QATAR’S ICT LANDSCAPE 2015

Government
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A main focus of Qatar’s transformation into a knowledge-based economy is the concerted, nationwide effort to make Qatar’s government work better for those it serves. Information and communications technology and its applications are at the core of this effort to modernize the government and to push for the improvement of the delivery of a broad range of services while enhancing interactions of government entities with the public.

The Ministry of Transport and Communications has conducted many market research studies since 2008 on the state of ICT in major sectors—government, business, and households and individuals—critical to the economic and social fiber of our nation. These reports are invaluable as they track progress over time and allow the country’s leadership and policymakers to better understand where they are succeeding and where they need to improve. The reports also enable us to measure how well we are doing against our strategies and plans, and make course corrections if necessary.
The pages of this 2015 government ICT landscape report shine a light on the state of ICT in
the government sector. We are on target to reach our goal of bringing all key government
services online by 2020. Government entities are using social media to better connect with the
public. The number of government entities connected to the Government Network has seen a
sharp rise since 2013. And in the recent World Economic Forum report on global information
technology, Qatar’s government is recognized as a leader in the use of technology that fosters
innovation, while serving in its main role as the chief promoter of ICT in the country.

In spite of these achievements, challenges remain, such as the insufficient number of
governmental entities that are using cloud computing, and the cyber security issue that
continues to be a concern for government. There is a way to go in ensuring that government
employees have the necessary skills and training to keep up with emerging technologies.

The current environment is ripe for continued progress, and this study validates that Qatar’s
digital government strategy has put the nation on the right course for future success. The
Ministry of Transport and Communications will continue to pursue the important objectives
of this strategy—to better serve individuals and businesses, create efficiencies in government
administration, and increase government openness.

Jassim Bin Saif Al Sulaiti
Minister of Transport and Communications
For more than a decade, Qatar has made significant investments in its public sector in order to enhance government services for users, improve internal efficiencies and governance, and increase transparency. Enhancing public service delivery has been a major strategic thrust of Qatar’s National ICT Plan 2015, and to accelerate the use of ICT and ensure greater consistency and coordination, Qatar has developed the Government Network, a single, secure backbone that connects government entities.

Both individuals and businesses have benefited from the nation’s efforts. Hukoomi, Qatar’s e-government portal, has grown exponentially in recent years, in terms of both offerings and usage. Stakeholders have also benefited from a more efficient government, with initiatives including a centralized resource management system, a government data center, and common authentication services.

These efforts have been recognized internationally—the country has jumped from 62 out of 192 countries in 2010 to 44 out of 193 countries in the 2014 United Nations E-Government Development Index, which measures willingness and capacity of national governments to use ICT for public service delivery. And Qatar ranks in the top 50 in the 2014 UN e-participation index.1

In spite of significant progress and a strong foundation built over a short period of time, an assessment of digital government programs in 2012 and increasing demand for more user-friendly, “anytime, anywhere” access to government and its services led to the development of the Qatar Digital Government 2020 Strategy—a blueprint for accelerating digital government efforts. The strategy has three major objectives: better serve individuals and businesses, create efficiencies in government administration, and increase government openness.

It is within this context that a study of the state of ICT within Qatar’s government sector was conducted in 2015, with the aim of monitoring the government’s progress in improving government service delivery, transparency, and efficiency. An extensive survey of government employees and IT executives detailed in the pages of this report reveals a highly connected government workforce with more than three-quarters of this workforce routinely using computers and 64 percent using the Internet. In a sign of rising IT maturity,

According to a recent World Economic Forum report, Qatar’s government is recognized as a leader in the usage of technology that fosters innovation, while serving as the chief promoter of ICT in the country.

the estimated percentage of permanent ICT employees in the government’s workforce has declined— in part because government organizations are achieving greater economies of scale as a result of consolidation and the use of shared resources. Despite this drop, the estimated number of permanent ICT employees in the government sector in Qatar has increased from 1,856 employees in 2013 to 2,425 employees in 2015. A sharp rise is seen in government entities using the Government Network to access the Internet, and wireless connectivity has also witnessed high penetration. Also, the percentage of government organizations automating core business processes has increased since 2013.

When it comes to e-services, Qatar is on track to achieving its target of providing all key government services online by the end of 2020, and a rapid rise in the rollout of mobile apps and services is expected. Government organizations are adopting emerging technologies, and a large majority of government organizations that use social media now employ at least one dedicated social media executive. According to the World Economic Forum’s Global Information Technology Report 2015, Qatar’s government is recognized as a leader in the usage of technology that fosters innovation, while serving as the chief promoter of ICT in the country.2

Despite great progress, this report identifies areas for improvement, including the IT skills of government employees and further training to improve their skills. Security continues to be an issue for government organizations in Qatar, with just over a third of those surveyed having a formal security policy developed, implemented, and monitored. Cloud adoption is low among government organizations, mainly due to security concerns. And government organizations still have a long way to go when it comes to the sophistication of e-services, particularly transactional and end-to-end services.

Findings in the pages of this report are organized into five sections:

**ICT Environment** examines penetration and access to ICT, including ICT workforce and technology penetration, process automation capabilities, and adoption of emerging technologies.

**ICT Readiness** analyzes the government’s level of preparation and capacity to take advantage of ICT, including strategies and policies, ICT skills and training, information security, and government e-services.

**ICT Usage** refers to the extent of ICT adoption within the workplace in government organizations in Qatar, including ICT device usage, Internet usage, and use of government shared services.

**ICT Satisfaction and Impact** analyzes the effect ICT has on the workplace as well as satisfaction among employees with respect to ICT.

**Benefits and Barriers to ICT Adoption** identifies areas in which IT executives and employees have benefited from the use of ICT and outlines the challenges they face in advancing its use.

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Since 2008, ictQATAR has been monitoring the overall progress of information and communications technology penetration and utilization across key sectors crucial to the growth of a knowledge-based economy—including households and individuals, businesses, and government. In the government sector, focus has been on using ICT to enhance public service delivery as well as to promote a more efficient and transparent government.

In order to understand the ICT landscape among government organizations in Qatar, the Ministry of Information and Communications Technology (ictQATAR) commissioned IDC, a global market research firm, to conduct primary and secondary research to:

- Assess and analyze the current levels of ICT infrastructure, readiness, and usage among core government organizations in Qatar
- Measure ICT progress in the government sector over time
- Benchmark Qatar against selected regional and international countries in terms of e-governance, usage of ICT, and readiness of government ICT infrastructure
- Identify drivers and challenges faced by government agencies related to e-governance
- Assess the impact of the latest ICT initiatives in the government sector
To that end, IDC conducted face-to-face interviews between March 2015 and May 2015 with 480 employees in 48 government organizations (ministries, councils, authorities, and other institutions). Respondents varied by job position, age, gender, nationality, and education level. Only those government employees who use a computer at work were interviewed for the study.

In addition, IT executives in government organizations were surveyed through a self-administered questionnaire. A total of 45 IT executives from 45 government organizations participated in this study. This survey also included 15 qualitative face-to-face, in-depth interviews with selected government ICT decision makers. The aim of these interviews was to test the comprehensiveness of the questionnaire and develop insights that were based on the quantitative research findings.

ictQATAR consulted with the Ministry of Development Planning and Statistics on the research design, the questionnaire, and data collection.

In order to better benchmark progress, IDC also conducted secondary and supply-side research to obtain statistics on the government sector internationally. Their sources included international organizations that capture ICT-related country data, as well as numerous databases, articles, and reports related to the government sector. Ten countries were selected for benchmarking purposes, including current and emerging e-government champions, knowledge economy champions, and regional peers.

A more detailed discussion of methodology can be found in the appendix.
Qatar’s ICT Landscape 2015: Government reveals continued progress in the push to use information and communications technology to make Qatar’s government work better for those it serves. In fact, the Global Information Technology Report 2015 shows that Qatar’s government is viewed as both a leader in the usage of technology that fosters innovation and the country’s chief promoter of ICT. And the country has jumped from 62 (out of 192 countries) in 2010 to 44 (out of 193 countries) in the 2014 United Nations’ E-Government Development Index.

This report analyzes the environment, use, and impact of ICT among government organizations from the perspective of government employees and IT executives. The results and trends are summarized below.

The ICT environment is ripe for continued progress. Government organizations and employees in Qatar are highly connected—to the Internet and to one another. All government organizations surveyed are connected to the Internet, with leased line connections gradually giving way to fiber. A sharp rise is seen in government organizations using the Government Network to access the Internet—it has been adopted by 76 organizations as of June 2015. And wireless Internet connectivity has also witnessed high adoption, with 98 percent of organizations currently providing it. Connectivity to an extranet has risen to 52 percent, a trend that may continue into the future since digital government effectiveness increasingly relies on Internet-based tools, rather than on technology within the firewalled boundaries of a particular government department.

