

2021 State of Enterprise APIs

Understanding API Usage, Challenges, and Strategies

Introduction

APIs have grown rapidly in their importance within organizations in recent years, and the extent to which many of today's organizations now rely on them is truly impressive. They not only provide organizations with a means of connecting systems and applications but often play a more strategic role in wider digital transformation efforts. These efforts are accelerating, and therefore developers require modern API tooling to build digital applications and services more than ever before.

APIs bring with them a vast array of use-cases and benefits, and so it's unsurprising to see a surge in their popularity. However, organizations regularly experience challenges as they seek to utilize APIs, including the complexity of existing API tools, security and governance issues, and difficulties providing the right access to the right individuals. Until organizations address these challenges, the many benefits realized through using APIs will be limited.

One important area organizations should consider is the platform they use to manage their APIs. A centralized platform that enables discovery and management of all available APIs within an organization would go a long way toward helping organizations overcome API adoption challenges and realize the full value of APIs. This whitepaper details how APIs are being used and prioritized by leading enterprises and highlights the intended benefits and challenges. Additionally, API platform usage among enterprises will be explored, with a focus on determining to what extent platform adoption has already been implemented, and the subsequent benefits and challenges this has brought.

Methodology

RapidAPI commissioned independent market research agency Vanson Bourne to conduct the research that is referenced within this report. The 2021 study surveyed 300 senior IT decision makers in November 2021 for insights into their organizations' APIs. Respondents' organizations spent at least \$500,000 per year on APIs and API infrastructure. Organizations were based in the US, UK, Germany, and France from private sectors with 1,000+ employees.

Key Findings

- Almost (**97%**) of enterprise leaders say that their API strategy is mission-critical to their organization's survival.
- APIs are an essential part of nearly every (**98%**) organizations' digital transformation strategy.
- **84%** of respondents reported that it is very or extremely important to partner with other organizations to collaborate and build new products using APIs.
- Organizations plan to invest a huge amount in APIs and API infrastructure next year, around \$23.6 million on average.
- Almost every organization (**95%**) faces challenges with APIs as API usage continues to increase. Key challenges include difficulties managing complex API tooling as well as security and governance.
- Most (**64%**) organizations are currently in the process of building their API program or strategy. Yet, many (**88%**) of those that have at least started this process say improvements are needed in terms of execution.
- Most (**86%**) organizations lack a single platform to centralize all their APIs, but if they could, many (**99%**) would adopt a solution that would centralize APIs and empower API builders and API consumers.

The Growing Demand for APIs

Underpinned by a range of API use cases, the growing demand for APIs is clear, with 97% of surveyed enterprise leaders reporting that successfully executing their API strategy is mission-critical for their organization’s survival.

97% Believe That Successfully Executing Their API Strategy Is Mission-Critical For Organizations’ Success and Survival

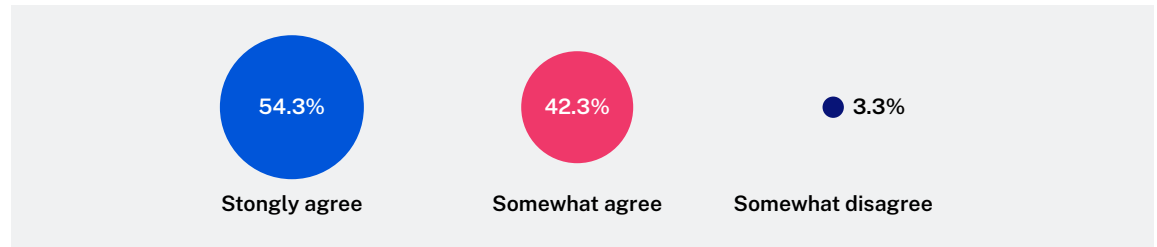


Figure 1: To what extent do you agree or disagree with the following statement: “Successfully executing our API strategy is mission-critical for our organization’s success and survival.” (300 respondents)

As organizations’ digital environments grow increasingly vast and complex, APIs help to connect their various systems and applications together. This enhanced connectivity can also be used externally to drive collaborative ventures and deliver upscaled products, services, and functionality between b2b partners and clients.

