The Value of Connectivity

MuleSoft's customers experience increased agility

Executive Summary

Everywhere you turn there's another thought leader or business strategist talking about the importance of digital transformation. There's no question that digital transformation that creates new delightful experiences for customers or adds new channels of revenue through digital means like mobile e-commerce, loyalty programs, and social connectivity, can be an important business differentiator for companies. In a recent survey conducted by MuleSoft, more than two-thirds of IT decision makers (ITDMs) said they were undertaking digital transformation initiatives, and in certain industries like financial services or retail, that number approached or reached 100%.[i] These results make sense; studies show that the companies that are taking advantage of digital transformation consolidate their position at the top of the market, leaving leftovers for everyone else.[ii]

One of the key factors to achieving digital transformation is organizational agility — in other words, how quickly the organization identifies new opportunities and capitalizes on them faster than the competition. When we speak with CIOs, one of the goals they are often looking to accomplish is increased IT agility to keep up with the pace of business. But can agility actually be measured? How can it be improved?

> The bottom line: Customers **deliver projects 3x faster** and **increase team productivity by 300%** with MuleSoft than with legacy or homegrown connectivity solutions.

In this paper, we will break down the concept of agility into its measurable components, speed and productivity, and discuss the factors in IT that affect them — reusability, ease of self-service, increased innovation versus maintenance, and the ability to do more by failing fast. We will also provide benchmarks for each factor derived from research with numerous organizations. To conduct this research, we surveyed 17 MuleSoft customers in Q2 2016; the numbers and results you see throughout this paper are the responses from this survey. What we have discovered is that by implementing MuleSoft's vision of enterprise connectivity, an application network, our customers have achieved dramatic improvements in business agility, which has in turn resulted in our customers achieving their desired business outcomes.

IT cannot simply will itself into higher agility. Central IT teams face numerous constraints based on time, resources, and the number of projects needing completion. But Central IT can affect agility significantly by enabling the whole organization, not just itself, to self-serve with reusable assets to accomplish project goals. By enabling reusability and self-serve consumption, IT organization can extend its capacity and capability. With this approach, IT federates work to where expertise within the organization exists.

The bottom line: Customers deliver **projects 3x faster and increase team productivity by 300%** with MuleSoft than with legacy or homegrown connectivity solutions.

Introduction: Agility as a strategic imperative

The enterprise is under pressure. Customers, employees, and partners demand from every business an always-on, always-available, always-reachable experience; if they don't get it, they have numerous tools at their reach to express their feelings publicly. Competition is ubiquitous and fiercer than ever, thanks to the ready availability of compute resources and technical infrastructure. Business models in every industry — from healthcare to retail to financial services to manufacturing — are being transformed by new and old practitioners disrupting the established way of doing business.

In response to these pressures, businesses are turning to technology to help them move faster and deliver more to their customers. In fact, agility is the top quality that businesses are looking for when thinking about their IT projects. 66% of of ITDMs have said that if their digital challenges are not solved within 6 months, the business will be negatively impacted.[iii] IT leaders need to assess problems, figure out solutions, and execute on those solutions in a matter of months. This is where the ability to apportion resources, design solutions quickly, and put them into production rapidly becomes so strategically important — there isn't a great deal of time to fail. Agility, therefore, becomes the most important quality that businesses need to succeed in the digital economy.

