Simplify, secure and engage: CIOs say massive infrastructure overhaul must be coupled with culture change if organizations are to unlock the benefits of digital transformation

A research paper from Logicalis based on a global study of CIO pressures and priorities

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In summary

This report details key findings from the fifth annual Logicalis Global CIO Survey which assesses the role of CIOs and IT departments in driving the digital transformation of their businesses.

This year, we draw on a survey of 890 CIOs in 23 countries to take a critical look at that transformation – how quickly and effectively it is taking place, the barriers to progress and the steps CIOs are taking to overcome them.

The benefits of digital transformation are clear to the majority of CIOs.

As we have established over the last four years, there is clear appetite for change: CIOs want a more strategic role – freedom from day-to-day management and a chance to transform the relationship between business and IT.

Indeed, only 11 percent of CIOs surveyed say that "no desire to transform" was a barrier to digital transformation in their organizations (fig. 2).

They understand that digital opens a wealth of possibilities – from new customer interfaces and experiences to greater operational efficiencies. And they see that those able to derive actionable insight from analytics that seamlessly harness market, customer, operational and financial data will be first to market with new products and services, enhanced customer experiences – even new business models.

But most CIOs still spend the majority of their time keeping the lights on.

They are discovering the scale of the transformation challenge – complex legacy architecture with an organizational culture to match – makes for a very wide turning circle.

Put that in the context of a world of constant change with its market turmoil and rapidly evolving cyberthreat landscape, and it is easy to see why the focus remains largely on keeping the lights on.

In the meantime, an ever-increasing demand for new apps and services from line-of-business colleagues along with the need to adapt to trends like the Internet of Things (IoT), forces a pragmatic approach to digital. The resulting piecemeal transformation creates islands of digital that do not deliver benefits on the same scale as true digital enablement.

In short, CIOs are caught in a tricky situation: They are buffeted by change rather than shaping it – and it is their struggle to maintain the status quo that does most to prevent meaningful progress toward their transformation goals.

CIOs have big plans, but many will be forced to look outside for help.

This year’s survey finds CIOs in a determined mood. They have big plans to overcome challenges and unlock the benefits of digital transformation:

- More than half plan to simplify and streamline existing IT infrastructure to overcome the barriers created by legacy technology.
- A similar proportion plan to work with line-of-business colleagues to engage the wider business, acting as ambassadors for digital transformation in an effort to drive organizational change.
- A significant number will invest in security, training and development.

That said, just 33 percent plan to increase digital transformation budgets, so it is hard to see how those plans can be realized without calling on external help from trusted partners able to simplify technology and take on the heavy lifting of day-to-day management activities.

Over the last five years, however, CIOs have reported only marginal moves in that direction. Despite a long-held desire to increase reliance on third parties, the majority of IT remains on-premise and managed in-house, and CIOs still report big barriers to increased cloud services adoption.

It will, therefore, be interesting to see how that picture changes over the next 12 months given CIOs’ plans to streamline, simplify and secure and to be the makers, not managers, of change.

"Change is now the norm. Just as we set a course based on our understanding of the technology landscape, that landscape changes. CIOs must accept that change is constant and work out how to get on the front foot - to shape change rather than being governed by it.”

Mark Rogers, Chief Executive Officer, Logicalis Group
Big Picture: Digital Transformation

Progress, barriers and keeping the lights on...

CIOs as change makers, not change managers
When it comes to delivering digital transformation, the headline is one of scant progress.

Overall, the classic bell curve we identified in 2016 remains, but fewer CIOs characterize their organizations as “entirely digitally enabled” as, perhaps, the scale of the transformation challenge becomes clear.

Compared with 2016 (fig. 1):

- Just 5 percent classify their organizations as “digital innovators” (down from 7 percent last year).
- Fewer see their organizations as early adopters (20 percent, down from 22 percent in 2016).
- The proportion giving their organizations a middling score, characterizing themselves as part of an early majority, is up to 48 percent from 45 percent.
- Around a quarter still put their organizations in the late majority or laggard category.

This is a story of limited progress. As we explore in the “In Focus” section of this report, CIOs are delivering islands of digital transformation driven by pragmatism more than strategy. Therefore, the cohesive, strategic transformation that delivers the true value of digital remains elusive.

“A holistic and adaptable architecture for change should be a prerequisite for CIOs. A piecemeal approach to transformation, while well intentioned, will result in the same challenges currently being posed by legacy infrastructure.”

