WHITE PAPER

Success Kit: Enterprise Architecture for Financial Services & Banking

Keeping pace in an evolving digital world

LeanIX

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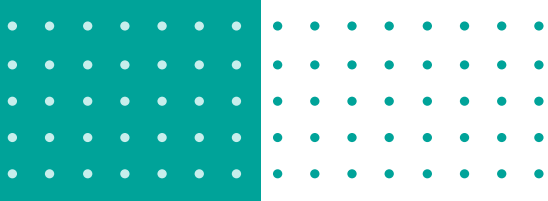
CONTENT



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Introduction

Emerging technologies have had a major impact on the way businesses operate across all industries. For more traditional sectors like banking and financial services, leaders across both operations and IT have had to make significant shifts in their approach to meeting customer demands and staving off encroaching rivals.

Digital transformation has become the largest opportunity, as well as the greatest threat, to providers of financial services. Fast-moving, disruptive competition from non-bank FinTech organizations have begun eating into market share and will continue to do so at a rapid pace if banks and financial services aren't able to innovate, quickly. According to the PwC Global FinTech Survey, industry respondents said that a quarter of their business, or more, could be at risk of being lost to standalone FinTech companies within 5 years.

Further complicating matters are the increasingly stringent regulations being placed on the sector by public and private governing bodies. Banks and financial services organizations are responsible for some of the most sensitive personally identifiable information (PII) sought after by hackers and identity thieves. Cybersecurity and compliance are essential to ensure smooth operations and avoid crippling financial penalties, which is why technology leaders need to have a clear understanding of their IT infrastructure and data interdependencies.

Enterprise architecture (EA) touches upon strategy, business, data applications, infrastructure, and security to build an information-rich map of an enterprise. By aligning operational strategy with the technology needed to meet enterprise-level goals, EA provides visibility and direction for data-driven decision making.

In this white paper, you will learn:

- **What technology trends impact banking and financial services**
- **Why data-driven enterprise architecture is key to the success of digital transformation**
- **How the financial industry can leverage EA and avoid common fail points**
- **How finance IT can prioritize their EA journey, win over key stakeholders, and ensure continuous EA success**

Data-Driven Enterprise Architecture for Digital Transformation

While digital transformation has been a priority for enterprises across all industries including financial services, not all enterprises derive the desired results from their efforts. Even before companies can begin reaping the benefits of digital transformation, they must grapple with issues such as delayed projects, siloed IT, data security and compliance issues. These issues arise from the lack of a proper inventory for IT systems, no visibility into the business and IT landscape, absence of strategy for dealing with legacy systems and equipment, limited knowledge of the health of IT systems, and insufficient know-how for integrating data from various source systems to produce a holistic IT picture.

A significant number of these challenges arise or are reinforced by the deep legacy IT of an enterprise. Due to outdated technologies, many banks and financial services providers struggle to scale their IT capabilities to process data, as well as use it efficiently to improve customer experience and retention. Table 1 shows some of the emerging technology trends impacting the financial industry and shaping enterprise architectures of the future.

Table 1
Major Trends Disrupting the Finance Industry

TRENDS	DESCRIPTION
FinTech continues to grow	• Innovative technologies enabling mobile and peer-to-peer payments anywhere, anytime. • Customers no longer have to concern themselves with traditional banking hours to perform transactions, make investments, or apply for loans. • Entrenched banks and financial services must pivot thinking, architectures, processes, and strategies to catch up to these nimble start-ups.
Artificial intelligence (AI)	• Financial organizations are using AI for customer service, online chat bots, and automated services like loan underwriting. • If rolled out properly, AI can be a critical source for gathering customer intelligence data. • Rushing AI without properly testing in a commercial environment can have detrimental effects, so organizations need to run pilot programs to ensure its effectiveness.

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TRENDS	DESCRIPTION
Blockchain	• At the core of emerging trends in banking and finance, blockchain technologies are being used by an increasing number of institutions to reduce dependencies. • Blockchain decentralizes and accelerates payment and remittance processes, reducing settlement times and costs. • Financial services providers need to consider associated risks of blockchain technology, as regulators have not yet standardized rules of governance around them.
Cloud native	• More and more, banking and financial services are migrating to the cloud to better support the 24/7 demands of their global customer base. • As core services are moved to the cloud, CIOs and EAs need to keep security top of mind as their IT infrastructure will look radically different. • Stakeholders like EAs and cloud architects can improve their cloud governance efforts with a tool like LeanIX Cloud Native Suite.