Organizations also identified the key drivers for developing an API strategy:

- **Improve partner collaboration:** Two thirds (65%) are using APIs to improve collaboration with their partners/to enable partner innovation.
- **Accelerate the delivery of products and services:** Six in ten (60%) are using APIs to share them among internal development teams to deliver products and services faster.
- **Use third-party APIs:** More than 50% are focused on third-party APIs for developing products and services.
- **Leverage APIs as products:** Upwards of 45% are leveraging APIs as products for consumption by external developers.

How Are Organizations Using APIs



Figure 2: Which of the following accurately describes how your organization is using APIs? (300 respondents)

APIs play an important role in supporting organizations' digital transformation journeys. To reap rewards such as greater efficiencies, improved scalability, and increased innovation, organizations must ensure their implementation of a digital transformation strategy is successful, and APIs can help with this. Supporting this notion, 98% of enterprise leaders agree that APIs are an essential part of their organization's digital transformation.

98% of Enterprise Leaders Agree that APIs are an Essential Part of an Organization's Digital Transformation

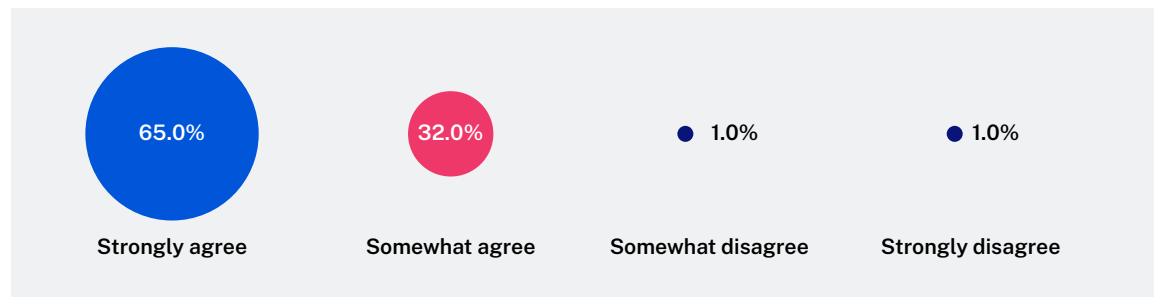


Figure 3: To what extent do you agree or disagree with the following statement? "APIs are an essential part of our organization's digital transformation". (300 respondents)

When asked why APIs are very important for their organization's digital transformation, respondents said:

"APIs can increase internal reusability. APIs have become a standardized [...] mechanism for connecting partners. They are enabling change for large enterprises. Connected customer experiences, digital business excellence, and a new ecosystem drive economy are driving the emergence of more API-based strategies."

-IT director, utilities organization

"With APIs, developers can reduce development time and costs while reducing the risk of errors."

-CEO, consumer services organization

APIs have a direct impact on customer experience and business outcomes. Respondents identified several key benefits of using APIs including:

- Improved customer experience
- An accelerated path to innovation
- Better collaboration among internal development teams as well as partner development teams
- Improved developer experience
- Strengthened competitive advantage

