Ardoq

WHITEPAPER

Enabling Democratized Decision-Making in the Digital Organization

Bridging the Gap Between the Business and IT

Contents

A Fundamental Problem in Business: How to Organize

What has become increasingly clear over the last decade is that Enterprise Architecture's mission and ability to execute its core mission is highly dependent on, and vulnerable to, organization structure. Yet for all their genius in building holistic views and shaping strategies for applications, technology, data, and processes, few Enterprise Architects have much say when it comes to shaping that most fundamental of architectures for a digital organization: the organizational chart.

The stresses of digital business have accelerated a fundamental demographic shift in technology resources and ownership in enterprises worldwide. The old certainties of processes and governance structures put in place when Enterprise Architecture (EA) was still young no longer hold true. Now some technologies and changemakers challenge the need for EA to exist at all, leaving many EA teams disorientated and at real risk of being left behind.

However, there is evidence that suggests just the opposite: digital transformation is actually increasing demand for EA and dedicated EA roles. Analysis of LinkedIn data shows a 5-8% increase in the number of open Enterprise Architect positions per annum in the European and US markets.

Navigating Structural Change in a Digital Organization

These organizational shifts in structure and challenges to EA can leave EA leaders in a quandary. They know that architecture needs to be done, but where, and how? And even more fundamentally, by who?

Navigating this shifting landscape requires EA teams to challenge deeply-held assumptions while simultaneously holding true to the understanding of how EA adds unique value to organizations.

In this whitepaper, we'll examine the nature of that shift, how it impacts the value that EA teams offer, how it affects tools and processes, and how we at Ardoq are building tools to help digital organizations stay ahead.

Understanding the As-Is of Enterprise Architecture

Enterprise Architecture as a field was born under a very different set of circumstances than how organizations operate today. Understanding these origins will shed light on why and how EA needs to evolve.

Enterprise Architecture first rose to prominence in the late 1980s to early 1990s, a largely pre-digital age. The norm then was for organizations to be **relatively hierarchical and bureaucratic with a strong focus on command and control**.

The Problem: From the 2000s and onwards, it's become increasingly recognized that over-centralized decision processes are failing enterprises.

The relentless tempo of digital business has taken bureaucracy from being simply unfavorable to actively unviable. Many in the past would grudgingly tolerate the tedious need to formalize and centralize information and decisions based on the hierarchy in exchange for coherence for the greater organization.

Not so in today's era of digital business where many well-established businesses flounder and fail not because they were poorly governed but because they were too slow. Their sluggishness to digitize, adapt to customer expectations, and re-engineer their offering left them vulnerable to disruption by start-up competitors who scaled at speed.

In a digital organization, speed is everything.

In the digital age, it is simply becoming impossible to sustain centralized decision-making models, and there is a wealth of evidence to support this.

In 2020, a study by McKinsey found that "70% of executives' time is spent on making decisions under time pressure and with too little or the wrong kind of data."[1]

When organizations try to maintain a centralized command-and-control model of decision-making, decision-makers are overwhelmed by the sheer volume of decisions they are asked to make.

The issue of ineffective centralized decision-making is exacerbated because these decision-makers often lack adequate access to information. Although they lack a good overview of the problem space and an understanding of a decision's impacts and implications, executives are still pressured to make decisions. Most critically, they also have no time to gain understanding as other decisions continue to pile up.

In this environment, all the traditional building blocks of organizational design and management are under acute pressure to adapt to this new reality: Governance structures, organization design, product methodologies, development methodologies, and leadership methodologies.

The Response: Empowered Fusion Teams

At one level, the problem of slow over-centralized decision-making is purely one of bandwidth. Traditionally, the leadership of organizations have responded to limited bandwidth through the simple tactic of delegation.

From frontline medical staff to non-commissioned officers in the military, every complex organization relies on the ability for decisions to be taken at all levels to cope with volume and uncertainty.

The key to effective decisions is understanding which decisions can be distributed and which can't. This in itself requires design. Empowered subordinates must have a clear scope, boundaries, and mandate. They need to understand what they own and what they should coordinate or escalate.

When successfully implemented, delegation can remove much of the noise from senior leadership, allowing them to focus on cross-cutting or longer-term issues. None of this has posed any real challenge to EA's authority, and it has just resulted in more levels of the organization chart to interact with.

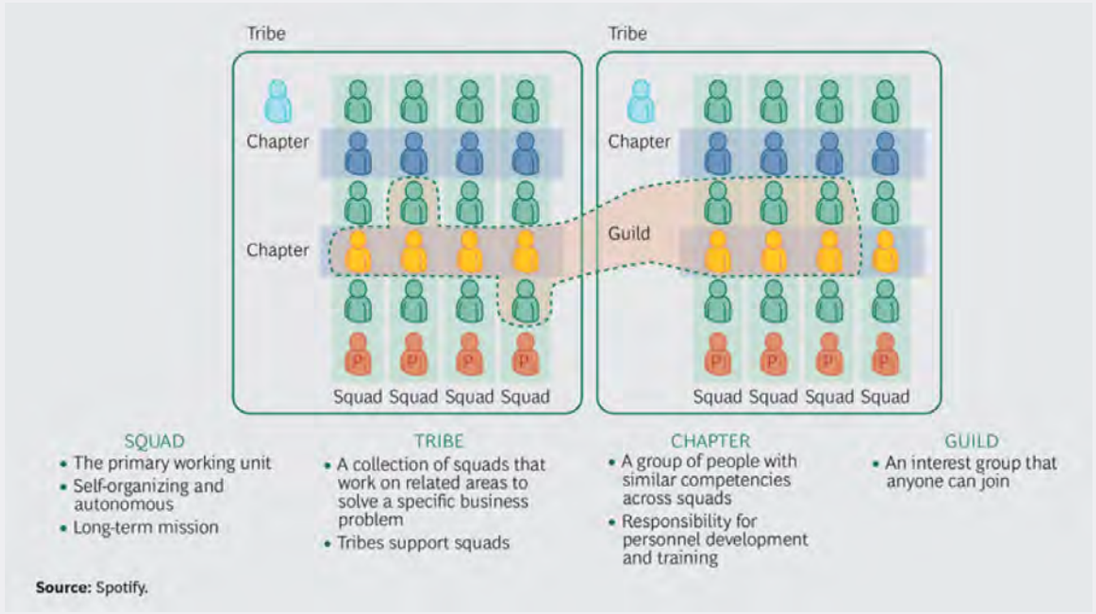
However, in the past decade, we've seen a very particular form of delegation emerge in response to the needs of digital organizations: the cross-functional product team or fusion team.