The ICT workforce as a percentage of the total workforce has declined slightly, a sign of rising IT maturity. ICT employees currently make up 4.5 percent of the permanent workforce in the government, down slightly from 4.7 percent in 2013. This is partly due to greater economies of scale achieved as a result of consolidation and the use of shared resources. Despite a drop in the share of permanent ICT employees in government organizations in Qatar, the estimated number of permanent ICT employees in the government sector in Qatar has increased, from 1,856 employees in 2013 to 2,425 employees in 2015.

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Of the channels used for providing e-services, the increasing importance of mobile is visible, with nearly half of the online services being made available through a mobile-enabled website or mobile app.

The investments government organizations have made in automation of core business processes are bearing fruit.

Government organizations are automating their core business processes, such as human resource management and document management. While 87 percent of organizations had automated their core business processes in 2013, this percentage rose to 93 in 2015. These organizations have reportedly automated their HR functions and have invested in technology solutions to better enable them to service their employee base, with enhanced internal workflows being highlighted as the most important benefit that ICT has brought into government organizations.

ICT adoption within the workplace in government organizations is widespread.

Overall device penetration levels (including desktops, laptops, mobile phones, and tablets) stand at 83 percent, with 66 percent of people employed in the sector using a desktop and 12 percent a laptop. The proportion of employees routinely using the Internet at work stands at 64 percent, down from 66 percent in 2013. In addition, 40 percent of the IT executives surveyed indicated there are no barriers to ICT adoption in their organization.

Government entities are embracing social media.

Social media channels present an attractive medium for government organizations to reach out to external stakeholders and foster deeper engagement as well as improve service delivery. In 2015, 78 percent of government entities in Qatar are using social media with 97 percent of those using social media using it to publish information, 84 percent to engage with social media users, and 70 percent to solicit ideas and involve social media users in the policy and service-delivery processes of government organizations. More than three-quarters (80%) of government organizations that use social media now employ at least one dedicated social media executive. In addition, the information that is shared on social media channels is published in a timely manner, with 23 percent of organizations publishing first on social media, while 48 percent of government organizations publish information on social media at the same time as on all other communications channels, such as newspapers, radio, and television.

The rapid rise in penetration levels of smartphones and tablets in Qatar is spurring the rollout of mobile apps and services by government entities.

The most common reason cited by government organizations for deploying mobile applications is to enable citizens to have a true multichannel service experience (81%). Offering managers and executives the ability to access key performance data and push notifications to citizens were both cited by 44 percent of IT executives. Of the channels used for providing e-services, the increasing importance of mobile is visible, with nearly half of the online services being made available through a mobile-enabled website or mobile app.

Looking at mobile applications deployed in government organizations, the number aimed at providing external stakeholders (i.e., citizens and residents as well as businesses and other government agencies) with government services stood at one on average for each government organization.

While government organizations are embracing many emerging technologies, cloud adoption is low.

In 2015, 18 percent of government entities in Qatar are using cloud solutions according to the IT executives surveyed. Private cloud is the most popular cloud deployment model in government organizations. Security-related concerns are cited as the primary inhibitors of cloud adoption. In addition, among organizations with data centers, on average, there are approximately two data centers in each. The sensitivity of the data and ambiguity around the migration process are cited as largely inhibiting government entities from fully using the centralized Government Data Center.

Qatar is on track to achieve its target of providing all key government services online in the next five years.
As of June 2015, 519 government services were online, and that number is expected to rise to 1,000 by the end of 2016. In fact, IT executives in Qatar believe that the use of ICT by the government has improved the quality of government services to citizens significantly. However, regarding the maturity of e-services in Qatar, 66 percent of services are in stages 2 and 3 (of four stages) as defined in the United Nations E-Government Survey. These two stages are characterized by “engaging citizens through two-way communication” as well as “providing authentication and conducting basic transactions online.” When it comes to the way government departments interact with citizens and residents, face-to-face interactions and the use of call centers are giving way to online and mobile channels. However, Qatar has a way to go in the provision of online services when compared to global and regional leaders. In the most recent United Nations E-Government Development Index, Qatar scores 59 percent in the online service component while Singapore, the leader of the benchmarked countries in this category, scores 87 and the regional leader, Bahrain, scores 82.

Online security continues to be an issue for government organizations.

Just over a third of government organizations in Qatar have a formal security policy that is developed, implemented, and monitored. Close to half of the government organizations (46%) are in the process of developing or implementing security policies. Only a small portion of employees—4 percent—experienced a security incident in the last 12 months, however, the majority of them did not report this incident, increasing the likelihood of such security incidents happening again. On a positive note, the vast majority of government organizations conduct security and business resilience–related tests before deploying applications. Today, on average, government organizations employ two dedicated security personnel. However, shortage of personnel with sufficient security skills is a major issue, with only 11 percent of organizations having personnel with sufficient security skills. Close to half of the organizations (44%) indicated that they have provided IT security training in the past 12 months.

IT training of government employees is still an area for improvement.

When it comes to learning to perform common ICT tasks, formal training provided to employees by government organizations takes a backseat to self-study (62%), training at vocational centers (53%), training at formal educational institutions (52%), and on-the-job learning (38%). The vast majority of employees (73%) are not aware of the Qatar National e-Learning Portal, and 62 percent of government organizations do not offer Web-based training. However, the demand for training is evident, with 78 percent of employees noting they need to improve their ICT skills in at least one area. Despite the demand for training, only 38 percent of the surveyed employees confirmed they received ICT training in the last three years, compared to 25 percent in 2013, with most of that training provided by their employer. However, government employees expect to get an average of 38 hours of ICT training in the next 12 months, up from the 34 hours they received in the last 12 months.
DETAILED FINDINGS

ICT ENVIRONMENT
ICT READINESS
ICT USAGE
ICT SATISFACTION AND IMPACT
BENEFITS AND BARRIERS TO ICT ADOPTION
Key Findings

- The share of ICT employees in the government sector in Qatar is 4.5%, and the number of permanent ICT employees has increased—from 1,856 in 2013 to 2,425 in 2015.
- Overall device penetration levels stand at 83 percent, with 66 percent of people employed in the sector using a desktop and 12 percent a laptop.
- Penetration of wireless Internet connectivity in government organizations in Qatar is high and stands at 98% in 2015.
- 41% of organizations interviewed are using the Government Network to connect to the Internet, compared to only 3% in 2013.
- Among organizations not fully using the Government Data Center, 43% see no barriers to full utilization, which is planned and will be implemented.
- In 2015, 93% of government organizations have automated their core business processes; all of these organizations have automated their HR functions.
- The most common reason cited by government organizations for deploying mobile applications is to enable citizens to have a true multichannel service experience (81%).
- In 2015, 18% of government entities in Qatar are using cloud solutions, with private cloud most popular among them.
- Government organizations are embracing social media—80% of government organizations that use social media now employ at least one dedicated social media executive.

An overview of the ICT environment within government organizations, including the ICT workforce, as well as availability and penetration of ICT, is explored in this section.

ICT WORKFORCE IN THE GOVERNMENT SECTOR

Permanent ICT employees make up 4.5 percent of the permanent workforce in the government sector in 2015, a slight drop over the several years of steady growth (3.3% in 2008, 3.7% in 2010, and 4.7% in 2013). Despite this drop, the estimated number of permanent ICT employees in the government sector in Qatar has increased—1,856 employees in 2013 to 2,425 employees in 2015\(^1\) (see Figure 1). As government organizations in Qatar expand, they will continue to experience economies of scale due to growth in the total number of employees, asset consolidation, and continuous improvement of IT service management, such as adoption of ITIL (Information Technology Infrastructure Library), ITSM (IT Service Management), COBIT (Control Objectives for Information and Related Technology), and other practices. The increase in infrastructure consolidation and the use of shared services, such as the shared government contact centers and the shared Government Data Center, will further streamline ICT departments in the future.

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\(^1\) Estimates based on data from the Government IT Executives Survey 2015 as well as labor force data from the Ministry of Development Planning and Statistics.
DEVICE PENETRATION AND NETWORK CONNECTIVITY

Overall, device penetration levels (including desktops, laptops, mobile phones, and tablets) in government organizations are high and stand at 83 percent in 2015. Specifically, desktop computers are used by 66 percent of employees in the government sector in 2015; laptops by 12 percent; and tablets by 3 percent. The penetration of organization-provided mobile phones stood at 2 percent in 2015.

All government organizations in Qatar are connected to the Internet according to the IT executives survey, as was the case in 2010 and 2013. However, there is a gradual decrease from 2013 to 2015 in the number of entities connected to an intranet or local area network—from 84 percent to 78 percent and 100 percent to 93 percent respectively. On the other hand, connectivity to an extranet has risen to 52 percent after a slight drop in 2013. This trend may continue in the future, since digital government effectiveness increasingly relies on Internet-based tools, rather than on technology within the firewalled boundaries of any single government department.