Top Benefits From Using APIs

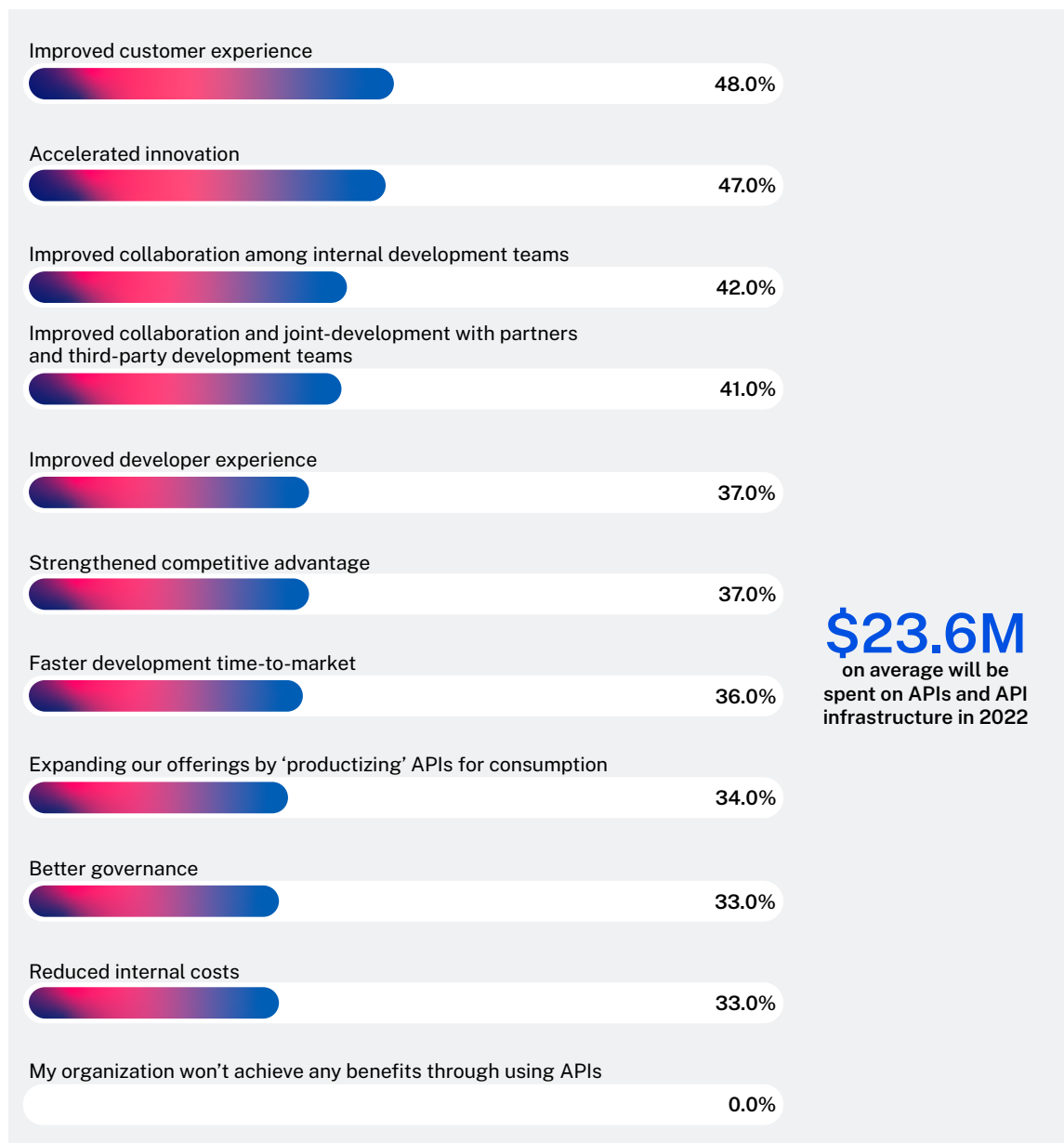


Figure 4: What benefits is your organization hoping to achieve by using APIs? (300 respondents)

To achieve these benefits, organizations are prepared to make key investments in the upcoming year in both APIs and API infrastructure. In fact, organizations anticipate investing an average of \$23.6 million in APIs and API infrastructure in 2022. Those in the financial services industry are placing even larger bets on APIs with respondents anticipating their API budgets will be more than \$29 million for 2022.

Building and Executing a Successful API Strategy

Successfully executing an API strategy is mission-critical for an organization’s survival and digital transformation success. The associated benefits which center on integration, automation, innovation, and scalability are clear, and organizations show signs of serious investment in the coming months. However, the data shows that the successful execution of API programs or strategies within organizations is still a work in progress. The data indicates that **95%** of respondents have either fully-executed their API program/strategy (**31%**) or are in the process of building one for 2022 (**64%**).