Fusion teams are development teams that contain all the roles and skills needed to deliver an end-to-end digital product or service, such as designers, developers, product managers, marketers, and researchers.

What's unique about fusion teams isn't only that they are empowered to make delegated decisions but that those decisions span the traditional departmental silos of the organization - marketing, business operations, and IT.

Exactly how these teams can be organized is still a work in progress that differs from organization to organization. There are many variations, but one of the best-known models is the Spotify model, consisting of Squads, Tribes, Chapters, and Guilds.[2]

Organizing the Spotify Way



Source: Spotify.

Common characteristics of fusion teams:

- Typically owned or at least sponsored by the business
- Organically coordinated across functions
- Empowered to make technology decisions and have access to the technology resources to do so
- Continuously funded and practice continuous delivery

It's the intrinsically cross-functional nature of fusion teams that poses a challenge to Enterprise Architects. Traditional EA teams govern and exert control over technology and change by standing astride the interfaces of project funding, solution design, technology acquisition, and procurement. With fusion teams, those interfaces are encapsulated within the team and are potentially inaccessible to the Enterprise Architect.

This is exactly why Gartner predicts that "through 2025, 75% of an organization's architecture will be democratized across the organization, with little, or no, central control."[3]

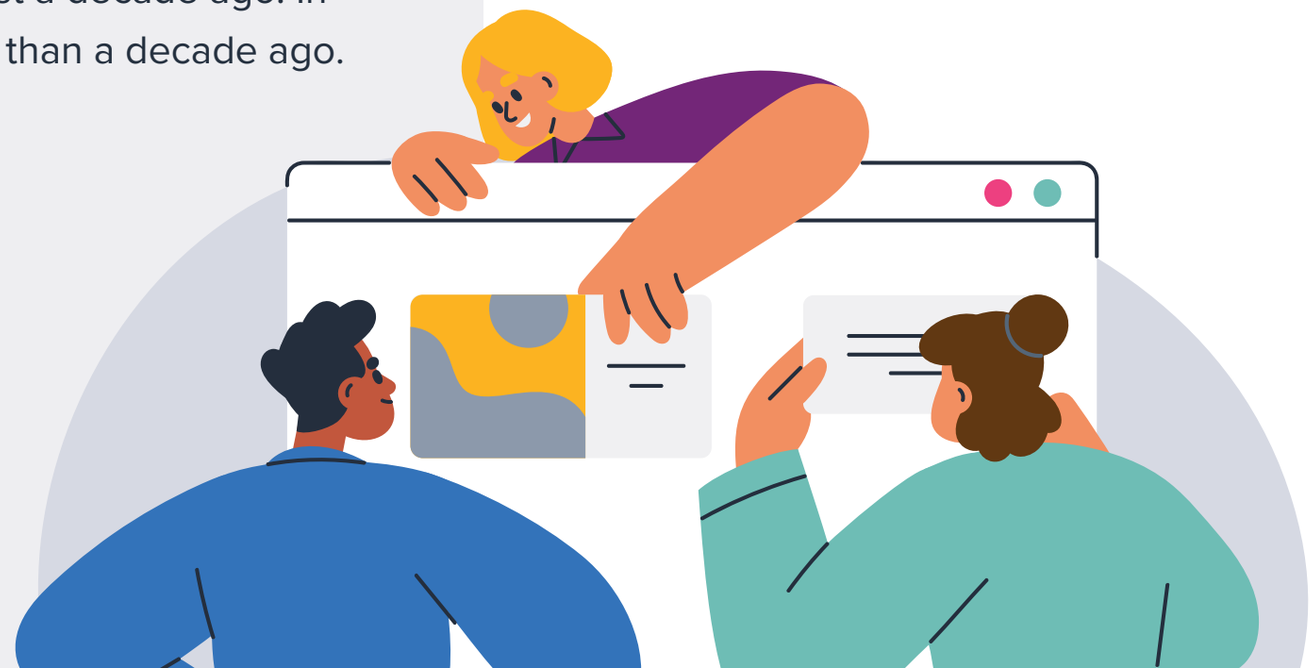
The Rise of the Business Technologist in the Digital Organization

You may have come across articles where futurists predict the jobs we'll need to skill up for in 10 years. Positions such as autonomous vehicle wrangler, metaverse architect, and robot therapist seem worlds away from today.

Well, some of these jobs are already here: data scientist, low-code developer, marketing analytics manager, machine learning specialist, user experience designer, and cybersecurity analyst. These roles have become so familiar and so thoroughly embedded in organizations that it's easy to forget that many of them didn't exist a decade ago. In comparison, EA was conceived more than a decade ago.