Agility also depends on extending the IT organization's capacity to respond to business needs. Every IT department is facing the following dilemma — the demands on them from every part of the business to deliver technology solutions are growing exponentially, but their capacity to deliver remains the same:
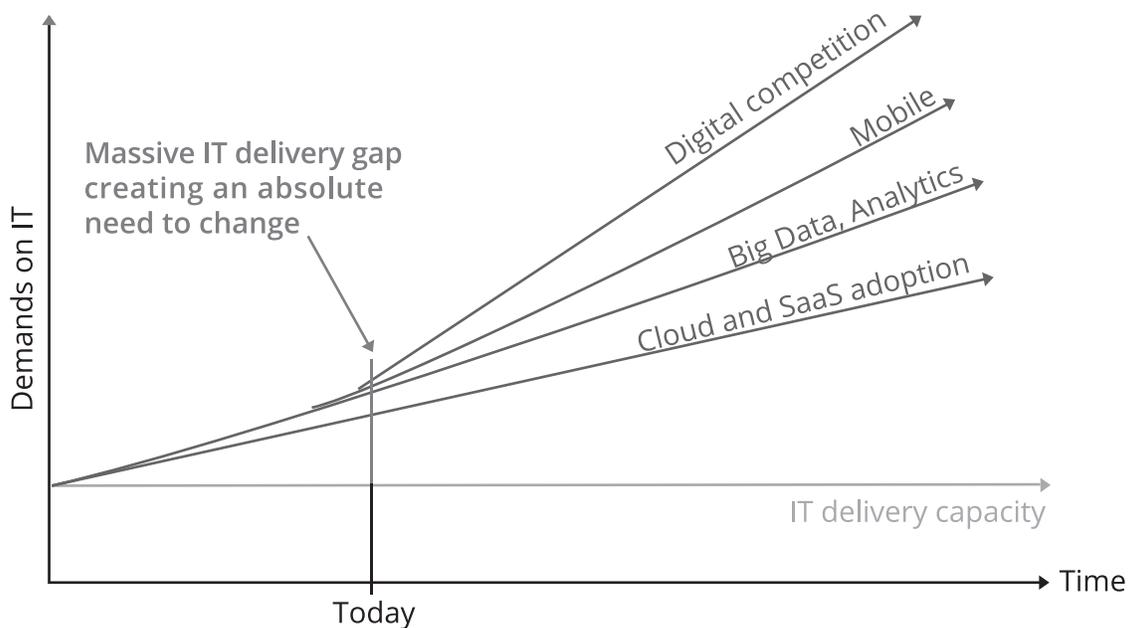
It's not enough to simply adopt new technologies and hope that IT can deliver solutions that work. In order to realize the increased agility that every business craves, we recommend that organizations approach the IT operating model with some fresh thinking. It requires both a cultural and an operational transformation. Our approach to this shift is threefold:

1. Unlock the value of legacy systems with reusable and governed assets — APIs, integration templates, etc.
2. Enable architects and developers throughout the enterprise, with technology and with knowledge transfer, to discover and self-serve the assets they need to deliver projects.
3. Deploy a flexible, unified integration platform to drive higher innovation and ability to fail fast and succeed sooner.

This approach requires a vision of enterprise connectivity called an application network. An application network is designed to allow many people inside and outside the enterprise to have controlled access to valuable business data. This will occur by allowing anyone in the business to use consumption models they are familiar with — most often a reusable set of APIs. An application network makes it easier for someone in the organization to create a useful application, use of data, or an API creating a particular experience, and then expose that value to the network.

The ultimate goal of implementing an application network is to allow the IT department to stop being the sole deliverer of projects and become the enabler of the rest of the organization to deliver projects. IT becomes the provider of reusable technology assets and the enabler of self-service for various project teams, while still maintaining security and governance. This is absolutely critical to expanding the IT organization's footprint and the ability to deliver technology throughout the organization. If there is a limited amount of resourcing and time, the best way to increase central IT's output is by allowing other developers throughout the business to also contribute to building solutions. In fact, this approach allows IT to federate work to where there is expertise. Not only are the outcomes from this approach dramatic, as will be seen below, but the progress towards this goal is measurable and quantifiable.

In short, IT can enable a new operating model that is equal parts the production of assets and their consumption.

Agility's impact on business goals

We have learned from customers that they are driving three key patterns of business outcomes with their digital transformation initiatives:

1. Creating better customer experiences through digital means
2. Driving operational excellence by enabling employees to be more productive
3. Developing new revenue channels by unlocking digital assets

Companies measure these initiatives through increased revenues, lower fixed and variable costs, and higher customer retention rates — all of which affect the financial results of the company.