95% of Enterprises Are Currently Building Their API Program or Strategy

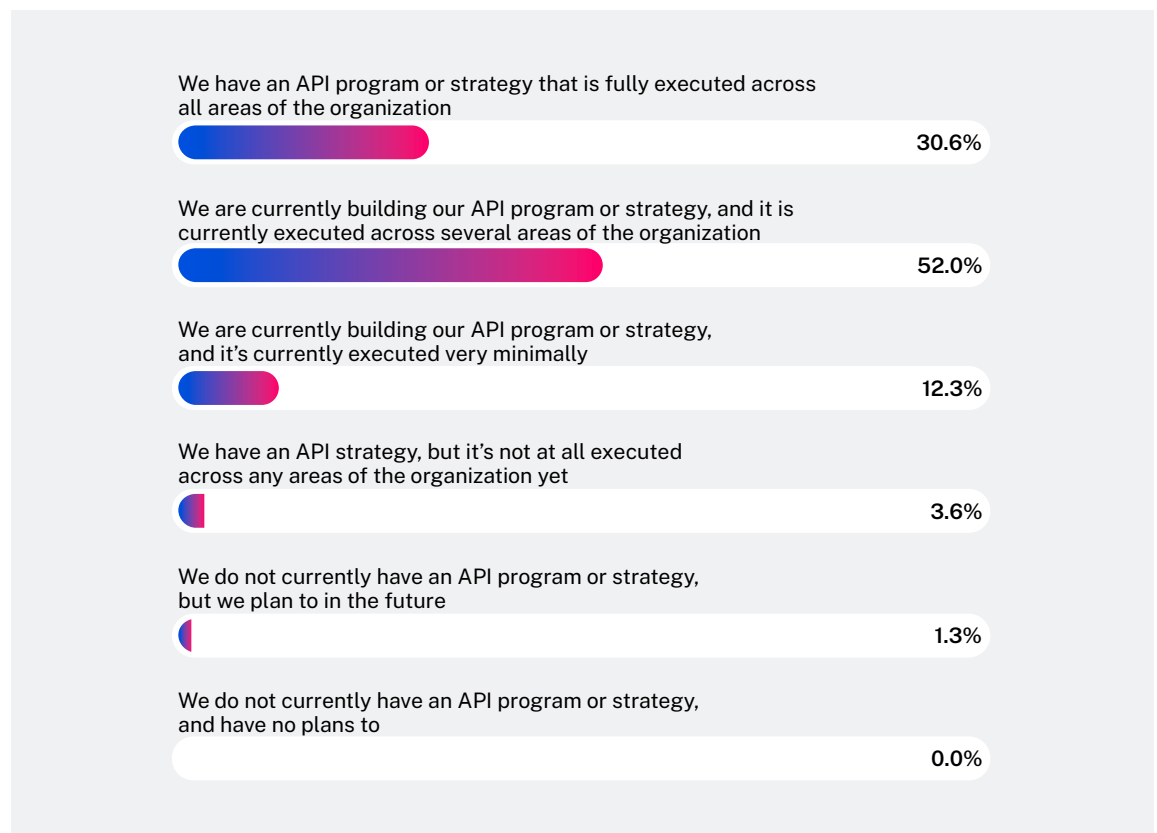


Figure 5: Which of the following best describes your organization’s maturity regarding an API program or strategy? (300 respondents)

Although the majority reported working on an API program or having one in place, 88% of the respondents indicated that there are challenges successfully executing their programs. At the top of the list – customer experience. Respondents indicated that the customer experience using APIs still needed to be improved.

Following closely behind is the need to accelerate the pace of innovation and eliminate technology silos. Respondents also indicated that they needed resources to support their API program efforts and the right tools.