In fact, in a recent survey Gartner reported that while 10% of roles in the organizations they canvassed were traditional IT roles reporting to the CIO, a staggering 41% were so-called "business technologists". The day-to-day of these business technologists revolves around using and building technology, yet they sit entirely outside the IT organization.[4]

Technology has become more than distributed; it's become innate. For many of these workers, technology does not inspire fear, and there is an expectation of control and ownership. Individuals growing up with smartphones have little patience for tedious form filling for a centralized IT services desk.



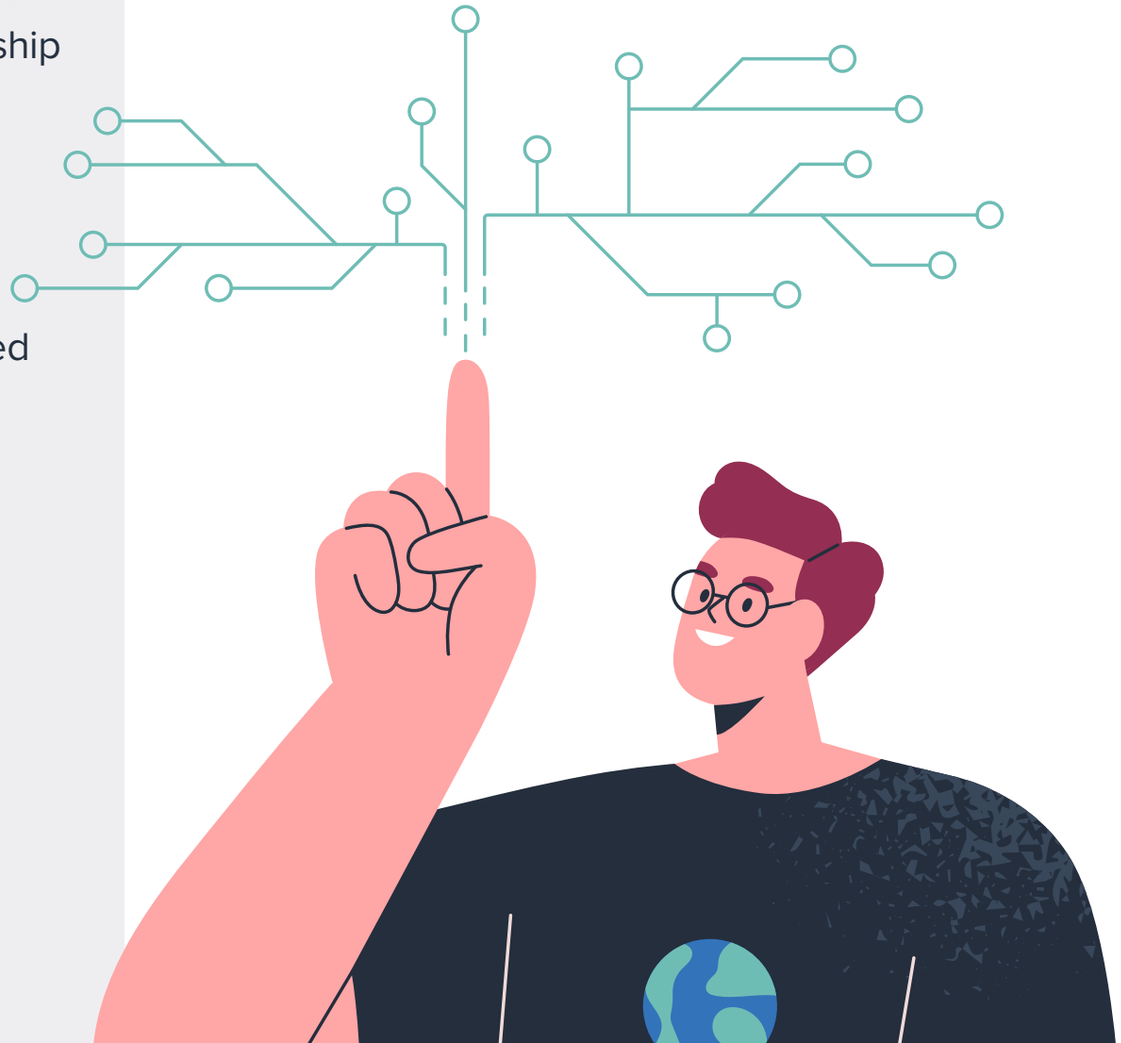
And why would they? There is no longer a need to spin up hardware when cloud providers provide even advanced analytics on tap. Instead of costly software procurement and installation processes, SaaS accounts can be set up in minutes.

IT is no longer the gatekeeper to technology resources.

Perhaps even more fundamentally, IT no longer even holds the technology mandate. When the products and services that constitute an organization's primary mission and revenue source became digitized with the dawn of 'e-business' in the 2000s, it signaled the start of a fundamental shift of ownership of technology, away from the CIO and into the business.

This is not a new trend, and for years IT veterans have complained about 'shadow IT'. Yet we're at an inflection point where business IT has evolved from being a tolerated workaround borne out of frustration with bureaucracy to being the core way a business executes.

The CIO role has lost its monopoly on technology, and it's not getting it back. As Gartner says: "Significant spending on digital initiatives and technologies is now coming from the business. Product teams, led by product managers from the business and often with their own captive IT team, are becoming increasingly popular... the IT organization has lost control of digital."[5]



The New Need for Information and Governance

Let's circle back to that big question that this whitepaper began with: **how to organize?**

Fusion teams were designed to solve an information and coordination problem. They were intended to overcome the constraints of over-centralized decision-making. Their cross-functional nature addresses the lack of domain expertise and empowers domain experts.

