Ministry of Transport and Communications
of the State of Qatar

Qatar Digital Government (QDG) - Success Stories
State of Qatar – December 2019

1 CIS IMPLEMENTATION IN HMC AND PHCC – QATAR

Qatar's Public Health System has grown exponentially in recent decades and it has never been more important to connect the systems and share patient medical information between providers. Implementing one-of-kind Clinical Information System (CIS) across all 12 Hamad Medical Corporation hospitals and 27 primary health centers in a span of 4 years, Qatar is one of the first countries in the world to have a single, integrated Electronic Health Record for every patient across its entire public health sector serving more than 90 percent of the country's population of 2.7 million people.

Post CIS implementation, the patients in Qatar see all the services at HMC and PHCC as one connected system of clinical, administrative and financial solutions, and receive the same high-quality care regardless of where they are treated. CIS has benefitted patients by providing an electronic lifetime clinical record, increasing clinicians' efficiency by utilizing Evidence-based Order Sets, Clinical Pathways and Augmenting Care Delivery via clinical decision support thus reducing sepsis mortality and improving efficiency and eliminating errors. Data in CIS is now ready for its next stage of deriving actionable insights for further improving clinical care to the patients.

CIS is a well-developed information and communication network infrastructure and application, adapted to national and local conditions, easily-accessible and affordable, and making greater use of broadband and other innovative technologies in accelerating the social and economic progress of Qatar, and the well-being of all individuals, communities and peoples. It has enhanced the usage and deployment of ICTs to seek to create benefits in all aspects of our daily life. ICT applications are potentially important in government operations and services, health care and health information as an agreed development goal. Government public services such as MyHealth, which offers the ability for all residents of Qatar to access their health information, is essential in an inclusive Information Society. CIS is user-friendly, accessible to all, affordable, adapted to local needs, and support sustainable development. To this effect, local authorities have played a major role in the provision of ICT services for the benefit of their populations.

Implementation has been achieved across Hamad Medical Corporation and Primary Healthcare Corporations with absolute priority in order to bring in the transformational benefits, improve quality and accessibility. Paper charts have been removed in HMC and PHCC after implementation of CIS making it mandatory for clinicians to use CIS, thus it encourages the adoption of ICTs to improve and extend health care and health information systems to remote and underserved areas and vulnerable populations, recognising women's roles as health providers in their families and communities.

CIS has helped save lives through its Clinical Decision Support System and save money by removing paper records, saving storage costs, making health data accessible to relevant clinicians responsible for patient care. The initiative also helped ensure fairness in service delivery and thereby stimulated progress in public health and made the system work for the whole population of Qatar. CIS implementation as one of the Digital Health initiatives have demonstrated already significant potential of ICT to empower healthcare workers and the beneficiary population by providing them with the right information at the right time and place to ensure healthy lives and wellbeing for all. CIS at its Core clinical solution is built using world's medical knowledge by an international team of experts and was implemented to meet Qatar's locally-relevant content resources for strengthening public health research and prevention programmes and promoting women's and men's health. It promotes the development of international standards for the exchange of health data, taking due account of privacy concerns. It has been configured to strengthen and expand ICT-based initiatives for providing medical and humanitarian assistance in disasters and emergencies.

Furthermore, CIS participates in achieving the Global SDGs as follows:

SDG 3: Ensure healthy lives and promote wellbeing for all at all ages

- Assisting in reducing maternal mortality through its decision support and Feta link solution that monitors foetal health and early warning system
- Helping in the reduction of preventable deaths of new-borns and children under 5 years of age through its clinical decision system. Implementation of Power Plans in CIS has helped reduce neonatal deaths by reducing medication errors
- Alerting, monitoring, and controlling the spread of communicable diseases by sending real-time data to Ministry of Public Health and its early warning system as an improvement of common information systems

SDG 5: Achieve gender equality and empower all women and girls

- Ensuring women's full and effective participation and equal opportunities for leadership at all levels of decision making at HMC and PHCC
- Ensuring universal access to sexual and reproductive health of girls and women through the implementation in the Women's Wellness and Research Center
- Enhancing the use of enabling technology, information and communications technology, to promote the empowerment of women through its implementation at Women's Wellness and Research Institute and various clinical workforce where majority of the nurses are women.

