Every Cloud Has a Culture Lining

Embrace changes to organizational culture and structure for a successful cloud strategy.

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Executive summary

Organizations recognize that moving applications to the cloud is key to becoming a more agile, innovative business. But to become truly competitive, development strategies must transition away from lift-and-shift approaches to focus more on modern applications.

New research by NTT DATA Services shows that many businesses are struggling to ride this new wave of transformation. Tackling the culture change element of next-generation cloud adoption is a major obstacle to success; six in 10 executives admit that the technical challenges of moving applications to the cloud are much easier to deal with than the associated people-related challenges.

60% admit that the technical challenges of moving applications to the cloud are much easier to deal with than the associated people-related challenges.

Despite recognizing these challenges, only a minority of executives are taking decisive steps to shift their culture and team structure, but those who are able to overcome the associated challenges report more successful modernization results. Challenges and outcomes vary slightly across sectors, but our findings reveal valuable learnings that are relevant to all:

1. Educated decision-makers lead from the front
2. Next-generation cloud development delivers
3. Culture shift accelerates the transition, boosts talent retention, encourages productivity and, ultimately, delivers return on investment (ROI) on new digital solutions

About the research

NTT DATA Services, in partnership with Longitude — a Financial Times company — conducted an online survey of 252 executives at the senior manager level and above, who are based in the U.S. and Canada. Of this sample, 76% is split between the banking and insurance, healthcare and manufacturing industries, with the remaining 24% falling within the “other” category.

Throughout the report we use certain terminology to describe the different levels of cloud transition. These are defined as follows:

Migration
Describes the process of moving an application from a non-cloud environment to a cloud environment. Sometimes a migration requires application updates, and sometimes it will be a lift-and-shift migration, which requires no application changes.

Modernization
Describes the amount of changes to an application. An enterprise may modernize an application in preparation for a migration to cloud.

Transformation
Describes the level of change required for a much broader program or project beyond application modernization or migration to the cloud. Transformation can be to a process, team structure or culture, or even to a complete IT technology ecosystem (including applications, data, infrastructure, integration and more).

Next-generation cloud leaders
We analyzed the responses to our survey and identified a minority group that is more advanced in its cloud transformation strategy. This group of next-generation cloud leaders offers lessons to their counterparts on how to complete a more successful cloud adoption journey and is defined as businesses that have 50% or more greenfield, rewritten or rearchitected applications — and rate their agility as 5, 6 or 7 on a scale of 1 to 7 (n=64).
Educated decision-makers lead from the front

Organizations are committed to investing in next-generation cloud development, with six in 10 respondents working toward moving all suitable applications to the cloud as quickly as possible. Such commitment reflects the new cloud adoption phase for enterprises, with nearly two-thirds (60%) of respondents focusing on building and addressing new business-essential use cases, rather than supporting existing initiatives through a simplified lift-and-shift migration approach.

Top-down engagement
Commitment to next-generation development is mirrored by a noticeable change in leadership sentiment. Senior decision-makers are becoming more engaged about what it takes to excel.

Our research supports this trend: The most senior respondents, while clearly aware of the challenges associated with complex transformations (see Figure 1), are also more likely to see the value, as well as the inherent complexities, in transition than their less senior counterparts (see Figure 2). Such realism means modernization strategies are more likely to succeed if they’re backed with top-down support.

Figure 1. Leadership teams are realistic about the complexity of cloud transformation …

Q. Initiatives that have proven to be problematic/challenging when your organization has moved (or planned to move) to the cloud. Board/C-suite n=52; head of department/senior vice president n=63; senior director/senior manager n=137
Q. Respondents who ranked each outcome 6 or 7 on a scale of 1 to 7. Board/C-suite n=52; Head of department/SVP n=63; Senior director/Senior manager n=137
Industry spotlight

Commitment to transformation is high across all industries, although marked differences emerge when it comes to the more technical aspects of this strategy. Manufacturing respondents, for example, show greater intent and clarity when it comes to executing roll-out.

Q. Do you agree with these statements? Banking and Insurance n=77; Healthcare n=54; Manufacturing n=57

Next-generation cloud development delivers

Next-generation cloud leaders predominantly build or modernize applications specifically to run in the cloud — confirming their advancement in the cloud adoption journey. This group scores highly across all key performance indicators, including their agility, and can provide valuable lessons to their peers who are just embarking on this process.