Source: LeanIX GmbH

These and other technologies influencing digital transformation in finance come with a steep learning curve and can present significant challenges to the traditional architectures the industry was built on. However, in order to survive, retain, and expand their customer bases, banks and financial services firms need to adapt. Today's consumer has no time to wait in line at a bank. They are accustomed to real-time services at the touch of a button on their smart phone and won't stay with a company that can't accommodate their needs. This is where enterprise architects can step in to identify growth opportunities and capitalize on trends while mitigating risk on the backend.

Modern, data-driven tools like the LeanIX Enterprise Architecture Suite make it almost effortless to inventory EA data, build and track data relationships, and run analyses to reveal key insights. By using EA for managing and optimizing their IT, banks and financial services can reduce costs, safeguard against risks, and become more agile (see Table 2). No other practice than enterprise architecture even comes close to successfully achieving the mammoth task of digital transformation in the financial industry.

Table 2
Value of Enterprise Architecture

VALUE	BUSINESS OUTCOMES
Reduce costs	• Reduce time on reporting • Save time on documentation • Decrease application queries • Reduce processing time of application queries • Perform application rationalization • Reduce licensing costs • Consolidate vendors
Mitigate risks	• Safeguard against IT security incidents • Avoid IT outages due to obsolete technologies • Evade compliance issues
Become more agile	• Empower developers • Promote collaboration • Lower complexity barrier

Source: LeanIX GmbH

EA Success Story in Banking

Like any other practice, it takes time to develop an enterprise architecture practice and for key stakeholders to build confidence into nurturing it. However, with the right set of approaches, methodologies, and tools, the process can be expedited, and the scope of the value creation can be widened. The Enterprise Architecture Insights Report 2019 shows that the digital maturity of enterprises increases as EA maturity grows.

Such is the case for LeanIX customer Donner & Reuschel AG, a German-based private bank that offers investment, trading, asset management, and online banking services for European customers. Prior to working with LeanIX to build out their enterprise architecture management, blindness reigned over the bank's IT landscape. This lack of visibility caused projects to be poorly implemented and timelines to be missed. In one such instance, a Windows 7 implementation left more than 1 million euros on the table with a great deal of work still incomplete.

Working with LeanIX empowered the Donner & Reuschel AG team to identify and decommission legacy systems that were hindering IT performance, thus reducing costs and improving compliance efforts. The organization also wanted to transition to the cloud, meaning a full-scale audit and rationalization of its applications and data interfaces had to be completed.

Read more about
Donner & Reuschel AG's EA Success Story here.

EA Fail Points in Financial Services

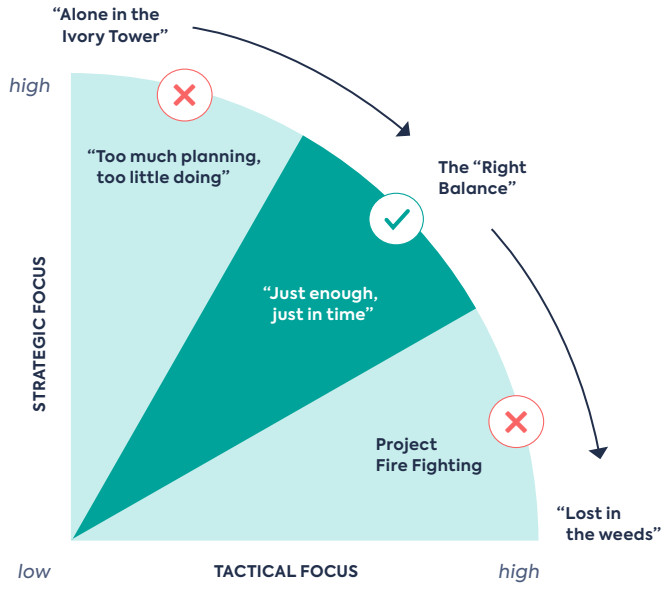
Banking and financial services companies who plan on setting up an EA practice can realize success by avoiding the common pitfalls learned by industry leaders over time. Indeed, it's is all too easy for EA programs to collapse. Avoid these common stumbling blocks to make sure your EA program is successful and contributes value to your organization.

Not balancing strategy with action

Avoid spending too much time planning and modeling in too much detail. Sometimes enterprise architects are accused of living in an "Ivory Tower" and being completely removed from what is important to the business. Make sure your architecture is aligned with the realities of your organization's IT, business, and budget (see Figure 1). Finding the "Right Balance" between the strategic and tactical focus will be a key determinant of early success.