The common underlying requirement to achieve these outcomes is agility within the organization. Organizational agility involves identifying new opportunities and capitalizing on them faster than competition. The key question is how does one measure agility? Agility is a nebulous and difficult to quantify concept. Instead, it is better to measure the components that make up agility. From an IT perspective, agility is all about the speed with which initiatives and projects are delivered in the most productive fashion possible. Speed and productivity are tangible components and much more easily measured.

The four components that affect agility from an IT perspective

Based on the results of our benchmark survey, we have identified the four quantifiable components of speed and productivity that together make up agility:

1. Higher speed from reusable components
2. Higher speed from ease of use and self-service
3. Higher productivity from increasing the time spent on innovation versus maintenance
4. Higher productivity from the ability to fail fast and succeed more frequently

Let's look at each in further detail.

Saving a year of development work

Massachusetts Institute of Technology built an API to access their people database. Now, any department that needs to obtain that information can just sign up to use the API and be up and running in minutes, rather than having to wait for IT to build a custom feed. Ten departments are now using this API. Each one of those in the past might have had to wait five to six weeks to get a custom feed built for them. They can now simply sign up and use the API, saving a year of total development time.

Development speed on projects now 3x faster

A global food service company estimates that with MuleSoft and reusable APIs and templates, their development speed on projects is 3x faster than with their previous legacy integration platform. The company is rolling out new customer programs in 4 weeks instead of in 12 weeks across geographic locations across many different homegrown and off-the-shelf Customer Relationship Management (CRM) systems.

Higher speed from reusable components

Having to create an integration, access to a system or an API from scratch for each project wastes precious time. Instead, generate speed by doing something one time, creating a productized asset from it, and allowing people to reuse that asset every time it's needed again. Reuse of artifacts such as best practice templates or APIs frees up IT capacity to work on other projects and deliver more solutions to wherever they are needed in the organization.

If all data resources in the enterprise could be made available through reusable interfaces, any application on the network can be a modular service that, like LEGO building blocks, connects to everything else very easily. New applications can be plugged into this network of applications as easily as one can plug in a printer.

Using a platform for API-led connectivity and a central store of reusable APIs and integration templates, developers throughout the organization don't have to write and test custom code for new applications - a lot of the work is already done, speeding up delivery of new technology.

Increased speed from reusability can be evaluated by answering the following:

- How many reusable assets does the organization have?
- What percentage of new projects is made up of previously built components?
- What percentage of new projects create components that can be reused in subsequent projects?

Higher speed from ease of use and ease of self-service

Rather than building everything themselves, IT can achieve speed with a new operating model for higher developer access and engagement with self-service assets, such as APIs, templates, best practices, and documentation. These tools should make it easier for the business to access technology. Teams are faster in design, development, and test, with easier to use platform capabilities such as two-way editing, embedded test tools, collaboration tools for application designers, and integration professionals to work concurrently, or off the shelf connectors for popular applications. The easier it is for anyone in the business to access technology and assets, the less time the organization will waste in developing applications. IT can also establish a "center for enablement" whose sole function is to encourage a consumption model within the organization.

Increased speed from increased ease of use and ease of self-service can be evaluated with these questions:

> *Building applications 2x faster*
>
> MuleSoft has enabled greater reusability via core integrations that are being reused across new use cases at a global networking devices company. By enabling developers to self-serve technology solutions, the company was able to increase the speed of applications development by 2x using MuleSoft, as opposed to their older homegrown system. With MuleSoft, it took this customer 4 weeks to build integrations; with their old system, it took 8-12 weeks.

- How accessible is technology to your developers - does it require proprietary tools? What is the percentage of open technology in your tooling?
- What percentage of tasks require advanced coding knowledge versus visual designing?
- What is the training time needed for on-ramping new developers?
- How is the organization set up to actively develop assets for self-service by lines of business developers?

