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IBM

THE CLOUD REPORT

NAVIGATING THE CLOUD AS A DUBAI START-UP

2017

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Foreword

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Dubai Silicon Oasis Authority

Dr Mohammed Alzarooni
Vice Chairman and Chief Executive Officer,
Dubai Silicon Oasis Authority

Over the past decade, technology has been the key driver of cutting-edge innovations across the globe. From smart city solutions to online banking, it has disrupted the way business is transacted. Connecting appliances across the world, the internet has firmly established itself as a powerful and indispensable tool. The latest development shaping the fast-changing business landscape is the introduction of the cloud.

At the most basic level, cloud computing dissolves borders through providing businesses – multi-nationals and start-ups alike – with remote access to software applications and equipment. Depending on their requirements, companies have the option to choose from three types of solutions – software as a service (SaaS), platform as a service (PaaS), and infrastructure as a service (IaaS). Based on the function the cloud solution will serve as well as its location, companies can opt for one of four deployment models – private cloud, community cloud, public cloud, and hybrid cloud.

When applied appropriately, introducing cloud solutions can be a cost-effective decision that has the potential to significantly boost business setup, management, and operation. They allow companies, especially start-ups, to minimize ICT expenditure while providing the same access to hardware and software resources that is available to larger conglomerates. An added benefit of cloud computing is the scalability of its services as the business expands or contracts.

The feasibility and best practices of adopting cloud services among global corporations have been the subjects of multiple studies and reports. However, to date, there has been little research on the benefits of implementing cloud services early in the business lifecycle, or even the extent of adoption among start-ups and entrepreneurs.

As we transition to an increasingly technology-focused world, all sectors of the UAE's economic landscape are working relentlessly to forge a digital transformation.

At Dubai Silicon Oasis Authority (DSOA), in addition to advisory support and financial backing, we aim to provide an enabling working environment and advanced infrastructure to set up, manage, and run a business. Cloud computing services and solutions fall under the umbrella of the infrastructural framework that is at the core of any business.

With technology as the facilitator of cloud computing innovations and the focus sector of Dubai Silicon Oasis-based companies, startups, and entrepreneurs, it was only appropriate for us to commission a comprehensive report that explores cloud services and deployment models available, as well as the drivers, barriers and other factors that influence decision-makers.

We hope this contribution will serve as a value-addition and complement the knowledge enhancement facilitated by our previous reports compiled by Thomson Reuters - the Digital Islamic Economy Report in 2015, the Islamic Economy-Enabling Free Zones Report in 2016, and the Free Zones Outlook Report in 2017.

Foreword

Maged Wassim
Vice President, IBM Cloud
IBM Middle East & Africa

Startups are redefining the economy by being the catalysts for technology innovation and collaboration. At IBM, we believe that today's startups are the enterprises for tomorrow. We view them as the engines of the future and contributors to global economic growth, innovation, industry transformation and builders of knowledge economies.

IBM has reinstated its commitment to the development of local technology innovation across MENA region through continuous activities targeting developers including workshops, meetups, hackathons and more, in partnership with local incubators and partners. Through our Global Entrepreneur program, we provide eligible startups IBM Cloud usage credits to allow them to build, deploy, manage and scale applications by using a wide set of APIs and services including cognitive which unlocks the potential in data.

We are observing a significant increase in technology start-up funding in MENA region in the recent years with UAE in the lead, that has firmly positioned itself as the regional center for tech startups. The startup community in Dubai has been creating new job opportunities and attracting capital investment. IBM is working to spur innovation in this region by providing advanced technologies like Cloud Computing, Artificial Intelligence, Blockchain and Data Analytics to achieve long-term value outcomes.

We have been proactively working with many startups to build a strong ecosystem and network of resources to drive collaborative cloud innovation. But, most often we find that startups have not fully realized the potential of cloud and its relevance to their businesses like scalability, agility and cost efficiency to name a few.

This report is intended to provide an in-depth view of cloud computing adoption in the Dubai start up sector, and is based on a survey conducted by Thomson Reuters of over 100 start-up founders and decision-makers in Dubai and additional case studies. The report is sponsored in collaboration between IBM and Dubai Technology Entrepreneur Centre (Dtec), Dubai Silicon Oasis Authority's technology incubation center.

Investing in entrepreneurship is more than just starting a company. It's about providing the necessary resources to grow, commercialize and sustain a business. It includes recognizing specific needs, creating innovative solutions, and having the right technologies to carry out unique visions. Quite simply, it's about turning an idea into a reality.

If you are a startup and thinking about your cloud migration strategy and how you're going to transform your IT infrastructure, look no further. At IBM, we bring you the right experience, the right tools for the right workloads, to run on the right cloud.

We are excited to support businesses such as yours, that are building their future with cloud. We hope you see value in this report on how cloud can support your growth.

Get your company ready for your cloud future.

Executive Summary

DUBAI START-UPS: **NAVIGATING THE CLOUD MARKET**

Over 100 start-ups based in Dubai – MENA's innovation and entrepreneurship hub – have shared their unique perspectives on cloud technologies. A high percentage (70%) are already using cloud solutions; and 38% of non-adopters say they're planning a migration to the cloud in the near future. The research confirms that there is a growing interest in cloud technologies among start-ups in Dubai. However, there is a misconception that cloud adoption involves big price tags, and huge commitments of time and resources. This is preventing many start-ups from harnessing the full positive potential of cloud technologies.

Every business can take advantage of cloud technology – whether they are looking to build applications on the cloud, or adopt cloud services to help automate and streamline the way they do business.

This start-up sector clearly recognises the importance of cloud as a disruptive and efficient IT delivery model, and almost a quarter (24%) have built their businesses on the cloud from the get-go. The pace of cloud adoption in this market is expected to grow rapidly in the coming years. This is driven by the initiatives of various stakeholders in the start-up ecosystem to remove the obstacles in the path to deeper and broader cloud technology usage. Some of the key drivers include:

- The Dubai government's vision to be an innovation econo my and the wealth of opportunities for start-ups and existing businesses to be involved in mega initiatives such as Dubai Expo 2020 and Dubai Smart City;
- Increased accessibility to affordable cloud technology and mentorship as a result of growing local presence of global providers like IBM, and availability of cloud credit programs to support new start-ups; and
- Enabling support of incubators like Dubai Technology Entrepreneur Centre (Dtec), Dubai Silicon Oasis Authority's technology incubation centre and the largest of its kind in the Middle East, which create opportunities for start-ups to connect directly with cloud providers and get valuable in sights from the cloud journeys of their peers.

KEY STATS AND TRENDS

- 70% of start-ups in Dubai are currently using cloud computing resources
- 38% of those not yet on the cloud plan to adopt cloud technologies in the near future
- 24% of those using cloud technologies have built their start-ups on the cloud
- 76% have opted for SaaS, the most widely adopted cloud service model in the market
- 83% operate on a shared public or community cloud, due to perceived cost-effectiveness
- Over 90% of those on the cloud are generally satisfied with the cloud experience
- 80% of cloud adopters plan to increase their cloud spend going forward – focusing on a broader range of cloud services than they are currently leveraging.

ENABLING CLOUD ADOPTION **IN DUBAI'S START-UP SECTOR**

ACCESS TO AFFORDABLE CLOUD SERVICES

The cost of founding a sustainable enterprise on the cloud is a challenge for bootstrapped start-ups in this market.

- 72% of all start-ups surveyed spend less than USD 50,000 on IT annually
- 51% want affordable cloud services
- 42% of cloud adopters currently use free and/or low-cost cloud services
- 42% of non-adopters cite the initial investment as a barrier to entry

The major solution to the cost challenges start-ups face is the availability of programs such as cloud platform credits. Most of the leading cloud services providers – including IBM Cloud, Amazon Web Services, Google Cloud Platform and Alibaba Cloud, among others – offer support programs that enable entrepreneurs to build their organizations on the cloud with no upfront investment. Eligibility for these benefits is governed by each program's own unique set of qualifying criteria.

IBM GLOBAL ENTREPRENEUR
Cloud credit program from IBM

Emerging companies that qualify for this program can harness the power of IBM Cloud with USD 120K in cloud credits, providing access to more than 130 industry-leading cloud services including cognitive capabilities, artificial intelligence, blockchain, advanced data analytics and cyber security.

IBM also provides one-to-one guidance for up to three years (the maximum program length). Thereafter, these businesses can continue to grow as members of IBM's marketing and enablement program, PartnerWorld.

ACCESS TO KNOWLEDGE, RESOURCES AND MENTORSHIP

Before moving business-critical operations to the cloud, start-ups need to understand how cloud technologies work, what options are available to them, and what the right cloud strategy for their business is.

For the entrepreneur with little IT expertise (and few resources to hire this in), cloud computing terminology can be confusing. Combine this with the overwhelming amount of choice available, from cloud vendors to services, and it's no surprise that many start-ups put off decisions around cloud adoption at the initial set up stages. But this is exactly the time when they should be making such decisions.

It is essential that cloud vendor support is easily accessible to new start-ups. Through support programs, such as the IBM Global Entrepreneur Program, Dubai startups like Wrappup and Universal Linguistics found the support they needed throughout their ongoing cloud journey. This support should scale to suit start-ups at the very beginning of their cloud journey as well as those exploring a more sophisticated use of cloud technologies to differentiate their businesses and accelerate growth.

There is also a great opportunity to encourage peer-to-peer exchange in the Dubai start-up ecosystem through various forums and workshops, where start-ups can share their cloud journey experiences and provide relatable, practical advice to new start-ups at the beginning of their journey on cloud vendors, services and deployment solutions that have worked well for their businesses. Dtec, for example, has leveraged its close industry ties to provide its incubated start-ups with direct access to cloud vendors, and nurtured a start-up ecosystem that supports exchange.

ADDRESSING CONCERNS AROUND CLOUD SECURITY

More than a quarter (27%) of respondents say they're postponing their move to the cloud due to data protection concerns, while a further 15% cite apprehensions around security as the reason why they haven't adopted cloud technologies yet.

These worries are understandable as cyber-security threats are a serious risk. In this environment, it's critical for vendors to ease concerns and address the misconceptions that exist around data security and privacy. Some start-ups may not be aware that a well-chosen cloud services provider can offer privacy and security features that far outstrip those of a start-up's own data center, which may run on limited resources. Start-ups also need to identify solutions that best suit their data security and privacy compliance requirements. No matter whether a start-up has decided on a private, public or hybrid cloud, it's advisable to ensure that the vendor managing this cloud has the requisite resources to provide a consistent and reliable service, with security and detection methods that are continually monitored and updated in line with emerging threats. It's also essential for firms to continually monitor and evaluate their cloud service providers to ascertain whether all aspects of their agreement are being adhered to.

THE PURPOSE OF THIS REPORT

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The Cloud Report 2017 is intended to provide an in-depth view of cloud computing adoption in the Dubai start up sector, and is based on a survey conducted by Thomson Reuters of over 100 start-up founders and decision-makers in Dubai, as well as additional case studies. The survey and report were commissioned in collaboration by Dubai Technology Entrepreneur Centre (Dtec), Dubai Silicon Oasis Authority's technology incubation centre - the largest of its kind in the Middle East, and IBM.

To provide insights for start-ups on the best practices around setting up their businesses on the cloud, the report explores the cloud services and deployment models that are being used by peers, as well as the drivers, barriers and other factors that are influencing decision-making around cloud implementation in this market.

It also offers valuable insights on Dubai-based start-ups' spending power and priorities, challenges, requirements and experiences – and is thus intended to be a valuable source of strategic market information for cloud technology vendors that are either active in the region or seeking to understand opportunities in Dubai's expanding start-up market.

RESEARCH
METHODOLOGY

The insights, trends and recommendations that are shared in this report have been developed by Thomson Reuters using a comprehensive mix of primary and secondary research. The primary research conducted includes a survey of over 100 start-up founders and decision-makers in Dubai, case studies with start-ups affiliated with Dtec and IBM and a focus group with a selection of start-ups residing in the Dtec co-working space.

SNAPSHOT OF SURVEY

RESPONDENT PROFILES

Over 100 Dubai-based start-ups were surveyed, allowing us to provide a valuable barometer on the attitudes and experiences around cloud technologies in this dynamic market.

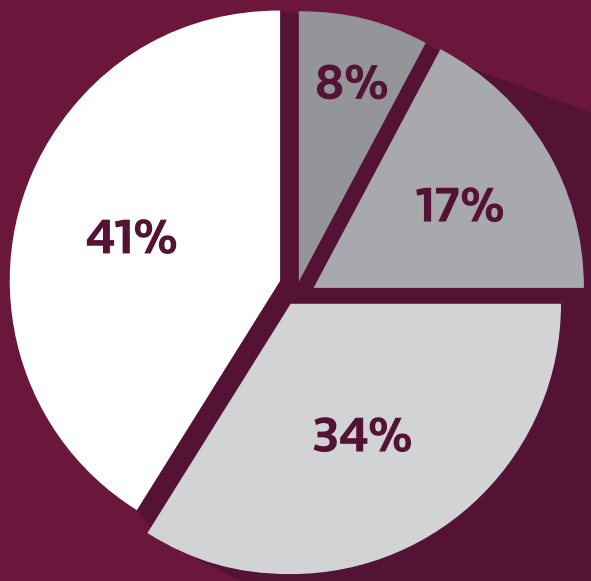
The typical responder is a start-up owner, founder, partner, CEO or Managing Director (MD) operating in a digital or technology oriented market with less than five employees and plans to expand beyond the UAE.

In terms of their market potential, almost a quarter of the start-ups interviewed valued their market size at over USD100 million. These start-ups with high potential market size tend to operate in the digital economy.