Figure 1

Enterprise Architecture Struggles to Strike a Balance Between Strategic and Tactical Focus



Source: LeanIX GmbH

Focusing on the wrong data points

Do not try to model every data point for every contingency. You cannot anticipate all the disruptive events that will influence your business. By simplifying your EA models and focusing on your business capabilities, you remain flexible enough to react to unexpected events and trends. For instance, if your bank is focused on strengthening customer relationships through improved mobile services offerings, enterprise architecture efforts should reflect that by targeting digital banking and customer engagement solutions as a priority.

In short, do not collect EA data without a good reason for doing so. The more detail you have in your EA inventory, the harder it will be to ensure its quality. There is always a trade-off: if you want a deep and detailed model, you must compromise on how to update your data and how much effort you have to invest to maintain it. Think carefully about your use cases. Which reports do you really need? Start with the one or two most important and collect the necessary information for them. This could be application rationalization or technology risk management, or some other report tied directly to business operations.

When mapping out your business capabilities, go for breadth rather than depth. An analysis of LeanIX workspaces shows that companies typically use 7–10 capabilities and go no more than three levels down. Following a lightweight approach has the clear advantage of reducing complexity and focusing on what truly matters.

Not showing tangible results

Getting caught up in granular technical details isn't effective — nor is spending all your time on high-level strategic models. Focus on doing "just enough" EA "just in time" to achieve early results that are supported by management. Create a small group of clear objectives, and measure and track success.

Using no tool, or the wrong tool for the job

It makes sense to introduce an EA tool early on. Workflows that are not purpose-built, like Excel or Visio, create more work in the long run as they soon reach their limitations. Missing quality assurance mechanisms create problems over time and lead to significant expenditure for troubleshooting. Data capture and maintenance in spreadsheets is error prone, tedious, and requires a lot of resources.

Find a data-driven EA tool that captures real-time information, is lighter to maintain, fosters communication and collaboration across the whole organization, and makes it simple to extract meaningful reports. Distributed access means workflows will be optimized, and stakeholders will be able to drive their own analysis. Your data quality will go up thanks to quality assurance mechanisms, and your organization will have a much better basis for decision making.

6 Steps to Deliver an EA Roadmap

It can be daunting to establish and maintain an EA practice, especially for financial services organizations. It's no small undertaking, but you can achieve small wins and keep your management team engaged with your enterprise architecture initiative by building a strong foundation. These six steps are critical to pave the way towards EA success.

STEP 1

Develop your business capability maps

The first step toward EA success is to map out your business capabilities.

Business capabilities encapsulate what a business is doing right now and what it needs to be doing to implement its strategy. Start thinking about the major capabilities that your business needs to operate. The first level should only reflect the most critical ones, and then drill down one or two levels from there. On the deeper levels, all capabilities should completely describe their parent capability and be without overlap. The recommendation is to go for breadth, not depth.

LeanIX has a downloadable poster for defining business capabilities in banking and financial services that you can utilize in your EA practice (see Figure 2).