Higher productivity from increasing the time spent on innovation versus time spent on maintenance

One of the biggest blockers to innovation is the "technical debt" that IT teams incur by maintaining legacy systems. Spending time performing maintenance on mainframes, for example, means less time to create and implement new products and services that could help make the business go faster. The key to increasing productivity is to change the mix of innovation and maintenance. The more you innovate and the less time you spend on maintenance, the more productive your team is, and vice versa. The goal is to shift the balance more towards innovation.

250% gain in productivity

Normally, IT teams at this global food services customer spend 30-50% of their time on innovation, rather than systems maintenance. In the MuleSoft engagement for digital programs, the integration team now has 40 of 45 developers (88%) focused on innovation. This represents a 250% gain in productivity.

Some systems, particularly fully-cloud based systems, need a lot less upkeep and maintenance when compared to other legacy on-premises integration systems. With Anypoint Platform in the Cloud, IT organizations have 0% maintenance overhead. You can shift more or all of your people to innovation. Anypoint Platform on premises is lightweight and therefore requires far fewer resources to maintain. More agile teams spend more time on innovation and less on maintaining older systems.

Increasing productivity by 300%

The central services group comprised of 50 IT professionals at a global electrification, automation, and digitization company maintains APIs and applications for use within global operating units and customers. After switching to Anypoint Platform, the team has shifted to a model of build once and deploy anywhere. With CloudHub (Anypoint Platform's PaaS offering), the operations are global and the assets fully reusable. Without the headache of having to maintain systems and having to build and test each time a global operation needs access to applications, the team is now managing 4 times the APIs and applications without a commensurate increase in workforce.

Higher productivity from higher innovation can be evaluated with these questions:

- Do you have a secure, fully elastic, resilient, multi-tenanted, fully managed cloud or on-premises deployment?
- What is the complexity in monitoring and managing all of your deployments?
- What percentage of your team focuses on innovation rather than maintenance of systems?

Higher productivity from the ability to fail fast and take on more projects

It's a paradoxical truth that if you give yourself the ability to fail fast, you give yourself the ability to succeed sooner and more frequently and therefore take on more projects. If your approach and technology allows your team to experiment and conduct trials faster, you can give yourself the luxury of fast failure. If you don't have that luxury, you

hold on to projects longer and potentially fail late, costing more wasted time and resources.

To improve productivity, you need to be able to create a hypothesis or design for your product, test it, and get feedback on it.

The technology program you use and
the business processes present must encourage testing, experimentation, and a fail fast mentality. With an ability to go fast, teams can experiment and fail fast, which paradoxically makes teams successful in fewer attempts and allowing them to take on more.

The productivity increase from an ability to fail fast can be evaluated with these questions:

- Do you start with the end user and end use defined before you start designing?
- What is the average time taken to make changes or fixes?
- How many projects do you take on with a new platform and operating model versus an older one?

Results of the benchmark survey

The data that follows comes from direct interviews conducted with MuleSoft customers. We interviewed 17 customers across geographies, industries, and customer size who were at least six months into their rollout of connectivity solutions with MuleSoft. Their experience with MuleSoft ranged from 6 months to 3 years.

This study produced a number of striking findings about the business outcomes resulting from an API-led approach to enterprise connectivity. Based on this benchmark survey, we have found that companies who use MuleSoft are able to achieve sustained business agility. Using MuleSoft's approach to enterprise IT architecture, API-led connectivity, our customers achieve up to 300% productivity gains and are able to deliver technology initiatives (products, applications, APIs, and integrations) 3x faster than with custom code or legacy alternatives.

Exceeding productivity goals by 300%

A communications infrastructure customer measured the success of what they were doing in terms of reuse, enabling downstream developers and building robust infrastructure. Their benchmark was the number of projects they were able to take on; they challenged themselves to take on 10 integration projects in one year, which they believed would not have been possible with the previous legacy platform.