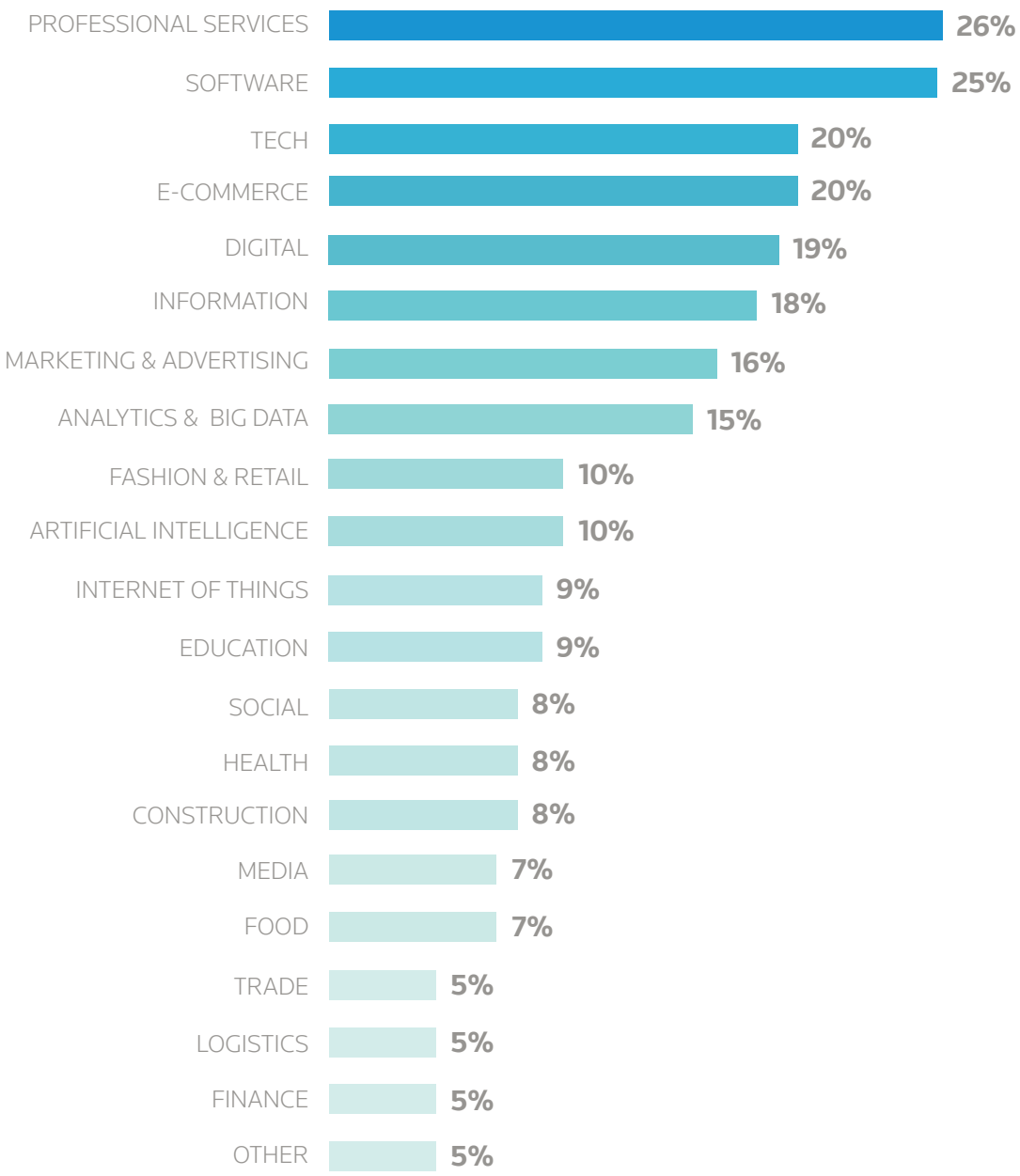
Notably, access to finance in this market has been limited, with 83% of the start-ups surveyed being funded fully or partially from the personal savings of their founders.

ROLE OF RESPONDENT WITHIN START-UP

- CEO / MD
- Owner/Founder/Partner
- Products & Tech Developers
- Others Directors

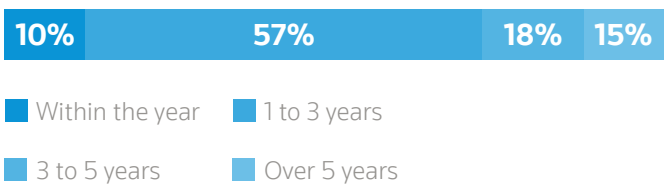


INDUSTRY WITHIN WHICH THESE START-UPS OPERATES

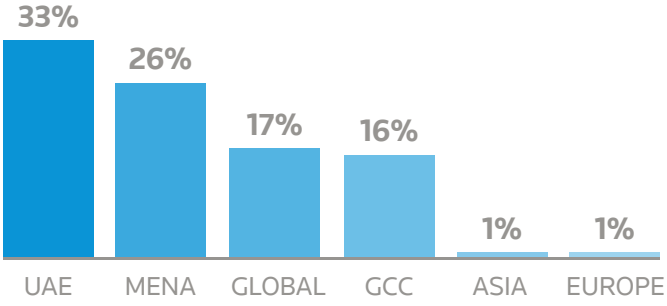


Note: Start-ups may span multiple industries, thus the percentage total exceeds 100%.

YEARS IN OPERATION

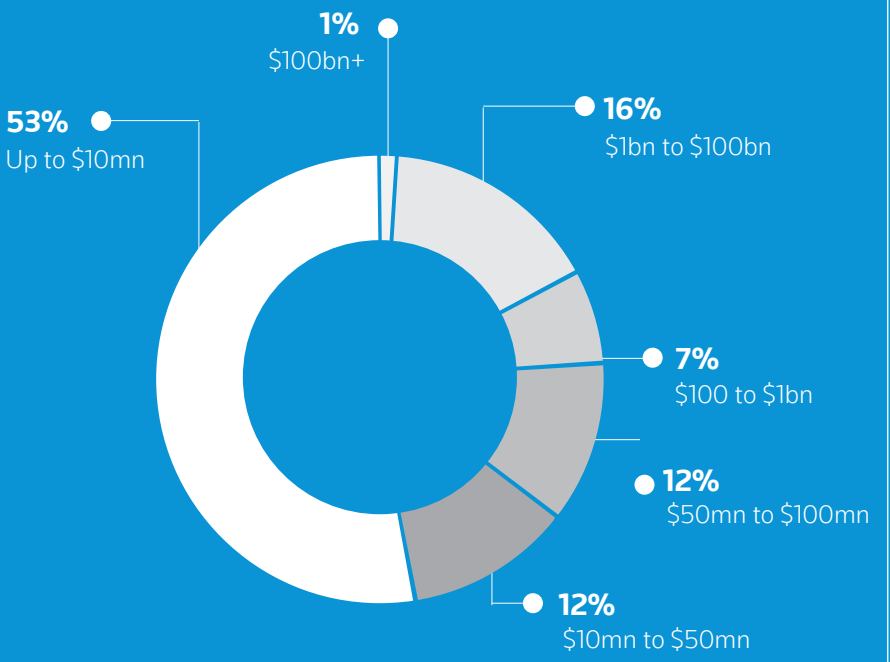


GEOGRAPHIC OUTLOOK OF START-UPS

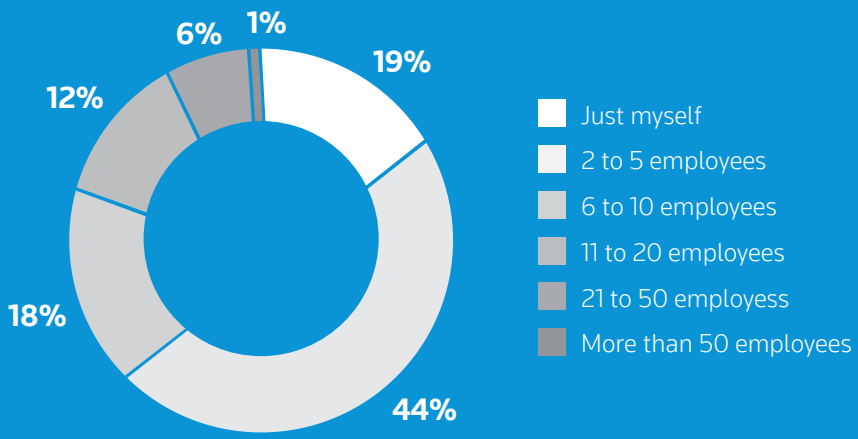


Note: Start-ups may focus on multiple geographies, thus the percentage total exceeds 100%.

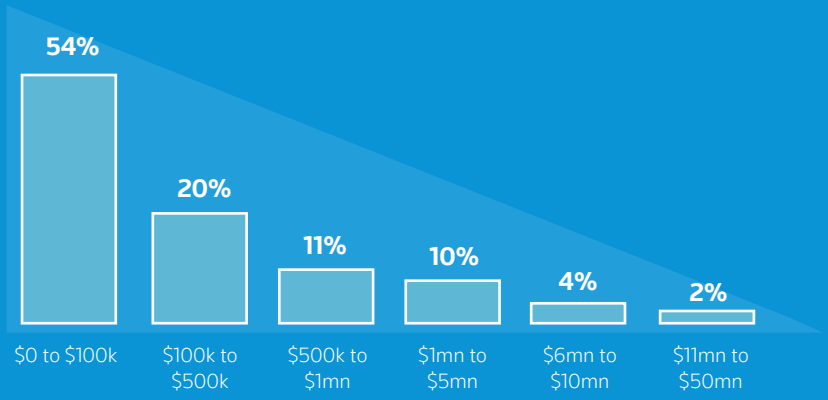
ESTIMATED MARKET POTENTIAL OF START-UPS



NUMBER OF EMPLOYEES



CURRENT ANNUAL TURNOVER (USD)



SOURCE OF FUNDING

Personal Savings
83%

Friends & Family
26%

Bank
12%

Angel Investor
10%

Venture Capital
4%

Crowd Funding
4%

Government Grants
4%

Note: Start-ups may use multiple sources of funding, thus the percentage total is over 100%.

DEMYSTIFYING THE CLOUD

Described as the next generation of computing, the cloud has emerged as a cost-effective and agile information technology delivery model that's not only driving digital transformation in well-established enterprises, but also enabling new industry players to challenge the status quo.

However, while cloud solutions are well-understood in the corporate world today, many entrepreneurs and start-up owners do not fully understand this approach to IT, nor how to capitalize on its potential. One of the most widely-accepted definitions of cloud computing is the one offered by the U.S. National Institute of Standards and Technology (NIST)[1] :

"Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction."

These IT resources are delivered over 'the cloud' (a metaphor for the internet) rather than stored and managed on the premises. Users can access these solutions – from business process management applications to entire data centers – at the office or on the go from any internet-connected device.

[1] *https://www.nist.gov/news-events/news/2011/10/final-version-nist-cloud-computing-definition-published*

TYPES OF
CLOUD SERVICES

There are three types of cloud computing services available to start-ups[2] :

SOFTWARE AS A SERVICE (SAAS)

This enables start-ups to subscribe to readily available software and applications, which are owned and operated by an external party and delivered via the internet. Users can access this software from any internet-connected device. This means they do not have to install the software on their own computers or servers, nor manage it. That said, users still benefit from rich functionality such as storing and streamlining data, sharing knowledge, and collaborating with colleagues and clients. Data stored in the cloud is not lost in the event of equipment failure

PLATFORM AS A SERVICE (PAAS)

With PaaS, start-ups have access to a cloud-based technology platform and a suite of tools that enables them to create, test, roll-out and update their own applications – without the cost and complexity of managing the underlying infrastructure. The vendor handles security, operating systems, server software and backups.

INFRASTRUCTURE AS A SERVICE (IAAS)

A cost-effective way to access and pay for hardware resources on demand, IaaS is ideal for start-ups that do not want to buy their own servers, storage, networks, operating systems and other computing resources outright – nor carry the cost of maintaining these assets. Enterprises use their own platforms and applications within this scalable infrastructure, which is accessed via the internet. IaaS services can be scaled up quickly to suit the fast growth trajectory of many start-ups.

HOW ARE
CLOUD SERVICES DEPLOYED

There are typically four different deployment models for cloud services. These depend on the purpose of the cloud solution and where it should be located[3].

Private Cloud

This hosting option offers the efficiency of working on the cloud, yet also provides complete control over private data by restricting access to authorized users. The platform is implemented on a cloud-based secure environment, safeguarded by the client's own firewall.

Community Cloud

The use and cost of this system is shared between numerous clients that belong to a specific industry or business community. They will typically have similar business objectives or knowledge needs as well as shared privacy, performance and security goals. Sometimes these organizations are collaborating on tenders or research. Management and hosting can be handled internally or externally.

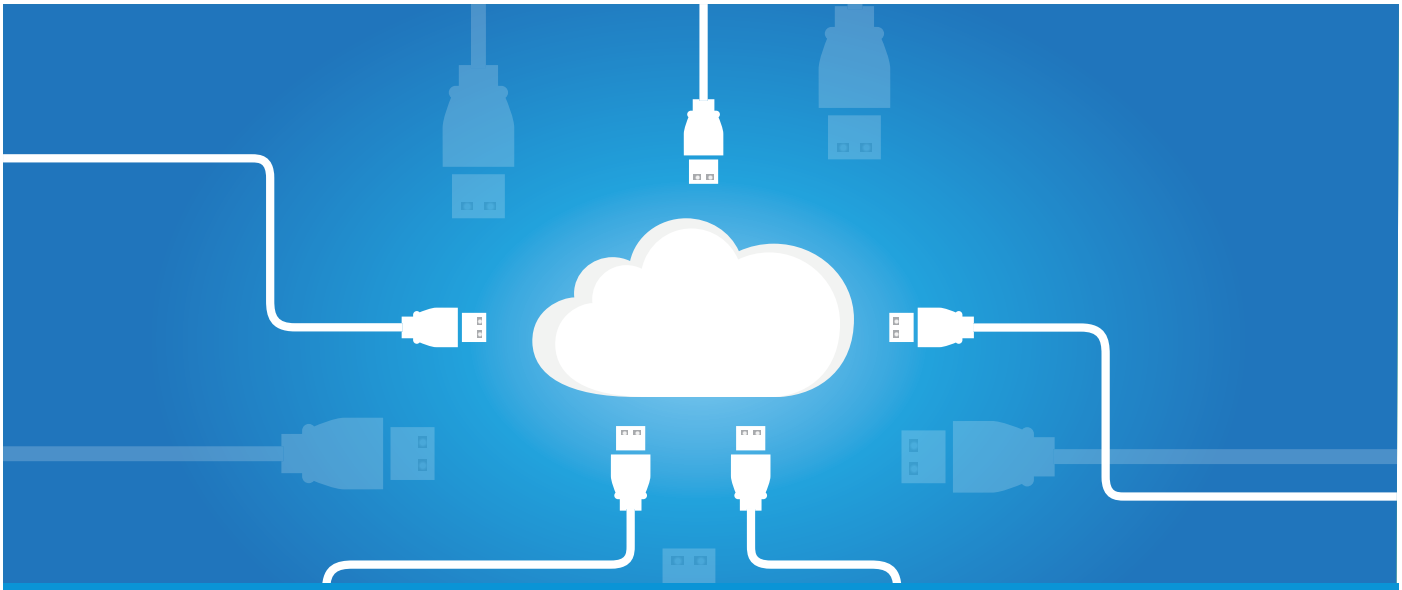
Public Cloud

With this deployment option, services are provided over a network that can be openly accessed by public users via the internet. This is a cost-effective model because users don't need to buy hardware, software or supporting infrastructure – this is owned and managed by the cloud provider.