Penetration of wireless Internet connectivity in Qatar in 2015 stands at 98 percent (see Figure 2). While user activity and employee productivity levels are expected to rise due to seamless access to the Internet, security will remain a key concern for government organizations, particularly as wireless Internet network environments are relatively more prone to cyber attacks and security breaches.6

While a leased line continues to be the most common type of Internet connection used by government organizations in Qatar, the use of leased lines is declining, as 63 percent of respondents reportedly used leased lines in 2013 and 45 percent use them in 2015.

Even though the technology was deployed and made available quite recently, the use of fiber connections is substantial and is the second-most-popular type of Internet connection. Use of fiber-to-the-business now stands at 40 percent (see Figure 3). Similarly, the use of mobile broadband connections to connect to the Internet is making inroads in Qatar—currently 19 percent of government organizations are using them.

There has been a dramatic shift in the Internet provider landscape in the government sector. In 2013, all government organizations in the...
survey procured Internet connections from the local service providers, with only 3 percent supplied by the Government Network. While most government organizations are still connected to the Internet through the two service providers, a sharp rise is seen in government organizations using the Government Network to access the Internet, with 41 percent of organizations in the survey using the Government Network to connect to the Internet.

The sharp rise in the use of the Government Network indicates that government organizations are seeing the value of a shared government infrastructure, and may be a precursor to adoption of shared government services.

In 2015, 80 percent of the government organizations surveyed have a data center of their own. Among those organizations, on average, there are approximately two data centers, while 44 percent of government organizations are planning to build more. Currently 31 percent of respondents are indeed building a data center.

The Government Data Center—the centralized government facility that hosts government entities’ infrastructure and provides essential data center services—is available to all government organizations; 43 percent of those not currently using the Government Data Center see no barriers to full utilization, which is planned and will be implemented. Reasons cited for not fully migrating or fully utilizing the Government Data Center include the sensitivity of the data (30%) and ambiguity around the migration process (27%). Concerns are not centered on the quality of service being offered (see Figure 4).

For example, one ministry IT executive noted that in the event a new data center is required, he will consider the Government Data Center but will always retain his organization’s own data center in order to reduce risks and have redundancy in place. Separately, several organizations responding to the survey strongly believe that their organizational data must remain within their premises, and they were unwilling to move any critical applications to the Government Data Center. Further, a government organization representative noted that when evaluating the Government Data Center, he observed that their policies are neither clear nor well documented, and that the Government Data Center team does not communicate effectively. In addition, IT executives expressed concerns that potentially useful solutions for their organizations, such as backup-as-a-service and disaster recovery, are not offered by the Government Data Center.

**PROCESS AUTOMATION CAPABILITIES**

Government organizations in Qatar are increasingly investing in advanced technologies that can automate their core business processes, such as human resource (HR) management and document management. While 87 percent of organizations overall had automated their core processes in 2013, this number has risen to 93 percent in 2015. All of these organizations have reportedly automated their HR functions and have invested in technology solutions to better enable them to service their employee base. Other processes include archiving management (88%) and financial management (86%) (see Figure 5).

Government organizations procure various core technologies either through commercially available software packages or custom-developed applications. Further, technologies such as HR and business process management have better cloud adoption (12% and 15% respectively) than other critical processes such as financial management and procurement management.
ADOPTION OF EMERGING TECHNOLOGIES

In line with the global trend, the rapid rise in penetration levels of smartphones and tablets in Qatar is spurring the rollout of mobile apps and services by government entities. The most common reason cited for deploying mobile applications in government organizations is to enable citizens to have a true omnichannel service experience (81%). Offering managers and executives the ability to access key performance data and push notifications to citizens were both cited by 44 percent of IT executives (see Figure 6).

On the other hand, the rollout of mobile apps is not effortless—18 percent of IT executives surveyed cited the biggest challenge they face is in getting executive-management buy-in for their endeavors with mobile apps, followed by getting citizens and residents to participate (16%). “Our IT systems are not mature enough to support mobile applications,” “limited resource/skills availability,” and “measuring impact on core objectives” were each cited by 14 percent of the executives surveyed. Despite these challenges, 32 percent of organizations said they faced no obstacles when deploying mobile apps.

Indeed, most IT executives in government organizations pointed out that they did not have a clear mobile technology implementation strategy in place and that any development/rollout is done on an ad-hoc basis. For instance, only a few organizations have started deploying a bring-your-own-device (BYOD) approach in 2015.

Looking at mobile applications deployed in government organizations, the average number aimed at providing external stakeholders (i.e., citizens and residents as well as businesses and other government agencies) with government services stood at one for each government organization. Feedback obtained from government organizations indicated that this number is expected to double over the next 12 months.

Separately, the average number of mobile applications aimed at internal stakeholders (i.e., employees) for employee-related services stood at 0.47 on average for each government organization. This number is expected to rise to 1.62 over the next 12 months. Clearly, government organizations are expected to focus on rolling out more mobile apps over the next year.
CLOUD

Adoption of cloud solutions among government organizations is relatively low. In 2015, 18 percent of government entities in Qatar are using cloud solutions, according to the IT executives surveyed. Among current users, IaaS (infrastructure as a service) and storage as a service (STaaS) are popular service models. Separately, private cloud is the most popular cloud deployment model in government organizations.

When asked whether government organizations are willing to subscribe to a cloud service offered by either a local provider or the government, approximately 44 percent of organizations responded negatively. Still, the majority of organizations are willing to opt for cloud offers. Twenty-nine percent of those organizations are willing to subscribe to a cloud service from the government cloud, 20 percent said they would be willing to subscribe from both the government cloud and local providers, and 7 percent said they would only be willing to subscribe to a cloud service from local providers.

When asked about the reasons for not subscribing to cloud services, IT executives shared their reasons—with major concerns around security (65%), including data location, uncertainty on the supplier’s data center information assurance practices, and risk of cyber attacks; and the lack of suitable offerings from local providers, cited by 15 percent of the respondents (see Figure 7).

While cloud computing does have its inherent risks, 64 percent of IT executives in government organizations also agreed that they are not fully aware of the laws and regulations in Qatar relating to cloud services and the hosting of data outside the country’s borders. In fact, government IT executives noted that they are not fully clear about which cloud solutions they can use and which policies govern the use of public cloud solutions.

SOCIAL MEDIA

Social media channels present an attractive medium for government organizations to reach out to external stakeholders and foster deeper engagement as well as improve service delivery. In 2015, 78 percent of government entities in Qatar are using social media for collaboration, information sharing, and/or citizen engagement. Social media channels are not only being used to publish information (97% of organizations using social media), but also to engage with social media users (84%), and to solicit ideas and involve social media users in the policy and service-delivery

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Figure 7

REASONS FOR NOT SUBSCRIBING TO CLOUD SERVICES

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<tr>
<th>Reason</th>
<th>Percentage of Respondents</th>
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<tr>
<td>SECURITY CONCERNS</td>
<td>65%</td>
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<tr>
<td>LACK OF SUITABLE OFFERINGS FROM LOCAL PROVIDER</td>
<td>15%</td>
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<tr>
<td>LACK OF CLOUD-RELATED EXPERTISE IN OUR ORGANIZATION</td>
<td>5%</td>
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<tr>
<td>OUR ORGANIZATION IS NOT READY FOR CLOUD SERVICES</td>
<td>5%</td>
</tr>
<tr>
<td>NONE</td>
<td>5%</td>
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Source: Government IT Executives Survey, 2015
Organizations that are unwilling to subscribe to a cloud service n=20
A large majority (80%) of government organizations that use social media now employ at least one dedicated social media executive.

Among surveyed organizations that use social media channels, 6 percent use external agencies to manage their social media activity and interactions. A large majority (80%) of government organizations that use social media now employ at least one dedicated social media executive.

The IT executives survey indicates that the information shared on social media channels is published in a timely manner. Among those who publish, 23 percent publish first on social media and later on traditional channels, 48 percent publish information on social media at the same time as on all other communications channels, and 26 percent publish on social media after publishing through traditional channels such as newspapers, radio, and broadcast. The frequency of interaction over social media channels varies by organization, although the most common approach is to publish and interact several times a day (39%) (see Figure 9).

It should also be noted that some organizations may have very few customers to engage with over social media channels. Two executives pointed out that most of their customers are not individuals but other large organizations and as such, their customer base prefers to engage with them directly outside social media channels.

