



Define your vision and strategy

Be agile

Manage your APIs

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Executive summary

In the app economy, your customers are in control. They are interacting with your organization in new ways, and their user experience is heavily influencing their purchase decisions. Most critically, their expectations of performance and security across thousands of digital touchpoints are putting unprecedented demands on your business.

That is why many businesses are looking at how new digital technologies can help them transform existing businesses, drive new business growth and stay ahead of current and emerging competitors.

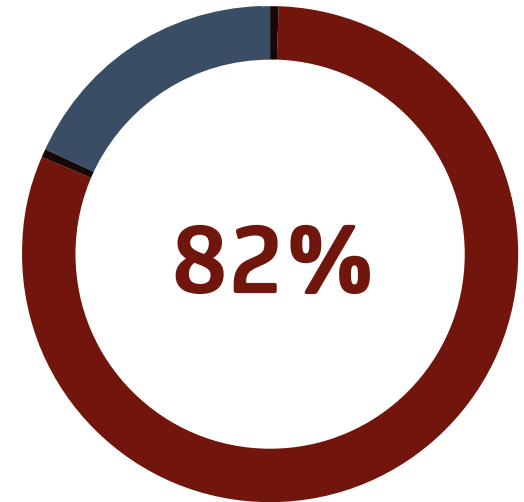
But what has been the impact of their efforts? To find out, CA Technologies commissioned Coleman Parkes Research to conduct a global survey of 1,770 senior business and IT executives.

Our study had two aims. Firstly, to examine the impact of digital transformation on business performance. And secondly, to assess the effectiveness of the key technologies and practices that support it.

To assess the success of enterprises' digital transformation initiatives, we created a Digital Transformation

Business Impact Scorecard. We based the scorecard on the key performance indicators (KPIs) that organizations typically use to measure the impact of digital transformation on business agility, business growth, customer focus and operational efficiency.

We found that organizations are getting on with the job of digital transformation. Some 82% have embraced digital technologies to redefine how they run their businesses, and how they interact with customers.



BUSINESSES IMPLEMENTING DIGITAL TRANSFORMATION

82% of respondents have embraced digital technologies to redefine how they run their businesses and interact with customers

Enterprises are reaping the benefits of digital transformation

- Revenue from new business sources has increased by an average of 37%
- Customer satisfaction is up by 40%
- Speed-to-market has increased by 33%
- 74% of businesses have seen an improvement in customer experience
- 76% report an increase in digital reach

Our research also demonstrates the correlation between business performance, and the technologies and practices that underpin digital transformation. Advanced users of agile methodologies, DevOps practices, application programming interface (API) management, and identity-centric security posted up to 52% higher scores on the Digital Transformation Business Impact Scorecard.

The case for digital transformation is clear. This report provides you with the data to inform your own approach to measuring its impact; and offers a roadmap to reposition your business for success in the app economy.

“Customers’ expectations are on the rise. They’re accessing and using multiple data points in real time, and don’t expect to be kept waiting. This affects the performance of systems and software. Adapting means undergoing a complete restructuring of our processes.”

Head of planning and production, European rail operator

Introduction: The digital imperative

The digital revolution has changed how your customers work, how they communicate, how they interact with your organization. And critically, how they make purchasing decisions.

It has also given birth to the ‘app economy’. In 2007, there were virtually no mobile apps¹. Yet by the end of 2017, app downloads are forecast to reach almost 270 billion worldwide².

¹ Source: Techopedia

² Source: Statista

The touchscreen immediacy of the app economy has driven new levels of expectation among your customers. Expectation not just of how you serve them, but of how you protect their data across thousands of digital touchpoints. This has shifted the balance of power away from your organization, and towards your customers and partners. And it is putting unprecedented demands on your IT and business systems.

Your organization needs to change—radically—if it is to stay competitive in this climate. You need to adapt your operations to the demands of the digital era and the app economy. You need to embrace digital transformation.

“Cost savings, efficiency, a more agile IT chain, better competitiveness... These are all major drivers of our digital journey. Over the past decade, IT has become the main engine of the business.”

Marketing director, European telecoms provider

DEFINITIONS

Digital transformation

The use of digital technology and communications to reshape key aspects of an organization, including customer engagement, core operations and processes, working practices, employee productivity, supply chain management, etc.

Enablers of digital transformation

Agile: Methods that help to build and deliver products incrementally; deliver value to customers quickly; and keep development work aligned with business needs.

API management: The technologies, tools and processes for publishing, documenting and overseeing application programming interfaces

(APIs) in a secure, scalable environment; for monitoring the API lifecycle; and for meeting the needs of the developers and applications that use an organization's APIs.

DevOps: The processes and working practices to help IT development and operations teams to collaborate across the technology lifecycle, from development to production and support.

Identity-centric security: Identity-centric security places the user's identity at its center, and uses context, behavioral analytics and predictive analysis to ensure users of digital platforms are who they claim to be. Its goal is to create trusted digital relationships, so people can access a company's data on the device of their choice, anywhere, anytime.

“Our vision is to empower our customers, to let them drive their transactions and data access at the speed and location they want.”

VP of technology & compliance, US banking organization



01. The Digital Transformation Business Impact Scorecard

The story so far

Encouragingly, our research found the groundwork for digital transformation well underway among the enterprises surveyed (see fig. 1).