Top Challenges Hindering the Execution of Current API Program/Strategy

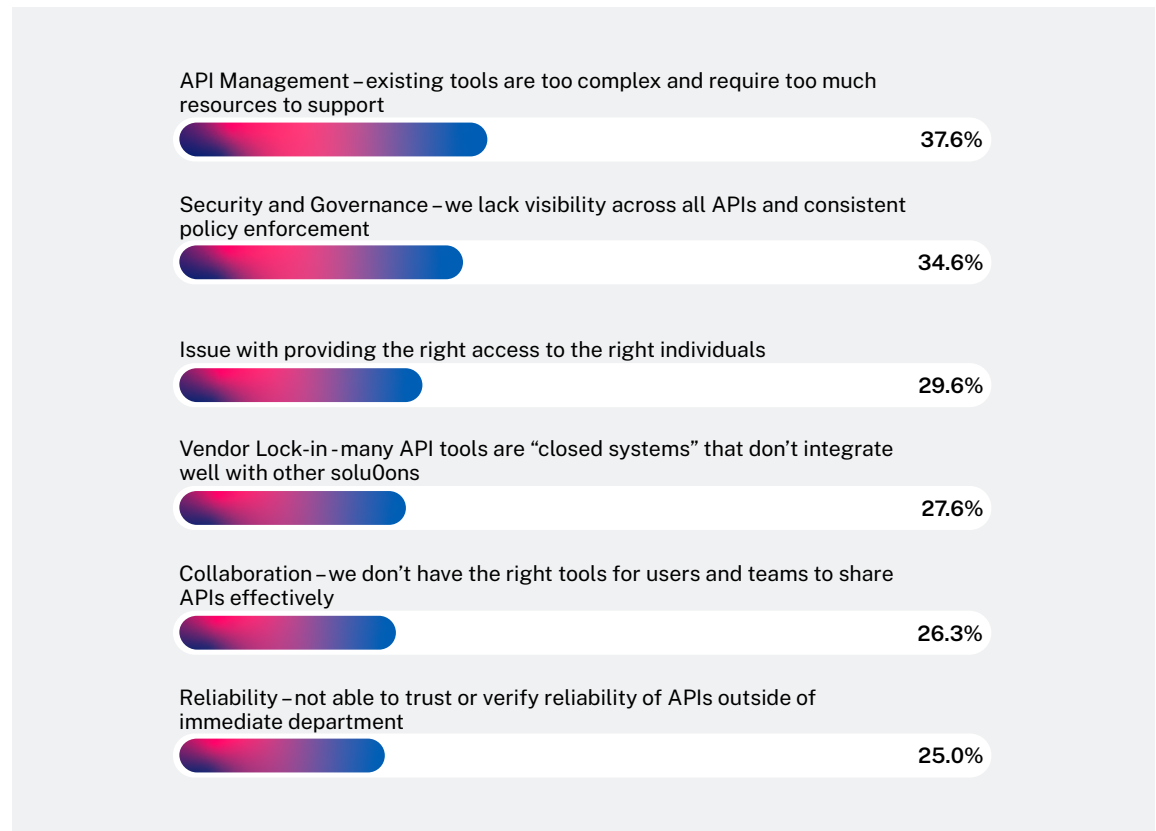


Figure 6: Which improvements does your organization need to make in terms of its execution on its current API program or strategy? (261 respondents)

Challenges With Using APIs

Although the benefits of implementing an API strategy are clear, almost all (95%) organizations face challenges when using APIs. As with the implementation of many technologies, when demand increases, so does the volume and variety of challenges organizations face.

Such is the case with the complexity and security of APIs. Respondents reported that they are struggling with the complexity of supporting their existing API tools, providing visibility and governance across all APIs, access controls, vendor lock-in, lack of collaboration tools, and more.

Complex API Tooling, Security and Governance, and Lack of Collaboration Among Top Challenges Experienced with Using APIs