However, experience would suggest that every model of organization is a trade-off. An organizational structure optimized for one set of outcomes can become de-optimized for another.

Internal and external enterprise ecosystems are so complex that it's safe to assume that no one within them has perfect information. Distributed teams may well have a better ability to make decisions within their domain thanks to their better understanding of it, but what about beyond their borders?

The problem for the fusion team is that multiple processes have dependencies well beyond their scope. Technology acquisition and skill dependencies cross product boundaries, regulatory compliance processes intersect many different processes, enterprise-wide cost objectives span multiple siloes, and cybersecurity threats could rear up anywhere.

For business technologists, many of these processes were previously invisible, buried in the depths of their IT departments. Now that technology and digital change are truly democratized, so are the risk, cost, compliance, and a hundred other dependencies.

However teams are organized, there is a **fundamental need to make informed decisions** about what goes on both within their boundaries and beyond their borders.

This brings us back to pretty much the same problem we started with in traditional hierarchical decision-making: a lack of access to reliable information. This universal problem is precisely why EA has a growing and significant role to play even in new organizational structures.

The Real Role of EA in a Digital Democracy

Depending on whether you're an EA-repository-is-half-full-or-half-empty sort of an architect, these trends toward fusion teams and business technologists outside of IT can make for disturbing reading.

Many EA teams are still charged with technology oversight and overwhelmingly report to the CIO. This means that these fundamental shifts in technology process and demographics can signal an overwhelming challenge to the EA team's core purpose.

However, EA's true mandate has always proceeded from its ability to understand the big picture, being able to map end-to-end processes and application integrations, inventory information assets, as well as link up and coordinate change activity.

Good Enterprise Architecture teams have always understood that their hard power of governance and control proceeds from their soft power of authoritative knowledge of the enterprise. In this respect, the EA team is uniquely positioned, for no one else in the entire enterprise has the same ability to describe the enterprise as a single system made up of people, processes, and technology.

As has been covered above, as technology has become democratized across the organization, so have the problems and responsibilities it brings. Marketers fret over data impacts while finance workers worry about cybersecurity, and operations grapple with integrations and APIs.

All these roles need reliable information about how information, technology, processes, and people are connected.

So while the traditional need for technology governance and planning is under duress, the internal market for data and insight about the enterprise is only growing. For the Enterprise Architecture team, this is a huge opportunity.

To take full advantage of that opportunity, Enterprise Architects may need to re-think their existing approach to tooling. As we've seen above, much has changed since the EA tool was first conceived.

Impact of Democratization on EA Tools and Processes

Digital organizations of today need EA tools built for modern organizational structures, democratization, and a high rate of change. Unfortunately, the Enterprise Architecture tool, as much of the market still understands it, was conceived in the 1990s. It is a child of two parent technologies: the technical design and drawing tool, and the relational database management system (RDBMS).

The combination of these two technologies realized the core principles of those earliest EA standards like the Zachman Framework and IEEE 1471 (now ISO/IEC/IEEE 42010):

- Enterprise architecture should consist of a series of views (drawings) expressing standardized architecture viewpoints (standardized representations of the different architecture dimensions like process, data or application)
- These views should be integrated or linked together to represent the end-to-end Enterprise Architecture

The drawing capabilities supported the creation and management of views and viewpoints, while the database enabled them to be connected into a coherent whole. Unfortunately, that's pretty much where many tools stopped. Over the years many have added extra capabilities such as dashboards and workflow, but the basic conception of the EA tool as a centrally-managed repository of views hasn't shifted for many. Since EA's fundamental mission to visualize and connect hasn't changed drastically, it's as relevant in the age of SaaS and Cloud as in the era of Client-Server.

However, the issue is that technology and people's expectations of it have changed. Implicit in those 1990s technologies for EA lies something more fundamental: an operating model that doesn't really hold true anymore. It is based on technology architecture that makes assumptions about the types of people and roles using this information, and also the types of processes for maintaining and exploiting them.

How we visualize, for example.

The assumption in conventional EA tooling is that the user is biased towards specification or drawing blueprints. Another core assumption is that the user is an experienced engineer with a high tolerance of technical concepts and a need for dedicated notation. They also assume use by a generation who grew up using a pre-digital Windows-based set of GUI conventions, pre-SaaS, and certainly pre-mobile. None of these assumptions consider the demographic shifts we've described above. To put it bluntly, these tools were engineered for a previous age.

Less visible, but possibly even more fundamental, are the assumptions implied by the database architecture. In effect, these tools assume that data management is centralized, with mechanisms to allow the collection of data into an extensive central repository diligently protected by a few "guardians" who then create views and reports as a centralized service.

The critical issue here is that the technology was built for architecture designed to support centralized data management processes and is poorly adapted for today's level of democratization and high rate of change. **The popular mental model of what an EA tool should be is out of date.** We're still thinking of EA tools as data warehouses when we should be thinking in terms of blockchain, approaching data collection as a form of "national census" exercise when we should be thinking of it in terms of an interconnected social network.

So many Enterprise Architecture tools have built their offers around core assumptions of practitioner rather than citizen users, of centralized rather than distributed management, and of managed service rather than self-service. **None of these are a good fit with the emerging digital organization.**

Reinventing the Enterprise Architecture Tool

So what should the EA tool be?

One way to approach this is to consider: What if the practice of Enterprise Architecture had been invented last year? What kind of assumptions and design choices might be made?

We would likely start with fundamentally different assumptions.