Around four-fifths of respondents have set out a vision for change (81%); invested in a leadership team to drive transformation (80%); and embraced digital technology to redefine how

they run their business and interact with customers (82%).

Their greatest priority is investing in the necessary talent—a focus for 84% of organizations. The fast pace of change in digital technology makes securing the latest skills a continual challenge for businesses wanting to become digital enterprises.

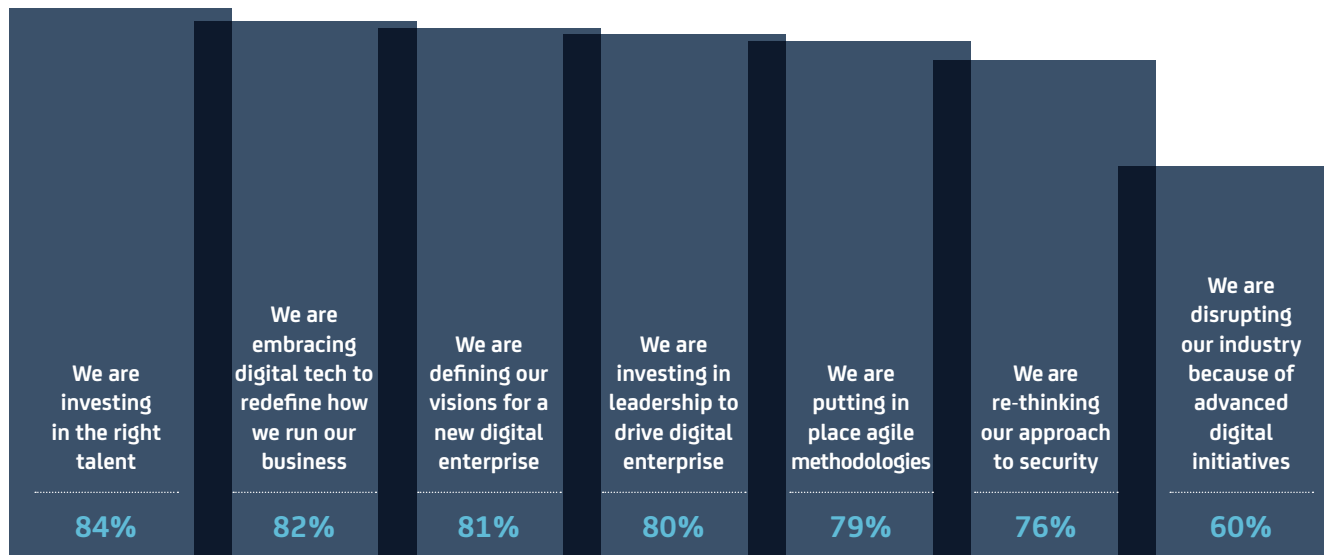
Making it work for the business

Making transformation happen is only the first step; assessing how it actually impacts the business, and helps it achieve its objectives, is a whole different challenge.

We designed the Digital Transformation Business Impact Scorecard to measure the effects of organizations' transformation efforts. The Scorecard

is based on 14 key performance indicators (KPIs) across areas such as business agility, business growth, customer focus and operational efficiency (see fig. 2, page 8). We asked interviewees specific questions to assess their firms against these KPIs, and indexed the results to 100 to enable comparisons.

Q: DO YOU AGREE OR DISAGREE WITH THE FOLLOWING STATEMENTS ABOUT YOUR DIGITAL INITIATIVES (PERCENT AGREEING):



84% of organizations are investing in the necessary talent to support digital transformation

FIG. 1 CURRENT FOCUS ON DIGITAL TRANSFORMATION

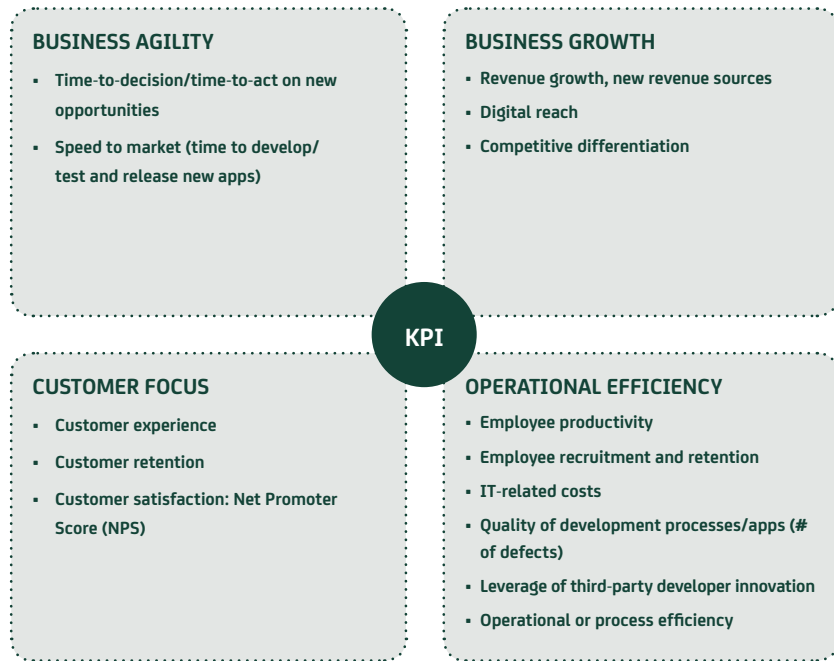


FIG. 2 KPIS FOR THE DIGITAL TRANSFORMATION BUSINESS IMPACT SCORECARD

The average score across our global sample was a relatively modest 53 out of 100. Though they’re making progress, enterprises clearly have work to do to realize the business impact of their digital initiatives.