With MuleSoft they completed 40 projects in the first year.

The table below shows the average and the range of improvement that surveyed customers experienced with MuleSoft versus alternative integration solutions:

Agility Component	Median result	Range of results
Higher speed from reuse	Projects delivered 3x faster	Projects delivered 1.5x to 5x faster
Higher speed from ease of use and self-service	Apps launched 2x faster	Apps launched 1.5x to 4x faster
Higher productivity from increasing time on innovation versus maintenance	Productivity 90% higher	Productivity 20% to 250% higher
Higher productivity from ability to fail fast and take on more projects	300% more projects undertaken	30% to 300% more projects undertaken

Customer case study

Dixons Carphone, Europe's largest electronics retailer: building new revenue streams and going 4x faster with new products to market

When all the four components of agility work together, not only does an organization become more efficient and innovative, but the possibility of monetizing those innovations is unlocked, creating new revenue streams and enabling businesses to compete in new spaces.

> "What used to take us 12 months now takes us three. That's a massive win in a digital world that's changing constantly."
> — Simon Post, CIO, Dixons Carphone

Dixons Carphone offers multiple cellular plans across multiple carriers and activates customers in real time. Customers can choose between dozens of different cellular devices, and each carrier has anywhere from 30-50 APIs that are used to activate customers onto specific plans. The combination of devices and subscription offerings runs in the tens of thousands, which creates an extraordinarily complex technology problem.

With a legacy integration and API management platform, this company spent 12 months to build solutions for its customer facing agents in their retail stores. With MuleSoft and an approach to reusable, self-served assets and innovation, Dixons Carphone now takes only 3 months to launch similar new products, a 4x faster time to market.

In addition, they've productized the solution built with MuleSoft, and are bringing this to new markets via other cellular retailers in the US, Canada, and Germany. Since developing this in-store sales platform with MuleSoft, conversion is up 36%; their Net Promoter Score (NPS) is up 20%, and their average basket size is bigger.

"What we've done using tablet technology and our own software platform, in which MuleSoft offers the core components, has created an improved sales process," says Simon Post, Dixons Carphone's CIO. "It allows us to have a completely new customer journey in our stores...you get happy colleagues, happy customers, and a more profitable business, which is why we do it. MuleSoft acts as our connectivity engine for the our retail platform. We are much, much more efficient using MuleSoft than the previous technologies we've used. What used to take us 12 months now takes us three. That's a massive win in a digital world that's changing constantly."

Conclusion

When thinking about how an organization will achieve improved agility, and attain digital transformation goals, it's important to think about the principles that will create a new operating model as well as provide tangible benefits from increasing the IT team's current capacity:

- Reuse: What is the percentage of new applications that use previously built components? What is the percentage of new applications that contain components others can access can reuse?

- Ease of use and self-service: Does your technology require proprietary tools? Do you have to go into code to create new products and services? How fast can you on-ramp new developers?

- Maintenance versus innovation: How much of your team's time is spent maintaining old systems versus using the systems for innovation?

- Fail fast and take on more: Do you design new products with the end user and end use defined? How quickly can you make changes?

The answers to these questions will indicate how ready your business is for change. It's a given that the nature of doing business is changing. The choice to do nothing is a very risky one. The choice to take a different approach to connectivity, which will improve your business agility, could be profound, allowing you to meet your business transformation goals. And now there are established benchmarks for success.

Contact us to find out the best way to get started.

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[i] MuleSoft *Connectivity Benchmark Report*, July 2016. https://www.mulesoft.com/lp/reports/2016-connectivity-benchmark

[ii] MuleSoft Webinar, *Top Tech Trends a CIO Needs to Know*, April 2015. https://www.mulesoft.com/webinars/api/top-enterprise-trends

[iii] MuleSoft *Connectivity Benchmark Report.*