SDG 17: Revitalize the global partnership for sustainable development

- Aligning with the successful sustainable development agenda which involved partnerships between governments, the private sector and civil society. These inclusive partnerships were built upon principles and values, a shared vision, and shared goals that place people/patients and the planet at the center, are needed at the global, regional, national and local level
- Helping fully operationalize the technology and innovation capacity-building mechanism and enhanced the use of enabling technology, in particular information and communications technology across HMC and PHCC

CIS implementation across the entire public sector healthcare facilities in HMC and PHCC has consolidated the spending on a single health related software instead of purchasing multiple software. Supported an enterprise-wide view of patient care and the point at which care was delivered in both acute inpatient and outpatient settings across HMC and PHCC. This seamless integration across the continuum of care enables providers to make informed, data-driven decisions without leaving the clinical workflows. CIS offers powerful decision support that utilizes predictive algorithms to fire rules and alerts, engaging providers when a patient requires care.

After the implementation of CIS, being a physician is far more than just a title or a role; it's a calling. CIS through its intuitive solution design – applications that collaborate across platforms and enhance user efficiency, productivity and satisfaction. It has empowered patients to be involved in their care with MyHealth-patient portal. MyHealth is integrated with the CIS system and provides the patient with access to their longitudinal record of HMC and PHCC. Patients can communicate with providers through secure messaging to book or change appointments, view clinical information, request refills, update information and send files. Through the portal, physicians can share accredited, evidence-based data with their patients. This has been achieved by taking all the medical records to be captured from Paper based system to Electronic Medical Record – this helped save paper consumption which in turn has helped save many trees thus having a positive Environmental Impact.

2   MADA - ASSISTIVE TECHNOLOGY CENTER QATAR

Established by the Ministry of Transport and Communications (MOTC) in 2010, Mada – Assistive Technology Center Qatar, facilitates to growth of digital inclusion to empower persons with disabilities (PWDs) and the elderly to meet their ICT Accessibility needs through Mada Innovation Program and Accreditation Service. The vision and mission of Mada Center is "Enhancing ICT accessibility in Qatar and beyond" and to "Unlock the potential of persons with functional limitations (PFLs), persons with disabilities (PWDs) and the elderly – through enabling ICT accessible capabilities and platforms" which is aligned to the values of WSIS.

The Center supports the development of innovative Arabic Assistive Technology and Accessibility solutions and thus, expanding the limited range of technologies available to support the ICT needs of PWD and elderly in Qatar and the Arabic language speaking region. Furthermore, Mada contributes towards expanding the accessible digital landscape by accrediting digital platforms (e.g. Websites, e-Kiosk, ATMs, etc.). To date, Mada has successfully supported the localization of over 30 solutions through the Mada Innovation Program and reviewed over 100 digital platforms as part of its Accreditation program. At the national level, Mada has achieved a digital accessibility rate of 94% amongst government websites which has facilitated Qatar to be ranked fifth globally on the Digital Accessibility Right Evaluation Index (DARE).

The work done by Mada facilitates the access to ICTs for all by bridging the gap for PWDs and elderly through developing solutions that allows them to use digital technology and services. The availability of ICT oriented Arabic assistive technologies empowers PWD and elderly users to operate ICT devices and services independently. The evaluation and standardization of e-Accessibility within regional digital platforms compliment the growing availability of localized assistive technologies by offering an accessible landscape to use these solutions effectively. The impact of these activities have resulted in greater inclusion of students with disabilities within the education sector, promote an environment of equal and inclusive access towards digital platforms and services for PWDs and elderly.

