Touching the sky with cloud computing

How do you get cloud ready?

mazars

Contents

Overview

Cloud computing is no longer a sky-high concept. It has steadily become a core business enabler, helping transform processes in the new-age era. Organizations must develop a sound understanding of all risks and opportunities and align them with their business models, as they make their way upwards to the cloud.

The buzz is all around. Cloud computing is gaining momentum as we progress along Qatar's National Vision 2030. ICT spending is increasing. The Ministry of Transport and Communications (MOTC) has announced Microsoft Azure as its preferred cloud platform. All the groundwork is in place. We are ready for take-off. But then, how should we go about making the best flight toward the cloud?

In our series I paper, *Touching the sky with cloud computing*, we discussed key characteristics and the potential for organizations to migrate to the cloud. In this second series, we outline exactly how to go about doing that. That is, becoming cloud ready.

While each organization's migration strategy will essentially vary as per its business model and operating environment, there are some key elements that must be accounted for when designing the route of migration.

This includes identifying any risks and challenges beforehand, understanding how to mitigate them and keeping migration at the heart of all functions.

Like any flight of journey, this means:

1. **Preparing for Take-off**

2. **Getting Diverse Insights On-Board**

3. **Cruising High on Maturity**

Hatem Elsafty
Risk Assurance & Advisory Service Leader
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Preparing for take-off
Key cloud computing risks

The shift to cloud computing essentially extends the boundaries of traditional computer processing and ropes in multiple services, coming with strings attached. These extended boundaries further open up an organization's risk portfolio, with changed controls – of both a firm's own data and that of its customers – bringing new issues to the forefront.

One of the greatest factors here lies under data ownership and privacy: Who ultimately owns the data? Who manages it? How will it be managed? What to do in unforeseen circumstances?

Preparing for take-off
Key cloud computing risks

Key cloud computing risks

Data privacy, security & ownership	Data mgmt. & recovery	CSP profile	Cloud to ground compatibility

Data privacy, security & ownership

→ The most complex issue in cloud computing is data governance.

→ Model of shared responsibility brings control and security at the forefront.

→ In a public cloud, is ownership with the content owner – the firm? Is the cloud provider like a "trustee" who manages data on the firm's behalf? If so, is it passive or active mgmt. and what are security obligations?

→ Distinction between data controller & data processor.

→ Secure networks, encryption and identity access mgmt. are key.

→ What is liability if things go wrong?

Data mgmt. & recovery

→ Data is never stationary. Managing data is a dynamic process, making it easily accessible, editable, recoverable and curable.

→ Data is often the first and last resort for investigative support.

→ How are service providers actively managing data on the cloud? Recovery and trouble shooting?

→ Data loss ranges from sophisticated ransomware attacks to simple human errors. What are active mitigation protocols? (both by cloud providers and firms)

CSP profile

→ Vendor profile matters when it comes to selecting the right cloud service provider (CSP).

→ Compliance with national laws and regulations is pivotal (i.e. SaaS providers must be SOC 2 compliant in Qatar.)

→ Cloud services entail cross border data transfers, which can mean a larger compliance ambit. (i.e. GDPR applies to the processing of an EU resident's personal data, regardless of where processing takes place.)

→ Considering vendor lock-ins, software service continuity agreement, service redundancy etc.

Cloud to ground compatibility

→ Cloud computing is a strategic marriage between a firm and its CSP. Compatibility is crucial.

→ Risk of isolating cloud mgmt. as a separate feature or dissolving IT controls/strategy can result in myopic goals and un-aligned objectives. Can end up costing a firm much more than money.

→ Substituting the cloud for weak internal controls is not a solution but a major problem.

→ Implementing cloud technology without sound employee awareness and technical training will not yield any benefits. Compatibility is needed at all angles.