Assumption 1: Taking the application to the data, not the data to the application

Rather than harvesting information and knowledge from resources across the enterprise and loading it into a centrally-managed database, the focus would be on taking the application to the data. This means distributing an application that could be used by the widest possible audience to allow them to log, manage and explore their own information. In other words, we would assume empowerment.

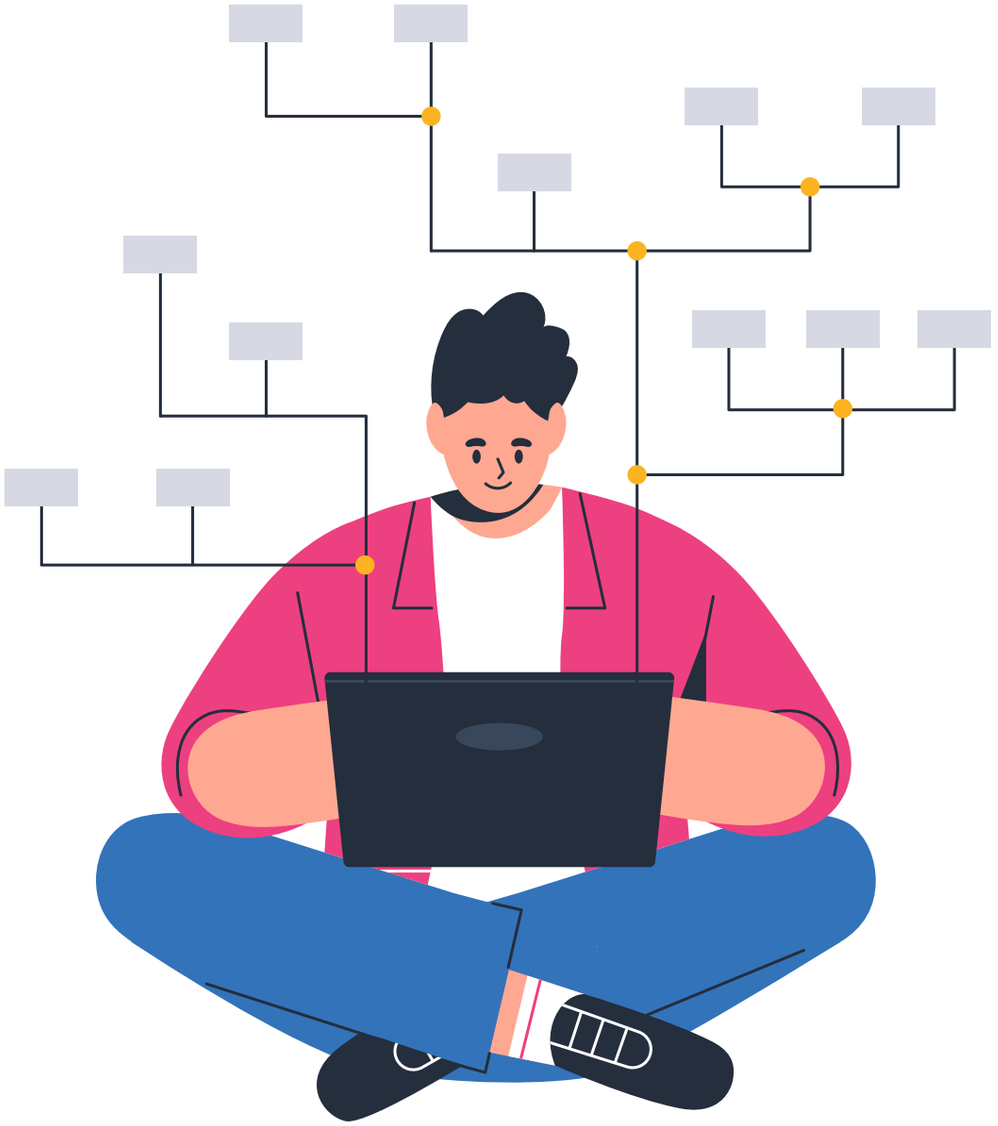
Assumption 2: A UI designed for the citizen user rather than the technical practitioner

With empowerment are a whole host of other fundamental implications and many of them actually relate to UX and not the underlying database architecture. The technical practitioner user interface would need to be replaced with something sleek, simple, and even beautiful. There is a need to think about aesthetics, to consider pictographs and icons instead of technical notation. A UX that enables accessibility means that EA tools need to stop assuming the user is searching for the right business capability and start assuming they don’t even know, or care, what a business capability is.

Assumption 3: Enterprise Architects function as facilitators instead of gatekeepers for architecture data

It may need to be assumed that while architecture data might be part of many processes in the digital organization, the architects themselves may well not be. The assumption is that the demand is for self-serving insights that do not require interpreters. Data that can be owned and managed directly while completely bypassing the EA team, is what we call outside-out interactions. This requires a psychological shift for the EA team not only to accept that this will happen but to want to enable it.

In other words, to voluntarily give up some control because EAs understand that the value they can bring to the enterprise is so much greater when they stop thinking of themselves as the guardians of knowledge and start seeing themselves as facilitators of collaboration. With this new role in mind, architects and their organizations should turn to EA tools that are built to facilitate collaboration and democratization.



Democratizing Enterprise Architecture with Ardoq

Since Ardoq was founded in 2013, it has operated at the intersection of existing EA practice and emerging digital culture. Driving its progress are long-experienced practitioners, designers, and developers with firm roots in the technologies and digital approach of today. Democratization is always at the core of Ardoq's culture, driving product development. The main challenge has always been how best to accomplish this. Ardoq's innovative products and modules have focused on embedding enterprise architecture in the wider organization from the very beginning.