The Mada Innovation Program provides platform focused on ICT oriented assistive technology and accessibility services that helps fund and sustain the development and enhancement of such innovative solutions for start-ups and entrepreneurs. Examples of localized solutions supported by Mada can be found at the Accreditation Service. They raise the level of digital accessibility standards in Qatar and the region by recognizing institutions that promote and facilitate the inclusion of PWDs and elderly with equal access to their digital services and platforms. This results in progression of the accessible ICT landscape within Qatar by building a resilient accessible ICT infrastructure and support the sustainable growth of such ICT best practices.

There is a lack of robust assistive technology and accessibility service infrastructure within the concerned region. The assistive technology industry is a niche market worldwide and even more limited within the Arabic language region. The activities driven by Mada have created an ecosystem that supports the development of this market within the region. However, the local and regional assistive technology and accessibility market is still in its infancy and requires support systems and facilitators like Mada to augment their ability to be sustainable.

At Mada, we believe that accessibility practices must be embedded into a framework of cross-sector policies for them to have the most impact on the lives of people with disabilities. Working within the policy frameworks set out by the United Nations Convention on the Rights of People with Disabilities, Mada liaises closely with key stakeholders in Qatar to advocate for greater digital accessibility. This is done through identifying policy gaps and making recommendations based on international best practices and successful case studies in the field of digital accessibility.

3 BETTER CONNECTIONS

The Better Connections Program is a research-based national program that launched in 2015 in order to tackle the digital divide that workers in Qatar face. Background research found that 67% of transient workers did not have access to ICT tools, which limited their technology awareness and benefits that come from having ICT skills. The program is based on establishing ICT facilities inside the workers accommodations to minimize the travel time to 0, these facilities are equipped with furniture and donated refurbished computers connected to the internet, loaded with content tailored to their needs in 5 most common languages among the workers communities. each facility provides the access to ICT tools for 1000 workers, the program target has been set to 1500 ICT facilities by 2019, during QITCOM 2019 HE minister of MOTC and HE the Minister of the Ministry of Administrative Development, Labor and Social Affairs (MADLSA) had announced reaching to 1676 ICT facilities with 10% more than the targeted number.

This program applies our vision of being innovation and openness of content, tools and approach. It is also self-sustainable, due to unique implementation model based on multiple partners and cascade model of training.

Lack of facilities and unfamiliarity with the Internet are the major barriers for many migrant workers, of whom there are almost one and half million in Qatar, mainly housed in labor accommodation. In addition, a leading barrier to ICT training among the transient labor force remains cost. However, a recent survey indicated that 84% of those surveyed were interested in participating in computer and Internet training programs. The better connections is one of the programs that addressing this interest through development of computer rooms in labor accommodation; working with employers to improve training opportunities and developing content in their languages to facilitate understanding. Research has indicated that it is particularly important to support connecting with their families at home via modern technologies.

Better Connections is a ground-breaking social integration initiative for migrant workers in the State of Qatar. The program is a public-private partnership between MOTC, the Ministry of Administrative Development, Labor and Social Affairs (ADLSA), and committed partners, which provides access to technology and develops the skills of migrant workers in the use of ICT, in order to improve their standard of living and to integrate them into the digital community and wider society. We see access to the internet is a basic human right (SDG 1.4). This program provides free access to refurbished computers and the internet as well as training for workers in their place of accommodation so that they can become part of the information society, allowing them to communicate with friends and family in their home countries, access government online services, learn about their rights and responsibilities and return to their countries with enhanced IT skills (SDG 4.4, SDG 9C).

There are approximately 1.5 million migrant workers living in Qatar. They come from some of the poorer countries in the world and many lack ICT knowledge and experience, which can cause them to become marginalized in modern society.

In order to address the challenges of inclusion for foreign workers who are an integral part of the development of the country, the Digital Society Sector at MOTC has initiated a number of projects that highlight the importance of social responsibility and its role in the development of communities and individuals.