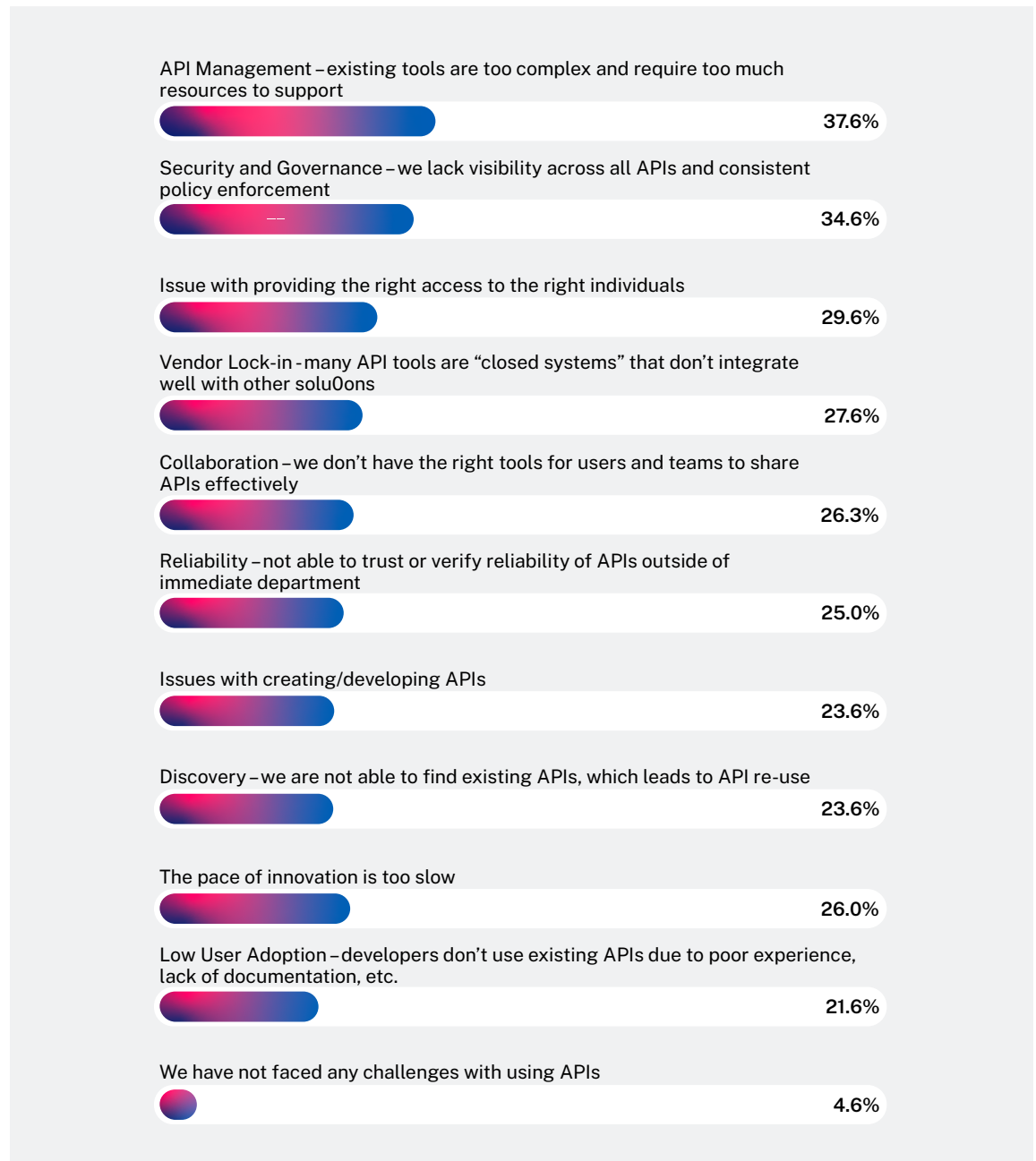


Figure 7: Which challenges has your organization faced with using APIs? (300 respondents)

It is clear that organizations are looking to invest heavily in APIs because of the vast array of associated benefits. These include enhanced customer experience, accelerated innovation, and improved collaboration between internal development teams. However, some hurdles need to be overcome, and these should be top of mind among enterprise API leaders; first, during implementation when managing, securing, and governing APIs, and second, during the execution of the current API strategy. It’s absolutely critical that organizations anticipate ways to address these challenges to maximize the value of their APIs.

A Platform for API Centralization Is Key

Many of the organizations surveyed have used an API platform to try to discover, manage, and govern their APIs, but not all API platforms are the same.

What factors contribute to the ideal API platform? First, we should consider what an API platform is and does. An API platform accelerates innovation by centralizing APIs and providing one place for API developers and consumers to build, manage, publish, and consume all their APIs.

A key requirement for an API platform is providing a way for developers to collaborate, as 84% of respondents report that it is extremely or very important to partner with other organizations who provide APIs to build new products or services.