Emerging stars

With an average score of 63, organizations in the Americas report the greatest benefits from digital transformation. With 56, those in Asia Pacific and Japan (APJ) score just above the global average, while the EMEA region lags slightly behind on 47.

Taking the analysis further reveals an illuminating trend. The country-

level scores show that enterprises in emerging economies are driving the greatest impact from their digital initiatives (see fig. 3). The top five scoring nations are India (79), Thailand (71), Brazil (69), Indonesia (66) and Malaysia (64).

This might be explained by lower levels of digital adoption in these markets in the first place. This would mean that each digital investment gives a business a greater competitive edge. These organizations are also likely to have fewer legacy systems to contend with. Being able to start afresh as they gear up for the app economy should drive faster—and greater—returns.

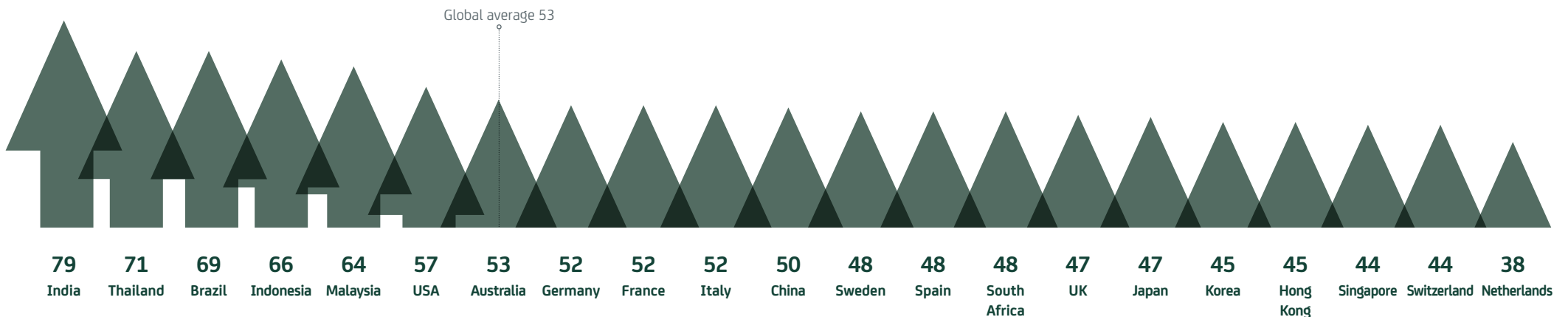


FIG. 3 DIGITAL TRANSFORMATION BUSINESS IMPACT SCORECARD: COUNTRY SCORES

A sector perspective

The three top-performing sectors on the Digital Transformation Business Impact Scorecard are telecoms (scoring 59), financial services (57) and the public sector (56) (see fig. 4).

The first two probably stand to reason: telecoms is by definition a digital industry, while finance has always been a technologically advanced business. Both are also facing huge challenges to their core businesses from a new breed of pure digital competitors.

The public sector’s high ranking may raise a few eyebrows, but this is a sector in which we’ve seen significant digital investment in recent years. It is a trend being driven by the need to improve services while doing more with less.

“As a government organization, reducing costs is an important priority driving our digital journey.”

Head of ICT, UK local government organization

The three top-performing sectors on the Digital Transformation Business Impact Scorecard are telecoms (scoring 59), financial services (57) and the public sector (56)