The Better Connections Program is part of this inclusion strategy and is building the pillars of culture and digital skills among all sectors of Qatari society. The program enables low-skilled workers to gain an understanding of the benefits of online technology and teaches them basic IT skills, while also introducing them to social media platforms that help them keep in touch with family and friends in their home countries. From a broader perspective, Better Connections enables migrant workers to benefit from the economic and cultural development of the country and contributes significantly to creating an integrated digital society in which everyone has equal access to technology as a basis for building a knowledge-based economy.

The project was designed to be sustainable, and is based on a multi-stakeholder partnership where there is something to be gained by each partner – from large corporations wanting to dispose of their computers within 3-4 years, ensuring an ongoing supply of hardware, to volunteers, schools, charities and the academia who all are willing to participate in a project where there is social good and something to be gained by each from intervention and experience.

The Better Connections Program is built around five pillars:

- Refurbishing donated computers and software to minimize outgoings
- Creating dedicated rooms at workers' accommodation units for ICT access and training
- Providing internet connectivity, both fixed and wireless
- Developing content training modules tailored to the specific needs of the workforce
- Recruiting volunteers from the community to provide training and logistical support

Essential to Better Connections is its network of collaborators, each contributing to the overall success of the project. It begins with donations of used computers and laptops by government departments and large corporations, which are then refurbished by around 600 volunteers and school pupils in Green Computer clubs. Microsoft Qatar provides the licenses for the software. The hardware is delivered to the accommodation camps of manpower companies and installed in spaces provided for free by the employers, who also provide furniture, power and basic ancillary services such as cleaning and maintenance. Telecoms provider Vodafone Qatar provides broadband connectivity to the sites, while the humanitarian association Reach Out to Asia (ROTA) evaluates volunteers who already have basic IT skills and trains them to train tech savvy migrant workers to become Digital Inclusion Champions who will pass their knowledge onto their colleagues ensuring that the process becomes sustainable. This cascade model allows the project to provide training to an ever-greater number of migrant workers as it trains migrant workers to become trainers themselves - to date around 20,000 Digital Champions have been trained. The Digital Champions also become operators of the ICT facilities, providing training, support, and ensure equitable access to all. Digital Champions create and support social groups initiated by the presence of the ICT facility, leading to community empowerment.

Training toolkits in six languages cover ten modules, which include learning how to use a computer, discovering the internet, accessing online news, cyber-safety, using social media to connect with family and friends, health and safety, and how to access government online services. Workers are also free to use the workstations at their leisure. Other training available includes multi-language simulators on how to use an ATM, how to use mobile money or online payments and remittances, rights and responsibilities under the labor law, information on health centers and other online e-learning curricula.

Better Connections is a national digital inclusion initiative that has the potential to be replicated wherever there is a high number of socially excluded individuals who reside together in isolated communities. At the opening of the 750th ICT facility, Sharon Burrow, the Secretary General of the ITUC stressed that "the State of Qatar has become one of the leading countries in the Gulf to promote workers' interests and provide their needs, calling on other Gulf States to follow suit." The opening of the facility was publicized in The Peninsula and other local Qatari newspapers on 9th Oct 2018.

A recent impact study by Social and Economic Survey Research Institute (SESRI), the research arm of Qatar University, interviewed 860 individuals and found that that 93% of participants reported lower stress levels thanks to the program, 99% said it improved their ability to communicate with family and friends, 95% reported that they had learned new skills, and 93% stated that they had become more productive at work. This impact study is part a more detailed evaluation framework that includes monitoring, evaluation and impact of all the beneficiaries of the project (laborers, volunteers, digital champions, and employers). The team have developed a bespoke computer system that monitors all the data (barcoded computers, volunteers, employers, and green computer clubs). ROTA, our evaluation

partner has also developed instruments to evaluate the effectiveness of the training and conduct pre- and post-surveys every six months.