Hybrid Cloud

This is an environment that integrates two or more cloud deployment models, which are connected yet remain individual entities. For example, many companies with private clouds grow to manage workloads across data centers, private clouds and public clouds.

[2] *https://www.ibm.com/cloud-computing/learn-more/iaas-paas-saas/*
[3] *https://www.ibm.com/cloud-computing/learn-more/what-is-cloud-computing/*



ARE BUSINESSES LEVERAGING CLOUD SOLUTIONS?

The growth of cloud computing technology has been steadily gathering momentum in many regions around the world, with key technology providers such as IBM, Amazon, Google, and Salesforce.com delivering a range of cloud solutions to their markets.

Numerous surveys have been conducted on the adoption of cloud services among multi-nationals and well-established corporations globally, reviewing best practices for moving core processes and functions to the cloud.

However, few studies have focused on the extent to which start-ups and entrepreneurs are taking advantage of cloud services, or the benefits of implementing cloud services early in the business lifecycle (which comes with the territory).

This is a crucial focus area for the Middle East and North Africa (MENA), where start-ups and other small and medium enterprises (SMEs) act as the backbone of the region's economy, driving both diversification and growth. In MENA, there is often a lack of clarity around the cloud solutions available; and the successes and challenges that entrepreneurs and start-up owners are experiencing on the cloud.

WHAT MAKES AN **ENTERPRISE A 'START-UP'?**

Unlike SMEs, which are classified by turnover and employee size (with criteria varying per country), the term 'start-up' is a looser definition typically used for young enterprises and new business concepts that are positioned to disrupt the market and achieve rapid growth.

Their pioneering nature and scalability can make start-ups attractive to financiers. The fact that there are 174 private companies valued at USD 1 billion or more on Fortune's 'Unicorn List' pays testament to this[4].

[4] *http://fortune.com/unicorns/*

HOW CLOUD COMPUTING **CAN BENEFIT START-UPS**

When harnessed strategically, cloud solutions can significantly change the way that new enterprises are set up, managed and run. Cloud services allow cash-strapped start-ups to limit capital outlays on IT and reduce risk, providing on-demand access to hardware and software resources that were previously only accessible to well-established businesses with large budgets. Moreover, these services are easily scaled as business fluctuates or the enterprise is restructured.

Today, there is increasing expectation for businesses to be 'digital', supported by the so-called 'Third Platform' – the convergence of cloud computing, interactive mobile applications, big data and analytics, and social technologies to create a fully digital customer experience.

To this end, many large corporates have been undergoing digital transformation in the last 5 to 10 years. Typically, this process was first managed as an IT project, but many organizations are now approaching it as an enterprise-wide shift in mind-set that affects all activities, systems and decisions.

In a league of their own, start-ups are well-positioned to forge their enterprises on the cloud and leverage digital technologies as their core business models from the very beginning. In other words, they're able to be 'digital natives' – using the benefits of the cloud and other disruptive technologies to their advantage from the get-go.

It's clear that cloud computing represents a fundamental shift in the way that IT resources can be accessed and used by young enterprises. This raises several crucial questions which The Cloud Report 2017 answers:

- **How can start-ups best capitalize on the benefits of cloud services?**
- **What cloud solutions are available to young enterprises and entrepreneurs in the MENA region, with a specific focus on Dubai?**
- **What cloud services and delivery models are recommended for this unique market?**

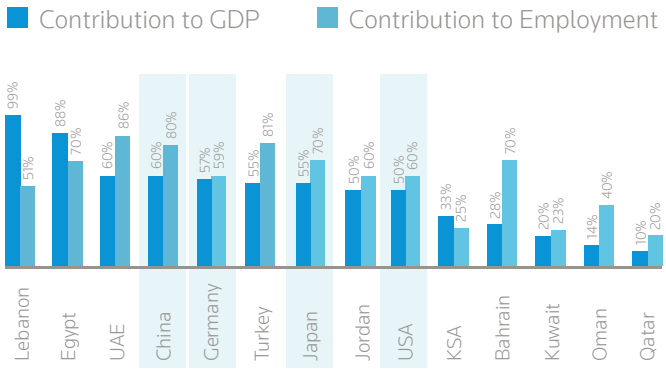
START-UPS DRIVE TRANSFORMATION IN IN MENA'S SME SECTOR

Successful start-up initiatives can have a positive impact on any economy, introducing more progressive energy, innovation and competition into the business environment. In the MENA region, start-ups have a particularly valuable role to play in supporting the development of more sustainable knowledge-intensive sectors.

Smaller businesses already act as engines of economic growth, diversification and job creation in MENA, where the SME sector as a whole accounts for around 90% of registered businesses in most countries. This market is expected to continue expanding over the next few years.

However, despite the size of the region's SME market and its solid contribution to employment (71%), it often punches below its weight in productivity metrics. SMEs in the UAE, Egypt, Turkey and Lebanon do contribute to GDP on par with developed nations, but the rest of the GCC typically falls behind[5].

CONTRIBUTION OF SMES TO GDP & EMPLOYMENT IN MENA COUNTRIES, 2016

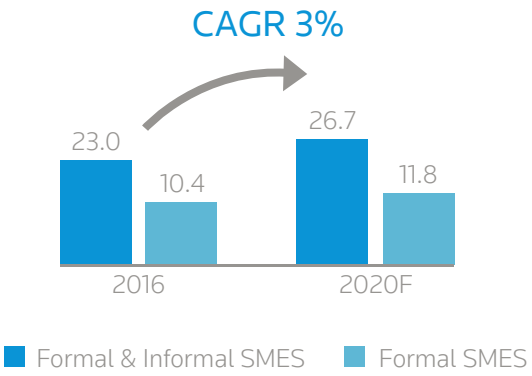


Source: Sutherland Global Services

[5] *http://www.al-press.com/index.php/en/2013-02-20-08-59-23/sme/6395-al-masah-releases-in-depth-analysis-on-regional-smes-and-venture-capitalism*

THE BREAKDOWN OF THE **SME SEGMENT ACROSS MENA**

TOTAL NUMBER OF SMES IN MENA (MILLION), 2016-2020F

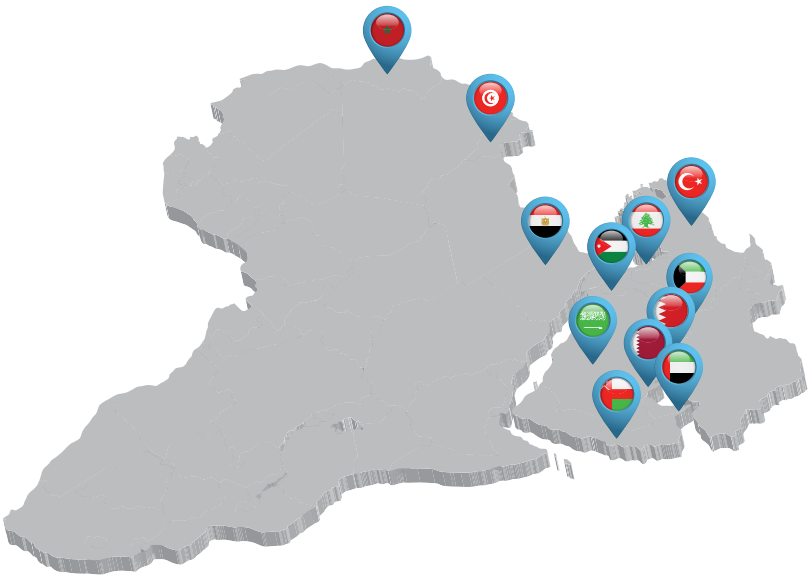


Source(s): The World Bank and Sutherland Global Services

In most MENA countries, the prevalence of SMEs operating in industries with low capital intensity, such as trading (primarily retail and wholesale) and services, is higher. However, the dynamics of the SME market are changing; and relatively nascent start-up ecosystems have witnessed unprecedented growth in recent years. Notably, the start-up sectors in the UAE, Egypt, Jordan and Lebanon are rapidly gaining momentum.

An increasing number of start-ups are introducing innovative new business models and leveraging digital technology to accelerate development and add more value to MENA's knowledge economy. This uptick in entrepreneurship activity has been spurred by increased funding in tech start-ups and the rise of incubators, accelerators and other support players.

TOTAL NUMBER OF FORMAL SMES IN MENA BY COUNTRY (IN 000'S), 2016



Turkey	3,570
Egypt	2,515
Saudi Arabia	1,821
Morocco	764
Tunisia	702
UAE	367
Jordan	169
Oman	127
Qatar	103
Bahrain	94
Lebanon	78
Kuwait	20

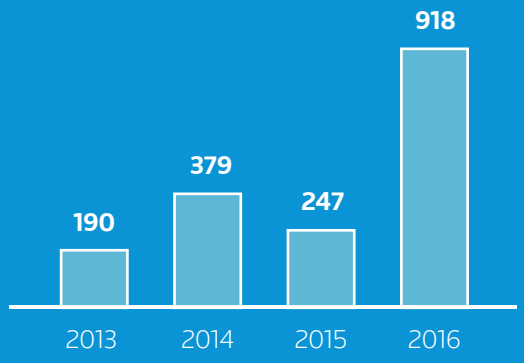
Source(s): The World Bank and Sutherland Global Services

THE RAPID GROWTH OF **TECH STARTUPS**

MENA received an exceptional amount of technology start-up funding during 2016. More than USD 900 million was invested last year alone, exceeding the value of all investments between 2013 and 2015 combined (which amounted to around USD 750 million).

The lion's share of deals and growth finance went to the UAE, which has firmly positioned itself as the regional nerve center for tech start-ups. In total, the UAE attracted 90% of dollars invested. This funding went primarily to e-commerce initiatives, but also supported fast-emerging sectors such as financial technology (fintech), health technology (healthtech) and "smart" or "connected" devices.

TOTAL INVESTMENT IN MENA START-UPS
2013-16 (IN USD MILLION)



TOTAL INVESTMENT IN MENA START-UPS BY COUNTRY
2016 (IN USD MILLION)

UAE	799	Morocco	15	Palestine	7
Lebanon	56	Egypt	12	KSA	5
Jordan	15	Tunisia	8	Bahrain	1

Source: The State of Digital Investments in MENA 2013-16, 2nd Edition, ArabNet

ACCESS TO START-UP CAPITAL

Limited access to finance, especially commercial bank lending, has been one of the greatest headwinds for SMEs and start-ups based in the MENA region. However, there has been a rapid growth in alternative financing options for technology start-ups from private equity, venture capital, angel networks and others. These investors appear to be focusing on innovative businesses with rapid growth potential that will deliver solid return on investment – which means that access to finance for less tech-driven start-ups remains a challenge[6].

MENA has seen an unprecedented surge in tech-focused investors. On average, there were ten new funds created per year between 2009 and 2012. This doubled to around 20 new funds per annum in 2013 and 2014; and jumped again to around 30 new funds per year during 2015 and 2016. Of the 30 funding institutions founded in 2016, 40% are based in the UAE. Overall, the UAE is home to approximately one third of investors; Saudi Arabia and Lebanon combined account for another third[6].

[6] *The State of Digital Investments in MENA 2013-16, 2nd Edition, ArabNet*

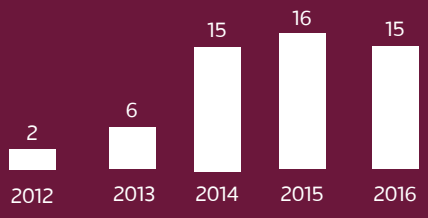
THE CONTINUED STRENGTH OF

VENTURE CAPITAL FUNDING & THE RISE OF ACCELERATORS

Close to 50% of the region's investors comprise of early-stage financiers. Around one quarter are accelerators and the rest are seed funds and angel networks. Venture capital funds are the largest community, accounting for 31% of all investors.

The rise of accelerator programs across MENA is steadily breaking down barriers to finance for local start-ups by providing the support and connecting them to the resources they need to prepare effectively for financing.

NEW ACCELERATORS IN MENA, 2012-16



Source: Gust-Middle East Accelerator Report, 2010-2015, Wamda-2016

TOP ACCELERATORS IN THE MENA 2016

Country	Accelerator/Co-working Space	Year Founded	Sector Focus	Number of Start-ups Accelerated
UAE	Dubai Technology Entrepreneur Centre	2015	Technology	800 Start-Ups
UAE	in5 Innovation Centre	2013	Technology, Design, Media	160 Start-ups[7]
Egypt	Flat6Labs	2011	Mixed	100+ Start-ups[8]
Jordan	Oasis500	2010	Tech & Creative Industry	26 Start-Ups (2015)[9]
UAE	Turn8	2013	Fintech, Technology, Renewable Energy	60 start-ups[10]

KEY GROWTH INDUSTRIES IN THE TECH START-UP SPACE

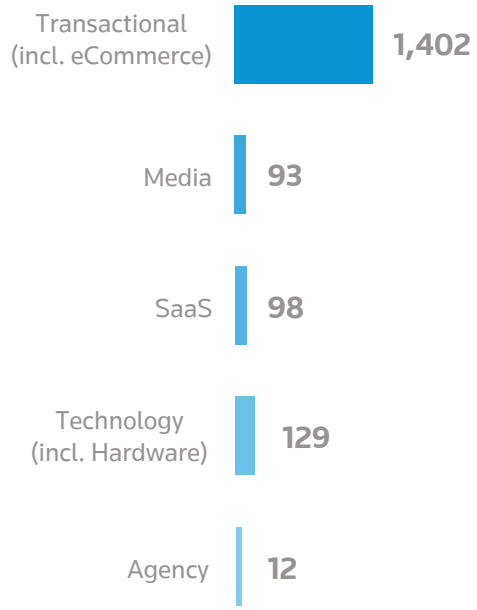
Among start-ups in MENA, the tech segment is attracting a significant share of investment, particularly in the UAE. Research by ArabNet reveals that over USD 1.734 billion was invested in more than 768 tech start-up deals in the region between 2013 and 2016, with the UAE reeling in the majority of these contracts.