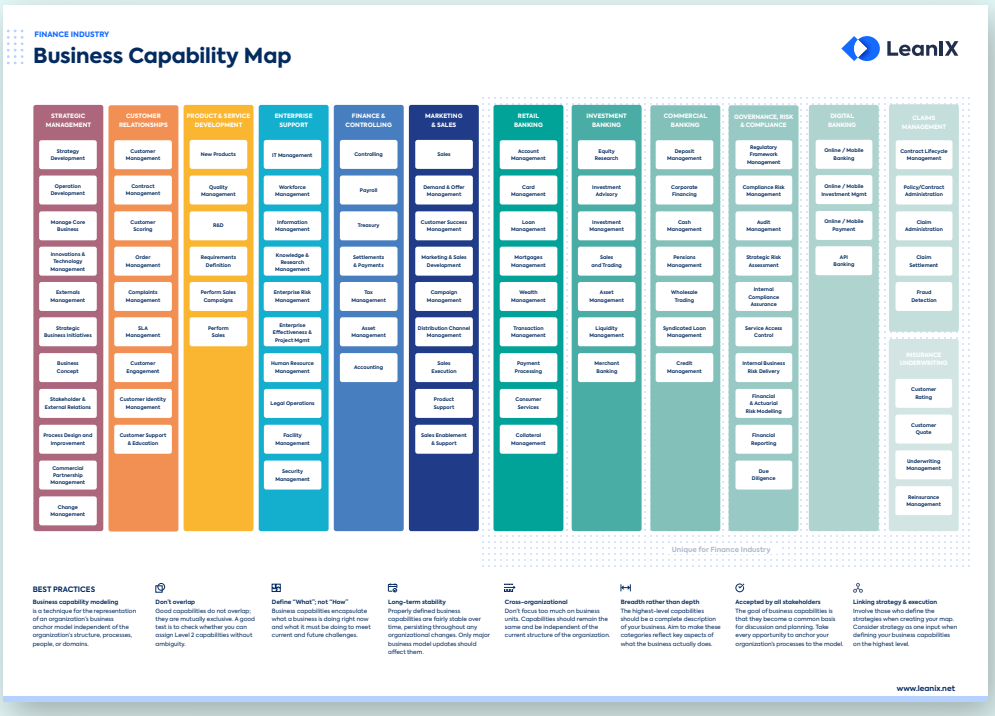


Figure 2
Business Capability Map for Banking & Financial Services

Source: LeanIX GmbH

STEP 2

Collect your IT application portfolio data

Having reliable information about your IT landscape is the baseline for all future activities. Inspect your existing data sources and formats, then clean up their content. Remove any data that is outdated or irrelevant. Assign content owners and quality check your data with them. Once your data is refined, you can upload a sample to your EA inventory to test it.

If it works out, you can complete the data migration. In LeanIX, you have the option to migrate data yourself by using Excel spreadsheets built on a standardized template, mass import it using the REST API, or update the inventory manually.

Leveraging the data extraction features of existing tools makes it easier to create your inventory. Involve your content owners to improve data quality and do not forget to test a sample. Once you have your inventory, it is easy to invite more users to get involved in maintaining the information.

STEP 3

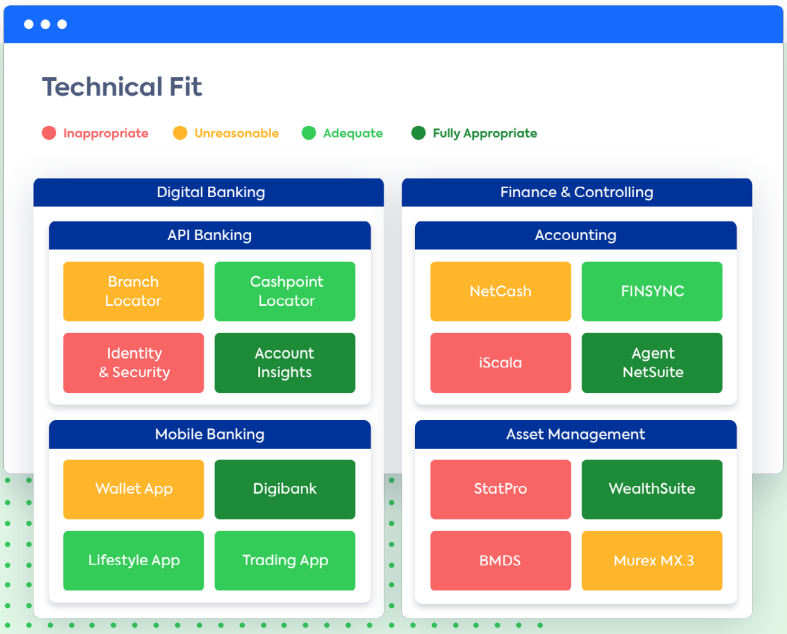
Analyze your application portfolio information

Assess your application portfolio by gauging its business criticality, functional, and technical fit. In LeanIX you can rate these categories from 1 to 4. Business criticality is rated from 1, meaning tolerable, to 4, which identifies a mission-critical application.

Functional fit can be described as "unreasonable," "insufficient," "appropriate," or "perfect." Technical fit focuses on whether there is a need to replace services, software, or hardware concerning business requirements today and in the near future (see Figure 3).

Figure 3

Rating the Technical Fit of an Application by Business Capability

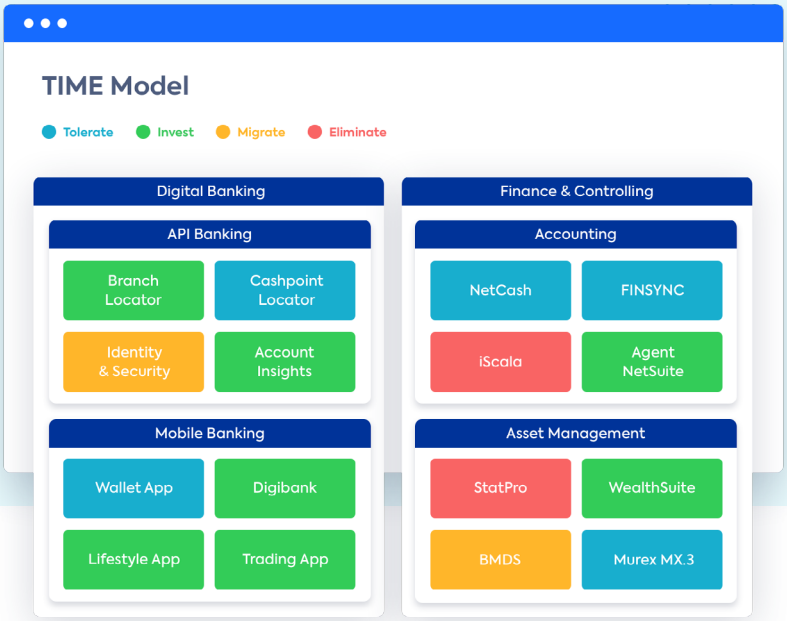


Source: LeanIX GmbH

This view will provide you with sufficient data for a first analysis. Determine the business relevancy of an application and decide which applications you should invest in and which ones should be divested (see Figure 4).