For example, when asked to rate outcomes across a series of metrics, next-generation cloud leaders report significant technical gains, greater efficiency and stronger security (see Figure 3). The total cost of ownership (TCO) and ROI emerge as the weakest areas by comparison, with profitability and associated costs falling to the bottom of the list.
Figure 3: Next-generation cloud leaders outperform the total sample in all areas

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Leaders</th>
<th>Total sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility and agility</td>
<td>36%</td>
<td>66%</td>
</tr>
<tr>
<td>Security posture</td>
<td>39%</td>
<td>59%</td>
</tr>
<tr>
<td>Roll out new or improved application updates</td>
<td>29%</td>
<td>55%</td>
</tr>
<tr>
<td>Scope for technology-driven innovation</td>
<td>32%</td>
<td>50%</td>
</tr>
<tr>
<td>Application environment</td>
<td>26%</td>
<td>47%</td>
</tr>
<tr>
<td>Team performance overall</td>
<td>32%</td>
<td>45%</td>
</tr>
<tr>
<td>Profitability</td>
<td>31%</td>
<td>42%</td>
</tr>
<tr>
<td>Associated costs</td>
<td>21%</td>
<td>41%</td>
</tr>
</tbody>
</table>

Q. Respondents who ranked each outcome 6 or 7 on a scale of 1 to 7. Total n=252; Leaders n=64

Calculating cost is one of the most challenging aspects of cloud transformation and migration. In recent years, there has been a tendency to underestimate the expense incurred. According to a study by Forrester, cost complexity is the greatest source of confusion and misaligned expectations when it comes to cloud migration.¹

It’s reassuring, then, that our research reveals enterprises are taking a more realistic view of the scale of investment. Profitability and associated costs may rank lowest in terms of outcomes, but they’re not seen as a barrier by leaders or by the total sample: 69% of the former and six in 10 of the latter say their organization is fully prepared to measure and manage any increase in costs associated with a complex, multi-cloud environment. Furthermore, much of the initial cost ramifications and ROI perceptions are the result of application modernization efforts, with the expectation that the overall TCO will reduce over time as cost optimization and controlling measures are implemented by their cloud managed service provider (MSP).
Culture shift accelerates the transition

Evidence suggests enterprises may be realistic about the outcomes of cloud transformation, but better awareness — and management — of the challenges is still needed to accelerate the transition.

Next-generation cloud leaders find all aspects of modernization significantly more challenging than their counterparts, indicating that many enterprises earlier in the journey aren’t yet fully aware of what’s to come.

The survey’s leader group is particularly aware of the culture challenges associated with advanced cloud transformation and migration (see Figure 4), with 72% citing the difficulty in creating teams who can work independently using modern application lifecycle approaches, such as DevSecOps.

Q. In which sector does your organization operate? Leaders n=64

- Banking and insurance 30%
- Manufacturing 20%
- Healthcare 28%
- Other 22%

Q. What is your organization’s total global annual revenue? Leaders n=64

- $50M-$99.99M 31%
- $100M-$499.99M 13%
- $500M-$999.99M 23%
- $1B-$9.99B 25%
- $10B+ 8%

Q. Initiatives that have proven to be problematic/challenging when your organization has moved (or planned to move) to the cloud. Total n=252; Leaders n=64

- Creating integrated and cross-functional teams that can work independently on developing and deploying applications to the cloud using newer methods like DevSecOps: 72%
- Maintaining our data security standards: 69%
- Maintaining quality control: 63%
- Controlling associated costs and inefficiencies: 63%
- Establishing processes to support continuous integration and continuous deployment (CI/CD) of applications and rapid production releases: 59%
- Reskilling/retraining existing employees: 58%
- Getting team buy-in to new systems/approaches: 52%
- Others 48%
Yet McKinsey suggests implementing measures to overcome these barriers will significantly increase the success of a project; companies with a dedicated cloud team migrated 52% of applications on average, whereas companies without a dedicated cloud team migrated only 29% of applications on average.²

Next-generation cloud leaders are taking steps to implement a culture that is open to embracing change and new approaches. These more advanced organizations are more likely to have developed a culture change strategy and have reorganized teams ahead of transformation efforts than the average organization (see Figure 5). Once migration is underway, the focus shifts to upskilling the workforce and enlisting external expertise from a cloud MSP to help implement the changes (see Figure 6).

### Figure 5: Next-generation cloud leaders are more likely to prioritize culture initiatives ahead of transformation

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Total Sample</th>
<th>Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducting a cloud suitability analysis to determine a prioritized list of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>migrations/projects</td>
<td>33%</td>
<td>34%</td>
</tr>
<tr>
<td>Calculating non-monetary costs of moving to the cloud</td>
<td>33%</td>
<td>32%</td>
</tr>
<tr>
<td>Developing a dedicated, function-wide strategy for culture change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrying out a task-by-task assessment of in-house skills</td>
<td>28%</td>
<td>25%</td>
</tr>
<tr>
<td>Introducing mandatory training/upskilling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appointing/working with a specialist third-party to manage the change</td>
<td>28%</td>
<td>29%</td>
</tr>
<tr>
<td>Cost-optimizing workloads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reorganizing teams into smaller and more agile-integrated and cross-functional units</td>
<td>21%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Q. When moving workloads to the cloud, which of the following initiatives have you tended to prioritize ahead of transformation? Total n=252; Leaders n=64
Figure 6: Aside from costs, upskilling and change management, what are the main priorities for leaders during transformation?