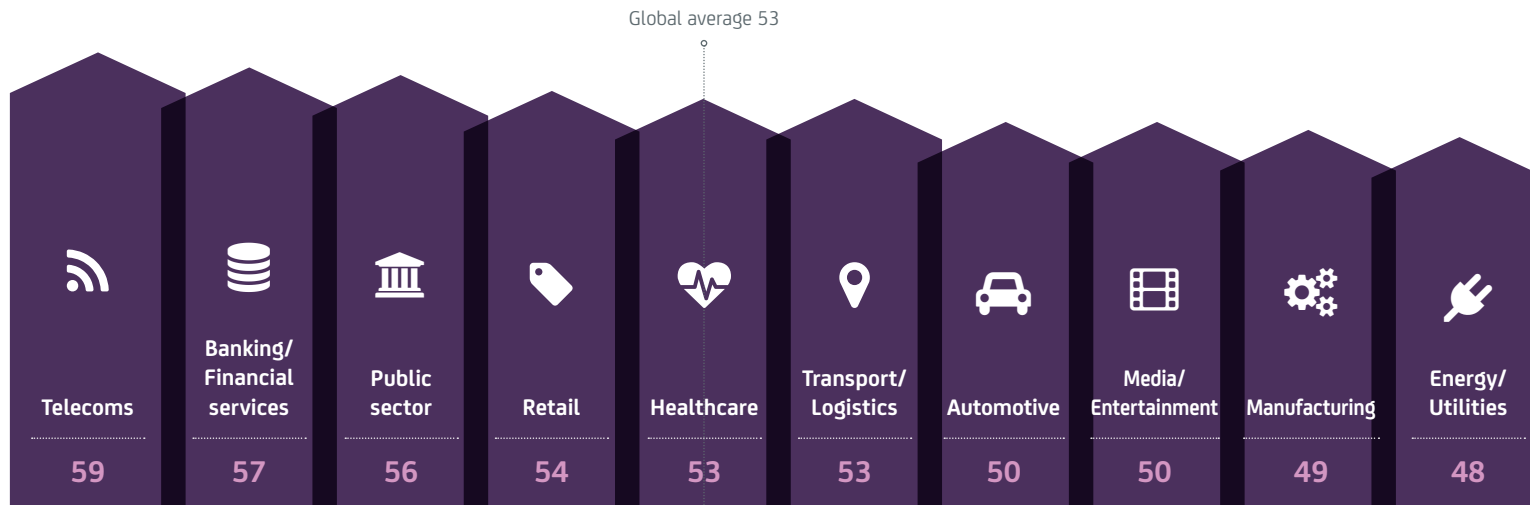


FIG. 4 DIGITAL TRANSFORMATION BUSINESS IMPACT SCORECARD: INDUSTRY SCORES

02. The quantifiable impact of digital transformation

What do our findings say about the impact of digital transformation on the aspects of business performance we studied?

Business agility

There is an urgent need for speed in the fast-paced app economy. When users demand regular updates to their apps, software cycles are short—sometimes no more than a few weeks. So reducing time-to-decision and time-to-market is essential.

Encouragingly in this context, organizations have seen a marked improvement in agility thanks to their digital investments. Survey participants claim that their speed-to-market has increased by 33% on average; and that the time taken to make decisions has come down by 32% (see fig. 5).

Business growth

The app economy is opening up markets to disruptive new entrants. This may present a threat to your core business, but it is also a chance to create new offerings and engage new customers.

Enterprises seem to be realising the opportunity. Our respondents report a healthy improvement in their growth prospects (see fig. 6 overleaf).

“Digital transformation is about moving at the speed of requirement.”

Head of planning and production, European rail operator

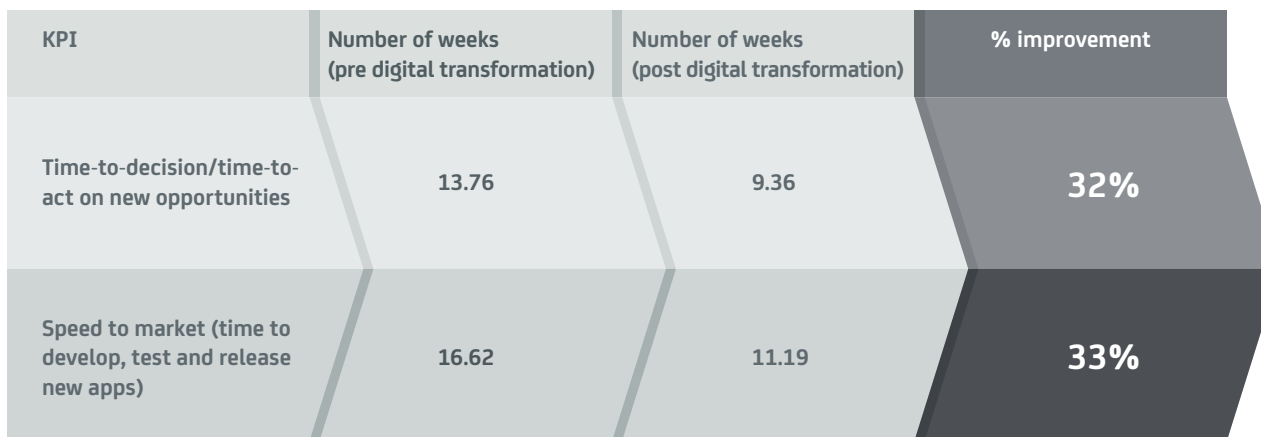


FIG. 5 IMPACT OF DIGITAL TRANSFORMATION ON BUSINESS AGILITY

Digital transformation has boosted new revenue streams by 37% on average. And more than three quarters (76%) say they've improved their 'digital reach'. In other words, they are better able to reach customers,

enter new markets and develop new revenue streams thanks to their digital technologies and offerings. Meanwhile, 69% report better competitive differentiation.

"Our digital initiatives are business-driven, which is how it should be."