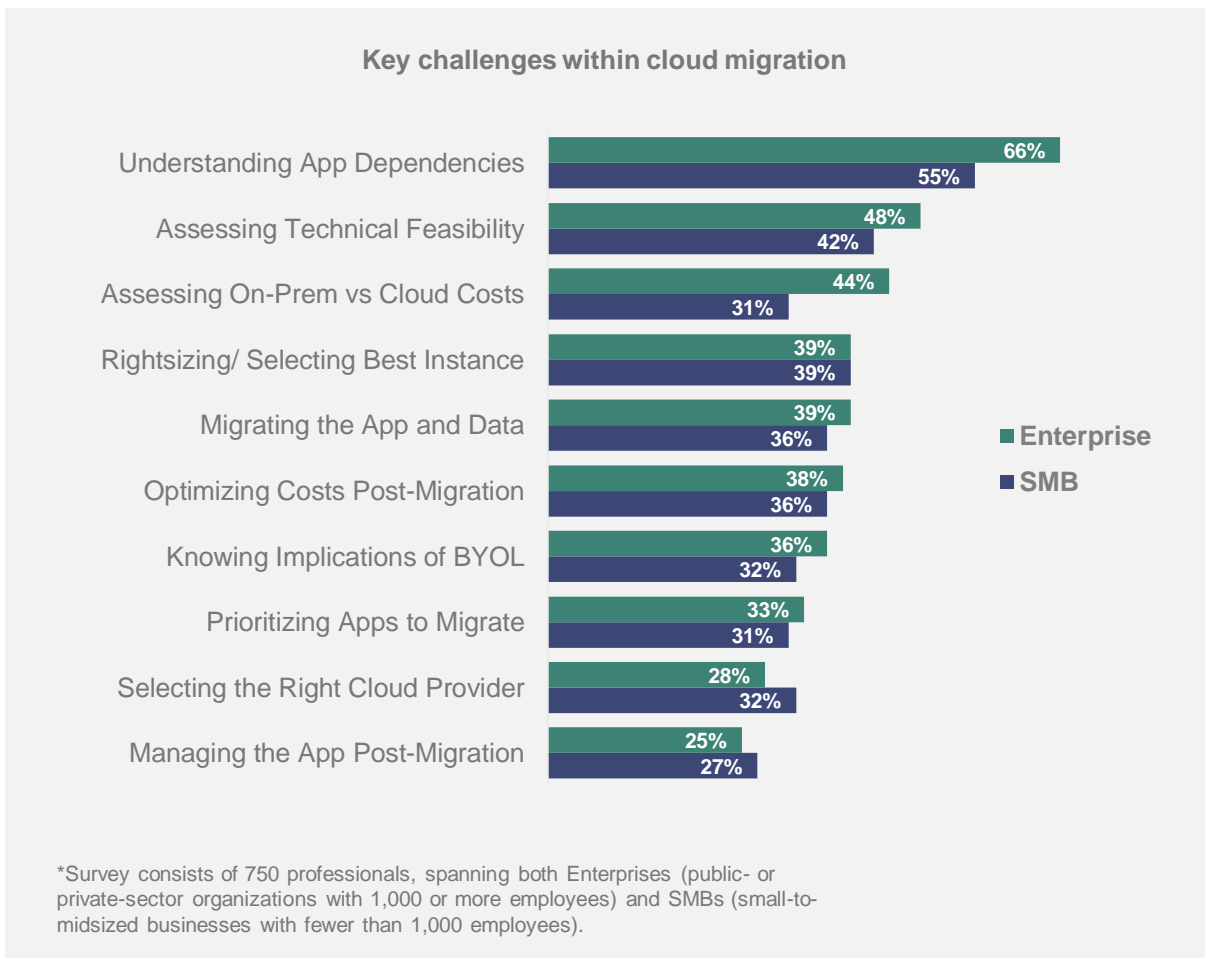## % Firms globally reporting each risk as a critical cloud challenge

79%   **67%**   **74%**   **78%**
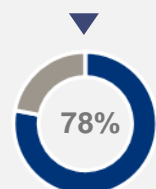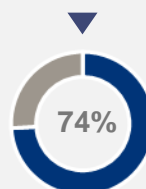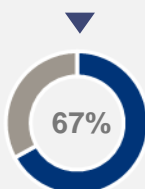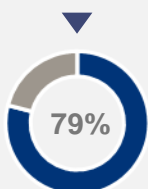
Source: Mazars' Analysis

Preparing for take-off
Key challenges within cloud migration

As per a global survey carried out by IT solutions firm, Flexera, all organizations (large enterprises and smaller businesses) rate issues like understanding app dependencies and assessing technical feasibility as the topmost challenges when it comes to cloud migration. However, the gravity of these obstacles is greater for large enterprises, which usually operate on more on-prem applications and complex in-house environments. Establishing sound cloud compatibility from scratch can thereby take more time and effort.