Kumara Badhuge, a volunteer Better Connections trainer from Sri Lanka describes how he helped one worker to learn how to use social media and online services to significantly improve his quality of life: "I helped him to create his first email step by step, and when he received a reply from his daughter with a family photograph, he was overwhelmed because it had been a few years since he had seen them. Seeing a 53-year-old practicing the steps to create and send an email over and over until he remembered it made me realize the value of the time I spent volunteering at the workers' camp."

At the time of writing, Better Connections has created 1676 ICT facilities, with the potential to reach over 1.5 million workers across the country. Facilities are equipped with more than 16,000 recycled computers. Better Connections has grown into one of the largest public-private partnerships in Qatar and has won multiple awards, including Construction Week CSR Initiative of the Year, and Best Government CSR Initiative of the Year 2015.

It's worth mentioning that stakeholders concerned with the project who have come together to reach a large community were subject to the social exclusion risk. Furthermore, the impact of the project is not just on the main beneficiaries, the migrant workers, but also on the wider community;

- Employers who have a better, happier and more informed workforce,
- Volunteers who engage in social good and develop their skills in training
- School children who engage in environment protection whilst doing social good
- Environment computers are re-used and any disposal is done as per environment protection principles

Better Connections is more than simply connecting workers to the internet. It aspires to the WSIS core values of harnessing information and communication technology to create a sustainable and inclusive information society that ensures access for all, regardless of economic or social background.

4 ACCELERATION OF DIGITAL EFFECTIVENESS TO GROW BUSINESSES

The vision of the program is to enhance Qatar's SME ecosystem in key sectors through digital enablement by creating value for all stakeholders in Qatar's digital economy, aligning its strategic goals with Qatar ICT Sector Vision 2022 of leveraging technology to develop a regionally competitive smart economy that improves and promotes ICT innovation with a niche focus on international activity and exports. With the mission to promote digital innovation, competitiveness and growth of SMEs through end to end digital transformation of their value chain in areas such as Web Enablement, Ecommerce, Cloud & Emerging Technologies supported by an ecosystem of technology enablers, the program aims to cover the objectives of: Increasing knowledge and awareness on digital solutions for SMEs, Empowering SMEs to optimize their business model through digital solutions & Enabling SMEs to provide better access to services to meet hidden customer demands.

Today, they have successfully raised awareness on digital adoption amongst over 5600 SMEs through the execution of over 270 interactive sessions, connecting further over 50 technology enablers' digital partnerships & government entities in the digital ecosystem with business establishments in Qatar.

The program acts as a supporting engine to fostering a networked digital ecosystem and promotes partnerships on digital adoption within business establishments and uprising start-ups, to expose them further to both local and international markets.

The aim is to improve connectivity and access to available digital solutions for all sectors and industries in the ecosystem, furthermore understanding the market needs and challenges faced by the community to work upon developing the bridge of connection to digital transformation through market-access delivery channels and approaches, such as: Interactive sessions, series events, exhibitions and conferences, collaborative workshops.

Governments and stakeholders should actively promote user education and awareness about online privacy and the means of protecting privacy / Recognising the economic potential of ICTs for Small and Medium-Sized Enterprises (SMEs), they should be assisted in increasing their competitiveness by streamlining administrative procedures, facilitating their access to capital and enhancing their capacity to participate in ICT-related projects / Governments, in cooperation with other stakeholders, should raise awareness of the importance of international interoperability standards for global e-commerce: DTSME objectives focus on one of MOTC themes to "Leverage technology to develop a regionally competitive smart economy" which highlights on:

- Increasing Adoption of Advanced ICT in adjacent sectors and
- Establishing a conducive digital ecosystem and foster entrepreneurship,

To further improve ICT innovation capabilities, ICT investments & exports. Such objectives are linked to the engagement of MOTC with other relevant stakeholder in the ecosystem to maintain and sustain the development of ICT start-ups and the SMEs ecosystem. Through the DTSME portal (Godigital.qa), a network of highly experienced technology enablers & other world-leading tech innovating companies in the private sector are showcased and focused on building digital partnerships to further customize packages at discounted rates that are appropriate to be utilized by SMEs and business establishments of different maturity levels, hence delivering accessible and maintainable digital solutions within the SME ecosystem. Public sectors partnerships are also a main stream of support for the program's objectives as partnerships developed between MOTC and governmental entities targets creating opportunities for local ICT businesses, SMEs, Start-ups & Entrepreneurs.