Figure 4

Analyze the Application Portfolio Using the TIME Model



Source: LeanIX GmbH

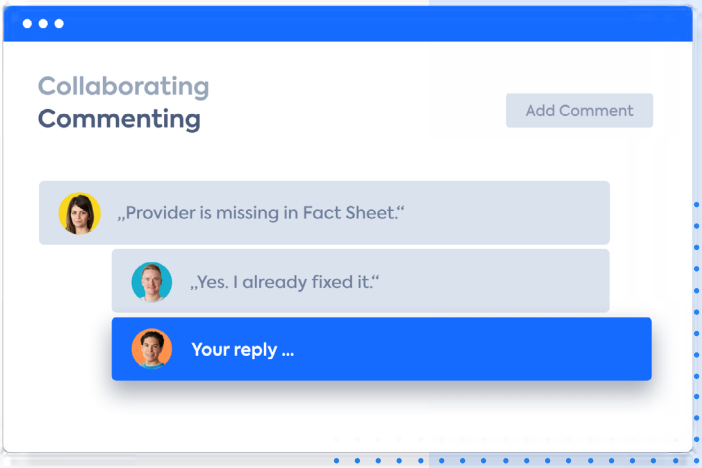
STEP 4

Communicate and collaborate

One of the cornerstones for success to any EA practice is communication and collaboration. Invite everybody to actively use your EA solution, and discuss projects regularly so that everybody is in the know. The high-level assessment of business criticality, functional fit and technical fit will give business units and IT the ability to spot improvement opportunities at a glance. If you added lifecycle information to your applications and technologies, you could quickly produce roadmaps of what will happen in your IT landscape (see Figure 5).

Figure 5

Collaboration Activity



Source: LeanIX GmbH

STEP 5

Implement quick-hit initiatives

When you have collected some key data, a lot of improvement ideas will jump out at you. For example, rationalizing your applications, filling gaps in IT support or consolidating your application hosting could all be goals that you want to accomplish in the short term. Prioritize their impact and your ability to execute. Focus only on the projects that will make an impact and are also highly feasible.

Define your first projects in your EA tool by tracking value, risk, budgets, and status. Projects should not last longer than three months. A good place to start is to identify and divest your redundant applications using the portfolio analysis described above.

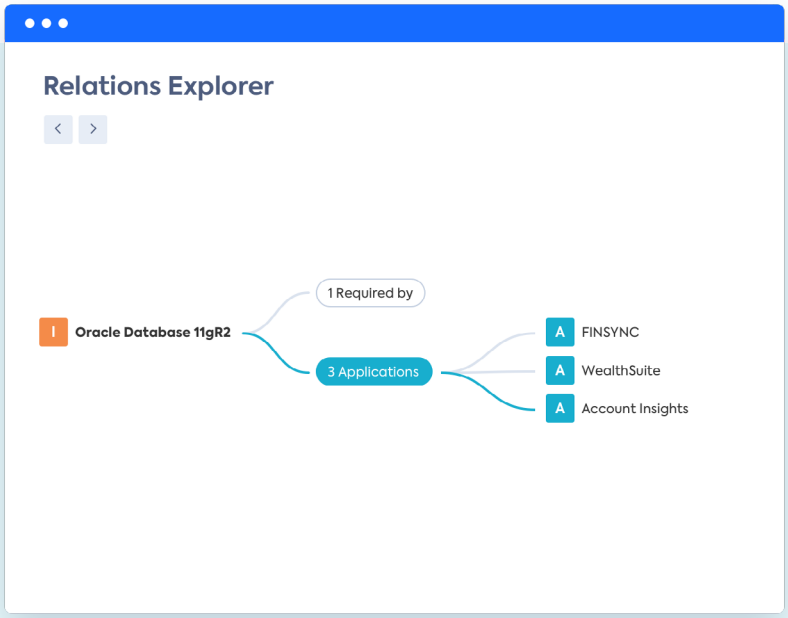
STEP 6

Know your data and your interfaces

When you have identified the major applications, the most urgent improvements and managed to get ahead of operational worries, it is time to look at the data and how it drives your business. Focus on the key data objects that drive the business and the interfaces they use. Typically, you only need 10–20 data objects to get started. With such a basic set you can already answer questions about which applications have access to certain data and which do not. You'll also be able to understand which information is classified, and which can easily be moved into the cloud or will be affected by an API change. Look at how the information flows across your application portfolio and whether there are any applications with an increased risk of failure due to their high number of interfaces.