Burgeoning demand for e-commerce has been made clear. Tech start-ups with transactional models attracted the largest share of investment deals (38%) and investment value (81%) across MENA. Landmark deals went to taxi app Careem (USD 350 million) and online retailer Souq.com (USD 275 million)[11] ; and these two start-ups became MENA's first unicorn companies in 2016, joining an exclusive club of venture-backed enterprises valued at over USD 1 billion.

Other successful business models for capturing investment over the past four years have been media (advertising), which received 23% and software as a service, which received 21% of all deals by business model.

Start-ups involved in hardware and algorithmic software also saw an increase in funding, which grew from 12% to 18% of total deals between 2013 and 2016.

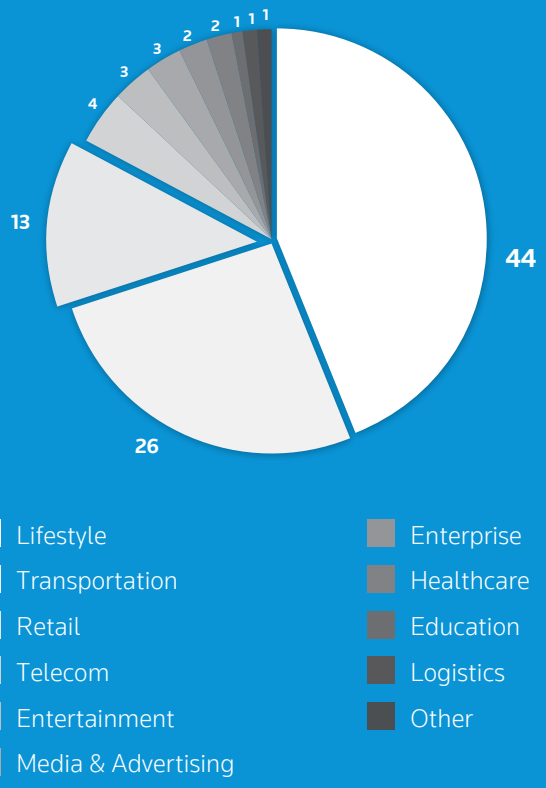
TOTAL VALUE OF INVESTMENTS BY STARTUP BUSINESS MODEL 2013-16 (IN USD 000S)



Source: The State of Digital Investments in MENA 2013-16, 2nd Edition, ArabNet

[7] *https://infive.ae/press-release/?id=31*
[8] *http://www.flat6labs.com/*
[9] *http://www.arabianbusiness.com/menat-based-accelerators-invested-3-5m-in-start-ups-last-year-635414.html*
[10] *https://turn8.co/startups*
[11] *https://www.thenational.ae/business/mena-unicorns-souq-com-and-careem-boost-tech-investments-1.6536*

VALUE OF INVESTMENTS IN TECH STARTUPS
BY INDUSTRY SECTOR, 16-2013 (IN %)



Source(s): The State of Digital Investments in MENA 2013-16, 2nd Edition, ArabNet

Looking at the breakdown of investment in tech startups by industry of focus over the last 4 years...

Tech Startups focused on the lifestyle segment (which includes the likes of Souq.com) take the biggest share of the pie when it comes to both number of investments raised (21%) and investment dollars (44%). This highlights the major appetite for lifestyle digital products and services in the MENA region.

While interest is high for startups in big industry verticals like healthcare and education, those sectors do not yet represent a significant proportion of investment deals – but this is expected to change in the coming years.

An innovation area to watch is fintech, with notable growth in the UAE, Lebanon, Jordan and Egypt – all proving to be regional fintech focal points. The number of start-ups in MENA's fintech ecosystem doubled from 46 to 105 over the three-year period covering 2013 to 2015; and the region is predicted to have a total of 250 fin-tech start-ups by the year 2020 . One driving force will be MENA's first fintech accelerator, the FinTech Hive. Initiated by Dubai International Financial Centre (DIFC) and Accenture, this became operational in early 2017.[12]

THE START-UP ECOSYSTEM IN DUBAI

Under its Vision 2021, the UAE is establishing itself as a hub for new business; and it's anticipated that this strategy will foster the launch of 40,000 new start-ups over the next five years .

The Global Entrepreneurship Index, which evaluates policies and programs to accelerate growth and job creation, ranked the UAE first among Arab countries due to its commitment to innovation and R&D. In the Emirates, knowledge and innovation contributes to about 3% of GDP, one of the highest percentages worldwide.[13]

Dubai – and its start-up sector – is also positioning itself as a fertile destination for foreign investment. The latest Dubai FDI Monitor report released by the Dubai Investment Development Agency ranked Dubai third globally (behind London and Singapore) in terms of new investment initiatives over the past year. Among the Dubai businesses that attracted investment in 2016, there were more than 100 start-ups and small enterprises.[14]

SME & START-UP LANDSCAPE IN DUBAI: FAST FACTS

- 1.57 million SMEs
- 95% of all companies
- 5% compound annual growth rate forecasted up to 2020
- 65% in the trading and manufacturing sectors
- 40,000 new start-ups by 2021
- 42% contribution to employment
- 40% contribution to GDP
- USD 799 million invested in UAE start- ups (mostly in Dubai)

Source: Gust-Middle East Accelerator Report, 2010-2015, Wamda-2016

[12] *http://www.arabianbusiness.com/full-speed-ahead-for-mena-fintech-674435.html*
[13] *http://www.khaleejtimes.com/uae-economic-outlook-2017-starts-debate-on-innovation-entrepreneurship*
[14] *http://www.khaleejtimes.com/nation/dubai/foreign-investments-flood-dubai*

AVAILABLE START-UP SUPPORT PROGRAMS **IN DUBAI**

The continued success of the start-up ecosystem in Dubai will depend on the ability of both the public and private sectors to create a nurturing environment for new enterprises; it's also contingent on start-ups' ability to access funding and leverage digital technology to innovate, scale and build high-value adding businesses.

There are currently numerous programs and stimulus packages in place to promote innovation and improve the environment for entrepreneurship in Dubai. These include:

The Dubai Technology Entrepreneur Centre (Dtec):

A leading co-working space, incubator, accelerator, and technology hub in the region that has attracted more than 800 start-ups from 70 countries. Since it was founded in 2015, Dtec has facilitated more than USD 13.6 million in investment for start-ups.

In5 Innovation Center:

An integrated innovation platform/incubator created by TECOM Group in Dubai for the technology, media and design sectors.

Tejar Dubai:

An entrepreneur development program initiated by Dubai Chamber, which focuses on helping Emirati youth to establish their own businesses.

Dubai Digital Entrepreneurship Hub:

Launched by the Dubai Chamber and IBM under the Emirates Smart City Initiative, this online platform hosted on IBM Cloud connects tech start-ups, entrepreneurs, developers and venture capitalists to accelerate innovation.

Expo 2020 Dubai:

USD 100 million initiative for entrepreneurs and SMEs to showcase their solutions to a global audience. There is a memorandum of understanding in place with Dubai SME and Tejari that will broaden access for SMEs in Dubai to tender opportunities worth AED 25 billion for EXPO 2020.[15]

Dubai Future Accelerators:

This Dubai government-led 9 week program pairs promising entrepreneurs with powerful partners "to create breakthrough solutions together.

Dubai SME Rating Framework:

Launched in 2017 by Dubai SME (Division of DED) to facilitate access to financial support and business opportunities.

AstroLabs:

The first Google-partnered tech hub in the MENA region, AstroLabs provides co-working space and a training academy for digital tech companies.

Hamdan Innovation Incubator:

This joint initiative, with United Trademark & Patent Services, supports innovation by safeguarding local SMEs' intellectual property.

[15] *http://tejari.com/news/press-releases/expo-2020-dubai/*

THE STATE OF CLOUD DEMAND IN THE MENA REGION

CH 4

With various initiatives in place to promote innovation and drive growth, as well as the widespread availability of mobile devices (MENA has the highest number of mobile devices per user in the world), the region is poised to accelerate its adoption of digital technology.

Investment in information technology for business is on the rise in MENA. Analysts at the Gartner Symposium/ITxpo 2017 forecast the region's IT investments to reach USD 155.8 billion during 2017 – representing a 2.4% increase on investment by all MENA companies in 2016.[16]

Peter Sondergaard, senior vice president and global head of Research at Gartner, explains that this IT spend is focused on innovative technologies that are driving business transformation:

"The MENA region is moving in the right digital direction, where demand for the latest and most emerging technologies like Blockchain will continue to reflect the profound changes the IT markets are experiencing. The growing and influential role of business leaders toward embracing technologies and processes such as cloud, business intelligence (BI), analytics, customer relationship management (CRM), digital business and marketing, are contributing to fuel digital transformation."

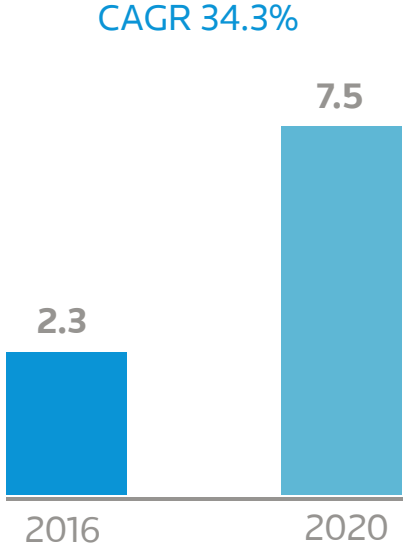
Against this backdrop, acceptance of cloud solutions is expected to pick up pace in MENA, with greater cloud investment predicted across all segments, from governments to large corporates and from SMEs to start-ups.

[16] *http://www.gartner.com/newsroom/id/3622517*

GROWTH IN THE CLOUD
INFRASTRUCTURE AND APPLICATIONS MARKETS

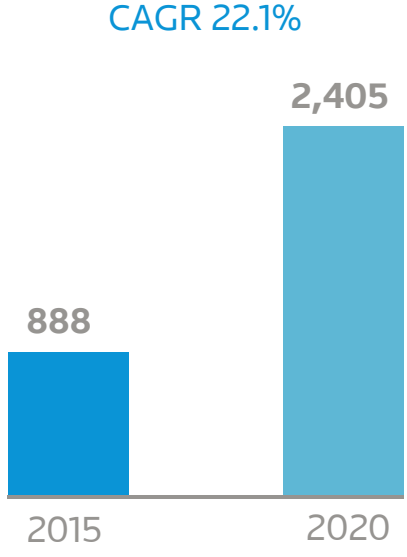
The Middle East cloud infrastructure market looks set to develop at a steady pace. This segment, which includes PaaS, IaaS, content and application/content delivery networks (CDN/ADN), and managed hosting, is projected to grow at a CAGR of 26.4% from USD 2.31 billion in 2016 to USD 7.46 billion by 2021. The sectors that are expected to drive this growth include banking, financial services and insurance, as well as ICT – industries that are looking to leverage digital technologies to increase business agility and boost cost-efficiencies without impacting on business continuity.

MIDDLE EAST CLOUD INFRASTRUCTURE MARKET (USD BILLION), 2016-2020F



Source: Markets and Markets- Middle East Cloud Infrastructure Services Market, July 2016

MIDDLE EAST CLOUD APPLICATIONS MARKET (USD MILLION), 2015-2020F



Source: Markets and Markets- Middle East Cloud Applications Market, April 2015

The Middle East cloud applications market is also expanding steadily, with offerings such as email, CRM, HR management, storage and contact centre solutions gaining traction in the region due to the speed with which these services can be rolled out, as well as the scalability of these applications. The SaaS market is expected to grow at an estimated CAGR of 22.1% from 2015 to reach USD 2.40 billion by 2020.

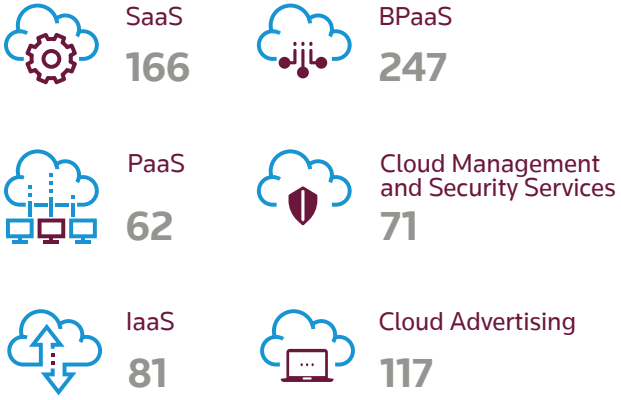
ADOPTION OF PUBLIC CLOUD SERVICES

The public cloud deployment model offers MENA start-ups with a cost-effective and flexible way to become cloud-enabled enterprises.

The region's public cloud services market is projected to grow at a CAGR of 18.4% to reach a value of USD 1.72 billion in 2020, up from USD 743.1 million in 2015.

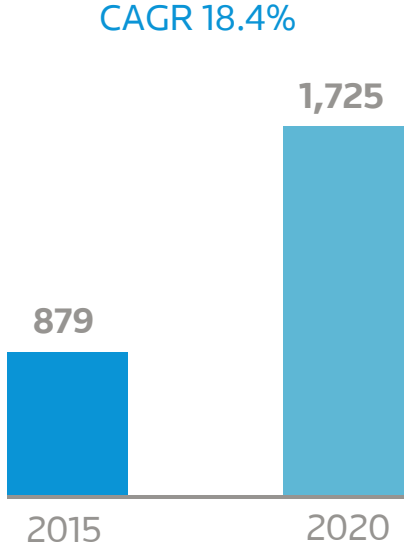
Business process as a service (BPaaS) is the largest segment of MENA's public cloud market (33%) followed by SaaS (22.4%), cloud advertising (15.7%), IaaS (11%) and PaaS (8.3%).

MENA PUBLIC CLOUD SERVICES MARKET BY SERVICES (USD MILLION), 2016



Source: Gartner (June 2016)

MENA PUBLIC CLOUD SERVICES MARKET (USD MILLION), 2015-2020F



Source: Gartner (June 2016)

One factor that is driving public cloud adoption in the region, according to Gartner, is a shifting interest from data center build-outs to data centers on the cloud.[17] This echoes a global trend that was identified in the Cisco Global Cloud Index for 2015 to 2020.[18] This study found that an increased demand for agility and cost optimization, along with a rising focus on data analytics, has led to the growth of cloud data centers on an international scale.