Rodrigo Parreira, CEO Logicalis Latam

Fig.1: On a scale from 1 to 5, where 1 is “entirely enabled” and 5 is “not enabled at all,” rate the extent to which you feel your organization is “digitally enabled.”

<table>
<thead>
<tr>
<th>Score</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>2</td>
<td>5%</td>
<td>19%</td>
</tr>
<tr>
<td>3</td>
<td>22%</td>
<td>45%</td>
</tr>
<tr>
<td>4</td>
<td>23%</td>
<td>49%</td>
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<tr>
<td>5</td>
<td>5%</td>
<td>4%</td>
</tr>
</tbody>
</table>
CIOs point to complexity, cost, culture, skills and security as the main barriers to digital transformation.

Unlike their counterparts in digital startups, most CIOs do not have a blank sheet of paper. Digital transformation must be viewed in the context of complex, inflexible legacy infrastructure that is time consuming to maintain and ever more complicated to secure.

On top of that, legacy technology brings with it a legacy relationship between business and technology - an organizational culture that sees technology as an operational element of the business rather than a pervasive, strategic fundamental.

All this is underscored by CIOs’ responses when asked about the barriers to digital transformation. Overwhelmingly, CIOs point to legacy and/or complex infrastructure, organizational culture and security concerns – plus related issues like cost and skills – as the key barriers.

“There is a need for cultural change as organizations respond to the changing digital environment. This can be more challenging than product innovation or process transformation, but it will deliver superior and sustainable returns.”

Vince DeLuca, CEO Logicalis US

Fig. 2: What are the main barriers to your organization’s digital transformation?

- **44%** Large and/or complex legacy infrastructure
- **50%** Cost
- **56%** Organizational culture
- **34%** Skills
- **32%** Security
- **11%** No desire to transform
- **7%** N/A
In an ever-evolving threat landscape, security concerns have a disproportionate impact on IT innovation.

Compare the complexity of legacy infrastructure with the increasingly distributed, open nature of IT, and add the expanding array of cyberthreats CIOs must defend against (fig. 3), and it is easy to imagine security concerns bringing IT projects to a halt.

Indeed, CIOs’ responses suggest that security is a key delaying factor when it comes to any IT project delivery, let alone digital transformation. One-third of all CIOs questioned admitted that security issues or concerns were responsible for the cancellation or halting of IT projects (fig. 4).

Meanwhile, it is important to note that the dominant response among CIOs is to focus on securing the network (fig. 5). Once again, they are forced by external factors to focus on maintaining existing, legacy infrastructure, rather than on strategy and transformation.

One-third of CIOs admit that security issues had caused IT projects to be cancelled or halted.

“Every organization, in every market, is under relentless, systematic attack from an increasingly sophisticated community of professional hackers. The only effective approach to security is holistic and architectural – one that is manageable, adaptable, resilient and responsive.”

Ricky Magalhaes, Head of Offshore Security (MSS), Logicalis Channel Islands

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**Fig. 3: Which of the following IT security threats do you think will pose significant risk to businesses over the next 12 months?**

<table>
<thead>
<tr>
<th>Threat Type (2016)</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasingly sophisticated social engineering attacks</td>
<td>61%</td>
<td>58%</td>
</tr>
<tr>
<td>Ransomware and corporate extortion</td>
<td>56%</td>
<td>72%</td>
</tr>
<tr>
<td>Attacks targeting corporate systems and application vulnerabilities</td>
<td>52%</td>
<td>60%</td>
</tr>
<tr>
<td>Identity and credential hijacking</td>
<td>47%</td>
<td>43%</td>
</tr>
<tr>
<td>Malicious insiders</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Ghostware concealed attacks evading forensics</td>
<td>28%</td>
<td>27%</td>
</tr>
</tbody>
</table>

**Fig. 4: Have security issues or considerations prevented or stopped new IT projects within your organization?**

- Yes: 33%
- No: 67%

**Fig. 5: Which of the following areas of security investment will be priorities for your organization over the next 12 months?**

- Network security: 70% (2016), 72% (2017)
- Identity and access management: 47% (2016), 47% (2017)
- Advanced malware protection: 45% (2016), 45% (2017)
- Intelligence and analytics: 40% (2016), 40% (2017)
- User training and awareness: 46% (2016), 46% (2017)
Security concerns, amplified by local data regulations, are also hampering efforts to streamline IT through cloud services adoption.

It seems obvious that CIOs finding their digital transformation plans hampered by complex, legacy IT could turn to cloud services for ready-made solutions.