Figure 6

Understand Application Risk by IT Component



Source: LeanIX GmbH

Ensure the Ongoing Success of EA

The heavy lifting of importing your data and executing your EA roadmap is complete. But, it doesn't mean the work is over. Now is the time to build out standards of activity and get buy-in from your colleagues to ensure sustainable value from your EA practice.

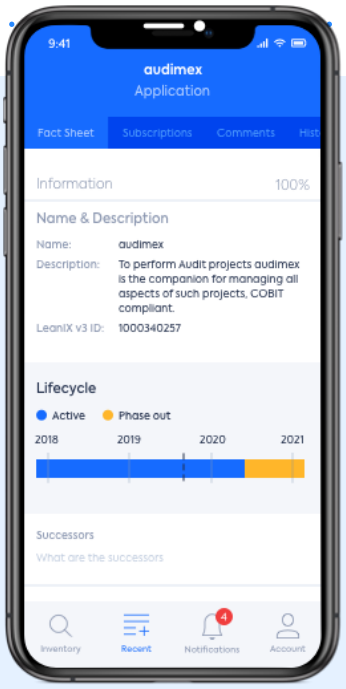
Keep the data quality up

Keep your user groups engaged and motivated so they maintain the data in your EA inventory for you. Consider doing regular surveys to maintain data quality or using a mechanism that prompts application owners to check the correctness of their information at regular intervals. This is particularly important for an industry as highly regulated as banking and financial services.

Focus on data that creates value and helps you with your use cases. Integrate automated data sources where it makes sense. Over time, your EA repository will become a trusted and reliable source of information to base decisions off of.

For more insights on how to manage regulations for finance IT, download our **free white paper.**

Figure 7
LeanIX EA Management Mobile Application



Source: LeanIX GmbH

Make data available at stakeholders' fingertips

Agile businesses rely on open access to information, so everyone who needs data can get it when they need it. For financial services organizations, this means everyone from Product and Service Development to Marketing and Sales, Governance and Compliance, Claims Management, Commercial and Retail Banking should be able to access key information to shape decision making.

Make key reports available on your intranet. You never know when a member of your executive team may ask a question that you need the answer to right away. With the LeanIX iPhone app, you can demonstrate the value of your EA activities anywhere, anytime (see Figure 7).

Technology decisions influence the whole company, so it is important to get people from all departments involved in your EA initiatives. Do not limit involvement to just the IT department. Engage the whole organization and keep the conversation going. Make sure everyone understands that digitization affects every aspect of the business.

Speak in language your colleagues understand

Avoid slipping into jargon when talking about enterprise architecture or you could lose buy-in from others within your organization. It's not an easy concept to begin with, and people are busy in their own day-to-day tasks. Adjust your message to the target audience to convey an impact that's important to their goals. For instance, a marketer could see quicker time-to-market by implementing the right technologies at the right time, whereas someone in insurance underwriting could benefit from artificial intelligence to process applications.

Help teams solve real-world problems

Provide fast and real benefits to win allies. For example, assist the team responsible for auditing digital loan requests by providing them with information about how data will be processed and more easily accessible. Do not get caught up in complex models that don't directly impact business outcomes. Instead, focus on tangible benefits that stakeholders can visualize.

Gradually integrate EA into your company processes

Initially, it makes sense to focus on only a few areas and use cases. Over time, however, you should tie EA into all of your company processes. Once you have demonstrated repeatable success you will be able to use EA more actively rather than just reacting to requirements. Eventually, your EA will be so well established that you can focus more on identifying opportunities and leading disruptions. That is when the real fun of driving business transformation and innovation begins.

How to Convey the Value of EA to your CIO and other Stakeholders

In any industry, your EA stakeholders want to know how enterprise architecture can provide value for the organization. It's no different in banking and financial services. You can demonstrate how the transparency achieved through EA can answer some of the boardroom's most pressing questions. Here are some of the top questions and priorities relevant to your CIO and other key stakeholders:

- What applications matter most to the business, and how are their lifecycles are changing?
- What are our critical technology dependencies and how can we optimize business data management?
- What are our technology risks?
- Where is our data and where is it being used?
- Who are our vendors and how are they managed?
- How much are we spending on IT?