VP of technology & compliance, US banking organization

Digital transformation has improved the 'digital reach' of **76%** of respondents. **69%** report better competitive differentiation, while revenue from new business has increased **37%**

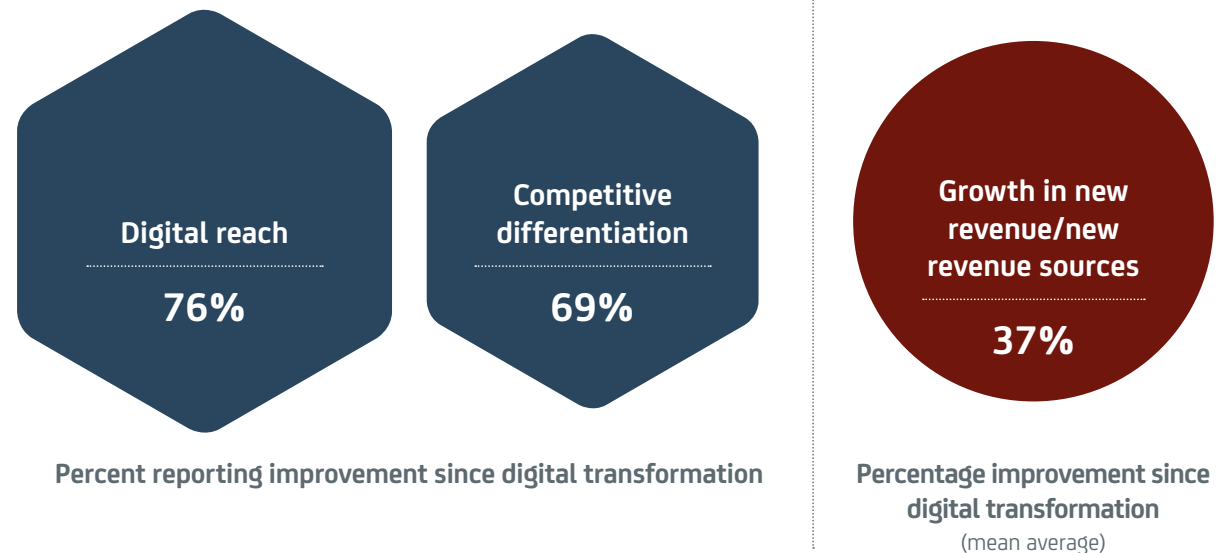


FIG. 6 IMPACT OF DIGITAL TRANSFORMATION ON BUSINESS GROWTH

Customer focus

Today's customers are more likely to interact with you via an app than in person. And their demands on your digital performance are high: research suggests they expect download times of no more than six seconds.

This means that in the digital era, your apps are your brand. And it goes without saying that you risk your customers abandoning your brand if they receive an unsatisfactory digital experience.

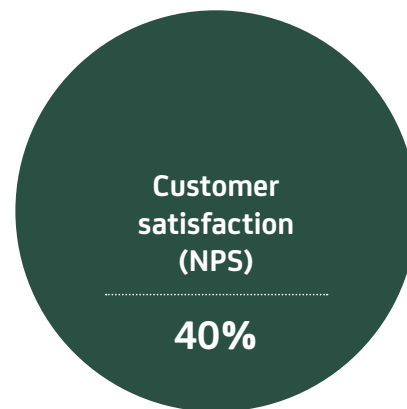
Our research suggests that enterprises are responding to this pressure, and that their digital transformation efforts are having a positive impact on customer engagement (see fig. 7). Some 74% of enterprises report an improved customer experience. Meanwhile, customer retention and satisfaction have improved by around two fifths (38% and 40% respectively).

“The bottom line is customers want more applications, in a shorter time, with better adaptability across a wider range of devices.”

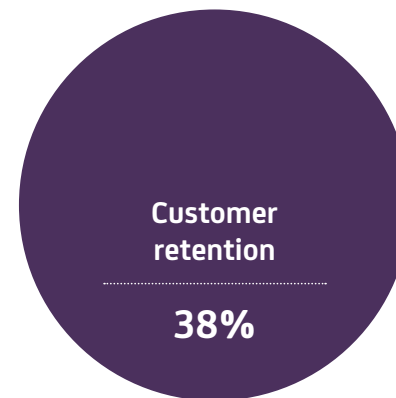
IT director, US public health organization



Percent reporting improvement since digital transformation



Percentage improvement since digital transformation
(mean average)



Digital transformation efforts are having a positive impact on customer engagement

FIG. 7 IMPACT OF DIGITAL TRANSFORMATION ON CUSTOMER FOCUS

Operational efficiency

Efficiency is crucial if enterprises are to move fast in the ever-changing app economy. And it will free up resources that can be invested in digital transformation. There is also a need to attract and retain the talent required to drive the digital initiatives that are critical to success.

Enterprises are improving operational efficiency across the board thanks

to digital transformation (see fig. 8). Two core elements of efficiency have improved by almost two fifths: employee productivity is up by 39%, operational efficiency by 38%.

The same goes for the other efficiency indicators we measured. IT costs are down 37%, while development quality is up 39%, implying that better apps are being developed for less money. Meanwhile, 7 in 10 organizations

report more effective employee recruitment and retention.

The same proportion say they are experiencing better leverage of third-party developer innovation. This is a significant benefit in the app economy. It means organizations can take advantage of a powerful ecosystem of developers to continually improve their app-based offerings.

“A major business driver behind our digital journey is the need to reduce costs and streamline our entire process... It will help us save a lot of money in the long run.”