Analysts predict that by 2020, 92% of workloads will be processed by cloud data centers, compared to only 8% processed by traditional data centers. Furthermore, 68% of the cloud workloads will be in public cloud data centers by 2020, up from 49% in 2015. The MENA region is forecast to grow cloud data center workloads at a CAGR of 21.6% during this period, which is the second-highest growth rate in the world after the Asia Pacific region.

[17] *http://www.gartner.com/newsroom/id/3365117*
[18] *http://www.cisco.com/c/dam/en/us/solutions/collateral/service-provider/global-cloud-index-gci/white-paper-c11-738085.pdf*

THE CLOUD COMPUTING MARKET **IN DUBAI**

Dubai is known for being at the forefront of technological innovation, and one of the first governments to engage with blockchain. Under the Dubai Blockchain Strategy 2020, Dubai's leaders are invested in blockchain and believe it will be a key component in maintaining a competitive edge. The most recent step in Dubai's journey is a city-wide pilot to implement blockchain technology in city services; bringing Dubai's smart city aspirations one step closer to reality.

As the adoption of cloud technology picks up speed, the UAE is expected to be one of the largest markets for cloud infrastructure services in the region over the next five years, second only in size to Saudi Arabia. The UAE's IT sector is projected to grow to reach USD 6 billions by 2019.

A convergence of factors – including mature IT skills, robust IT budgets and the launch of multiple government-led mega projects such as Dubai Smart City and Expo 2020 Dubai – are contributing to this growth in demand.

MOVERS AND SHAKERS IN DUBAI'S CLOUD SECTOR

With healthy growth predicted for the region's cloud market, both local and global providers – such as IBM, AWS, Google, Huawei and Alibaba – are doubling down on their presence in the region to provide relevant cloud services to local organizations.

These developments, along with the growing availability of cloud solutions in Dubai and the rest of the region, have a wide range of benefits to offer the local start-up community. These include the faster deployment of infrastructure services and scalability features, as well as enhanced efficiency and business productivity.

Let's now explore the state of cloud adoption among entrepreneurs and start-ups in Dubai. To what extent is this business community leveraging the benefits of cloud computing – and where do the obstacles and opportunities lie for both users and vendors in this market?

IBM is taking huge strides to create a more enabling environment for cloud adoption in Dubai's start-up landscape. Noteworthy initiatives include:

- A collaboration with Smart Dubai Office to establish an **Artificial Intelligence (AI) Lab** to help accelerate the development of AI-based citizen services across Dubai.
- The **IBM Global Entrepreneur Program** has been opened to Dubai start-ups, providing support, mentor ship, networking opportunities, technical guidance and access to technology credits via IBM Cloud.
- The **Dubai Digital Entrepreneurship Hub** in collaboration with the Dubai Chamber of Commerce and Industry has created an online community that supports start-ups in the UAE by providing networking opportunities with venture capitalists and other industry players.
- The lead strategic partner on Dubai's **City-Wide Block-Chain Program** overseen by the Smart Office Dubai, with the goal to test, implement and ultimately have all government services running on interoperable block-chains by 2020.

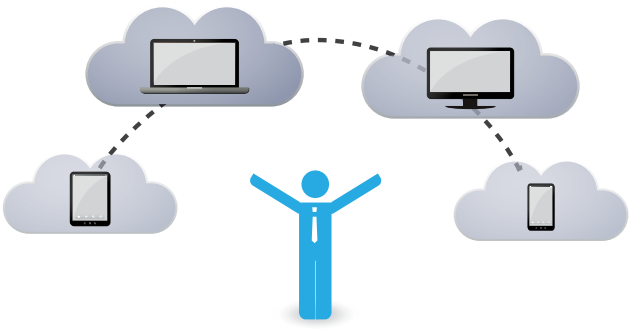
THE STATE OF CLOUD ADOPTION IN DUBAI'S START-UP LANDSCAPE

CH 5

Cloud-based business applications are putting enterprise-grade solutions into the hands of millions of new businesses globally. However, we still have much to learn about the state of cloud adoption in Dubai's start-up community. How many young and innovative enterprises are actually using cloud computing resources? Which cloud services, deployment models and applications are they selecting? What are their current challenges when it comes to capitalizing on the cloud solutions that are available to them? And how do they plan to leverage cloud technologies in the future?

We surveyed over 100 Dubai start-up founders and decision-makers to find answers to these questions, gain an understanding of their experiences on the cloud and gauge their perspectives, attitudes, challenges, needs and expectations around cloud computing and its ability to meet their unique business goals.

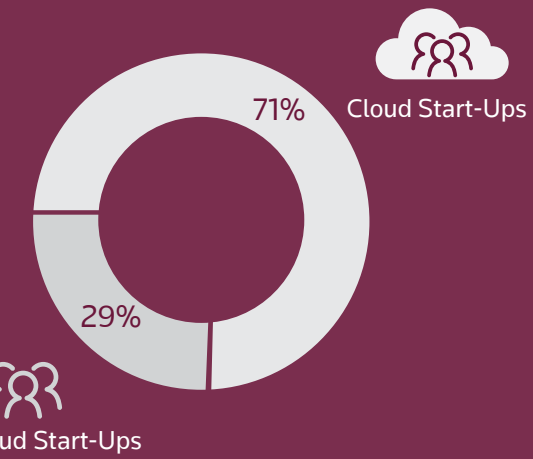
Our survey has revealed a number of thought-provoking data points and insights that we believe will be of interest to cloud users in the local start-up community, as well as cloud vendors who are either already serving start-ups in Dubai or planning to expand into this market.



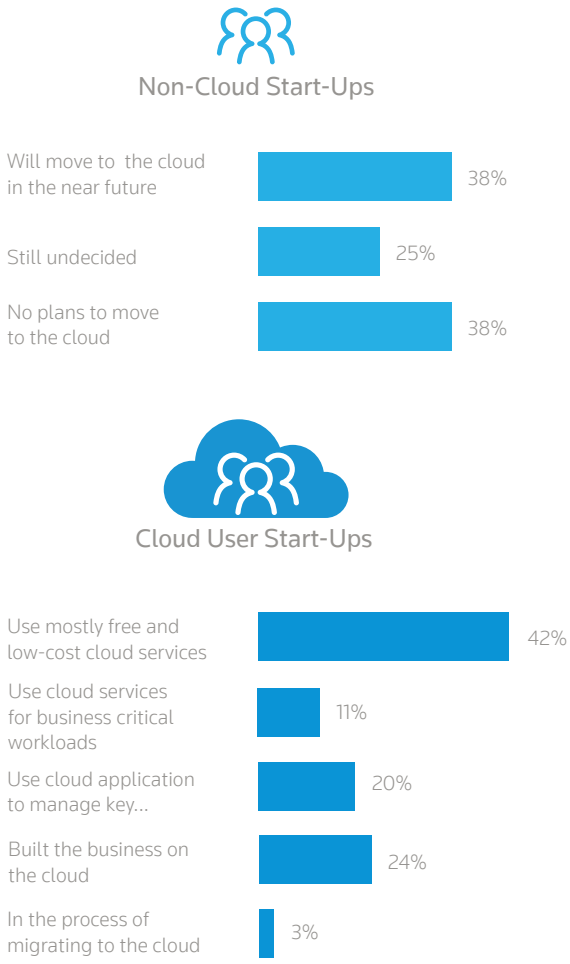
THE CURRENT CLOUD MARKET

Over 70% of respondents are already on the cloud; and the survey findings suggest that cloud adoption numbers will continue to rise in Dubai's start-up market. Among the respondents that are not yet using cloud computing resources, 38% say that they plan to move to the cloud soon.

CLOUD VS NON CLOUD START-UPS



LEVEL OF CLOUD ADOPTION



One noteworthy finding is that 24% of the cloud users have built their businesses on the cloud. This has allowed them to leverage a key advantage that start-ups have over larger, more established enterprises: the opportunity to benefit from the affordability, flexibility, speed-to-market and scalability that cloud solutions offer – right from the very beginning.

Typically, born-on-the-cloud start-ups can create business models that are enabled by the latest cloud software and services, not hindered by legacy systems (which may be tied to older technologies). Forging a business on the cloud also allows start-ups to create an agile and cloud-conscious IT culture from day one, which means there's less chance of issues emerging later such as shadow IT (where business units specify and deploy IT solutions that are not sanctioned by the IT department).

"Cloud-first strategies are the foundation for staying relevant in a fast-paced world" ~ Ed Anderson, research vice president, Gartner.

KEY DRIVERS OF CLOUD ADOPTION

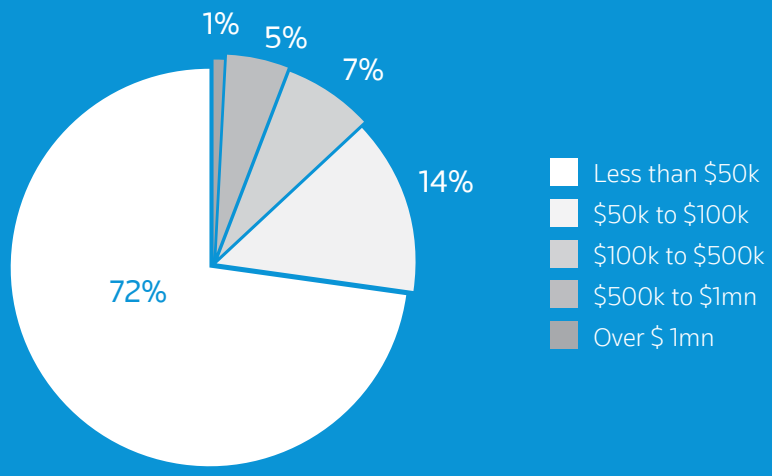
The survey findings indicate that affordability is a key influencing factor when it comes to cloud adoption itself, as well as the types of cloud services that start-ups are currently using. This is not surprising, given the fact that early stage businesses tend to have limited resources while they're building up their customer bases and establishing their positions in the market.

Among those already on the cloud, 42% of respondents are using free and/or low cost cloud services.

"Initially, most start-ups must focus on minimizing costs, especially technology costs. We were part of IBM's Global Entrepreneur Program, which gave us USD 120,000 in technology credits to use on the IBM Cloud. This really helped us to get a proof of concept for the app and really use the power of cloud infrastructure and scalability to deploy our application and IBM Cloud platform to utilize AI technology,"

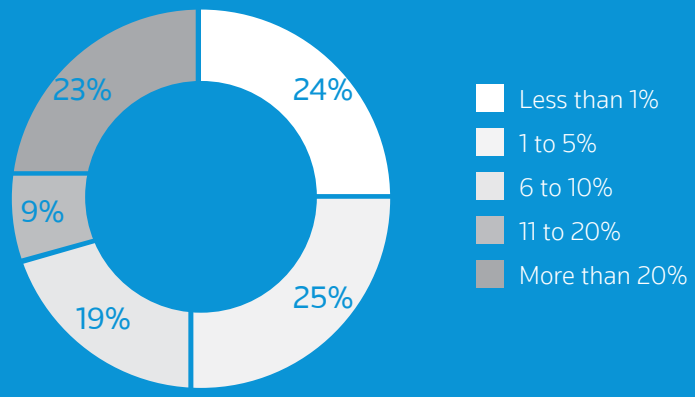
Ayush Chordia
Co-Founder, Wrappup

PERCENTAGE OF ANNUAL IT SPEND DEDICATED TO CLOUD SERVICES



In terms of their overall IT spend, 72% of the start-ups surveyed invest less than USD 50,000 in information technology annually.

PERCENTAGE OF CURRENT IT SPEND BY START-UPS ON CLOUD SERVICES

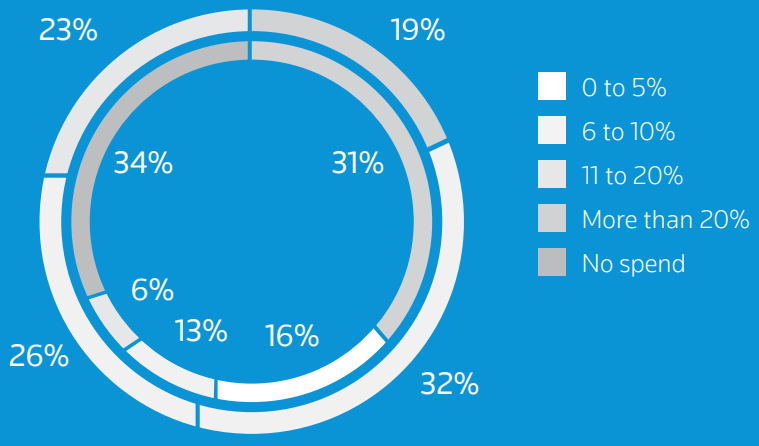


Almost a quarter (23%) currently dedicate more than 20% of their annual IT spend to cloud services. The start-ups with a higher cloud spend operate in tech-focused industries, such as analytics and big data, artificial intelligence and software.

AVERAGE % SPEND BY INDUSTRY

Top 5		Bottom 5	
18.1%	Information	9.7%	E-commerce
18.0%	Health	9.1%	Marketing
15.9%	Retail	8.2%	Professional Services
15.7%	Analytics & Big Data	5.6%	Construction
15.2%	Finance	5.5%	Fashion

FUTURE INCREASE IN IT SPEND BY START-UPS ON CLOUD SERVICES: NEXT TWO YEARS



***Outer ring**: Start-ups already on the cloud.*
***Inner ring**: Start-ups not on the cloud*

While close to half (49%) of all start-ups on the cloud spend less than 5% of their annual IT budgets on cloud resources, the survey findings do indicate that cloud spend in this community will increase in the future.

Among start-ups already on the cloud, 23% expect to increase their spending on cloud services by more than 20%; and a further 49% plan to up their investment in cloud services by more than 10%.

TYPES OF CLOUD COMPUTING **SERVICES USED**

SaaS penetration among the Dubai start-ups surveyed currently stands at 76%, making this the most widely adopted cloud service in this segment. One of the key advantages of choosing SaaS on the cloud is reduced IT costs and effort, because on-premises software deployments (along with the associated capital outlays) can be avoided in favour of paying on demand for application usage. This can be attractive for cash-strapped start-ups that may have more business-critical uses for their working capital. At the same time, SaaS is suited to start-ups with limited technological know-how as users do not have to install, manage or upgrade the software. The SaaS provider takes responsibility for this.