1. What applications matter most to the business, and how are their lifecycles are changing?

Enterprise architecture can provide the answers to most questions surrounding banks' and financial services organizations' application portfolio management. From application rationalization to security analysis and beyond, you can play out different scenarios over time to make sure that your IT and business strategies are aligned (see Figure 8).

Benefits for the CIO:

- Determine the necessity of business applications
- Determine the amount of functional redundancy in the IT architecture
- Reduce cost through application rationalization
- Reduce risk through better understanding of the application landscape's functional and technical risk profile
- Increase agility through better support of business demands

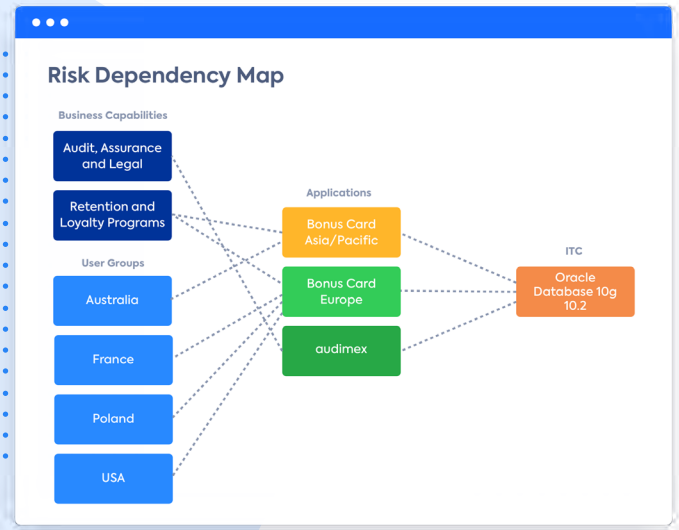
Figure 8

Application Lifecycle by Business Capability

Source: LeanIX GmbH

Figure 9

Risk Dependency Map by Business Criticality



Source: LeanIX GmbH

2. What are our critical technology dependencies and how can we optimize business data management?

With EA, your CIO can achieve a transparent overview of all dependencies between applications — showing which data lives where, and how it is transmitted. This knowledge can be used to uncover possible conflicts and potential points of failure based on interfaces (see Figure 9).

Benefits for the CIO:

- Reduce cost through data and interface consolidation opportunities
- Reduce risk through better data management, improved security for highly interdependent applications
- Maintain compliance with regulations like BAIT, GDPR, MaRisk, PSD2, and SOX
- Increase agility through faster start of integration projects

3. What are our technology risks?

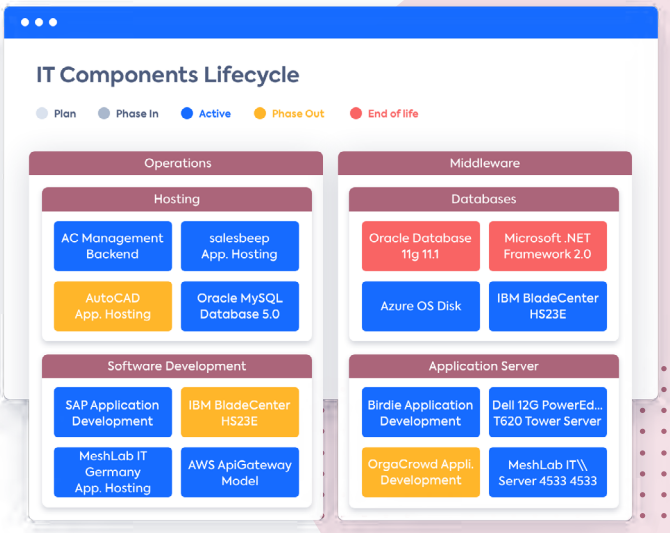
Your CIO wants to know about the risks in your organization's IT landscape and how to avoid a security incident. This especially important for banks and financial services organizations, who are under constant attack from cybercriminals looking to exploit vulnerabilities. Having a transparent view of the technology environment can help to identify potential hazard areas, and address security threats before they become data breaches. EA is a great asset to maintain compliance and avoid crippling penalties from regulatory authorities (see Figure 10).