On the contrary, smaller firms are more flexible – or pliable – to integration. However, they may require more help in selecting the right provider and/or managing migration effectively across the spectrum. Facilitating resources and expertise is more critical here.

Key challenges within cloud migration

Challenge	Enterprise	SMB
Understanding App Dependencies	66%	55%
Assessing Technical Feasibility	48%	42%
Assessing On-Prem vs Cloud Costs	44%	31%
Rightsizing/ Selecting Best Instance	39%	39%
Migrating the App and Data	39%	36%
Optimizing Costs Post-Migration	38%	36%
Knowing Implications of BYOL	36%	32%
Prioritizing Apps to Migrate	33%	31%
Selecting the Right Cloud Provider	28%	32%
Managing the App Post-Migration	25%	27%

■ Enterprise
■ SMB

*Survey consists of 750 professionals, spanning both Enterprises (public- or private-sector organizations with 1,000 or more employees) and SMBs (small-to-midsized businesses with fewer than 1,000 employees).

Source: Flexera
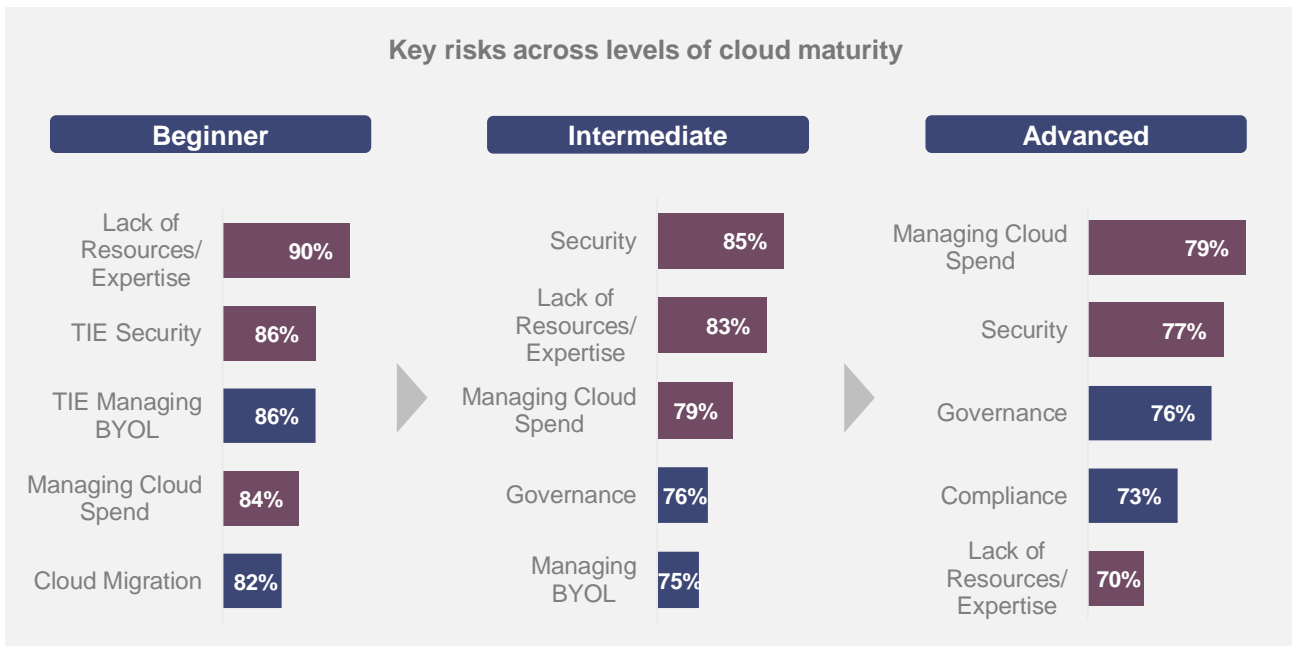
Preparing for take-off
Key risks across levels of cloud maturity