IT director, US public health organization

Operational efficiency is improving across the board thanks to digital transformation

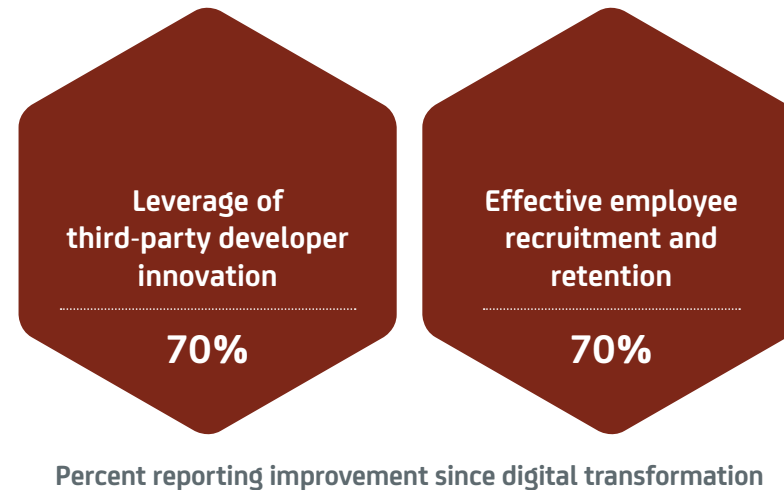
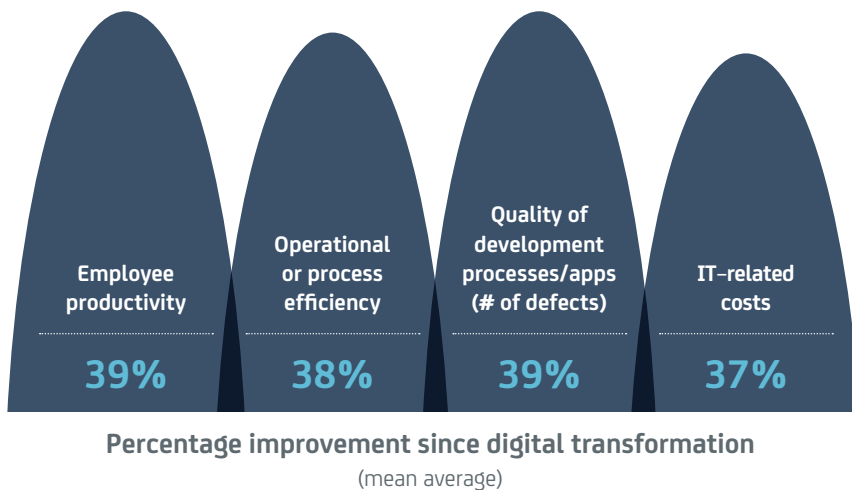


FIG. 8 IMPACT OF DIGITAL TRANSFORMATION ON OPERATIONAL EFFICIENCY

03. The technology enablers of digital transformation

The app economy requires you to rethink the role of software in your organization's strategy, and consider your business a software business. Whatever your revenue model, your organization must know how to efficiently design, develop and operationalize the software that is critical to your digital offering.

This means building and integrating agile and DevOps practices into your culture, and exploiting APIs to boost efficiency and leverage innovation among your partners. It also means understanding the new security landscape, and the importance of protecting identities while maintaining a quality customer experience.

We asked interviewees about the technologies and practices that are vital to digital transformation: agile methodologies, API management, DevOps practices and identity-centric security. This allowed us to categorize each organization as an advanced, basic or limited user of these enablers. We then analysed the impact these levels of maturity have on business performance.

Adoption high, maturity low

Our results suggest that adoption of these enabling technologies and practices is high. Most participants have some experience of them all. However, many are at an early stage of maturity, and are yet to fully implement them across their organizations (see fig. 9).

Advanced users are in the minority when it comes to agile (33%), DevOps (36%) and identity-centric security (25%) use. For API management, a narrow majority (53%) can be considered advanced users.

Adoption of enabling technologies and practices is high, though many participants are yet to fully roll them out across their organization

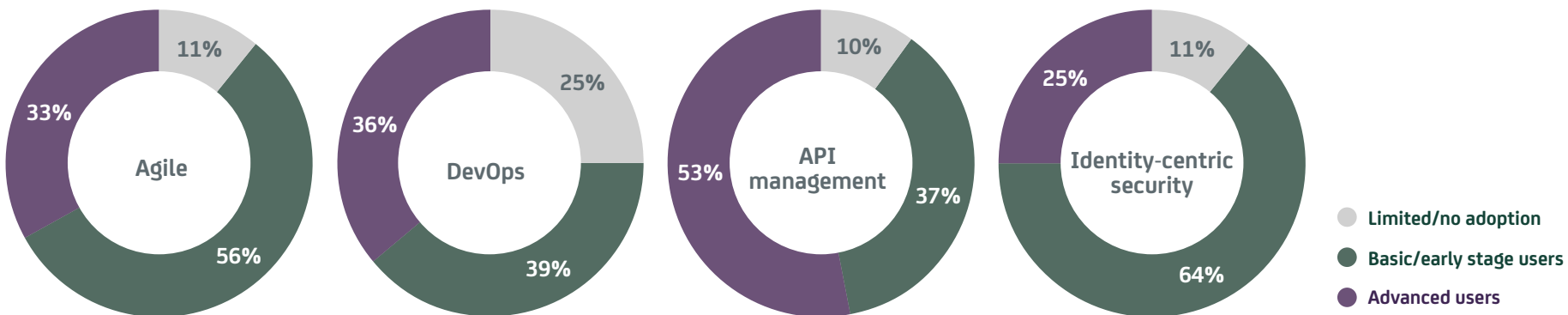


FIG. 9 MATURITY OF USE OF DIGITAL TRANSFORMATION ENABLERS

Moving from basic to advanced adoption of agile, DevOps, API management and identity-centric security significantly improves the business impact of digital transformation

Increased maturity drives greater business impact

To measure the impact of these technologies and practices, we mapped participants' maturity levels to the results of their Digital Transformation Business Impact Scorecards.