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**Figure 8**

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<th>USE OF SOCIAL MEDIA CHANNELS IN GOVERNMENT ORGANIZATIONS</th>
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<tbody>
<tr>
<td>PUBLISH INFORMATION</td>
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<td>ENGAGE WITH SOCIAL MEDIA USERS</td>
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<tr>
<td>REQUEST IDEAS AND INVOLVE SOCIAL MEDIA USERS IN YOUR ORGANIZATION’S POLICY AND SERVICE DELIVERY PROCESSES</td>
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<td>ANY OTHER ACTIVITIES</td>
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**Figure 9**

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<thead>
<tr>
<th>FREQUENCY OF PUBLISHING AND INTERACTIONS OVER SOCIAL MEDIA CHANNELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONCE A WEEK OR LESS FREQUENTLY</td>
</tr>
<tr>
<td>ONCE EVERY FEW DAYS</td>
</tr>
<tr>
<td>ONCE A DAY</td>
</tr>
<tr>
<td>TWICE A DAY</td>
</tr>
<tr>
<td>SEVERAL TIMES A DAY</td>
</tr>
</tbody>
</table>

Source: Government IT Executives Survey, 2015
Organizations that currently use social media to interact with citizens and residents n=35

Source: Government IT Executives Survey, 2015
Organizations that currently use social media to publish information n=31
 ICT READINESS

Key Findings

- In the Global Information Technology Report 2015, Qatar tops the ranking on procurement of advanced technology, ranks 3 on importance of ICT to the government’s vision, and 5 on the government’s success in ICT promotion.

- Nearly a third of the government IT executives surveyed are not aware of the Qatar Digital Government 2020 Strategy.

- Slightly more than one-third (38%) of government organizations in Qatar have a formal security policy/guidelines/standards. Nearly half of the government organizations (46%) are in the process of developing or implementing security policies.

- Shortage of ICT skills is a major issue faced by government departments, with only 11% of the organizations having sufficient information security skills.

- Government employees report that self-study (62%) and training at vocational centers (53%) are the most common methods used to learn to perform ICT tasks.

- 38% of employees indicated they received ICT training in the last three years, up from 25% in 2013, with most of that training provided by their employer.

- As of end of 2015, 708 of Qatar’s government services are expected to be online, with 519 already available online as of June 2015.

- Of the channels used for providing e-services, the increasing importance of mobile is visible, with nearly half of the e-services being made available through a mobile-enabled website or mobile app.

This section analyzes the government’s level of preparation and capacity to take advantage of ICT, including development and implementation of strategies and policies, information security and IT skills and training, and government e-services.

According to the World Economic Forum’s Global Information Technology Report 2015, Qatar’s government is viewed as both leader in the usage of technology that fosters innovation and the country’s chief promoter of ICT. On a scale of 1 to 7, Qatar scores highly when compared with other countries on three indicators: the government’s procurement of advanced technology (5.7), the importance of ICT to the government’s vision (5.8), and the government’s success in ICT promotion (5.8), and these scores translate to rankings of 1, 3, and 5 (out of 143), respectively. On some indicators, Qatar scores higher than Singapore and Finland (see Figure 10).

Figure 10
INTERNATIONAL BENCHMARKS—ICT AND THE GOVERNMENT

ICT STRATEGIES AND POLICIES

Today, the guiding blueprint for the overall development of ICT in government is the Qatar Digital Government 2020 Strategy. It has three strategic objectives: better serve individuals and businesses, create efficiency in government administration, and increase government openness. Although the strategy was only six months old at the time of the survey, the majority (69%) of IT executives were aware of it, while nearly one-third were not, despite its being the most important strategy affecting the functioning of a government entity in Qatar. The vast majority of organizations that are aware of the policy have already taken some steps toward complying with it—43 percent have already developed an implementation plan for e-services development to achieve the 2020 targets, while another 50 percent are in the process of developing such a plan.

In terms of increasing government openness, Qatar's government adopted an open data policy in 2014 to make more data available to the public and an e-participation policy in 2015 to use ICT to engage people in the policy- and decision-making process. Awareness among government organizations is lower when it comes to the Open Data Policy (47%) and the e-Participation Policy (38%) than it is for the Qatar e-Government 2020 Strategy (69%) (see Figure 11). However, it should be noted that the former two policies were less than three months old at the time of the survey. When it comes to individual open data policies among government organizations, a small number of organizations (10%) have already developed them, while another 26 percent are in the process of developing such internal policies.

The level of awareness of these specific policies and plans among general government employees outside the IT department is expected to be lower than that of those responsible for IT in their government organization. Close to half of the government employees surveyed (48%) are aware of the Qatar e-Government 2020 Strategy, while close to a third (32%) are aware of the details of the strategy. When it comes to the Open Data Policy and the e-Participation Policy, awareness stood at 34 percent and 37 percent respectively.

Employees in government entities in Qatar believe their organizations are generally prepared for implementing the Open Data Policy and the e-Participation Policy. The vast majority of employees (82%) indicated that their organization encourages e-participation, which is defined as the use of information and communication technologies to broaden and deepen civic participation by enabling citizens and residents to connect with one another and with their government representatives. The employees are also very positive about the availability and sharing of data within the organization.

The United Nations e-Government Survey 2014’s e-participation index (EPI), compares the current status of e-participation in countries around the world. The EPI assesses the quality, relevance, usefulness, and willingness of government websites to provide online information and participatory tools and services to their citizens and residents. Qatar and GCC peers—UAE, Bahrain, and Oman—rank among the top 50 countries in the world. Figure 12 shows Qatar’s score relative to those of selected countries.

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INFORMATION SECURITY

Security has become an increasingly important priority for governments globally. However, just slightly more than one-third (38%) of government organizations in Qatar have a formal security policy that is developed, implemented, and monitored, posing a risk to government data and systems. Nearly half of the government organizations (46%) are in the process of developing or implementing security policies (see Figure 13).

A similar picture emerges when it comes to other aspects of security such as documenting and monitoring risks and disaster recovery, with just over a third of the government organizations having proper processes in place. However, the vast majority (84%) of government organizations conduct security and business resilience–related tests before deploying new applications.

When it comes to securing e-services, a username and password combination is the most common authentication mechanism used by government organizations at 84 percent. Other advanced features like single sign-on (24%), multifactor authentication (16%), smart cards (11%), and one-time password (OTP) (11%) are used by a small number of government organizations, according to the government IT executives.

On average, government organizations employ two dedicated security personnel. The shortage of skills is a major issue that government departments in the country face, with only 11 percent of the organizations having sufficient information security skills within their organization. This demand for skilled information security professionals is generally being addressed through both training existing staff and recruiting additional staff.

Close to half of the organizations (44%) indicated that they have provided IT security training in the last 12 months, with 30 percent of them indicating the training was provided by the government itself.

When it comes to awareness of Q-CERT, Qatar’s Computer Emergency Response Team, formed in 2005, a quarter of government organizations are still not familiar with it.

Looking at information security from an employee perspective, only a small portion of employees (4%) reported that they had experienced a security incident at work in the last 12 months. However, the majority of them did not report this incident to their organization or any other authority, increasing the likelihood of such security incidents recurring in the future.

ICT SKILLS AND TRAINING

Government employees report that self-study (62%) and training at vocational centers (53%) are the most common methods used to learn to perform ICT tasks in 2015, followed by training at formal educational institutions (52%) and on-the-job training (38%). Nearly all modes of training increased in 2015 over 2013 levels (see Figure 14).

Still, more than three-quarters of government employees (78%) indicated that they need to improve their ICT skills in at least one area. The most common skills that demand improvement are those related to spreadsheets, graphics, and design software, cited by close to a third of employees. Other skills cited...
are related to presentations (e.g., PowerPoint) and specialized internal applications, cited by nearly a quarter of employees.

From the employee perspective, 38 percent of surveyed employees indicated that they received ICT training in the last three years, up from 25 percent in 2013 (see Figure 15). Most of that training was provided by their employer, while a small percentage undertook the training privately.

The percentage of government sector staff who received ICT training in the last 12 months stood at 2.5 percent in 2015 according to the Government IT Executives Survey.

Among the employees surveyed who have not received any ICT training in last 12 months, close to a third believe that they have adequate skills and therefore do not require additional training. However, among those who believe that training is beneficial, the primary reasons for not undertaking any training are lack of time, lack of employer-sponsored training programs, and lack of relevant courses on topics on which they want training.

On average, employees who participated in some form of ICT training in the last 12 months received an average of 34 hours of training, up from 29 hours in 2013. Government employees expect to get an average of 38 hours of ICT training in the next 12 months.

Office productivity tools are the most common skills on which employees received training (42%), followed by general computer skills (39%) and specialized internal applications (30%). This aligns with the skills that need improvement as indicated by government employees. Only 22 percent of employees got IT security training.