84% of Enterprise Leaders Report that Partnering with Other Organizations Using APIs is Important

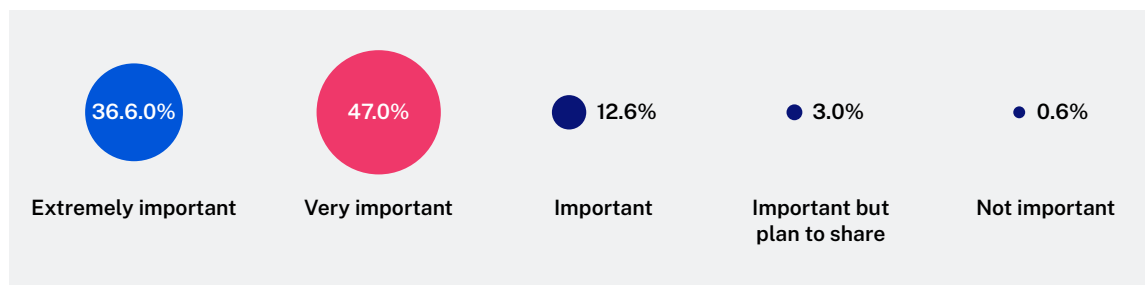


Figure 8: How important is it to your organization to partner with other organizations who provide APIs to collaborate and build new products and services? (300 respondents)

However, this is made difficult by the fact that most organizations (**86%**) do not have a single API platform that provides them with a centralized source for accessing all available APIs.

Adopting a single solution that can centralize the discovery and management of multiple APIs could be one of the solutions to overcoming the challenges organizations face with their API program, namely API management, security, and governance. Nearly all (**99%**) support this, saying that they would adopt a solution that centralizes APIs and empowers API builders and API consumers, within their organization. In fact, close to one in four (**24%**) go as far as saying that such a solution would be mission-critical for their organization, reinforcing the importance of this kind of platform for enterprise leaders.

99% of Enterprise Leaders Agree It Is Important to Adopt a Centralized Solution for APIs to Build, Manage, Publish, and Consume APIs

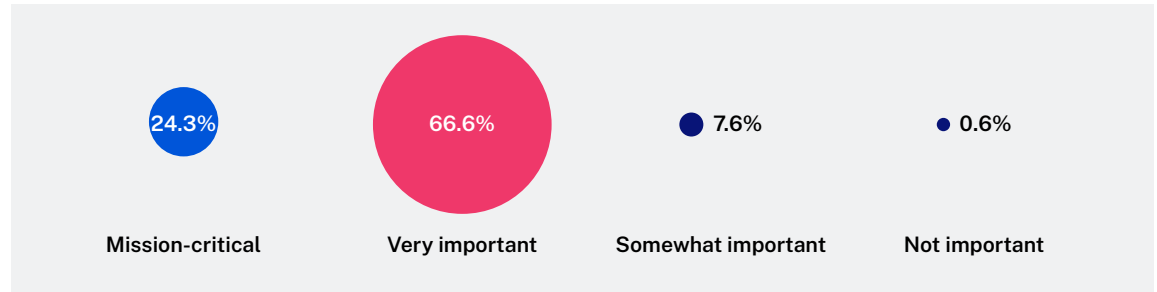


Figure 9: How important is it to your organization to partner with other organizations who provide APIs to collaborate and build new products and services? (300 respondents)

Respondents reported the key benefits of a centralized platform, many of which will help businesses address key needs such as collaboration and management of multiple APIs. Respondents identified several key benefits by using an API platform, including:

- Better interaction between API builders and consumers
- Greater agility when developing APIs
- Improved developer experience
- The ability to share APIs internally and faster API deployment