One third of respondents say their organizations are using more than one type of cloud service, with 9% of start-ups using all three service models in their cloud computing stacks. Typically, the start-ups that use SaaS, PaaS and IaaS together are more technologically-savvy, operating in industries such as big data and analytics, digital, social media and software.

"Today, SaaS patterns are generally accepted by many companies that want to benefit from application usage without the need to maintain and update infrastructure and components. Mail, ERP, collaboration, and office apps are the most accepted SaaS solutions. The flexibility and elasticity of the SaaS model are great benefits."

Javier Barabas
IBM Cloud Advisor

CLOUD SERVICE TYPE

Software as a Service

76%

Platform as a Service

32%

Infrastructure as a Service

32%

Note: Startups may use multiple service types; hence the percentage total is over 100%

CLOUD DEPLOYMENT **TRENDS**

The majority of start-ups have opted for cloud deployment models that are cost-effective – with 83% operating on public or community clouds. These shared hosting models are economical due to reduced capital overheads and operational costs.

Public cloud is the dominant hosting model, used by 67% of start-ups. This is well-suited to deploying SaaS-based services, which are widely used in this market, as discussed.

The popularity of public clouds in Dubai's start-up sector echoes a global trend – which has seen the public cloud market grow rapidly. Forrester Research analyst Dave Bartoletti predicts that the global public cloud market will be worth USD 146 billion in 2017, up from USD 87 billion in 2015. This growth has been driven by leading cloud providers such as IBM.

Multi-cloud deployment models are used, but only by 10% of start-ups at present. This involves the use of several cloud computing services in a single architecture with the aim of diminishing the dependence on any single cloud vendor, increasing flexibility (often in terms of price) and mitigating against the risk of disaster.

However, one concern that was raised in a focus group of 10 Dtec-incubated start-ups is the need for more clarity around hosting options. Some start-up founders, primarily those not from a technical background, find the terminology used to describe and differentiate cloud services to be a challenge.

"We talk about 'hosting', whereas global vendors will talk in the language of 'SaaS, PaaS or IaaS'. There is no-one out there to translate how this will fit into my scheme of things. These are great buzzwords but I don't understand any of them." Mohsin Iqbal, Daiichi Digital

CLOUD DEPLOYMENT MODEL

Public Cloud

23%

Private Cloud

9%

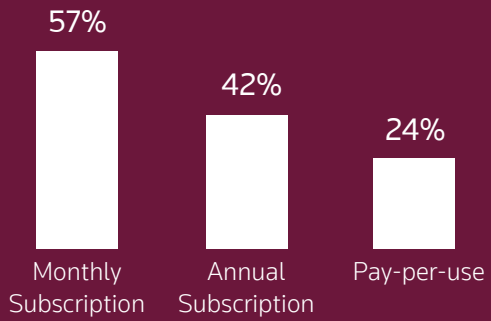
Community Cloud

1%

Hybrid Cloud

6%

PAYMENT MODELS USED FOR CLOUD SERVICES



PAYMENT MODEL **PREFERENCES**

Our survey indicates that the majority of start-ups (57%) opt for a monthly subscription model when paying for cloud services. Over 40% prefer to take out annual subscriptions, while 24% follow a pay-per-use model.

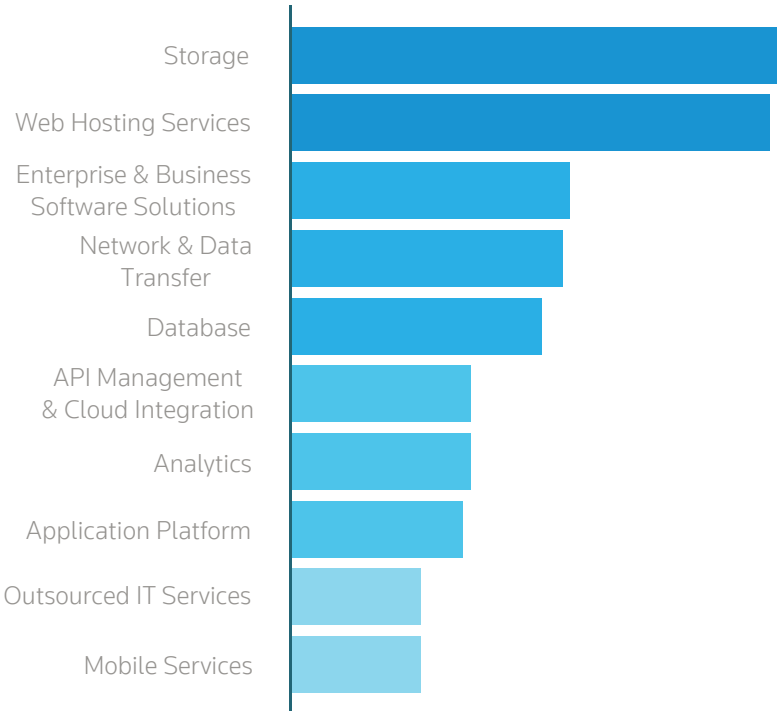
Note: Start-ups may select multiple payment models; hence the percentage total is over 100%.

CURRENT USE OF **CLOUD SERVICES**

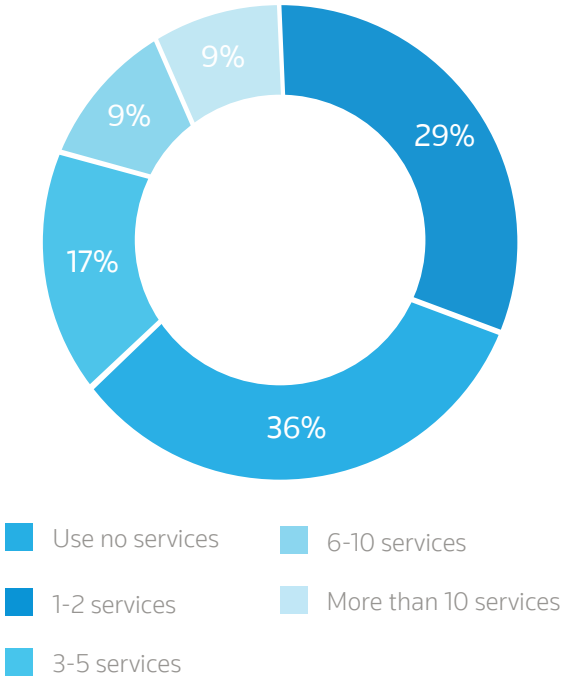
Storage and web hosting – often referred to as 'core' services – are typically the first cloud services adopted in this market. They are also currently the most widely used, with 68% of start-ups using cloud storage (perhaps reflecting the steep increase in the amount of data that today's organizations deal with) and 67% using web hosting. Over a third of respondents are using cloud software, network and database solutions.

Start-ups on the cloud use an average of 4.39 cloud services, with 36% using one or two services and 18% use more than five.

10 MOST ADOPTED CLOUD SERVICES



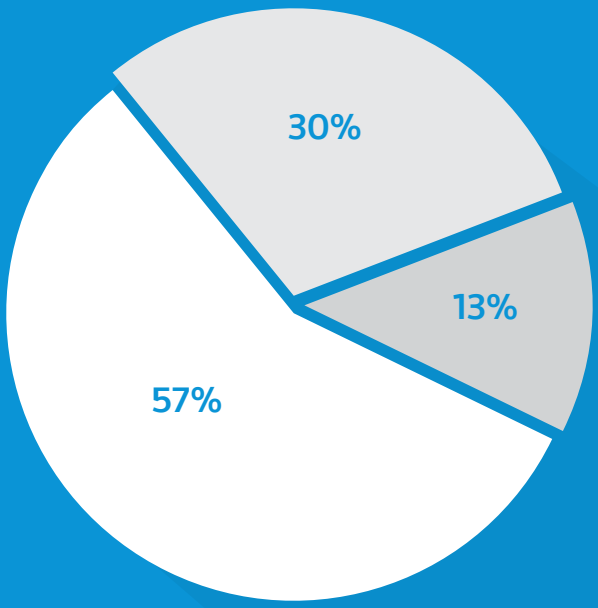
NUMBERS OF SERVICES USED



Note: Start-ups may select multiple services; hence the percentage total is over 100%.

CLOUD SOFTWARE APPS PURCHASED BY **START-UPS**

- Use 1 or 2 apps
- Use 3 or 5 apps
- Use more than 5 apps

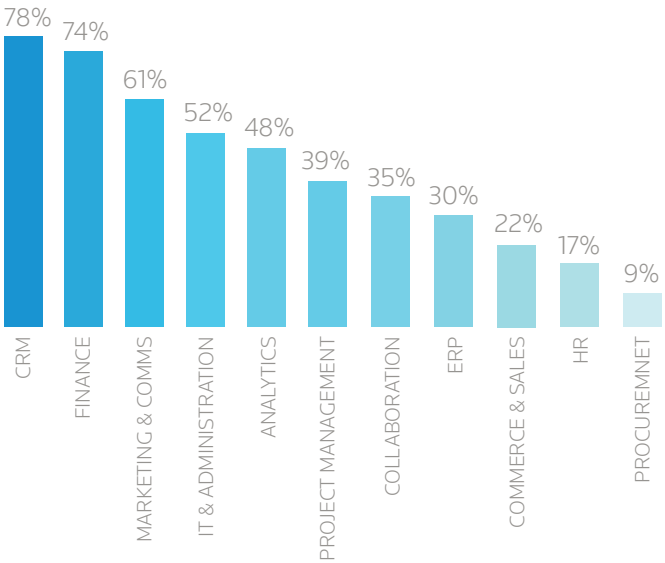


CLOUD SOFTWARE **ADOPTION**

Among start-ups on the cloud, 39% are currently using cloud-based enterprise and business software apps to streamline and manage their business processes, improve their customer experiences, and automate tasks to capitalise on their often limited resources.

The most-purchased cloud software apps in this market are used for CRM (78%), finance (74%), and marketing and communication (61%) purposes.

On average, respondents use 4.65 software apps to run their businesses. As start-ups leverage more apps on the cloud, they are looking for a central location from which to manage these solutions. They also want to be able to buy bundled apps at an affordable price point.

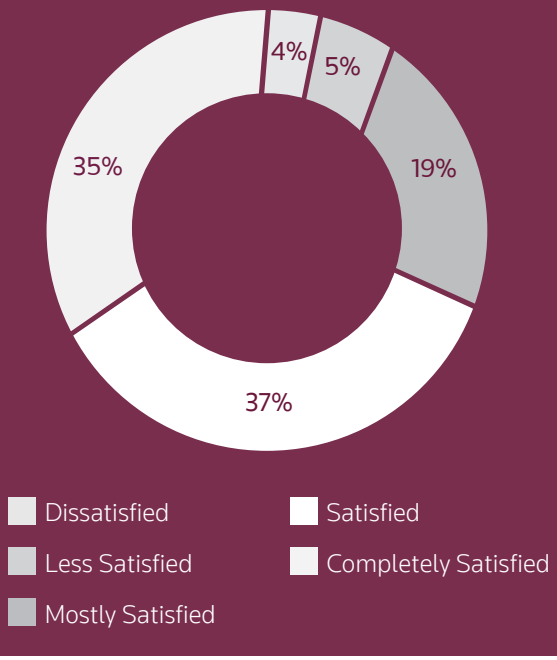


THE CLOUD **EXPERIENCE**

Despite the barriers and challenges highlighted, it seems as if the start-ups that have adopted cloud solutions have had a positive cloud experience.

Over 90% of respondents say they are generally satisfied with their cloud services. Of these satisfied cloud customers, more than a third (35%) cite complete satisfaction.

SATISFACTION LEVELS AMONG CLOUD USERS



BARRIERS TO CLOUD ADOPTION

UPFRONT INVESTMENT

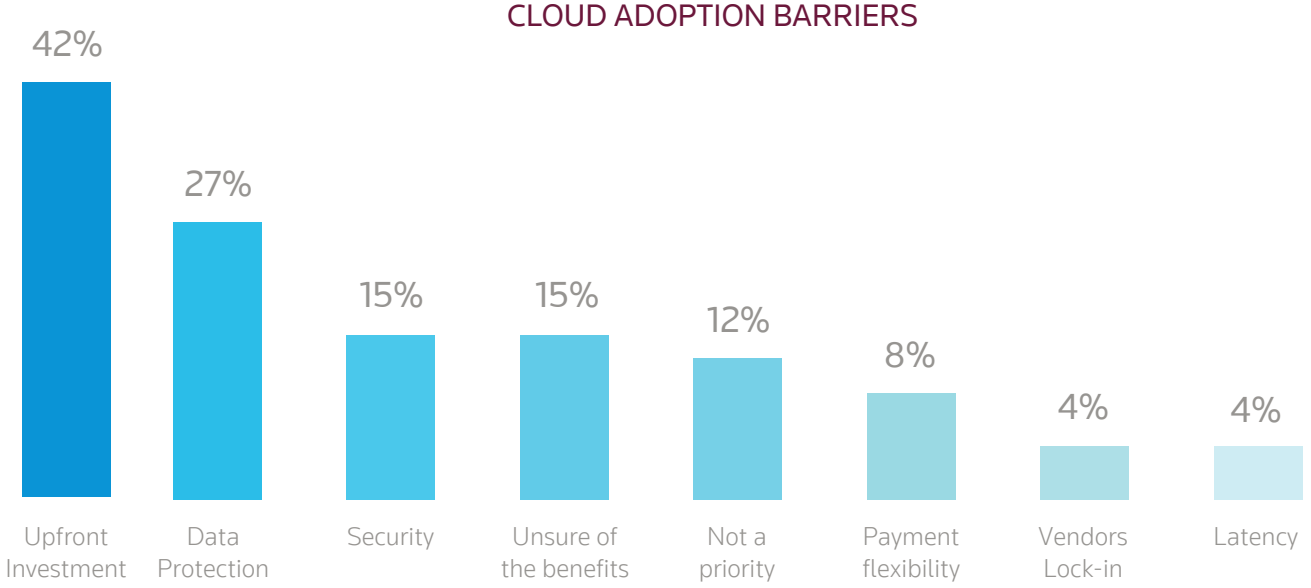
As discussed, many start-ups are highly cost conscious until they can prove business viability. Among the start-ups that have not yet adopted cloud solutions, 42% say the initial investment is prohibiting them from moving to the cloud. That said, those operating in the more traditional industries may still need to be fully educated about the value that their businesses could derive from cloud solutions.

