2016 Top Markets Report Cloud Computing
Country Case Study

India

The cloud services market continues to rapidly grow in India, as cloud spending is anticipated to reach almost $2 billion by the end of the decade. In spite of infrastructure and security challenges, U.S. cloud services companies continue to see opportunities for growth in India, especially as the government invests in improved infrastructure and as internet access expands to more consumers through smartphones.

Overall Rank

8

Despite challenges with infrastructure, security and trade policy, India remains a top market for U.S. cloud services exporters due to its large number of consumers with Internet access. India boasts 250 million people with web connected devices, which generally rely on cloud services for applications and other functionality.[1] Both businesses and the government are buying and using cloud services. According to the research firm Gartner, public cloud services spending in 2015 was $731 million.[2] As Internet access, e-commerce, mobile device and application usage and business adoption continue to expand, the growth in cloud related spending in India should outpace that in the rest of the world and possibly reach $1.9 billion by 2019.[3, 4] Growth in 2015 was led by cloud management and security spending, SaaS and Iaas spending, which increased 37 percent, 33 percent and 25 percent over 2014, respectively.[5]

Besides deeper Internet penetration and smartphone adoption, a key component of these optimistic forecasts is widespread interest among business customers across several industries in all types of cloud-related services.[6] In a survey from 2015, sixty-one percent of Indian respondents reported using cloud services and 31 percent said they were not currently users but planned to be by the year's end.[7] Cloud vendors attempting to win a share of this spending have the opportunity to develop provisions that cater to the needs of a wide variety of industry segments, such as pharmaceuticals, healthcare, consumer goods and financial services.

U.S. cloud providers are clearly enthusiastic about the opportunities in India. Firms like IBM and Microsoft have committed to having or already have launched local data centers. Amazon recently announced that it will build data centers in India by the end of 2016, saying that it expects India to grow to become a top market for Amazon Web Services.[8] These efforts are a way to improve technical performance and increase appeal to customers who are limited by regulatory restrictions on data location.[9-12]

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Whether they have a physical presence or not, various cloud suppliers are today actively competing with each other for India's inflated cloud spending. The companies' strengths and areas of focus differ slightly, with Amazon Web Services' (AWS) adoption driven by business demand for public cloud services, Microsoft's growth propelled by SaaS offerings and IBM focusing on private cloud.[13, 14]

As seen in other markets, elements of cloud vendor competition exist, such as heavy advertising and aggressive price cuts by Amazon[15, 16] Google, Microsoft and IBM are also aggressively competing to attract startups through "cloud credit" programs.[17] As of 2015, Amazon had "tens of thousands" of customers in India, while Microsoft has said it is adding 2,000 new cloud customers per month.[18, 19] Other foreign companies with a presence in this fast growing and competitive market include HP, Red Hat, SAP and Oracle.[20]

Despite optimistic predictions and clear interest from global players, a variety of challenges have shown that India's cloud potential continues to persist. These have contributed to a situation in which, regardless of significant awareness, most large Indian enterprises host less than 15 percent of their ICT processes in the cloud.[21] For example, while analysts have long predicted a boom in the country's cloud market, in 2013, growth slowed likely due to a flagging currency (which effectively shrank budgets for foreign ICT services) and pre-general election reluctance among government departments to make new ICT-related investments.[22]

A lingering problem is the country's insufficient Internet infrastructure (e.g., bandwidth constraints and fiber optic weaknesses) and the inconsistency of its power supply in some areas.[23] According to the United Nations, India meets the minimum Internet infrastructure standards necessary for only basic cloud services, with bottlenecks impacting download speeds, upload speeds and network latency.[24] Further, the World Economic Forum ranked India a dismal 113 out of 142 countries with the availability of international Internet bandwidth, a measure of the amount of Internet traffic that can be exchanged between countries.[25] Various other rankings and indicators focused on Internet penetration, cloud readiness and other factors confirm a sub optimal state of affairs. When combined with ongoing shortfalls in the steady electricity supply needed for data center operations, it is likely to continue to limit cloud growth.

Fortunately, the government is acutely aware of these challenges. India's ambitious Digital India program aims to address some of the weaknesses in its infrastructure, though it remains to be seen if this will lead to significant improvements.[26] Moreover, the interest expressed by major cloud providers in establishing Indian data centers suggests that their electrical infrastructure is either improving or they are becoming better at managing it. For example, some firms have implemented redundant power equipment setups and even rooftop solar panels to ensure an adequate supply of electricity.[27, 28] Another possible step to curb the challenges is placing data centers in areas with more consistent power capacity and better Internet infrastructure.[29]

Another key issue is concerned with security, especially around the use of foreign providers. While there is great interest in cloud based solutions, apprehensions remain about whether cloud services (and particularly public cloud) can ensure adequate protection of sensitive information.[30] Industry participants report that current adoption focuses on noncritical business workloads and SaaS applications, which are unlikely to host particularly sensitive data, although "people are not as hesitant as they used to be" when it comes to cloud deployments overall, according to one industry expert.[31] In some sectors with traditionally large IT budgets (e.g., financial services and telecommunications), an especially strong emphasis on data security or regulations mandating domestic storage of customer data limits interest in cloud usage, especially with a foreign provider.[32]

India also presents an ambiguous policy setting for cloud services. Some elements of the environment remain undefined (e.g., India lacks a formal data breach notification rule), while others are clearly positive (e.g., there do not appear to be tariffs on software downloads) and some negative (e.g., government procurement, which though a major source of IT spending is reportedly a complex, multifarious process).[33, 34]

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Citing the need to monitor domestic Internet traffic for national security reasons, concerns over foreign surveillance and a desire to ensure that data is subject to local laws, the Indian government has for years supported the idea of foreign firms storing data within the country.[35]

One clear example of the push for data localization is in the Department of Telecommunications' study from January 2015, "National Telecom M2M Roadmap" (referring to machine to machine data transmission of the sort expected to increase substantially as Internet-connected devices become more common).[36] The guidelines call for "all M2M gateways and application servers" used in providing services to individuals in India to be physically located within the country. Although, cloud vendors would not be the main focus of this provision, its inclusion points to the acceptance of data localization policies among some in the Indian government.

Leading up to general elections in 2014, Bharatiya Janata Party (BJP) members spoke out about the possible need to enact measures like these to ensure that Internet companies adhere to Indian laws and cultural expectations.[37] Further, Indian ISPs have cited privacy concerns in lobbying the government

to require data localization.[38] With BJP's electoral victory, it seems likely that additional rules may be introduced. These measures would address policies on domestic data routing proposed by India in other forums and with the Modi government's recent moves to exert greater control over online content.[39, 40, 41]

Resources for Exporters

U.S. Department of commerce Country Commercial Guide: http://export.gov/ccg/india090814.asp

Government Procurement Information https://eprocure.gov.in/cppp/

Department of Electronics and Information Technology: http://deity.gov.in//

Department of Telecommunications http://www.dot.gov.in/

American Chamber of Commerce in India http://amchamindia.com/

National Association of Software and Services Companies: http://www.nasscom.in/

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