Key Benefits When Using an API Platform

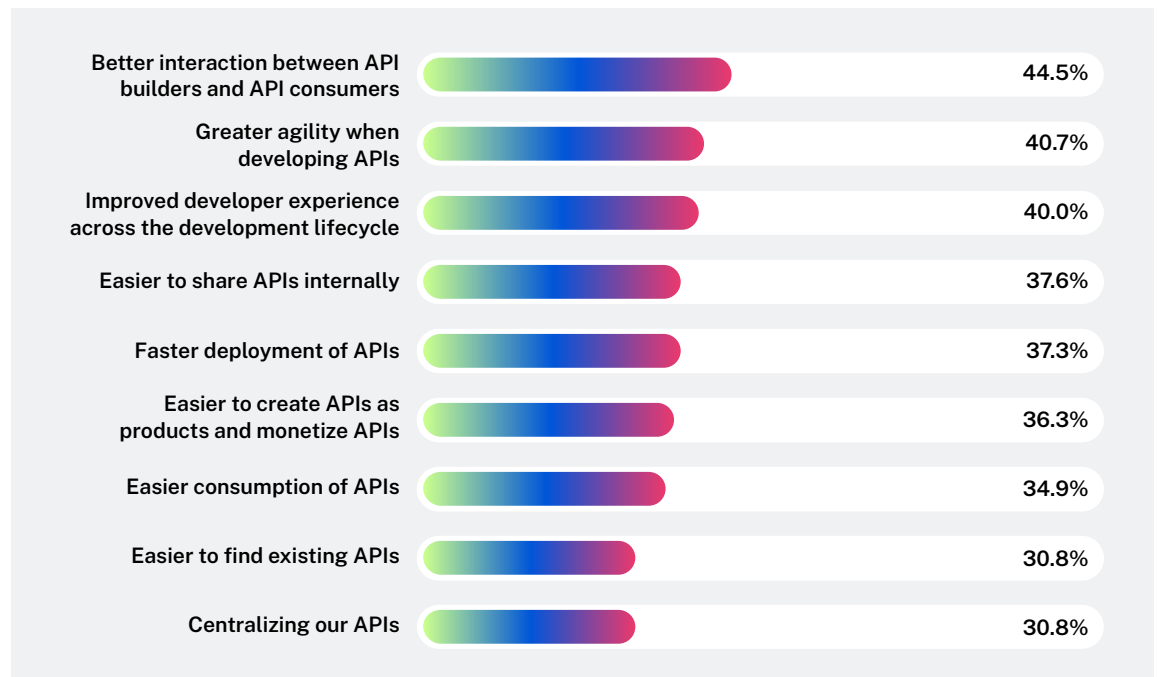


Figure 10: What are the key benefits that you expect to see from the API platform(s) used in your organization? (292 respondents)

The data suggests that enterprise leaders see a great deal of value in using a single, centralized API platform. This has the potential to offer IT departments greater oversight and governance, enable improved efficiency, and help simplify the complex API landscape. Many organizations are not fully mature in how they approach API platform utilization at present,

but this is an area that is likely to see considerable development in the coming years. While organizations will continue to use multiple API platforms, the data shows that to achieve the full benefits of APIs, enterprises need a single place to access all APIs within and outside their organizations.

Conclusion

The rapid growth of API use in organizations is set to continue. Organizations plan to invest huge amounts of money in APIs in 2022, and as there are a number of benefits associated with their use. This is a sensible approach for organizations, especially for those wishing to progress their digital transformation efforts. However, to many these benefits may seem out of reach, as there are also a number of challenges being faced, especially when it comes to managing multiple APIs across multiple platforms. It is important for organizations to take the time to evaluate the barriers that they are experiencing in relation to APIs and assess how they might adjust their systems and processes to overcome them more effectively. It's crucial they do this as APIs play such a critical role in accelerating digital transformation. Any lag in successful execution will only slow organizations down and risk putting them behind their competitors.

Improvements are needed to ensure organizations maximize their APIs, and there are several steps that they can take. The first step would be to consider investing in a single platform that would centralize API management, providing a unified experience across the API development lifecycle to help organizations optimize their API-led development processes, accelerate innovation with a seamless developer experience, and scale to support a growing number of APIs across the enterprise and through partnerships.

About RapidAPI

RapidAPI is the world's largest API Hub where millions of developers discover and connect to APIs, and where the largest companies find, manage and collaborate on their internal and external APIs. For enterprise organizations, RapidAPI offers RapidAPI Enterprise Hub, a private, customizable version of the public hub that enables the company's developers, customers, and partners to find, manage, and connect to hundreds of internal APIs, as well as external API subscriptions.

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