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Total sample</th>
<th>Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost-optimizing workloads</td>
<td>42%</td>
<td>31%</td>
</tr>
<tr>
<td>Introducing mandatory training/upskilling</td>
<td>42%</td>
<td>34%</td>
</tr>
<tr>
<td>Appointing/working with a specialist third-party to manage the change</td>
<td>38%</td>
<td>27%</td>
</tr>
<tr>
<td>Developing a dedicated, function-wide strategy for culture change</td>
<td>36%</td>
<td>35%</td>
</tr>
<tr>
<td>Carrying out a task-by-task assessment of in-house skills</td>
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<td>29%</td>
</tr>
<tr>
<td>Conducting a cloud suitability analysis to determine a prioritized list of migrations/projects</td>
<td>34%</td>
<td>29%</td>
</tr>
<tr>
<td>Reorganizing teams into smaller and more agile-integrated and cross-functional units</td>
<td>34%</td>
<td>31%</td>
</tr>
<tr>
<td>Calculating non-monetary costs of moving to the cloud</td>
<td>33%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Q. When moving workloads to the cloud, which of the following initiatives have you tended to prioritize during transformation? Total n=252; Leaders n=64

NASDAQ provides a leading example of a culture change initiative that helped drive cloud strategy implementation. The firm created a Governance Committee, consisting of leaders from across the business, to ensure every team was given a voice in the transformation process. Starting with understanding stakeholder needs, the organization then enabled those stakeholders through tools and programs while also empowering them through education.3
Spotlight: Banking and Insurance

Nearly a third (30%) of banking and insurance organizations are next-generation cloud leaders, the highest among the industries we surveyed.

Organizations in these sectors are most likely to say they want to have all their applications in the cloud as quickly as possible — 64% compared to 56% and 61% of healthcare and manufacturing respondents, respectively. When planning to move to the cloud, the key challenges they face are maintaining data security standards and retraining existing employees.

Banking and insurance companies recognize the importance of addressing culture challenges both before and during their cloud migration. Of all sectors surveyed, they’re most likely to have carried out a task-by-task assessment of in-house skills before the migration. To ensure a successful move to the cloud, one in four (38%) banking and insurance respondents also introduced mandatory training and upskilling during the migration.

Spotlight: Healthcare

More than one in four (28%) healthcare organizations are classified as next-generation cloud leaders, which puts them in second place — after the banking and insurance industry.

The majority of healthcare respondents clearly believe in the value that cloud offers. Six in 10 (61%) say having all applications in the cloud is the best way for a business to become more agile and achieve maximum operational performance. Two-thirds (65%) say they’ve fully embraced cloud-native application development and methodologies as well as managing an active CI/CD pipeline.

These organizations are also proactive in terms of addressing culture challenges before moving workloads to the cloud. More than a third (35%) say they’ve developed a dedicated, function-wide strategy for culture change before migrating to the cloud. A fifth also reorganized teams into smaller and more agile-integrated and cross-functional units.
Spotlight: Manufacturing

One-fifth of manufacturing organizations fall into the next-generation cloud leaders category, reflecting the fact that this industry has the most work to do in terms of cloud transformation.

In a bid to close the gap, seven in 10 manufacturing organizations are focusing on new business-critical cases rather than on supporting existing initiatives for cloud-based application projects. This is by far the highest number of all sectors; only 54% and 57% of healthcare and banking and insurance organizations, respectively, say the same.

The manufacturing industry recognizes that evolving its organizational structures will play an important role in accelerating cloud transformation. Manufacturing is the most likely of the three sectors in our survey to have developed a dedicated, function-wide strategy for culture change as well as to have reorganized teams into smaller and more agile-integrated and cross-functional units during the migration. And their efforts are reaping rewards — improved team performance is one of the top three benefits manufacturing organizations have realized since moving their applications to the cloud.
Conclusion: How to accelerate your move to next-generation cloud

Businesses that develop cloud-native applications or rearchitect legacy applications enjoy superior agility, shortened time to market and focused innovation, and they see greater returns on their modernization investment.

But a successful transition isn’t possible without a major shift in culture and team structure; those organizations looking to progress on their journey must develop a holistic strategy that recognizes the importance of addressing people-related challenges in parallel with embracing modern application lifecycle approaches.

Our research findings reveal key considerations for enterprises looking to accelerate their cloud transformation:

1. Only a minority have moved beyond a lift-and-shift approach; prioritizing application modernization as the cornerstone to the migration strategy yields significant competitive advantages.
2. Building cloud-native and rearchitected applications delivers superior business outcomes across all key performance indicators; but be realistic about ROI and associated costs. This is an area that requires ongoing optimization focus.
3. Culture challenges can be the biggest obstacles to overcome. Take decisive steps to address these in the beginning and tailor your strategy accordingly.
4. An informed leadership team will help drive enterprise-wide engagement and fuel momentum for new development approaches.

Sources