SaaS, PaaS and IaaS providers could take over some of the heavy lifting, leaving CIOs with a streamlined and simplified infrastructure to manage, maintain and secure.

But, here too, security remains an issue for CIOs. In fact, it is still the biggest challenge for CIOs seeking to use cloud services (70 percent cite security as a barrier).

Now however, data security issues, along with considerations around data sovereignty, are exacerbated by concerns around local data regulations (fig. 6.). The fact that European CIOs are more likely to cite data regulations as a barrier (fig. 7) may well be driven by the imminent implementation of General Data Protection Regulation (GDPR) policies – an added complication for those attempting to deliver digital transformation.

70% of CIOs cite security as a barrier to cloud services adoption.
All this means CIOs are still spending too much time focused on keeping the lights on. There is precious little time for strategy.

The truth is, the vast majority of corporate IT is still hosted, managed and maintained in-house, and this situation has changed little over the last five years.

As in 2016, CIOs report a slightly greater reliance on outside help. But those outsourcing most of their IT (defined as more than 50 percent outsourced) still represent only a quarter of the sample (25 percent in 2017, 24 percent in 2016).

Meanwhile, the number outsourcing none or just 10 percent of their IT has fallen again – respectively, to 8 percent for those reporting no outsourcing (9 percent last year, 13 percent in 2015) and 16 percent reporting just 10 percent of their IT is outsourced (19 percent last year, 26 percent in 2015). However, as fig. 8 makes abundantly clear, the bulk of IT remains in-house.

This has significant consequences for the role of the CIO.

Despite a long-stated desire to take on more strategic roles – in our 2013 survey, most suggested they would like to spend 70 percent of their time on strategic activities – most CIOs remain focused on day-to-day tasks.

As fig. 9 shows, the majority of CIOs spend between 60 and 80 percent of their time on day-to-day IT management, leaving little time for strategy and still less time to deliver the wholesale digital transformation that promises to unlock such rich rewards.

Today, CIOs are, in essence, change managers who keep the lights on and react to external issues like security, IT trends and demand for new capabilities and services.
If CIOs are to deliver digital transformation, they must be change makers, not change managers – and they have big plans to be just that.

According to this year’s survey, IT leaders are well aware of the issues holding their organizations back from digital transformation, and they have ambitious plans to overcome them.

Rather than reacting to change, they want to be agents of change. They are planning to deal with legacy complexity and change the relationship between business and IT, engaging with line-of-business colleagues and acting as ambassadors for digital transformation on a significant scale (fig. 10):

- 51 percent plan to replace and/or adapt existing infrastructure.
- 51 percent plan to attempt culture change.
- 38 percent want to address skills shortages through increased training and development.

Perhaps tellingly, just 33 percent expect to increase digital transformation budgets begging the question: Is this a case of big plans without the budget to deliver them, or will CIOs find efficiencies by turning to outside specialists for help?

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Islands of digital enablement fail to deliver the big benefits that come with wholesale transformation
Progress toward full digital enablement may be slow, but CIOs are delivering new digital services and capabilities.

It would be unfair to suggest that CIOs are entirely failing to address digital. As we have seen already in this report, moving from cumbersome legacy IT to agile and digitally enabled is complex and challenging.

What’s more, CIOs are delivering new digital services and capabilities, albeit in reactive mode as they respond to business demand and market dynamics.

As we will see on the following pages, they are delivering the apps required to seize new revenue opportunities and drive operational efficiency, and they are grasping the opportunities created by IoT.

Fig. 11: Does your organization develop internal and/or customer apps?
Chart shows global responses

57% (2016: 63%)
Internal applications for streamlining existing business processes

48% (2016: 57%)
Building new services/revenues through new applications

40% (2016: 42%)
Moving an existing product or service to an application experience

19% (2016: 23%)
Marketing activity to promote a product or service

73% of businesses are still in the software developing business in one form or another with the majority using a combination of in-house and third-party developers to build new apps.

Fig. 12: What is your organization’s app development aimed at?

Chart shows global responses

Fig. 13: Much is being made of IoT and its effect on products, services and operations. Thinking of your own organization, over what timeframe do you think IoT will affect you?
Chart shows global responses

Fig. 14: How do you anticipate IoT complementing your business?
However, the lack of overarching strategy means developments are worthy, but piecemeal.