In each case, advanced users significantly outperformed basic users (see fig. 10). Moving from basic to advanced adoption drives up scores by between 24% and 52%.

What's more, advanced users significantly outscored the global average (53) for each enabler. Their scores ranged from 65 for advanced use of agile methods, to 73 for mature API management.

The data makes a strong case for the business benefits of increased use of these technologies and practices as integral components of a digital transformation program.

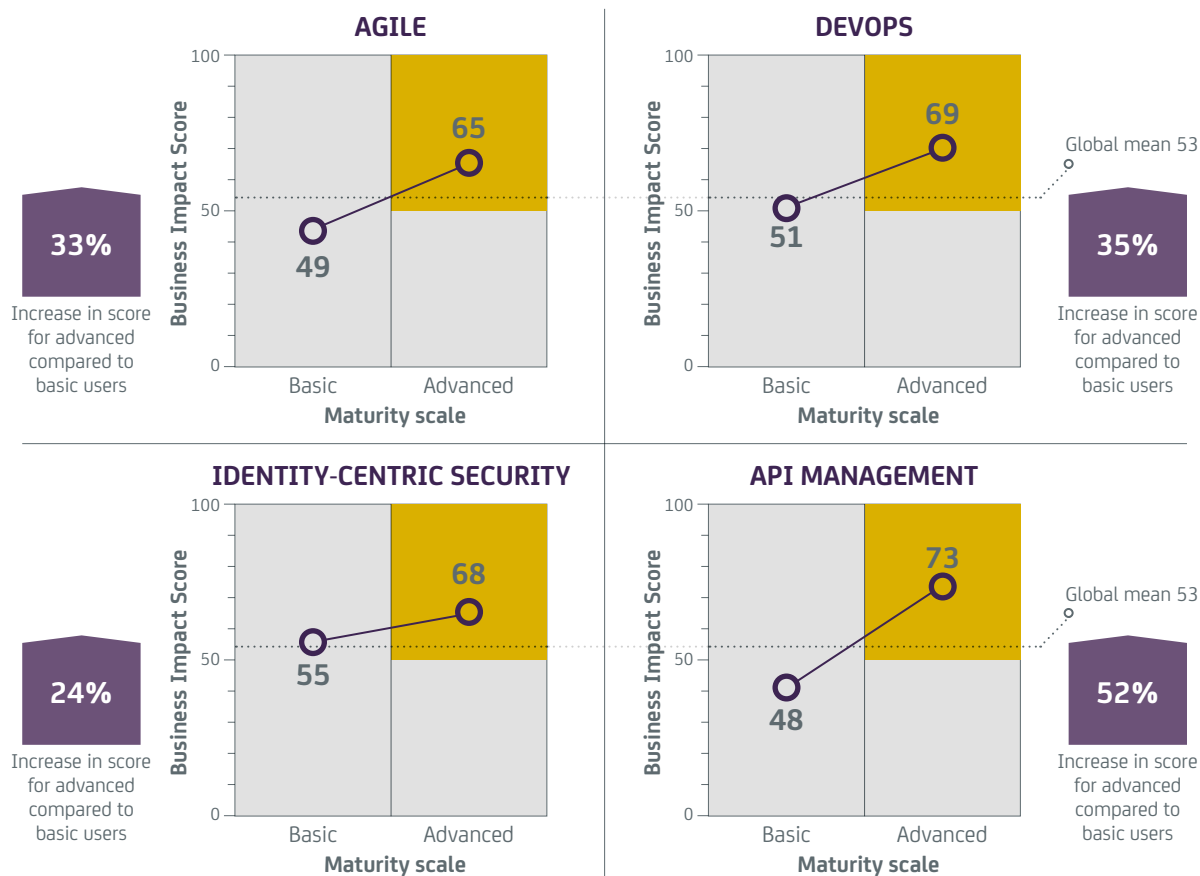


FIG. 10 BUSINESS IMPACT OF MATURE USE OF DIGITAL TRANSFORMATION ENABLERS

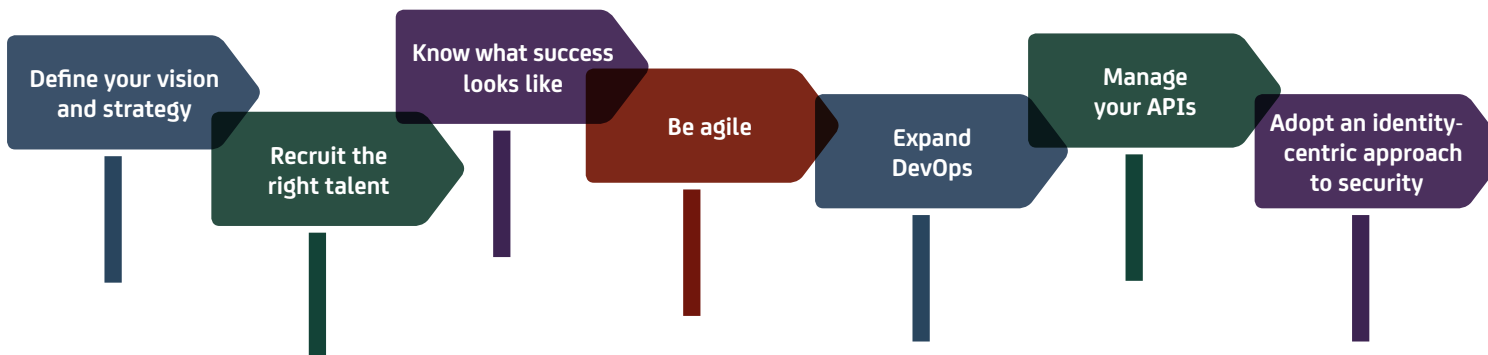
04. Successful digital transformation: a roadmap

The evidence from our study is compelling: moving up the digital maturity curve improves organizational performance. Yet as our findings make clear, enterprises still have a way to go on their digital transformation journeys.

So how can you make transformation work for your business? How do you develop strategies to exploit the underlying technologies and practices that are so effective at improving business performance?

We believe there are seven critical actions to ensure successful digital transformation. The more you embrace and embed these across your organization, the greater the impact your digital transformation initiatives will have.

- 1. Define your digital vision and strategy.** Refreshing your web presence and building a few apps won't cut it: reappraising your business model should be your most urgent priority. Becoming a digital enterprise means redefining your value proposition, competitive positioning and operating model for the app economy.
- 2. Recruit the right talent.** The right people and skills are vital to digital success: from a leadership team capable of creating a digital enterprise, to critical digital business and technical expertise.
- 3. Know what success looks like.** Build a scorecard to assess the impact of your digital transformation. By measuring the 14 indicators we analysed, you can demonstrate the value of digital transformation to senior management—and to the business as a whole.
- 4. Be agile.** Implement agile methodologies and practices across the entire organization, not just among your development teams. Agile allows you to sense and react to change quickly with confidence. The research demonstrates that businesses which adopt agile principles across the board see better business results.
- 5. Expand your use of DevOps.** Integrate DevOps into your IT culture. This research shows that the more broadly you implement it, and the more deeply you embed it, the greater the business impact.
- 6. Manage your APIs.** Deploy tools that automate the build, release and deployment of your APIs; monitor their performance; and provide customer analytics. Our study shows that the strongest impact on business results stems from advanced use of API management tools.