Managing the cloud computing risk spectrum

Some types of challenges, such as cloud migration and managing multi-cloud environments, become more manageable as the organization matures and gains experience. However, risks related to security, cloud spend and ensuring a sound level of expertise remain significant, even in organizations at an advanced cloud maturity level.

Knowing where the risks exist and what are their possible implications is a critical part of the cloud computing journey. Organizations must strive to create Plan Bs, Cs, and Ds, should things go awry.

Key risks across levels of cloud maturity

Beginner		Intermediate		Advanced	
Lack of Resources/ Expertise	90%	Security	85%	Managing Cloud Spend	79%
TIE Security	86%	Lack of Resources/ Expertise	83%	Security	77%
TIE Managing BYOL	86%	Managing Cloud Spend	79%	Governance	76%
Managing Cloud Spend	84%	Governance	76%	Compliance	73%
Cloud Migration	82%	Managing BYOL	75%	Lack of Resources/ Expertise	70%

Source: Flexera

Getting diverse consultant insights onboard
Interplay of roles in cloud migration within a firm

After the initial risk assessment process, it is all about designing an apt migration strategy.

Cloud migration, being a strategic move, is not merely limited to IT.

Its implementation and impact will flow through the entire organization, not just from a technical (process) angle, but from a firm-specific (procedural) angle as well.

In this sense, the CIO is not the only "cloud implementer" within the firm. All executives – ranging from the CRO, CMO, CHRO, CFO and all the way to the CEO – must work together to make the move as smooth as possible. This includes addressing issues such as current data controls, their fungibility to move and adapt, vendor relations, timeline, cost implications, people implications and a lot more.

Getting expert solutions and advice

An organization does not have to be alone in its cloud journey. A mix of diverse consultants can collaborate with cross functional teams in-house, providing expert solutions across the entire spectrum of cloud computing.

They can essentially bridge the gap between a firm and the cloud services provider (CSP), facilitating not just migration but strategic deliberation and risk mitigation as a firm becomes more "cloud mature."

Getting diverse consultant insights onboard
Interplay of roles in cloud migration within a firm

The interplay of roles in cloud migration within a firm

Work together and design an appropriate cloud strategy and maturity level. Account for culture, metrics, industry etc.
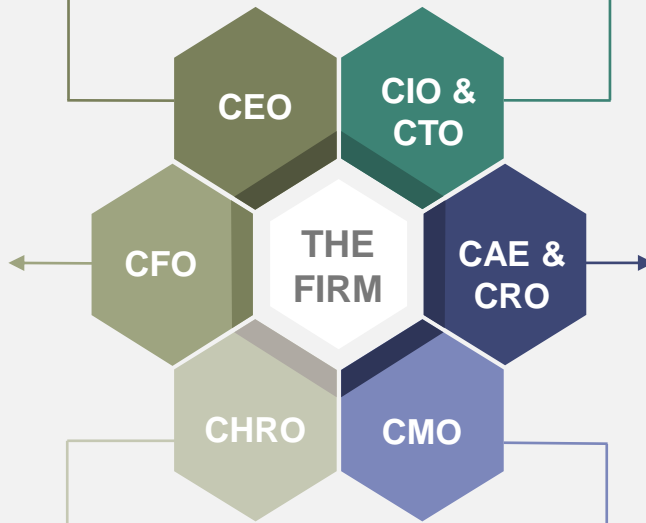
Cross over traditional boundaries, guiding on both the technical and communicative aspects of migration (top to bottom).

Deduce both direct and indirect cost implications, ranging from infrastructure, software contract, lease arrangement, internal training, compliance, shift in controls etc.