Moreover, these companies may not be aware of programs from major cloud vendors including MNC's that offer cloud credits to start-ups. These initiatives enable entrepreneurs to build their organizations on the cloud with no upfront investment.

"Start-ups do not typically generate revenue in the beginning. Building solutions on the cloud is ideal, but it only makes sense if the cloud provider offers credits. Once you start generating revenue, they can start charging you."

Sami Alsayyed
Founder and CEO of Shortpoint

CLOUD ADOPTION BARRIERS



Note: Start-ups may select multiple payment models; hence the percentage total is over 100%.

DATA AND SECURITY **CONCERNS**

Data and security concerns have also been identified as reasons why many start-ups are delaying their move to the cloud – with 27% naming data protection as an issue and 15% citing security.

Data security is a concern that is held much more strongly in the MENA region than elsewhere. This has implications for start-ups that cater to government organizations and large corporates, because these clients need to know where their data is stored.

That said, apprehensions around security and data protection on the cloud are fuelled more by market perceptions than truth. Security in a cloud-based solution can be much more robust than that of an in-house IT solution, as many cloud providers offer their clients the benefits of market-leading security products that are designed to ensure the security, integrity and privacy of the information on the cloud.

The data protection issue could be resolved by opting for a local public cloud that does not operate across borders. There are several cloud data centers being established in Dubai, which is good news for start-ups that want to keep their data in the country, or that serve clients that want this.

That said, start-ups in sectors that are governed by strict data residency regulations may not be able to take a cloud-only approach; and may want to opt for a hybrid IT architecture that blends in-house infrastructures with private and public cloud services to make 100% compliance with data protection laws possible.

"Right now, we're using public cloud for our deployment. But when you work with enterprises, it's really their infrastructure requirements that matter. Would they be comfortable deploying on a public or private cloud, or would they prefer an on-premises solution?

However, in this region, people prefer their data to be chiefly stored on premises, with only a small portion of data on the cloud. One of the challenges that we have is that there are no data centers regionally. Plus, there is not yet a clear understanding among local enterprises around the benefits of storing data on the cloud – and the level of support and infrastructure they could have on the cloud, which could really fuel their growth,"

Ayush Chordia
Co-Founder, Wrappup

A LACK OF **CLOUD KNOWLEDGE**

In this cost-conscious market, respondents want to feel sure that they are gaining maximum value from their cloud investments. However, while many of the start-up founders we have interviewed are experts in their own fields, they do not all have technical backgrounds and often lack the resources to hire IT experts.

One of the greatest challenges for many start-ups is a lack of access to technical expertise in the UAE and region as a whole, to receive guidance on even which questions to ask when looking for cloud service providers. They therefore struggle to make confident decisions around which cloud technologies and vendors are best-placed to meet their business goals.

The amount of technical information provided by cloud service providers can be overwhelming; and there is a need for expert advisors to provide start-ups with more clarity on the options available to them, as well as to pinpoint the most suitable solutions.

Information on best practices around cloud computing seems to be scarce on the ground. Many start-ups are relying heavily on guidance from peers or advice from freelance technical support outside the UAE. Without the right expertise from the beginning, start-ups run the risk of selecting unsuitable cloud services initially, which can lead to costly or time-intensive migrations between cloud service providers.

"When you spend years building your application on a specific cloud platform, it is difficult and costly moving from one cloud platform to another,"

Sami Alsayyed
Founder and CEO of Shortpoint

15% OF RESPONDENTS ARE UNSURE OF THE BENEFITS THAT THE CLOUD OFFERS.

There is a clear gap in this market for strong technical and customer support from vendors – provided locally. For example, one of the reasons why Universal Linguistics (ULIQ), a language translation services start-up based in Dubai, chose to join the IBM Global Entrepreneur Program was the level of support that IBM offered to facilitate the onboarding of ULIQ's existing technology and data into the IBM Cloud.

"IBM's approach to onboarding users onto their cloud computing was seamless. Getting onto the software platforms was very simple, very user-friendly.

IBM's support team has been outstanding and the approach to us has been very helpful. If any issues ever arose, the response was usually within an hour or faster. And when you're working with a deployed infrastructure in the cloud, that really counts. Every minute counts."

Damu Winston
ULIQ's founder and CEO

Other start-ups have highlighted the need for vendor support and availability in the region:

"I am looking for a vendor that will offer a personalized touch – a company that understands my business and can walk me though the process of selecting cloud services,"

Mohsin Iqbal
Daiichi Digital

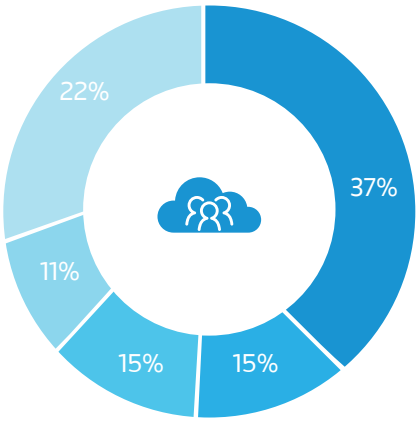
"When choosing our cloud solution providers, regional presence was an important factor for us. We preferred IBM because they have a local presence and we could easily access all the support and resources we needed from them,"

Ayush Chordia
Co-Founder, Wrappup

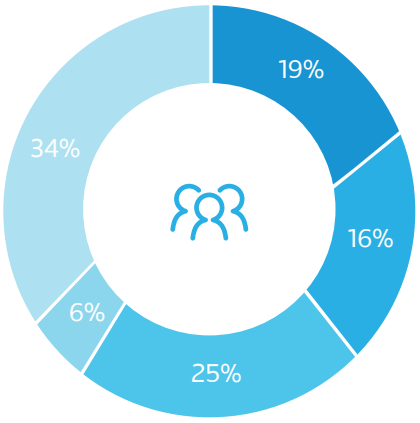
FUTURE CLOUD USAGE AND SPEND

PLANS TO EXPAND

CLOUD USAGE IN THE FUTURE



START-UPS ON THE CLOUD



START-UPS NOT ON THE CLOUD

- Within 6 months
- Between 6 months to 1 year
- Between 1 to 2 years
- After 2 years
- No plan

Overall, 75% of start-ups plan to start or increase their use of cloud services in the future.

Looking at the start-ups that are already using cloud computing resources – in keeping with the fact that so many of these users are satisfied with their cloud experience, 78% plan to increase their use of cloud services in the future, with over half of this future adopter segment indicating that they will expand their usage within the year.

Two-thirds (66%) of start-ups that are currently not using cloud services say that they plan to adopt cloud services in the future. Only 10% say that they currently have no plan to adopt cloud services going forward.

A BROADER USE OF **CLOUD SERVICES**

The survey indicates that start-ups in Dubai are looking for more variety and a greater range of cloud services to choose from in the future. More spend will be targeted on advanced cloud services, but start-ups will also continue to invest in core solutions as they require additional cloud infrastructure to power the more advanced services.

Going forward, there will be a greater proportion of cloud services investment focused on offerings such as analytics and big data, API management, application platforms and mobile services.

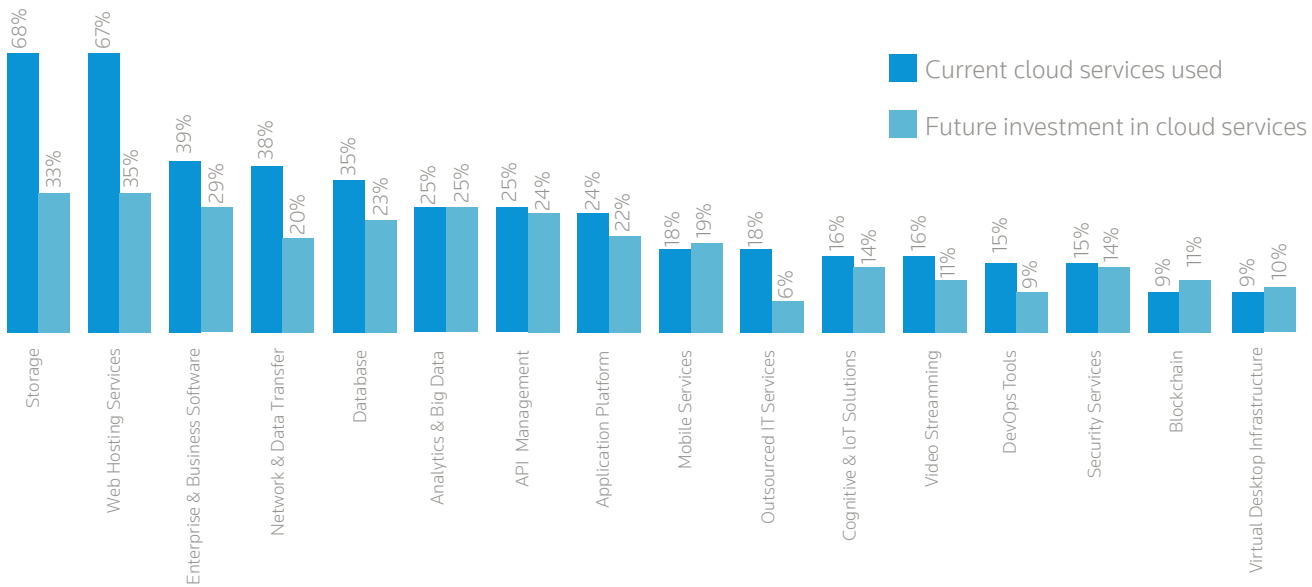
For many startups surveyed, the topics of artificial intelligence (AI) and blockchain seem too complicated or too expensive to consider. But these cloud technologies are undoubtedly the way of the future for business, and much more accessible than one might initially think. Tech startups in Dubai will increasingly look to build their applications on AI platforms; enabling them to integrate powerful cognitive capabilities into applications and securely store, train and manage data in the cloud.

> "Big data is something we will focus on more in the future as we acquire the skills and financial resources to collect and process this data."
>
> Dinesh Mokariya
> Founder of Ishto

Dubai startups like Wrappup, a meeting productivity app, are already leveraging machine learning, speech recognition and cognitive capabilities to radically change the way business works.

> "From a tech point of view, we have built our own neural network for detecting action items based on intent from meeting conversation and will continue to perfect it for higher accuracy.
>
> When choosing a cloud vendor, we'll consider the cognitive and machine learning capabilities that they can offer. IBM's cognitive capabilities are strong; and the IBM Cloud platform offers a range of APIs like speech tone analyser, sentiment analysis, intent detection and keyword detection that are of value to us."
>
> **Ayush Chordia**
> **Co-Founder, Wrappup**

CLOUD SERVICES TO BE INVESTED IN: NEXT TWO YEARS



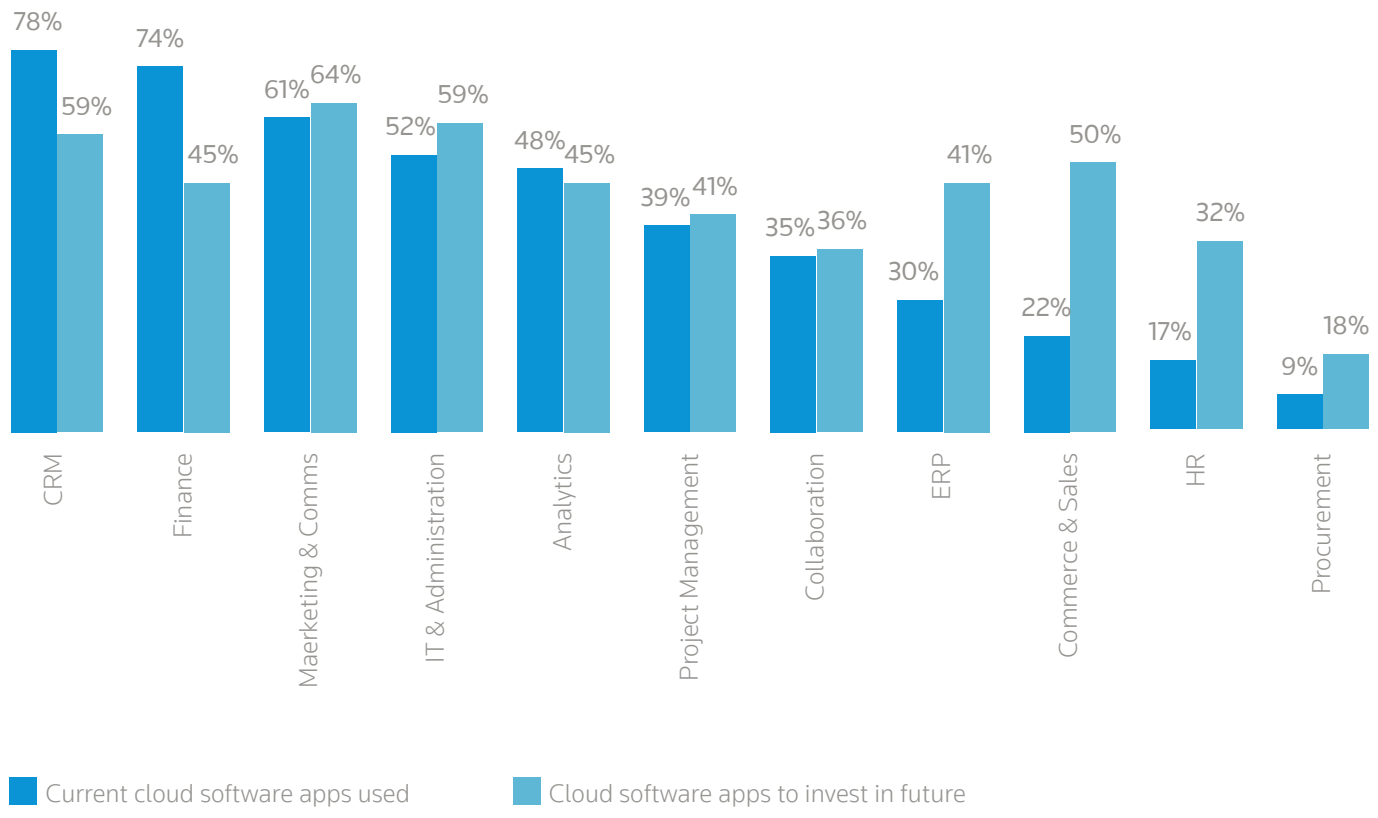
A GREATER
VARIETY OF APPS

Going forward, the findings suggest that Dubai's start-up market will be looking to purchase a greater range of cloud software apps to manage their businesses as they grow. Both cloud users and those not yet on the cloud are planning to spend on a variety of cloud apps to streamline and automate additional business processes. Cloud users already using apps for core functions like CRM and finance are now looking to invest in a wider variety of apps on the cloud to support marketing, collaboration, commerce and sales.