These developments are islands of transformation. They do not deliver the full benefit of digital enablement because they are disconnected. They do not contribute to a wholesale transformation that leverages the wealth of data created by digital services to deliver actionable insight; underpin better, faster decision making; or enable constant innovation.

The fact that progress in developing digital apps and adapting to IoT is not matched by similar progress developing analytics capabilities amply illustrates the point.

Interestingly, CIOs’ plans to overcome barriers to analytics implementation are a microcosm of their plans to unlock digital transformation by relying on structural and cultural change, particularly greater collaboration with line-of-business colleagues.

Fig. 15: What challenges and problems do you face in getting the most from business analytics?

- Sliced Data: 63%
- Complexity: 55%
- Lack of board-level buy in: 40%
- Lack of available skills: 38%
- No clear brief from business: 41%
- Lack of budget: 30%

Fig. 16: What are you doing to address these issues?

- Setting up workgroups to unravel complexity: 39%
- Increasing salaries for data analysts: 38%
- Working with line-of-business to clarify requirements: 23%
- Educating and lobbying the board to seek buy in: 34%
- Restructuring and/or aggregating data: 54%
- Investing more: 21%
Conclusion

We are living in an exciting period of technological change – a digital revolution that promises massive benefits for businesses and individuals.
Digital technologies are changing everything – and that change will only accelerate. Right now, Uber is built on a digitally enabled business model, but before we know it, autonomous vehicles will change the very nature of travel. This transformation will not, of course, simply happen. It will be shaped and delivered by individuals, governments and businesses, and for those ready to take the lead, the opportunities are almost limitless.

These digital pioneers will be change makers, not change managers. As this year’s CIO Survey demonstrates, the race to take on that role is underway and CIOs are seeking to play crucial roles.

They are adapting to the ubiquity of shadow IT, addressing the barriers created by legacy IT and seeking to take control of change, and they want to take leadership roles in setting and driving digital strategies.

But CIOs are also realistic. They understand the scale of the digital transformation challenge and they are prepared to look outside for help, turning to trusted partners able to both take on the heavy lifting of day-to-day IT and to simplify technology in creating environments in which digital enablement can flourish.

At Logicalis, we see ourselves as “architects of change,” clearly differentiating through our depth of expertise and experience of managing end-to-end delivery of projects from initial concept through delivery of desired business outcomes. In our view, this requires digital modernization of the core network areas.

We have been working with our customers to ensure their data platforms become highly automated, self-service platforms; data and information capabilities create new value and business optimization from existing data; the network connects more things securely, supporting mobility, new applications and communication tools; and IT operations are updated to interconnect and automate everything. Logicalis has the tools and methodologies to help customers realize this transformation in a manageable and secure manner.

Our challenge is to understand the increasingly complex world of technology that offers so much opportunity for growth and efficiency, and to make it as simple as possible for our customers.

Our work supporting digital transformation is diverse, but it is also shaped by a single-minded vision: Technology must be an asset for businesses, not a stumbling block. It must help to make our complex, fast-changing world a simpler, more inspiring place to live, work and grow.

To find out more about our vision for digital business and the work we are doing to deliver it, read our Annual Review, here.

“Technology must be an asset for businesses, not a problem. It must help to make our complex, fast-changing world a simpler, more inspiring place to live, work and grow.”

Rüdiger Rath, CEO Logicalis Europe
About the research

All figures are drawn from a survey of 890 CIOs and IT Directors from mid-market organizations in 23 countries spanning Europe, North America, Latin America and Asia-Pacific.

About Logicalis

Logicalis is an international multi-skilled solution provider providing digital enablement services to help customers harness digital technology and innovative services to deliver powerful business outcomes.

Our customers span industries and geographical regions; our focus is to engage in the dynamics of our customers’ vertical markets including financial services, TMT (telecommunications, media and technology), education, healthcare, retail, government, manufacturing and professional services, and to apply the skills of our 4,000 employees in modernizing key digital pillars, data center and cloud services, security and network infrastructure, workspace communications and collaboration, data and information strategies, and IT operation modernization.

We are the advocates for our customers for some of the world’s leading technology companies including Cisco, HPE, IBM, NetApp, Microsoft, VMware and ServiceNow.

The Logicalis Group has annualized revenues of over $1.5 billion, from operations in Europe, North America, Latin America, Asia Pacific and Africa. It is a division of Datatec Limited, listed on the Johannesburg Stock Exchange and the AIM market of the LSE, with revenues of over $4 billion.

For more information, visit www.us.logicalis.com