The portal acts as a hub for current and future partnerships on digital adoption within the ecosystem of technology providers, aiming to connect SMEs with the right technologies available in the market

through digital transformation awareness initiatives & interactive sessions that would secure them a valid understanding on the business impact of ICT adoption, specifically in focus areas of low adoption within SMEs in Qatar: Cloud, eCommerce, Web Enablement. Furthermore, allowing a smooth and flexible technology adoption with the variety of diversified proposed technology vendors who will take authority in executing the transformation journey with adequately priced deals and customized partnerships that support the sustainability of digital transformation within those SMEs & business establishments' interest in digital adoption of their business models.

The program connects potential technology enablers to SMEs and companies in Qatar of all sectors, extending its efforts to focus on sectors of: Health, Sports, Logistics, Education & Transport as primary sectors of the SMART Qatar Vision. Target SMEs & companies within those sectors are to be developed through the use if ICT to further enhance their collaboration and engagement in the market of delivering thriving and accessible consumer products & services, an example on that are SMEs to be digitized in the Health sector that directly links to SDG (3) of promoting the well-being for all and ensuring healthy lives with clinics' adoption to digital platforms (cloud-based) that ease the process of medical processes & procedures. The program also focused on adequately connecting women entrepreneurs in the technology field with the prosperous community of rising business leaders. The Arab Women in Tech Series as one of the program's networking objectives, the first of its kind in Qatar, focuses on successful women leaders in technology who shared their experiences and insights which has been well appreciated by the Qatar business community. The Arab Women in Tech was launched earlier this year in partnership with the Digital Incubation Center (DIC) - an incubator under the purview of MOTC. The series kicked off with IBM CTO and Microsoft Country Manager as panellists, shedding light on opportunities for women in the technology field. Raising awareness on gender equality in all sectors' business establishments is a critical aspect of the program that supports the SDG (5) of Gender Equality.

Enabling entrepreneurs and home-businesses with technological advancements for their business models is a key focus of the program to secure equal opportunities for diversified employment capabilities with ICT innovation, furthermore supporting a sustainable economic growth (SDG (8)). The program also dedicates its efforts into providing accessible information on technology solutions offered in the market and promotes innovation on ICT products through connected technology enablers that pursue the common objective of fostering entrepreneurship (SDG (9))

The strongest focus of the program highlights on the SDG (17) of building partnerships for digital adoptions amongst all SMEs and companies without any discriminatory approach or any lengthy procedures that could hinder the ultimate goal of digitally transforming well-established institutes in the country. Internal program partnerships with governmental entities are secured as well to reach the common goals & visions set primarily to build a much more networked digital ecosystem that values the business realization of digital transformation within SMEs and support the development of their maturity levels to reach international markets.

Digital Transformation for SMEs program aims to support the digital economy of Qatar by enhancing the current level of digital maturity of Qatari SMEs through investments, innovation and incubation – primarily achieved by the initial focus on the Three-Pronged Strategic directions of: 1) SME digital Transformation awareness on how to leverage digital to provide better services & End consumer awareness on benefits of a digital economy 2) Sustained development through enhanced connectivity, information flow & quicker response to changes in the market. 3) Economic diversification by supporting private sector growth, enhancing competitiveness and attracting investments.