The use of online resources for training has not improved much, with only a small percentage of employees (17%) indicating that they had received Web-based training (see Figure 15). The primary reason may be the lack of awareness among employees and the lack of focus by government departments on providing online training. The vast majority of employees (73%) are not aware of the Qatar National e-Learning Portal and 62 percent of government organizations do not offer Web-based training. Although the usage of the Qatar National e-Learning Portal doubled in two years, only a very small portion of government employees use it despite its being a five-year-old initiative.

**GOVERNMENT E-SERVICES**

The Qatar Digital Government 2020 Strategy calls for making 100 percent of government services available online by 2020, making 80 percent of all services available “end to end” online, and targeting 80 percent of all transactions to be conducted online.

Qatar is on track to achieve its first key target of providing 1,000 government services online by the end of 2016. As of June 2015, 519 services were online, and 189 new services were expected to go online during the fourth quarter, bringing to 708 the total available online by the end of 2015. Next year will also see a vigorous launch of e-services, with 292 new services expected to be online by the end of 2016 (see Figure 16).
Of the channels used for providing e-services, the increasing importance of mobile is visible with nearly half of the e-services being made available through a mobile-enabled website or mobile app (see Figure 17).

The United Nations E-Government Survey splits the development of an online service within a government organization into four stages: emerging information services (Stage 1); enhanced information services (Stage 2); transactional services (Stage 3); and connected services (Stage 4). This four-stage model does not assume that 100 percent of services should reach Stage 4. For instance, paying traffic fines does not require any stage 4 proactive web 2.0 interaction, because once a user has paid a fine, no further engagement is required.

An analysis of the specific features shows that government organizations in Qatar still have a long way to go when it comes to the sophistication of e-services. The majority of them do not offer features like identifying the progress of a transactions (80%) or tracking transactions through a unique transaction identifier (62%). However, most of the organizations (60%) offer notifications through SMS or email.

Separately, only 11 percent of government organizations currently provide services via self-service kiosks, with another 34 percent planning to do so in the future.

**Figure 17** DISTRIBUTION OF GOVERNMENT E-SERVICES THROUGH VARIOUS CHANNELS

<table>
<thead>
<tr>
<th>Percentage of e-services available through the channel</th>
<th>Website (Organization’s own website or Hukoomi)</th>
<th>Mobile-enabled Website</th>
<th>Mobile Application</th>
<th>SMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website (Organization’s own website or Hukoomi)</td>
<td>48%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile-enabled Website</td>
<td>22%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile Application</td>
<td>23%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMS</td>
<td>6%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Government IT Executives Survey, 2015; n=44

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**Figure 18** INTERNATIONAL BENCHMARKS—EGDI ONLINE SERVICE COMPONENT

<table>
<thead>
<tr>
<th>Country</th>
<th>Score (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>87%</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>86%</td>
</tr>
<tr>
<td>Bahrain</td>
<td>82%</td>
</tr>
<tr>
<td>UAE</td>
<td>78%</td>
</tr>
<tr>
<td>Uruguay</td>
<td>75%</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>69%</td>
</tr>
<tr>
<td>Finland</td>
<td>69%</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>67%</td>
</tr>
<tr>
<td>Latvia</td>
<td>63%</td>
</tr>
<tr>
<td>Sweden</td>
<td>63%</td>
</tr>
<tr>
<td>Qatar</td>
<td>59%</td>
</tr>
</tbody>
</table>


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The online services component of the E-Government Development Index (EGDI) is a composite indicator measuring the use of ICT by governments to deliver public services at the national level. It is based on a comprehensive survey of the online presence of all 193 United Nations member states. The survey assesses the technical features of national websites as well as e-government policies and strategies applied in general and by specific sectors for delivery of services.
As previously noted, the online service component is divided into four stages that indicate the percentage of government services that achieved the four stages of online presence. Qatar’s government websites met 91 percent of the UN’s criteria for stage 1 (emerging information services). Although Qatar lags behind its peers in this stage, it has made significant progress from the 2012 score of 83 percent.

Qatar scored 61 percent in stage 2 (enhanced information services). However, the country scores less than 50 percent in the next two stages: stage 3 (transactional services), and stage 4 (connected services) (see Figure 19).

ONLINE TRANSACTIONS

The Qatar Digital Government Steering Committee collected and analyzed data from more than 15 government entities on the volume of online and mobile transactions conducted by users. As Figure 20 indicates, the total number of online and mobile transactions from January 2015 through June 2015 reached more than 46 million. The increase between January 2015 and the peak in May 2015 was six-fold. And mobile transactions more than doubled in this six-month period, providing more evidence that users want on-the-go, 24/7 access to e-services.

GOVERNMENT INTERACTION WITH THE PEOPLE IT SERVES

When it comes to the way government departments interact with the people they serve, a significant shift can be seen over the years (see Figure 21). Face-to-face interactions and the use of call centers are giving way to online and mobile channels. It is important to note that these interaction channels are highly complementary. The inherent nature of a good omnichannel experience
is that the users can choose which channel to use based on his or her convenience. For example, a user may use Twitter to send a complaint about a pothole in the street, and then follow up with an email or go to a website to check the status of the complaint. Although mobile is becoming increasingly important, its nature as a complementary channel cannot be neglected.

The focus on customer satisfaction is clearly increasing among government organizations in Qatar, with more than a third of the organizations (41%) measuring customer satisfaction periodically and another 21 percent doing it on an ad-hoc basis. Social media, email, and online surveys are the top three channels used for capturing feedback.

Government employees are extremely positive about bringing services online, with 85 percent of them agreeing that it is important for their organizations to make e-services available to Qatari citizens and residents. Similarly, 77 percent of employees feel that their organization is effective at making services available online and/or on-the-go.
ICT USAGE

Key Findings

- More than three-quarters (76%) of government employees routinely use a computer for work purposes, up from 69% in 2013. At the same time, the proportion routinely using the Internet at work stands at 64% in 2015 compared to 66% in 2013.
- 96% of government employees using computers reported using a desktop on a daily basis. Laptops and tablet PCs are used less frequently, with 26% using a laptop and 12% using a tablet PC on a daily basis.
- Wide use of the Internet is reported among government employees, with 97% of those who use a computer in the workplace also using the Internet.
- The most common tasks that government employees perform online include sending work-related emails (97%), searching for work-related information (83%), and communicating with colleagues (77%).
- Awareness of government online services among government employees remains about the same over the years, standing at 86% in 2015. However their usage of government e-services has increased significantly—from 28% in 2013 to 57% in 2015.
- The Government Network is the most-utilized shared infrastructure, adopted by 76 entities as of June 2015.

This section details government employees’ use of ICT, including use of devices such as desktops, laptops, and smartphones, as well as use of the Internet, computer applications, and email.

ICT DEVICE USAGE

According to the 2015 Government IT Executives Survey, more than three-quarters (76%) of government employees routinely use a computer for work purposes, up from 69 percent in 2013. At the same time, the proportion routinely using the Internet at work stands at 64 percent in 2015 compared to 66 percent in 2013.

Desktop PCs are the most commonly used devices for computing purposes: 96 percent of government employees using computers reported using a desktop on a daily basis. Other computing devices like laptops and tablet PCs are used less frequently, with 26 percent of government employees using a laptop and 12 percent using a tablet PC on a daily basis.

When it comes to usage of telecommunications devices, fixed landline telephones remain the most commonly used devices, with 90 percent of government employees who use a PC also using a fixed landline telephone on a daily basis. However the use of smartphones for work purposes continues to rise, with usage now much higher than that of a standard mobile phone. Sixty-two percent of government employees who use a PC use a smartphone daily compared with only 8 percent using a standard mobile phone.

In spite of the introduction of business process automation and various digital government initiatives, the use of printers is still high among government employees, with 80 percent of employees who use a PC accessing printers on a daily basis (see Figure 22).
In 2015, respondents cited email (94%) and word processing (91%) as the most commonly used applications by PC users in the government sector, followed by spreadsheet applications (83%) and Web browsers (76%). Although the use of email and word processors has fallen slightly since 2013, the use of spreadsheets has risen. After a decline in the use of specialized internal applications in 2013, their usage has risen in 2015 to 26 percent, but is still lower than the 41 percent recorded in 2010 (see Figure 23).

Approximately 78 percent of the surveyed employees said they back up their work-related files, data, or documents, with 62 percent of all respondents backing up their work-related information regularly. Still, 22 percent don’t back up their information at all.

Fifty-seven percent of the government employees who back up their work-related data indicated they do it on the hard disk of the PCs they use, while 41 percent indicated that they back up their work-related data onto a removable device like an external hard disk, flash memory, or optical disk. Another 35 percent of government employees use a central location like a server when backing up data, which is up from 19 percent in 2013. The increase in backup to a central server, rather than on the PC or a flash drive is a good indication of improved policy compliance and improved automation of backup processes. Further, 6 percent of respondents use an online backup service to back up their work-related information.