Actively manage data governance, identifying risks– i.e., compliance, robustness of internal controls, process shifts, data sensitivity. Design an appropriate risk mitigation strategy.

Identify current employee profile, impending skill gaps and how they need to be countered before actual migration takes place.

Create a strong network of informed stakeholders throughout the cloud journey, keeping customer confidence in-tact.

CEO

CIO & CTO

CFO

THE FIRM

CAE & CRO

CHRO

CMO

Source: Mazars' Analysis

Getting diverse consultant insights onboard
Interplay of roles in cloud migration within a firm

CIO/CTO

Work toward **making IT a partner into strategic growth**, crossing over traditional boundaries and software-driven silos. The role of IT does not dilute but rather becomes even more prominent with cloud migration, helping guide organizations on both the technical and communicative aspects, across streams. This includes understanding a firm's cloud strategy, what services are required, identifying possible vendors – CSPs that match with the organizational profile and needs – understanding vendor relations, types of data to be moved, infrastructure gaps, access dynamics etc.

All about **actively managing data governance** – both externally and in-house. This means understanding a firm's cloud strategy in tandem with its current culture, processes and infrastructure and identifying any new risk implications that crop up. How is infrastructure security at play? Any security vulnerabilities identified beforehand – i.e., denial-of-service attacks, security patches etc.? What security practices should be introduced for moving to the cloud? What are typically the most sensitive pieces of data and/or material that are at stake?

CAE & CRO

CMO

Actively **contribute to the cloud strategy from a stakeholder perspective**, making sure organizations seamlessly migrate their clients as well. It is inherent that a new data system will change a firm's communications strategy, calling for new parameters and deployment models. A CMO must make sure that the firm creates a strong network of informed stakeholders throughout the cloud journey and any doubts/concerns on safety and reliability are being taken care of. Brand recognition is a key competitive driver.

An **active role to play when it comes to implementing technology-driven initiatives**, as ultimately people will be using the platform hands-on. The CHRO needs to work actively with the CIO beforehand, assessing what the current employee profile is, what are the skill gaps and how they need to be countered before actual migration takes place. What is the culture with adapting to change? Any new hires that need to be made? New leads identified? Existing talent on-board?

CHRO

Getting diverse consultant insights onboard
Interplay of roles in cloud migration within a firm

CFO

Deduce **both direct and indirect cost implications** – i.e., not just on the actual infrastructural shift and software services, but on all contractual obligations, lease arrangements (collaborations), the corresponding compliance parameters, employee training, shifting of internal controls and processes etc. This also includes looking over the requisite accounting treatment and penning down figures that adequately and transparently represent the bottom line.

The CEO **acts like the amalgamation lead**, working together with everyone to come up with an appropriate cloud strategy. This means identifying where the firm currently stands at the cloud maturity spectrum. Along with this, the CEO must interpret the firm's unique culture, industry standing and customer base to realize where the sensitivities are and how and what data will be moved. Will it be better to work in a hybrid model and keep some things on-premises or is it encouraging to make the complete leap upwards?

CEO

Source: Mazars' Analysis

Cruising high on cloud maturity
Cloud maturity spectrum

Ultimately, as the organization works together to design and implement an optimal cloud migration strategy, it will start its journey on the Cloud Maturity Spectrum; a scale that determines exactly how it is utilizing the cloud to further its business objectives and goals.

This maturity differs between firms.

Is the firm new to this process and currently focusing on bringing data to the cloud (pioneering cloud deployment)? Is it looking to scale one level up for strategic integration in the cloud? Or is it already well-versed in the sky and is looking for further migration to transform new-age processes and become change-makers "at the top"?

Initially, many firms that are integrating cloud computing for the first time may start out as "cloud pioneers" – migrating to the infrastructure and running processes from a purely tactical standpoint. This may come from a need to bring-in reliable third-party systems that are scalable and flexible, helping achieve cost savings and quick returns.

Going forward, as the firm acquires more technical know-how and becomes comfortable operating on the cloud, it can further start to take its strategic goals "upward." This means leveraging cloud computing as a business-wide value driver by standardizing and streamlining key processes, alongside deciphering new channels for growth. The cloud is no longer just a virtual data storage space but a tool that inspires new ways of doing work. A cloud-savvy culture gains pace.