Presentations was the first module designed to make complex architectural information mass-consumable. Still unique in the market, it allows Enterprise Architects to tell stories using live data and to share those stories with non-technical audiences.

Then, Surveys was released, allowing the whole process of data collection and management to be democratized. Ardoq administrators could create mass-consumer surveys for any part of the architecture and share them with stakeholders across the organization, tailoring their contents and language to specific roles.

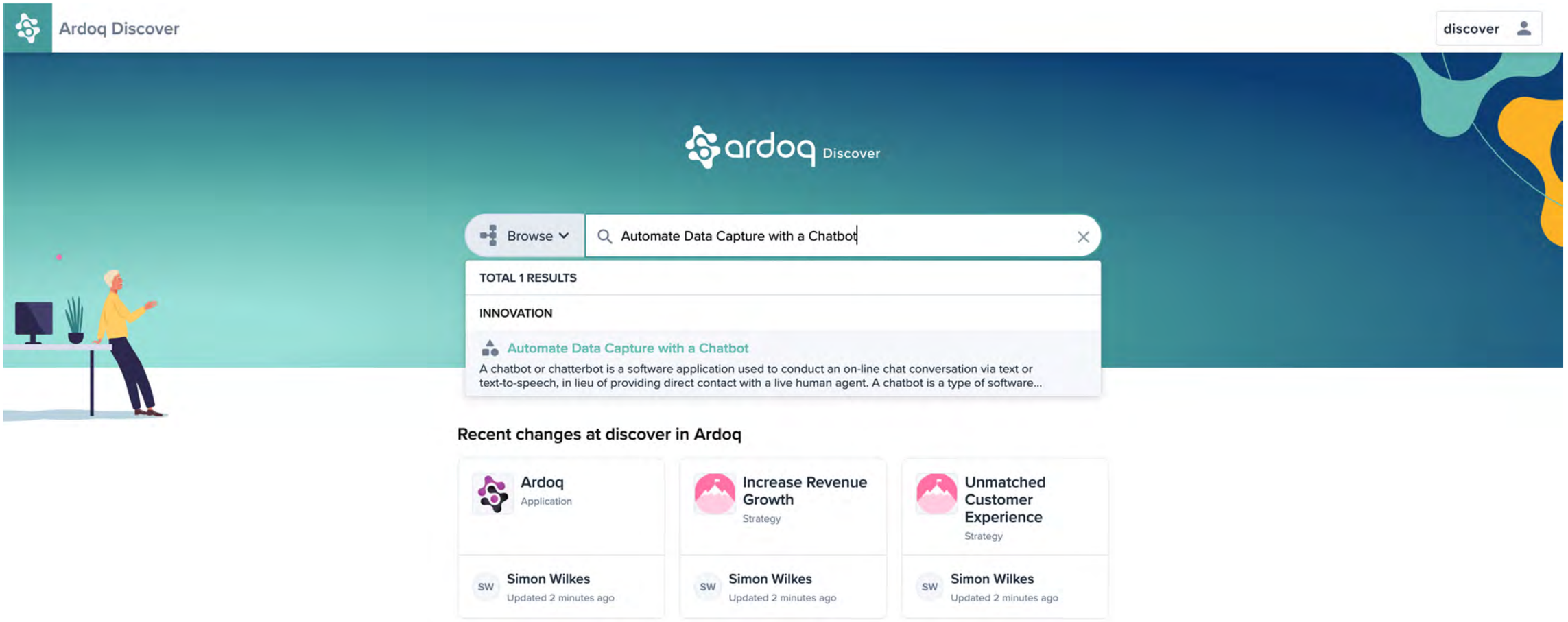
When Broadcasts added automation into the mix, administrators were also able to automate data management, alerts and workflows. A key focus with the development of Broadcasts was to personalize interactions and enable outside-out processes where users not in Ardoq could directly collaborate in workflows without relying on Ardoq administrators. Broadcasts enabled mass-personalized automated processes to be run against Ardoq.

Taking this focus on democratization further, we're very proud to announce a whole new module: Ardoq Discover.

How Ardoq Enables Effective Democratized Decision-Making

To enable the digital organization of today to make impactful decisions at every level, you will need a tool that makes valuable EA insights accessible and easy to use.