- 7. Adopt an identity-centric approach to security.** Identity is the security perimeter in the app economy. This demands a different approach to security, to ensure that users of digital platforms are who they claim to be. Research proves that use of context, behavioral analytics, and more predictive security approaches can help significantly improve results.













Further information

Research methodology

Coleman Parkes Research surveyed senior business and IT decision-makers at 1,770 large enterprises in the Americas, EMEA and Asia-Pacific Japan (APJ) regions. The organizations surveyed had annual revenues of more than US\$1 billion (or US\$0.5 billion in some smaller economies). Respondents were selected from 10 vertical sectors in 21 countries.

Sectors surveyed were:

-  **Automotive**
-  **Energy/Utilities**
-  **Banking & Financial services**
-  **Healthcare**
-  **Manufacturing**
-  **Media/Entertainment**
-  **Public sector (National)**
-  **Retail**
-  **Telecommunications**
-  **Transportation/Logistics**

Countries surveyed were:

Americas	EMEA	APJ
Brazil	France	Australia
USA	Germany	China
	Italy	Hong Kong
	Netherlands	India
	South Africa	Indonesia
	Spain	Korea
	Sweden	Japan
	Switzerland	Malaysia
	UK	Singapore
		Thailand

We interviewed executives about the extent and impact of their organizations' digital transformation activity. To measure impact, we designed a scorecard based on a set of 14 KPIs under four key areas of business performance: business agility, business growth, customer focus and operational efficiency. We asked interviewees a series of questions designed to assess their organizations' performance against these KPIs.

Participating organizations were scored according to which quartile they fell into for each KPI. Total scores were indexed to 100 to allow comparisons.

The research and analysis were conducted in May and June 2016.

About CA Technologies

CA Technologies (NASDAQ: CA) creates software that fuels transformation for companies and enables them to seize the opportunities of the application economy. Software is at the heart of every business in every industry. From planning to development to management and security, CA is working with companies worldwide to change the way we live, transact, and communicate—across mobile, private, and public cloud, distributed and mainframe environments.

Learn more at www.ca.com.

About Coleman Parkes Research

Coleman Parkes Research specialises in recruiting and interviewing senior-level respondents across multiple global markets, vertical sectors and functional areas for a wide range of clients. From thought leadership research for PR and marketing campaigns, to analysing win/loss opportunities, testing product messages and conducting in-depth senior executive interviews, we do it all. Coleman Parkes Research works collaboratively with clients to formulate proven strategies that generate market insight based on individual requirements and key hypotheses.