Eventually, highly mature cloud computing firms can essentially turn into "transformational cloud changemakers" – furthering IT as a strategic partner in the business model. Shared control and responsibility become less of a risk as such an organization already has sophisticated governance frameworks and plans of action in place to counter the same.

Cruising high on cloud maturity
Cloud maturity spectrum

Becoming Transformational Change Makers at the Top

- Existing processes have already been soundly integrated in the cloud and are cohesively working together for the common goal.

- The IT department becomes a strategic partner within the firm, developing new ways to access, breakdown and manage data. This may be through integrating new-age data analytics to derive intricate insights across functions, possibly in real-time.

- Peer sharing and active learning support are used to disseminate cloud-knowledge across functions and teams; that too through a perpetual layer, so that knowledge upgradation never stops.

- Change is constant, low risk and easy-going. Data security is not frowned upon but rather seen as an opportunity to transform even more processes, trusting only the right people, services and technology.

Moving Upwards into Strategic Integration

- Business processes may be scattered but loosely tied together into the overall vision, with a potential to coherently scale things together.

- The firm is either already on the cloud or is migrating with a stronger uptake on cloud awareness, risks and controls.

- The IT department is not only an operational manager but a value-driver, leveraging data for firm-wide strategic goals.

- People are largely cloud-savvy, utilizing migration across functional teams to streamline autonomous processes.

- Sound governance frameworks are tallied out to keep data secure, with a focus on adopting new and possibly hybrid ways of doing work.

Pioneering Development in the Sky

- Existing business processes are fragmented, with not much clarity on cohesion. Cloud migration is seen as a quick tool to reduce costs.

- Migration begins with reliance solely on third-party vendors and managed content. Firm itself has little know-how.

- Learning starts to take shape by hosting organized training sessions for employees. People are made aware of the cloud operating framework and how best to manage things "upside."

- Change takes place but is also muted due to safety concerns; there is still a degree of apprehension in transferring everything "online."

Source: Mazars' Analysis

Cruising high on cloud maturity
Getting expert insights and solutions across the cloud journey

1. Undertaking Risk Assessment

Is the firm cloud ready? Where are the gaps and what are the risks? Drafting solutions and practices to mitigate gray areas first-hand.

3. Facilitating Actual Migration

Carrying out migration in set tranches – data movement, security uptake etc. Coordinating between the firm and the CSP.

5. Encouraging Further Maturity

Helping organizations take their cloud strategies to the next level through further streamlined efforts and value-alignment.

2. Designing the Implementation Strategy

Shortlisting vendor profiles. Service bundle – SaaS for added flexibility? Or PaaS/IaaS for greater control yet scalability. SECaaS?

4. Managing Transition Hiccups

Staying resilient to possible glitches and troubleshooting on-the-go. Data privacy and smooth process flow to be kept in-tact at all times.

At the end of the day, cloud computing is not rocket science. It is a relatively straight-forward and standardized process, which once adopted, can help increase both process efficiency and effectiveness, opening new channels for growth.

The challenge is to figure out what cloud migration strategy is the best for your firm. This *compatibility computability* is inherently what will determine your route to the cloud and keep you moving sky-high.

Mazars advantage

At Mazars Qatar, we are offering personalized cloud computing solutions for your organization, helping you take care of migration and management at all parts of the journey. As part of our program, using our expertise and tools we will help you understand how cloud ready you are and where are the missing gaps. We encourage you to get in touch with us to help you the take the first step and assess the cloud readiness and make the cloud move. Let us partner together and embark upon a new era of cloud computing.

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Mazars is an internationally integrated partnership, specialising in audit, accountancy, advisory, tax and legal services*. Operating in over 90 countries and territories around the world, we draw on the expertise of 40,400 professionals – 24,400 in Mazars' integrated partnership and 16,000 via the Mazars North America Alliance – to assist clients of all sizes at every stage in their development.
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