INTERNET USAGE

Wide use of the Internet is reported, with 97 percent of government employees who use a computer in the workplace also using the Internet (up slightly from 96 percent in 2013).

Among Internet users, 97 percent use the Internet on a daily basis, up from 95 percent in 2013. Indeed 95 percent of government employees who currently use the Internet at work believe the Internet is important for performing their daily work duties. This opinion is widely held and consistent across all categories such as age, gender, years of experience, job seniority, education level, nationality, and type of government establishment.

On average, government employees in Qatar who use a computer spend 24.9 hours per week using a PC and 17.4 hours per week using the Internet for work-related purposes. Considering a typical 35- to 40-hour work week in Qatar’s government sector, employees spend
around 60–70 percent of their working hours on a PC and between 40–50 percent of their working hours on the Internet.

The most common tasks that government employees perform online have remained consistent since 2010 and include sending work-related emails (97%); searching for work-related information (83%); and communicating with colleagues (77%). Watching videos for work-related purposes was previously not captured, but in 2015 was a task performed by 28 percent of the employees (see Figure 24).

Although communicating with colleagues is one of the key tasks performed online by government employees, most still prefer to communicate via telephone at 83 percent, followed by email at 81 percent, and face-to-face interaction at 76 percent. Communicating by instant messaging or chat (18%), signed formal letters (17%), and social networking sites (4%) are less preferred methods of communicating with colleagues.

Instant messaging is a popular collaboration tool. When employees were asked whether they used instant messaging in the workplace, approximately 63 percent noted that they did. In fact, 70 percent of employees who utilize instant messaging use it at least once every day.

Looking at the use of online media among government employees, news websites such as those run by Qatar News Agency, Al Jazeera, Yahoo Maktoob News, etc., are the most often used, as indicated by 73 percent of government employees who use the Internet at work. Forums and blogs are used by 51 percent of Internet users, while social media networks are used by 72 percent. Not surprisingly, the devices used to access online media at work are often desktops and laptops (87%); 12 percent use tablet PCs to access online media at work. Access to online media through mobile phones or smartphones has skyrocketed to 70 percent compared to 2013, when only 24 percent accessed online media through mobile phones or smartphones.

There has been a sharp rise in the proportion of employees reporting they don’t encounter any barriers to using online media for work purposes, from 3 percent in 2013 to 42 percent in 2015. Lack of time is currently cited as the biggest barrier to the use of online media for work-related purposes for 28 percent of employees visiting any online media site, and another 22 percent indicated that online media is blocked in their office, while 10 percent indicated that their organization discourages the use of online media. Another 11 percent of Internet users do not use online media because they feel it is not relevant to their work (see Figure 25).
EMPLOYEE USE OF GOVERNMENT SERVICES

Employees in the government sector are also users of online government services and awareness of these online services remained about the same over time, with 86 percent in 2015, compared to 87 percent in 2013. This awareness has translated into higher employee usage of government e-services—from 28 percent in 2013 to 57 percent in 2015.

On the other hand, awareness of government services that are available on the Hukoomi portal has fallen slightly from 84 percent in 2013 to 79 percent in 2015; however, the use of government services that are available on Hukoomi has doubled from 19 percent in 2013 to 40 percent in 2015.

The Government Contact Center and the Hukoomi Contact Center are both designed to provide enhanced customer service for digital government inquiries, online e-services, and online transactions from the public. However, 65 percent of government employees are not aware of the Hukoomi Contact Center and only 17 percent have ever used it; 68 percent are not aware of the Government Contact Center and only 15 percent have ever used it. Low usage may correspond to the fact that many employees haven’t needed the Contact Center or it isn’t part of their job.

Al-Meezan, Qatar’s legal portal, contains information on legislation, rulings, and treaties in Qatar, including relevant legal information for government employees. Awareness of this portal is still low among government employees—as many as 71 percent of respondents were not aware of Al-Meezan, and only 15 percent have ever used it. Among the employees who have not used the Al-Meezan portal, the primary reason for not using it is that their role does not require them to access legal information.

Among government employees who have used the portal, they note potential areas of improvement including adding live chat features with the website content in real time (37%), creating topic-based sections and guides (35%), and making all information available and searchable in English (33%).

USE OF GOVERNMENT SHARED SERVICES

One of Qatar’s main objectives as outlined in the Qatar Digital Government 2020 Strategy is to create efficiency in government administration through automation of functions, state-of-the-art applications, and a common ICT infrastructure that saves money, enhances security, and improves the user experience. Key targets include 80 percent adoption of shared infrastructure and 80 percent adoption of government shared services and applications.

Currently, there are several shared infrastructure initiatives within the Qatar government. They include Government Network, Government Data Center, Government Contact Center, Data Exchange Platform, Single Sign-On, SMS Gateway, Government Cloud, Payment Gateway, Open Data Portal, and Mawared, etc.

As of June 2015, the Government Network is the most utilized shared infrastructure, adopted by 76 entities. The three other highly utilized infrastructures are Government Contact Center, SMS Gateway, and
Government Data Center, adopted by 19, 16, and 14 entities, respectively (see Figure 26). The adoption of shared infrastructure is expected to increase significantly in the next two years as more government entities prepare themselves for it.

The utilization of some of the shared infrastructure, such as the Government Contact Center, Payment Gateway, and SMS Gateway, should also be viewed in terms of the number of services used. The Contact Center carried out close to 30,000 transactions during the month of June 2015. The majority of transactions—80 percent—are voice calls (see Figure 27).

Currently, there is only one shared application available within the Qatar government—Mawared, an HR management system that has been adopted by 39 entities as of June 2015. The shared e-correspondence application will be available by Q4 2015. Additional shared applications are scheduled to launch in 2016.

**Figure 26**

<table>
<thead>
<tr>
<th>ADOPTION OF SHARED INFRASTRUCTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GOVERNMENT NETWORK</strong></td>
</tr>
<tr>
<td><strong>GOVERNMENT CONTACT CENTER</strong></td>
</tr>
<tr>
<td><strong>SMS GATEWAY</strong></td>
</tr>
<tr>
<td><strong>GOVERNMENT DATA CENTER</strong></td>
</tr>
<tr>
<td><strong>PAYMENT GATEWAY</strong></td>
</tr>
<tr>
<td><strong>GOVERNMENT CLOUD</strong></td>
</tr>
<tr>
<td><strong>SINGLE SIGN-ON</strong></td>
</tr>
<tr>
<td><strong>DATA EXCHANGE PLATFORM</strong></td>
</tr>
</tbody>
</table>

**Number of organizations**

Source: ictQATAR

**Figure 27**

<table>
<thead>
<tr>
<th>GOVERNMENT CONTACT CENTER—TRANSACTIONS BY TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VOICE</strong></td>
</tr>
<tr>
<td><strong>WEBCHAT</strong></td>
</tr>
<tr>
<td><strong>MAIL</strong></td>
</tr>
<tr>
<td><strong>SMS</strong></td>
</tr>
</tbody>
</table>

**Percentage of Transactions**

Note: Transactions for the month of June 2015
Source: ictQATAR
ICT SATISFACTION AND IMPACT

Key Findings

- Employees in the government sector are largely satisfied with the quality of their Internet connectivity at work, with the biggest drop in satisfaction with the speed of Internet at work—from a mean score of 5.9 in 2013 to 5.5 in 2015.

- Government employees also indicated high levels of satisfaction with the Hukoomi Contact Center, although satisfaction levels have dropped compared to 2013. People are least satisfied with on-hold duration and number of attempts to connect.

- The most highly self-rated factor in terms of impact of ICTs on government employees was improved efficiency at work, with a mean score of 6.2.

- IT executives in Qatar believe that the use of ICT by the government has improved the quality of government services to the people of Qatar significantly.

- Qatar fares well compared with benchmarked countries on ICT use and government efficiency, with a mean score of 5.9 compared with 6.0 for Singapore and 5.4 for Saudi Arabia.

This section of the report assesses satisfaction levels of the government employees surveyed on parameters such as internal connectivity and e-services. IT executives’ feedback on satisfaction with telecom providers in Qatar is also reported as is the perceived impact of ICT by government employees. Finally, IT executives also provide feedback on how the use of ICT in the government improves the quality and provision of government services to Qatar’s citizens and residents.