Meet our latest launch: Ardoq Discover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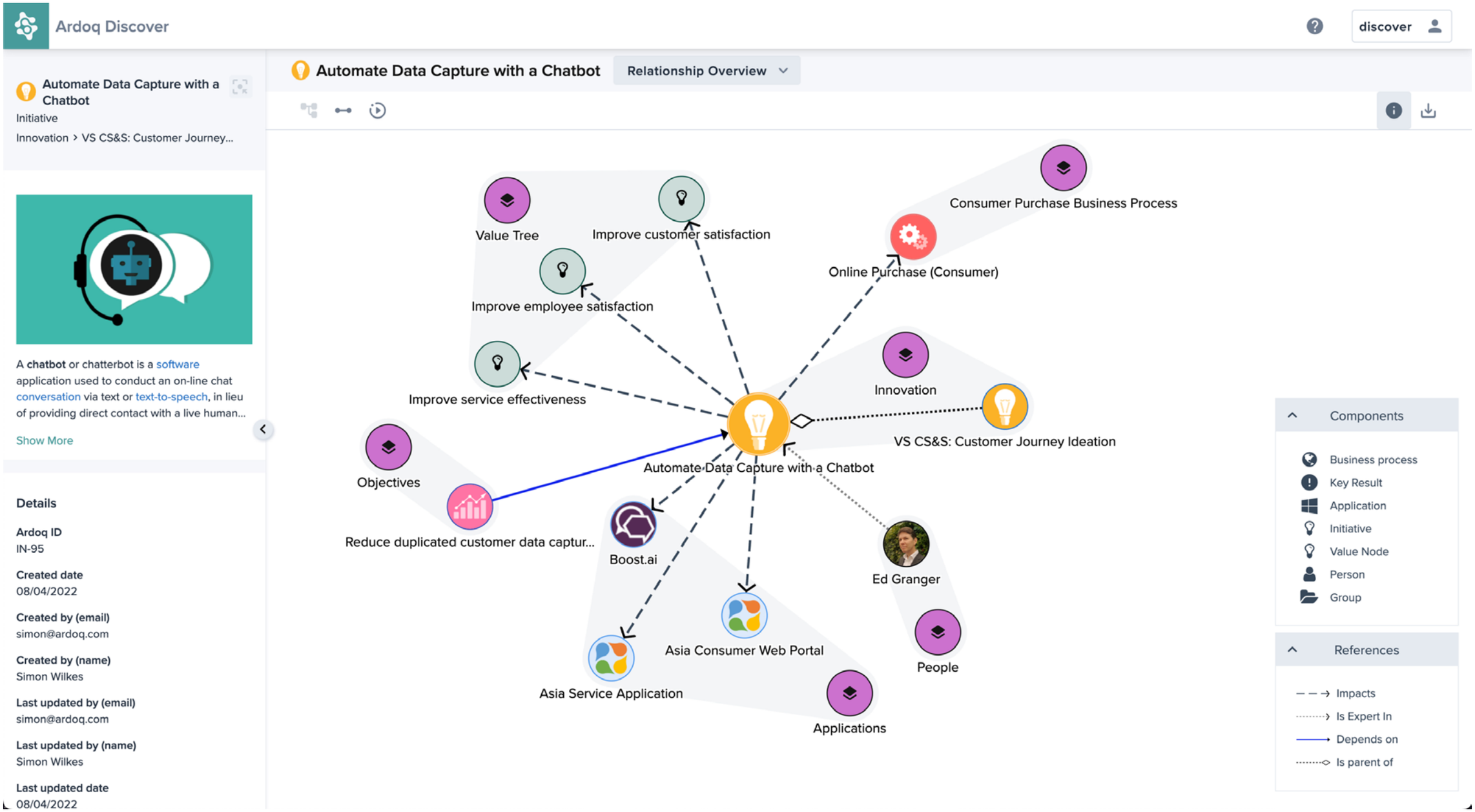
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Relationship Overview
A chatbot or chatterbot is a software application used to conduct an on-line chat conversation via text or text-to-speech, in lieu of providing direct contact with a live human...
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Value Tree
Improve customer satisfaction
Improve employee satisfaction
Improve service effectiveness
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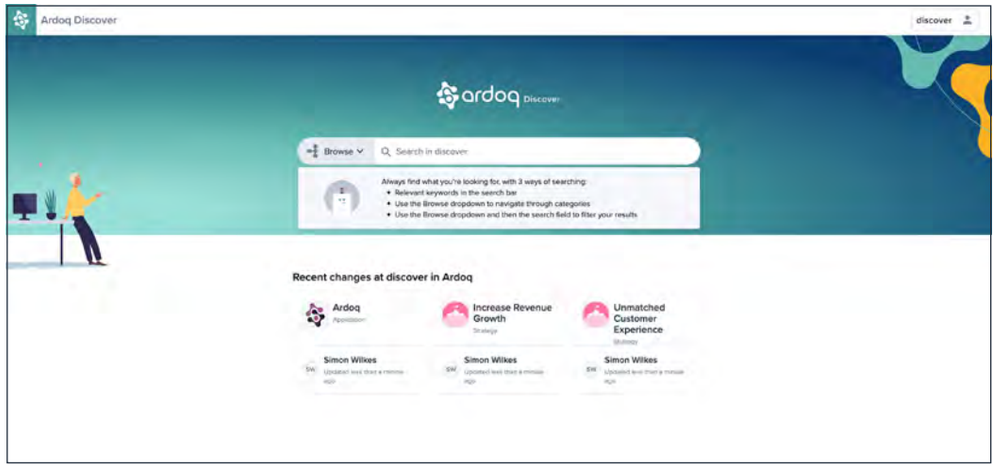
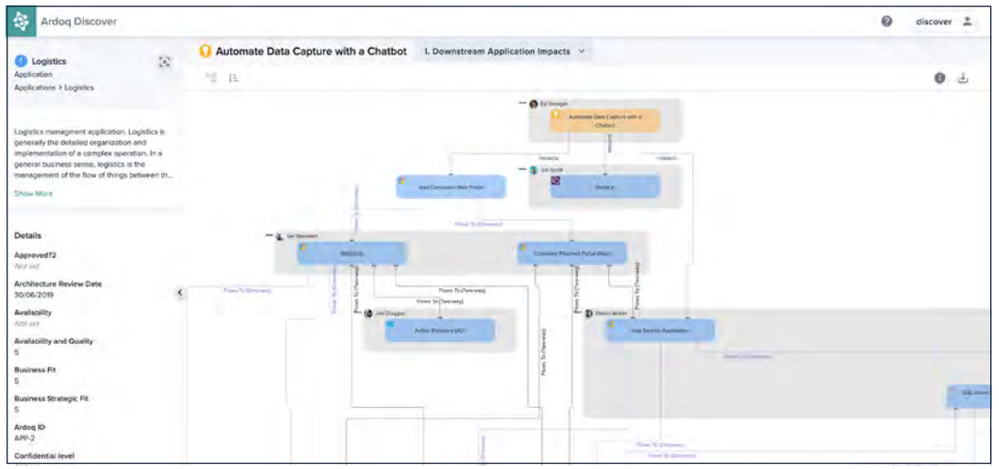
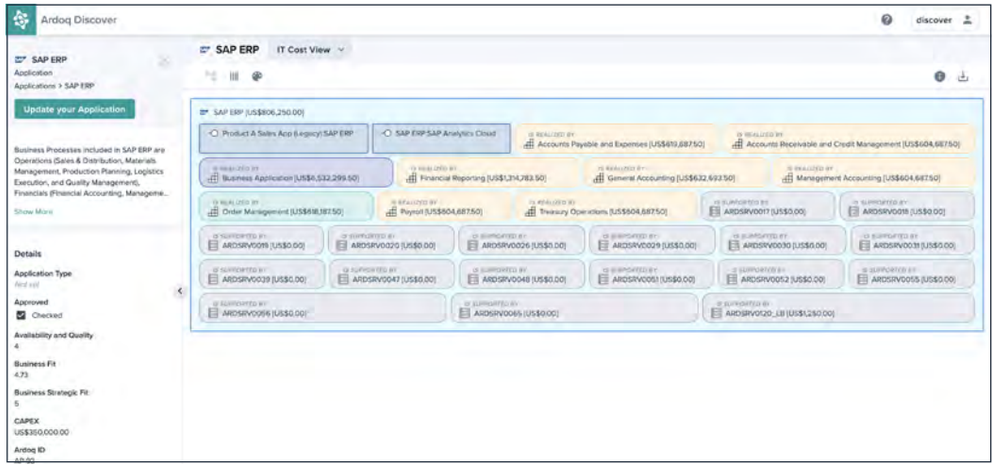
Ardoq Discover: Enable Impactful Decisions at Every Level of Your Organization