"We are currently using around 20 cloud applications to support business operations, including Jira for project management, Freshdesk for support, Hotspot for sales and marketing, Zoom for online meetings and Slack for team communications."

Sami Alsayyed
Founder and CEO of Shortpoint

CLOUD SOFTWARE APPS TO BE INVESTED IN:
NEXT TWO YEARS



BUSINESS GOALS FOR FUTURE CLOUD ADOPTION

Our respondents are prioritising the following business goals as an outcome of a future move to the cloud or an expansion of their existing cloud technologies:

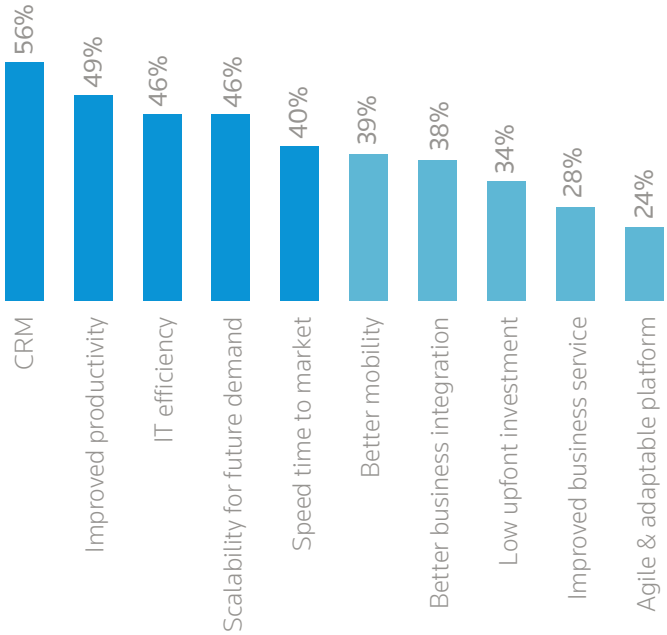
COST SAVINGS

Over half (56%) of start-ups are looking for cloud services to drive future cost savings from efficiency and productivity enhancements, with 49% citing improved productivity as a key goal and 46% aiming for IT efficiency.

SCALABILITY AND SPEED TO MARKET

The ability to be more responsive to business needs, react more swiftly to market changes and have IT solutions in place that can scale up or down to meet demand are all key goals that will drive cloud adoption among Dubai's new businesses. Almost half (46%) of respondents are looking to cloud technologies to offer their start-ups scalability for future demand; and 40% want cloud solutions to speed up their time to market.

DRIVERS FOR CLOUD ADOPTION



"Scalability is our fundamental consideration, from both a technical and economic perspective,"

Mohsin Iqbal
Daiichi Digital

"As a start-up, we have plenty of plans to build more services on our platform and a cloud-based solution is the ideal choice to provide us with the speed and scalability that we need,"

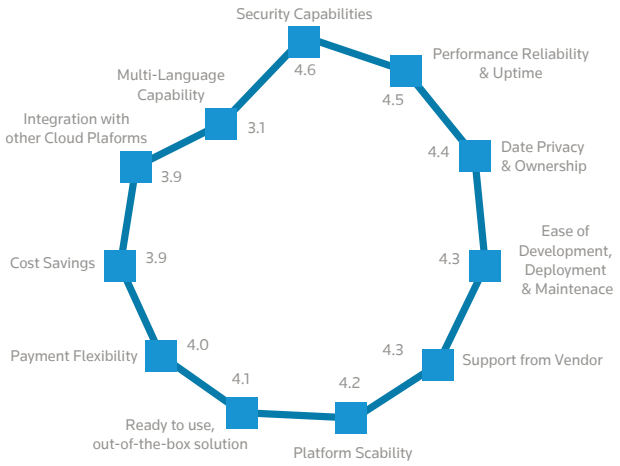
Rahul Kulshreshtha
Founder and Editor-in-Chief, Car Insight

OPPORTUNITIES FOR CLOUD SOLUTION PROVIDERS IN THIS MARKET

Based on our survey findings and the insights gained from our focus groups and case studies, there are several key factors that influence investment in cloud technologies by Dubai's start-up sector. Cloud computing vendors that are currently exploring growth prospects in this market may want to take these requirements and challenges into consideration when planning their service offerings.

CRITERIA DRIVING THE SELECTION OF CLOUD PROVIDERS

(On a scale of 1-5; 5 being the highest priority)



SECURITY, UPTIME AND DATA INTEGRITY

When it comes to selecting the ideal cloud service provider in this market, our research has identified three leading requirements:

- **Security capabilities**
- **Performance reliability and uptime**
- **Data privacy and ownership**

Start-ups want to feel assured that their data and other valuable information assets will be secure and private in the cloud. They also want to know that users and other stakeholders will have reliable access to business-critical IT resources when they are using cloud technologies.

VENDOR SUPPORT

As already highlighted, a lack of access to local technical expertise is a headwind for the start-up market in Dubai. Start-up founders voiced a need for help and support at every stage of the cloud technology buying cycle – while they are exploring their options, during the procurement process and when they are deploying their technologies. They are also likely to remain loyal to vendors that continue providing them with ongoing technical and customer support after they have begun using their cloud solutions.

"Having the right support is really important. For example, IBM's MENA CTO for Cloud, Anthony Butler, is my personal mentor. He has had tons of experience in this technology space and his support has really helped us.

Also, the in5 innovation centre where we are based has given us a tremendous amount of support as well – including amazing speakers and networking opportunities,"

Ayush Chordia
Co-Founder, Wrappup

ONE STOP SHOP APPROACH

Our focus group also highlighted a preference among start-ups for a one-stop-shop approach to providing cloud services – in other words: one vendor and one platform that makes managing applications easy, with the ability to scale services up quickly to meet rising demand. An opportunity to buy bundled apps at an affordable price point would also be appreciated.

"Today I'm a start-up. Tomorrow, if I have around 12,000 products on my online store, I want a scalable option that is affordable. I'd prefer a one-vendor operation so I don't have to hop between vendors and solutions,"

Mohsin Iqbal
Daiichi Digital

CASE STUDY

UNIVERSAL LINGUISTICS (ULIQ)

Overview:

ULIQ is a marketplace for on-demand language translation services. This start-up enables customers to connect on-demand with live certified interpreters and translators who speak the local language and the desired foreign language. Customers can use ULIQ to practice another language or for on the go translations when they find themselves struggling with language barriers in a foreign country.

Additionally, ULIQ is using these connections and conversations to train their artificial intelligence with the aim of offering more authentic and natural-sounding machine translation and interpretation services. ULIQ is currently operating a native IOS app; the beta version was launched in November last year and is, available on the apple store for free. The platform currently offers 278 active translators covering 38 languages.

Business journey to date:

Founded in 2016 as a way to help break down language barriers, ULIQ was one of 6 finalists for IBM SmartCamp 2016 Dubai; a global pitch competition for early-stage startups hosted by IBM and LAUNCH. ULIQ went on to win the Dubai-Amsterdam Start-up Pitch Competition 2017 and has more recently been shortlisted to participate in the next round at Dubai Future Accelerator and Expo 2020 – Expo Live.

Current use of cloud technologies:

Initially, the ULIQ app was rolled out on a shared services platform located in Arizona. However, this did not give them enough control; and the decision was made to move to the cloud so that they could deploy server clusters as close to their end users as possible for the least latency.

In 2016, ULIQ was accepted as a member of the IBM Global Entrepreneur Program. Through this initiative, the start-up had the opportunity to build on IBM Cloud leveraging its cloud infrastructure and cognitive services, at no cost for a year. Working in collaboration with the IBM support team, ULIQ successfully onboarded all their technology and data into their infrastructure within two months.

Security is one of the key reasons why ULIQ wanted to move to IBM Cloud.

"Raising a secure platform is extremely important to me," explains Damu Winston, ULIQ founder and CEO. "For me, it's reassuring to be on the same platform that large companies are using."

Going forward:

Plans for the near future include building up the number of transfers on the platform, onboarding more translators and interpreters, and improving their data management capabilities to enhance machine learning. Once these issues have been addressed, they can start charging for their services.

http://www.uliq.com
Damu Winston
Founded in 2016

CASE STUDY
WRAPPUP

Overview:

Wrappup is a meeting productivity app which uses smart voice recording to capture meeting discussions. The solution was born in 2015 as an IOS mobile platform that recorded audio and allowed the user to mark important moments. The app analyses the audio recording – captures, organises, and stores important parts of the discussion – to allow easy review of the content. Users can tag and organise the most important points of discussion as contextualised notes and send them out to all meeting participants.

Today, Wrappup has evolved across multiple platforms and now is available as an IOS and Android app and also on a WebRTC (Real-Time Communications) platform, similar to Skype for Business or Cisco Webex. Integrated with a conference call solution, Wrappup is able to automatically search for and dial into conference calls scheduled in a user's calendar. Wrappup has evolved it's intelligent features such as voice recognition, agenda tracking and others to help identify and capture the important moments of a meeting like action items and decisions.

Business journey to date:

The three founders met at AngelHack Dubai in May 2015. Here, they developed a working prototype of the Wrappup app; which earned the team an opportunity to join AngelHack's HACKcelerator program. This included a -12week-long online mentorship program and a trip to Silicon Valley to pitch to AngelHack's investors. At Silicon Valley, they won the global demo day grand cash prize from HP.

Wrappup was selected to join IBM's Global Entrepreneur Program in 2015, which equipped them with technology credits via IBM Cloud. With access to credits and mentorship from IBM, Wrappup were able to get a proof of concept for their app. Wrappup is now based in Dubai.

Current use of cloud technologies:

Wrappup uses cognitive services as its speech engine on top of which they have added layers of AI and machinery. The web and mobile apps are currently deployed on a public cloud.

When deciding which cloud service provider to go with, Ayush says "the deciding factor for us was their regional presence. We preferred IBM because we knew we'd be able to get the resources and support we needed locally."

A real differentiator for Wrappup was the IBM's cognitive and machine learning capabilities. Wrappup leverages IBM Cloud's various APIs for speech-tone and sentiment analysis, intent and keyword detection, among others.

Going forward:

Wrappup plans to augment the solution's AI capabilities. They will build their own neural networks that can understand semantics and intent to achieve around 90-95% accuracy in the summary notes, with the aim of reducing the time taken to generate and approve meeting notes to around 10 minutes. They plan to expand their GPU's and GPU-based servers to meet the computation power requirements of machine learning.

http://www.wrappup.co
Rami Salman, Ayush Chordia and Rishav Jalan
Founded in May 2015

CASE STUDY
CAR INSIGHT

Overview:

Car Insight is a one-stop website for everything automotive in the United Arab Emirates. Catering for new car buyers, this website offers a range of relevant information, including comparisons of car prices, performance specifications, reliability and safety features. Plans for the future include incorporating automotive insurance and financing solutions, a payment gateway that could potentially facilitate car sales (when the market is ready), and after-sales services.

Business journey to date:

After working in the automotive industry, Rahul realised that there was no single platform available offering car buyers access to all the information and services they required during the new car purchasing process. He set out to fill this gap, launching a beta version of the Car Insight website in October 2015. After testing and incorporating industry feedback, a live version of the site was launched in October 2016.

Current use of cloud technologies:

The initial development work was conducted offshore to keep costs low, although Car Insight had a local technical advisor who liaised between Rahul and the offshore development team. The website was first deployed on a shared server, but due to security issues, Car Insight moved to a private, on-premises server.

Going forward:

Car Insight plans to move to a cloud-based hosting model for increased speed and scalability soon, but this start-up requires more technical advice and support in this area. They also plan to invest in a CRM solution, data analytics tools, and geofencing capabilities – all in one stack for ease of use, but this will be dependent on funding and their ability to monetize the website through advertising, certifying users and other strategies.

https://www.carinsight.com
Rahul Kulshreshtha
Founded in October 2015

FIVE CLOUD ADOPTION TIPS FOR START-UPS: START SMALL AND SCALE

01 BEGIN WITH A CLOUD-FIRST STRATEGY

Instead of buying servers, database licenses, software and hardware just to power your team's PCs or virtual workspace, consider adopting cloud technologies from the get-go. You can access email, web hosting, databases and business process management software "as-a-service" instead of investing in these as an upfront cost, for example.

02 DATA STORAGE

The next step is to find a cloud storage provider that offers a secure and scalable data storage solution with encryption and access for all your relevant users from any connected device. Ideally, you also want a solution that acts as a virtual workspace so you can share work, collaborate in real time and be productive on the go.

03 PUBLIC, PRIVATE OR HYBRID CLOUD

Choosing a cloud service to store your data and provide other services involves assessing the type of data you store and handle, and the number of people and devices that your software needs to serve. Choose a cloud service that reflects your data privacy and security requirements, as well as the size of your business – yet can scale as you grow:

Public Cloud

This off-site cloud service sits within a shared infrastructure. The vendor takes care of security and maintenance, which is ideal if you do not have an IT department. This is a cost-effective and scalable option that offers constant technology update.

Private Cloud

For businesses with highly sensitive data, this platform is built on the premises and managed by your own internal IT team. You also need your own data center, which makes this a more expensive option. Depending on your industry and regulatory obligations, the data security and privacy may be well worth the investment.

Hybrid Cloud

A mix of private and public clouds allows start-to manage sensitive data in-house and less-sensitive information with an external cloud provider. This can offer compliance with strict data residency regulations, depending on the vendors you choose.

04 SELECT A HOSTING OPTION

Two choices include dedicated hosting, where you rent a server that is entirely dedicated to your company; or shared web hosting, where you share server capacity between many users. With shared web hosting, you have access to a limited amount of disk space and bandwidth.

05 MAKE DATA SECURITY AND PRIVACY A PRIORITY

If your start-up is a data-driven business, find a cloud vendor that offers:

- Robust and transparent mechanism to protect your data confidentiality and security
- Sound physical security to protect your data against intruders and disasters
- Good strategies for maintaining data accessibility
  Encryption that suits best practice in your industry
  Regular data backup (at least daily)


IDEA
Share
evolution
OPTIONS