Although satisfaction levels have dropped marginally compared to 2010 and 2013, employees in the government sector are largely satisfied with the quality of their Internet connectivity at work. As connectivity in households and on mobile devices improves, employees increasingly may expect similar, if not better Internet speeds at their workplace. Predictably, one of the biggest drops compared to past years is in satisfaction with the speed of Internet at work—from a mean score of 5.9 in 2013 to 5.5 in 2015 (see Figure 28).
Most government employees who have used Hukoomi are satisfied with the quality of services provided, although satisfaction levels have dropped slightly across all categories compared to data from 2010 and 2013. Indeed, all services showed a slight drop in satisfaction rates in 2015 when compared to 2013. This may be due to a rise in employee expectations for services on Hukoomi. The largest drops were in changing company details, applying for a smart card to use services on the Hukoomi portal, applying for an exit permit, applying for a new residence permit/renewal/cancellation of an existing one, using Post Box online to track mail. Employees were least satisfied with changing company details (5.1 mean score on a scale of 1 to 7).

In all, 80 percent of government employees who use Hukoomi indicated that they were satisfied, rating it at a score of 5 or higher on a 7-point scale, from 1 “very dissatisfied” to 7 “very satisfied” (see Figure 29).

Government employees also indicated generally high levels of satisfaction with the Hukoomi Contact Center, although satisfaction levels dropped across all categories compared to 2013 satisfaction levels. The biggest drop between 2013 and 2015 was in “level of professionalism and providing proper solutions.” Politeness of staff was most highly rated (6.0). The “on hold duration/number of unsuccessful attempts to get connected” showed the lowest satisfaction level in 2015, suggesting that there is insufficient staff responding to customers at the Contact Center and/or the call-handling or queuing system is not efficient enough.

The impact of ICTs on government employees is highlighted in Figure 30. On a scale of 1 to 7, the most highly rated factor was “the use of ICT has improved my efficiency at work” (mean score of 6.2) followed closely by “ICT allows me to collaborate and connect with colleagues, customers, and suppliers” (6.1), “the accuracy in my work tasks is improved through my use of ICT” (6.1), and “the use of ICT helps me learn and improve my knowledge base” (6.1).

### Figure 29
#### GOVERNMENT EMPLOYEES’ SATISFACTION WITH SERVICES AVAILABLE THROUGH HUKOOMI

<table>
<thead>
<tr>
<th>Service</th>
<th>2015</th>
<th>2013</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall satisfaction with the services used on the Hukoomi website</td>
<td>5.8</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>Paying bills online (e.g., from KARIMAA or OOREDOO)</td>
<td>6.1</td>
<td>6.5</td>
<td>6.3</td>
</tr>
<tr>
<td>Applying for an exit permit</td>
<td>5.9</td>
<td>6.7</td>
<td>5.9</td>
</tr>
<tr>
<td>Applying for or renewing a visa</td>
<td>5.9</td>
<td>6.4</td>
<td>5.9</td>
</tr>
<tr>
<td>Applying for a health card</td>
<td>5.8</td>
<td>6.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Applying for a new residence permit/renewal/reactivation/cancellation of an existing one</td>
<td>5.7</td>
<td>6.4</td>
<td>6.0</td>
</tr>
<tr>
<td>Applying for a smart card to use Hukoomi services</td>
<td>5.4</td>
<td>6.3</td>
<td>6.1</td>
</tr>
<tr>
<td>Using post box online to track mail (track and trace service)</td>
<td>5.3</td>
<td>6.0</td>
<td>6.0</td>
</tr>
<tr>
<td>Changing company details</td>
<td>5.1</td>
<td>6.0</td>
<td>5.4</td>
</tr>
</tbody>
</table>

**Mean Score (1=Very Dissatisfied to 7=Very Satisfied)**

**Notes:**
- Overall satisfaction was not measured in 2010
- N differs for different services based on usage
- Source: Government Employees ICT Survey, 2015, 2013, and 2010
- Employees who used services on Hukoomi, 2015: n=193, 2013: n=132, 2010: n=126

### Figure 30
#### IMPACT OF ICT ON GOVERNMENT EMPLOYEES

<table>
<thead>
<tr>
<th>Impact Description</th>
<th>2015</th>
<th>2013</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE USE OF ICT HAS IMPROVED MY EFFICIENCY AT WORK</td>
<td>6.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT ALLOWS ME TO COLLABORATE AND CONNECT WITH COLLEAGUES, CUSTOMERS, AND SUPPLIERS</td>
<td>6.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>THE ACCURACY IN MY WORK TASKS IS IMPROVED THROUGH MY USE OF ICT</td>
<td>6.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>THE USE OF ICT HELPS ME LEARN AND IMPROVE MY KNOWLEDGE BASE</td>
<td>6.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT ALLOWS ME TO USE INNOVATIVE TECHNOLOGY-BASED SOLUTIONS FOR WORK-RELATED PROBLEMS</td>
<td>6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT USAGE FACILITATES FASTER APPROVAL OF SERVICE REQUESTS</td>
<td>5.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT HELPS THE SERVICES OF OUR ORGANIZATION TO REACH OUT TO MORE CITIZENS AND RESIDENTS AND IN MORE EFFICIENT WAY</td>
<td>5.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INFORMATION ON OUR ORGANIZATION’S INTERNAL INTRANET AND EXTERNAL INTERNET WEBSITE IS CONSISTENT, DETAILED, AND HELPFUL</td>
<td>5.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mean Score (1=Totally Disagree to 7=Totally Agree)**

**Source:** Government Employees ICT Survey, 2015; n=480
Compared with selected other countries that participated in the World Economic Forum Executive Opinion Survey, Qatar rates very favorably on the use of ICT by the government to improve the quality of government services to citizens (see Figure 31).

<table>
<thead>
<tr>
<th>Country</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>UAE</td>
<td>6.1</td>
</tr>
<tr>
<td>SINGAPORE</td>
<td>6.0</td>
</tr>
<tr>
<td>QATAR</td>
<td>5.9</td>
</tr>
<tr>
<td>SAUDI ARABIA</td>
<td>5.4</td>
</tr>
<tr>
<td>BAHRAIN</td>
<td>5.3</td>
</tr>
<tr>
<td>REPUBLIC OF KOREA</td>
<td>5.3</td>
</tr>
<tr>
<td>SWEDEN</td>
<td>5.2</td>
</tr>
<tr>
<td>FINLAND</td>
<td>5.1</td>
</tr>
<tr>
<td>KAZAKHSTAN</td>
<td>4.6</td>
</tr>
<tr>
<td>LATVA</td>
<td>4.4</td>
</tr>
<tr>
<td>URUGUAY</td>
<td>3.9</td>
</tr>
</tbody>
</table>

Mean Score (1=not at all to 7=to a great extent)

BENEFITS AND BARRIERS TO ICT ADOPTION

Key Findings

- Better internal workflows (84% of organizations), access to critical business information (76%), and improved coordination with customers/suppliers (60%) are cited by IT executives as key benefits realized from ICT.
- Lack of in-house technical expertise (33%) and budget constraints (27%) emerged as major barriers to ICT adoption in 2015, according to IT executives.
- The “ease of exchanging information” was the top benefit of connecting to the Government Network (76% of the executives), followed by “less expensive” (69%) and “more secure process” (62%).
- The major reason cited for not connecting to the Government Network was satisfaction with their organization’s current setup (57%), while 21% did not see any value from connecting to the network.

This section examines how IT executives and employees perceive the benefits and barriers to ICT adoption, and how organizations have taken advantage of ICT in the workplace.

In 2015, in discussing benefits of ICT, 84 percent of IT executives noted that their organizations have much better internal workflows and 76 percent mentioned increased access to critical business information—a significant increase from 2013 and 2010. The sharp increase in organizations reporting that access to critical business information is a key benefit realized from ICT indicates an increase in the ICT maturity of government entities. In organizations with a lower level of ICT maturity, ICT is seen as a way to cut costs by increasing productivity (42% of organizations). And improved coordination with customers and suppliers is cited by 60 percent of IT executives, double that of the 29 percent in 2013 and 33 percent in 2010 (see Figure 32).
In terms of barriers to technology adoption, 40 percent of IT executives reported facing no barriers. Lack of in-house technical expertise emerged as a key barrier to wider ICT adoption in 2015, with 33 percent of IT executives citing it. This further strengthens the case for better ICT training for the entire organization. Another key barrier that has emerged in 2015 is budgetary constraints, cited by 27 percent of organizations (see Figure 33). Another key challenge that financial policymaking organizations in Qatar face is the lack of vendors with a local presence, leading them to procure ICT from other countries. Although this challenge is not listed in Figure 33, it was highlighted by a couple of organizations in Qatar that were investing in new technologies.

The benefits of connecting to the Government Network—a safe and reliable network that allows Qatar’s government entities to be directly linked together over a secure communications platform—was well understood by IT executives. Among the organizations currently utilizing the Government Network, ease of exchanging information was the top benefit cited (76%), followed by less expensive (69%) and more secure process (62%). Notably, the lowering of costs was a key benefit that many more organizations recognized in 2015 compared to 2013. As the Government Network is able to help organizations lower costs, it appears much more attractive to them.