Ardoq Discover is the EA tool designed for everyone, not just the specialists. With an interface designed to be as simple as possible to use, it enables anyone to self-serve insights, manage data, and kick off workflows. It makes vital information accessible, understandable, and available to decision-makers, regardless of where they sit.

While core Ardoq offers Enterprise Architects a rich set of tools for modeling and building the data visualizations, Ardoq Discover provides an intuitive way for any team to gain real-time, contextual insights and contribute their domain expertise to the enterprise knowledge graph. Critically, the level of democratization can be easily controlled by the Ardoq administrator, whose role changes from serving insights and orchestrating processes to determining which insights can be self-served and which processes are to be democratized.







Key Features of Discover

1. Enhanced accessibility to architecture data for non-Enterprise Architects

- A simplified and intuitive entry point with a clean UI
- Reduced complexity with context-specific visualizations
- Self-exploration capabilities with predefined dynamic visualizations and one-click navigation

2. Domain experts easily contribute their domain knowledge

- Seamless integration with Ardoq's current Engagement Platform features such as Surveys and Broadcasts, enabling consumers of the architecture to also add to it
- Navigate between different component type surveys all within one UI
- Expose multiple surveys for the same component in the UI
- Visualize changes to survey data in real-time
- Keep control of data and stay up to date on potential impacts on a domain with automated targeted alerts

3. Reduced architectural support effort with Viewpoints

- Ability to define standard viewpoints which allows stakeholders to self-serve their personal views
- One viewpoint can support the needs of many different roles or personas
- One-click selection of a viewpoint to a pre-configured dataset, visualization style, and formatting

Benefits to Enterprise Architecture Teams:

- Drive engagement around EA initiatives
- Build a complete and trusted repository with data sourced from domain experts across the organization
- Embed data ownership into the organization and improve data quality
- Spend less time on manually creating personalized views for stakeholders
- Distribute architecturally-informed decisions and architecture thinking

Benefits to Stakeholders Across the Organization:

- Gain swift and easy access to critical data and insights with self-serve, self-explore capabilities through a user-friendly and intuitive UI
- Improve situational awareness and reduced complexity by accessing real-time personalized, contextual insights and visualizations tailored to their role
- Quickly identify domain expert networks that enable team collaboration opportunities based on shared objectives, initiatives, or domain knowledge
- Keep control of their data, stay up to date on potential impacts on their domain with automated targeted alerts and get access to instant impact analysis

A Necessary Shift for EA

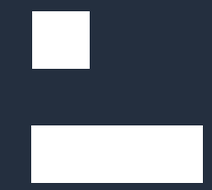
For a digital organization to stay ahead and make insight-driven decisions at speed, there needs to be a fundamental shift in approach to Enterprise Architecture.

Enterprise Architecture teams should reconsider their role, from one of governance and guardians of insights to facilitators of knowledge-sharing. They can leverage their core strengths to empower the rest of their organization with access to this critical information. Only then will digital organizations make impactful, data-driven decisions at every level to not only survive but thrive in today's breakneck pace of change.

Alongside the change of approach, EA teams need to reconsider their choice of tools and assess if their current solutions and processes are truly enabling effective two-way flows of data and insights throughout their organization.

Control of technology in the organization has already shifted, what is only left to be done is leverage tools that allow organizations to shift with it. Ultimately, architecture for the sake of documentation brings little value to an organization if few people in the organization are able to leverage it in the decision-making and planning process.

Making architecture accessible is what will keep Enterprise Architecture not only relevant but vital to the continued success of the organization.



Ardoq

Democratize decision-making in your digital organization effectively using data-driven insights.

See how Ardoq Discover can empower teams with insights and analysis on how everything is connected, from your strategic objectives to technology and people.

Contact Us for a Free Demo

www.ardoq.com

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