prospect of embracing Open Source often seems daunting. Therefore it is important for organisations to encourage change through implementing a set of practices that enables teams to explore collaboration through Open Source. Introducing an in-house Open Source evangelist can help steer organisations in the right direction but is ultimately up to the individual to embrace and initiate change, after all Open Source is a huge team effort. Collaboration is therefore the most important asset for good software development. Without it, organisations cannot benefit from the true value of Open Source.

How do you think you can ensure work is done in a collaborative and transparent manner? How does the governance work?

With 96% of all proprietary application development including elements of Open Source, there is no doubt that it's a foundation for building secure and reliable software for the World's newest technologies. Good Open Source practice therefore requires developers to contribute code to Open Source platforms such as GitHub, as much as they take it. Organisations in the financial sector just need to look to the success of the challenger banks, who are huge contributors of Open Source, to see how it's now integral to market innovation. If organisations are to commit to embracing an Open Source culture, they must enable teams time to contribute to other projects and build on others' code.

"With 96% of all proprietary application development including elements of Open Source, there is no doubt that it's a foundation for building secure and reliable software for the world's newest technologies."

What type of projects works well in an Open Source environment?

Any application that doesn't involve sensitive intellectual property can thrive in an Open Source environment. If you look at what most FSI companies do in their day-to-day operations across retail, commercial and investment banking, most of it is done by all the other banks. Common functionality is 'table-stakes' for the banks and offers little to no value for either the customer or

the bank. Think about the process of cheque clearance, all the banks need to process a cheque through a clearing house, but why not express this logic via an Open Source model so all the banks could benefit from a larger, more efficient collective effort? In this way we drive down the cost of application maintenance and enhancement as the load is spread across multiple parties.

What benefits have you seen with project development so far?

Just consider where the industry would be without Jenkins or Linux and the benefits of project development are clear. Open Source enables organisations to 'stand on the shoulders of giants' by building on the software produced by the best developers across the globe. With half of the 2018 Fortune Global 10 contributing to Open Source on GitHub, organisations can access code and learn from the best developers in the business.

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