Benefits for the CIO:

- Reduce cost through standardization and elimination of redundancies
- Reduce risk through an understanding of the impact and compliance of technology lifecycle management
- Increase agility through supporting business capabilities quickly using defined standards and reusable patterns

Figure 10

View of IT Component Lifecycle



Source: LeanIX GmbH

4. Where is our data and how is it being used?

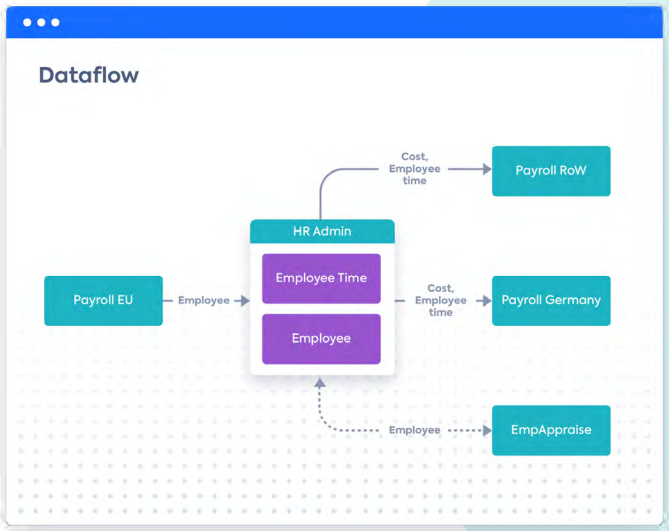
Your CIO wants to know what data is used in the business and whether sensitive data is being adequately protected. EA can provide answers about the use of data objects and their business relevancy, as well as ensure data consistency across the portfolio. From being able to easily connect user groups and business capabilities to the data they use; your EA tool can provide the answer (see Figure 11).

Benefits for the CIO:

- Reduce costs through reduction of redundant data maintenance
- Reduce risk through improved understanding of data qualifications and its impact
- Increase agility through information alignment and reuse according to business needs

Figure 11

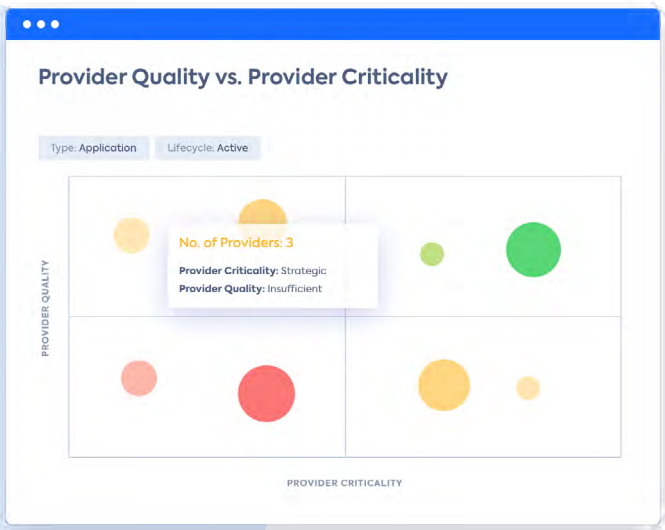
Dataflow Model with Data Objects by Application



Source: LeanIX GmbH

Figure 12

How Many Providers Offer Insufficient Quality but are Considered Critical?



Source: LeanIX GmbH

5. Who are our vendors and how are they managed?

The CIO will always be interested who the organization's vendors are and if there are opportunities to rationalize costs. From being able to tell who the providers are and how much is spent with each of them, to the potential impact on users and banking customers if one is changed — you can manage all this information in one location with the help of your EA tool (see Figure 12).

Benefits for the CIO:

- Reduce costs through supplier rationalization
- Reduce risk by avoiding dependency on a single vendor
- Increase agility by optimizing the service portfolio for better service levels

6. How much are we spending on IT?

Your CIO wants to know what the IT budget is spent on to ensure that investments are in line with strategic priorities. With an EA tool, you can drill down into costs by application, business capability, user group, provider, project, or IT component (see Figure 13).

Benefits for the CIO:

- Reduce cost through more effective procurement
- Reduce risk by improving project and investment decisions
- Increase agility by accelerating investment and project planning and execution

Figure 13

How Much Does Each Business Capability's Tech Cost to Run Per Annum?

Source: LeanIX GmbH

Summary

An investment in enterprise architecture is an investment in the future of your organization. Still, getting started with enterprise architecture can seem like a daunting task. It requires dedication, resources, and buy-in from across the organization to build a sustainable program from scratch.

By using the right tools and involving the right stakeholders, the benefits of EA far outweigh the costs. LeanIX has helped hundreds of companies across all industries in building the framework for long-term EA success. Enterprises in the banking and finance sector have gained a single-source view of the IT landscape for better alignment of technology and business strategy. These enterprises have individually realized millions of dollars in savings, improved their security, and streamlined efficiencies within their IT operations while becoming more transparent. These impacts are tangible and have made a direct impact on their ability to remain competitive in today's age of digital transformation.