On the other hand, the main reasons cited by IT executives as to why they did not connect to the Government Network were satisfaction with their current setup (57%) and not seeing any value from connecting to the network (21%). For instance, a representative of one organization believed his organization was getting a great deal with its current service provider and saw no benefit in switching to the Government Network.

Among those not connected to the Government Network, 14 percent of interviewees said they are not informed about the Government Network. Security concerns, loss of control of data, and complicated/lengthy procedures were all cited by 7 percent. It should be noted that the reasons cited for not connecting to the Government Network are not related to concerns about the quality of service or network speed. In addition, three factors cited in 2013 were no longer of concern in 2015: “our ICT infrastructure does not support it,” “cost constraints,” and “available ICT skills do not support it.”
APPENDIX
This study is based on both primary—quantitative and qualitative—and secondary research.

**PRIMARY RESEARCH**

The primary research results are based on interviews conducted among two groups in Qatar’s government sector—government employees and government IT executives. These interviews were carried out between March 2015 and May 2015, and the questions asked were as of February 28, 2015, unless another date is mentioned.

Core government organizations (ministries, councils, authorities, and other institutions) were considered for the study. These organizations either had regulatory responsibilities, were involved in setting standards, or had a key role in national strategies and policies. The initial list of organizations was based on the Hukoomi directory and a list provided by ictQATAR. This list was then validated through secondary research. The final list was prepared in consultation with ictQATAR. The list of organizations that participated in the survey is provided at the end of the appendix.

**GOVERNMENT EMPLOYEES SURVEY**

This survey covered topics such as government employees’ ICT usage, computer and other technology skills, and attitudes toward technology in order to assess how effectively employees use ICT in their everyday work life. In order to carry out the research with government employees, interviewers went through formal channels to introduce the survey and to obtain a sufficient number of employees based on various quota criteria. Face-to-face meetings were scheduled with the nominated employees to complete the survey. In order to ensure relevant data was captured, only those government employees who use a computer were interviewed for this study.

In total, 480 employees from 48 government organizations responded to the questions in this study. These government organizations are listed at the end of the appendix. The face-to-face interviews targeted employees in ministries, councils, and authorities. The respondents varied by job position, age, gender, nationality, and education level (see Figure 1).
IT EXECUTIVES SURVEY

This survey covered ICT infrastructure-related topics such as ICT penetration and emerging technology trends, as well as services offered to citizens and residents in order to provide a representative view of government entities. IT executives in government organizations were surveyed through a self-administered questionnaire. In addition to the questionnaire, those selected received an official letter from ictQATAR. In-person assistance and an online questionnaire were two additional options provided to government IT executives in order to facilitate data collection.

In total, 45 IT executives from 45 government organizations (types of establishments shown in Figure 2) participated in this study. The list of these organizations is shown at the end of the appendix.

For the target respondents, best efforts were made to contact and interview the most senior IT managers or transformation managers within each government entity, as they were in the best position to provide the required information. However, in the absence of such managers (or per his/her instruction), another senior IT/ transformation employee responded to the survey. There were also instances where it was necessary to contact more than one respondent within the same entity to complete the survey and collect all the required information.

This study also included 15 qualitative face-to-face, in-depth expert interviews with representatives of selected government entities conducted by senior research analysts and research managers from IDC. The aim of these interviews was to test the comprehensiveness of the questionnaire and look for insights not obtained from the quantitative questionnaire.

SECONDARY RESEARCH

IDC also conducted secondary and supply-side research to obtain statistics on the government sector in Qatar. The following types of sources were accessed for secondary research:

- International organizations that capture ICT-related country data, such as the International Telecommunication Union (ITU), the United Nations (UN), and the World Economic Forum (WEF).
• IDC’s in-house database of past reports, market data, and market forecasts.
• The Internet for relevant databases, articles, and reports on the government sector in Qatar.

Based on the secondary research findings, a list of international data indicators was drafted for benchmarking purposes. The countries included in this international benchmarking effort are listed in Table 1.

### Table 1
**INTERNATIONAL BENCHMARKING—COUNTRY LIST**

<table>
<thead>
<tr>
<th>Country</th>
<th>Grouping</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Republic of Korea</td>
<td>E-government champions</td>
<td>Among the top countries in the United Nations Online E-Government Index 2014</td>
</tr>
<tr>
<td>Singapore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>Knowledge economy champions</td>
<td>Among the top countries in the World Economic Forum’s Networked Readiness Index 2015</td>
</tr>
<tr>
<td>Sweden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bahrain</td>
<td>Regional peers</td>
<td>Three countries that are part of the Gulf Cooperation Council (GCC) and are also fast-developing regional peers when it comes to e-government</td>
</tr>
<tr>
<td>UAE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>Emerging e-government champions</td>
<td>The fastest-growing middle- and upper-income economies in terms of e-government development</td>
</tr>
<tr>
<td>Uruguay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kazakhstan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** IDC 2015

### Notes

The data sources used to report findings in the report are mentioned below each figure. While most findings are based on the Government Employees Survey and the Government IT Executives Survey, IDC databases as well as external sources are also referenced throughout the report wherever applicable.

Percentages shown in the report are presented up to 0 decimal place and may not add up to 100 percent due to rounding.

Analysis excludes don’t know/refusals unless otherwise specified.

Government employee data represented in this report are based on weighted data.

The “n” number shows the unweighted base, which represents the number of employees interviewed in the specified group.

The penetration figures in this report are calculated using the 5 percent trimmed values method, removing outliers. As a result, some of the figures will not match the data published in Qatar’s ICT Observatory portal (https://ictobservatory.gov.qa/).

### PARTICIPATING ORGANIZATIONS

*Organizations that participated in the Government Executives IT Survey*

- Advisory (SHURA) Council
- Ashghal (Public Works Authority)
- Civil Aviation Authority
- Communications Regulatory Authority
- General Authority of Customs
- General Retirement and Social Insurance Authority
- General Secretariat of the Council of Ministers
- Hamad Medical Corporation
- KAHRAMAA (Qatar General Electricity & Water Corporation)
- Ministry of Administrative Development
- Ministry of Culture, Arts and Heritage
- Ministry of Economy and Commerce
- Ministry of Endowments and Islamic Affairs
- Ministry of Energy & Industry
- Ministry of Environment
- Ministry of Finance
- Ministry of Justice
- Ministry of Labour & Social Affairs
- Ministry of Municipality and Urban Planning
- National Human Rights Committee
- Qatar Central Bank
- Qatar Chamber
- Qatar Development Bank
- Qatar Financial Centre Authority
- Qatar Financial Centre Regulatory Authority
- Qatar Financial Markets Authority
- Qatar Investment Authority
- Qatar Museums Authority
- Qatar News Agency
- Qatar Olympic Committee
- Qatar Ports Management Company (Mwani)
- Qatar Public Prosecution
- Qatar Racing & Equestrian Club
- Qatar Rail
- Qatar Red Crescent Society
- Qatar Satellite Company (Es’hailSat)
- Qatar Tourism Authority
- Qatar University
- Social Rehabilitation Center (Al Aween)
- Supreme Committee for Delivery & Legacy
- Supreme Council for Economic Affairs and Investment
- Supreme Council of Health
- Zakat Fund
Organizations that participated in the Government Employees Survey

Advisory (SHURA) Council
Ashghal (Public Works Authority)
Central Municipal Council
Civil Aviation Authority
Communications Regulatory Authority
General Authority of Customs
General Retirement and Social Insurance Authority
General Secretariat of the Council of Ministers
Hamad Medical Corporation
KAHRAMAA (Qatar General Electricity & Water Corporation)
Katara Cultural Village
Ministry of Administrative Development
Ministry of Culture, Arts and Heritage
Ministry of Development Planning and Statistics
Ministry of Economy and Commerce
Ministry of Endowments and Islamic Affairs
Ministry of Energy & Industry
Ministry of Environment
Ministry of Labour & Social Affairs
Ministry of Municipality and Urban Planning
Ministry of Transport
Ministry of Youth and Sports
National Human Rights Committee

Primary Health Care Corporation
Qatar Central Bank
Qatar Chamber
Qatar Development Bank
Qatar General Organization for Standards and Metrology
Qatar Investment Authority
Qatar News Agency
Qatar Olympic Committee
Qatar Orphan Foundation (Dhreima)
Qatar Ports Management Company (Mwani)
Qatar Public Prosecution
Qatar Rail
Qatar Red Crescent Society
Qatar Satellite Company (Es’hailSat)
Qatar Tourism Authority
Qatar University
Q-Post—the Qatar Postal Service Company
Silatech
Social Rehabilitation Center (Al Aween)
State Audit Bureau
Supreme Council for Economic Affairs and Investment
Supreme Council of Health
Supreme Education Council
Supreme Judiciary Council
Zakat Fund