The program pursued a firm approach of understanding the needs and behaviour of the SME market in digital adoption, to further contextualize the delivery channels of supporting ICT adoption within business establishments. The approach also focuses on the appropriate knowledge transfer of Digital Transformation importance for further adoption of SMEs with the support of a diversified pool of technology enablers in the country, the cycle continues with an adequate boost from the program to deliver

the critical aspects of successfully managing, sustaining and improving those businesses in the journey of digital transformation. Today, the program has successfully raised awareness on digital adoption amongst over 5600 SMEs through the execution of over 270 interactive sessions with the support of over 50 technology enablers' digital partnerships & government entities in the digital ecosystem of Qatar. Technology enablers boosted the adoption of over 600 SMEs digitized in areas of eCommerce, Cloud & Web enablement. The program supports the national objective of having successful transformation journeys that result in having SMEs that are digital, connected, engaged and able to maintain their transformation journey through the opportunities given:

- Easy access to service providers and follow-up mentorship
- Ease in usage to variant services online
- Readiness in Engagement with technical expertise and technical support
- Networking with a greater SME base
- Coaching & Mentoring through domain/sector specific workshops
- Transformation Effectiveness tracked by leading tech companies in the industry
- Availability to hardware and software requirements to ease the process of transformation
- Accessibility to future Digital Transformation networking events through MOTC

Officially launched in 2018, the DTSME program enabled technology partners to connect with SMEs easily over a set of interactive sessions detailed on the online portal www.godigital.qa. The program's portal served a dual purpose of transferring knowledge, tools, and opportunities; and it also provides a physical and virtual space for businesses and SMEs to network. The initiation of the program was further established and developed in early 2017 after observing the low business adoption to eCommerce, online presence & Cloud technologies. Based on the ICT Landscape 2015 report published by MOTC and Communications in determining the demand for digital transformation - specifically the use of electronic commerce - by small and medium enterprises by a low rate not exceeding 12%, the program has been identified to concentrate its efforts in empowering these companies in several technological areas such as the use of digital services on cloud computing, web-enabled, e-commerce, and other digital services (Including Emerging Technologies).

For the coming years until the end of 2019, the digital transformation program for small and medium enterprises aims to transfer the knowledge of the importance of Digital Transformation to the maximum number of companies in all sectors through connecting them to the program's technical service providers – both multinational ICT companies as well as local ICT SMEs.

Digital Accelerator Program - the next phase of DTSME digital transformation objectives of transforming businesses in Qatar, will be an enriched version of the DTSME program, with a realigned focus on sector, business establishment segments and technology domains. It is targeted at increasing the overall ranking of the country in utilizing Emerging Technologies, such as: Internet of Things, Virtual Reality, Augmented Reality and Artificial Intelligence. The program will commence in early 2020 with a niche focus on business maturity levels and approaching the transformation of SMEs in Qatar through both physical in-site transformations as well as online.

5   GOVERNMENT MEDIA ANALYSIS SERVICE

This is one of the Government shared services that is offered to ministries and government departments in order to enable them to listen to and analyse any public eContent over the internet. There are 170 million resources including all social media platforms, newspapers websites, news agencies, blogs, magazines, research centers, libraries and many others. In addition, since Qatar is a diverse community of many nationalities, and dealing openly with the globe, the service offers its capabilities in 70 languages.

Government departments now can proactively determine the users' satisfaction about their provisioned services, identify any opportunity to enhance their current services or introduce new services, based on users' public discussions. The can also respond to users' complaints, even if the user doesn't approach the right complaints channel (such as email or call center). Qatari embassies are able to track and analyse news about Qatar in their presence countries. Qatari universities are able to monitor research progress in specific areas, and many others can utilize the service for different use cases.

Media Analysis Service project is one of the shared services provided by MOTC to government agencies on the basis of an enterprise master agreement. This service allows each government agency to monitor and analyse their concerned subjects on social media platforms and the traditional electronic media from 170 million sources of information covering more than 240 countries in more than 70 different languages to help them monitor information and published topics, follow up on their indicators, measure public opinion, interact with them and identify potential crises for action. Furthermore, the service helps in the preparation of the necessary improvement & quality reports in this regard easily through several built-in dashboards.

Social ROI is a new suite of metrics to help you measure and boost the impact of all Government organization's social activities.

- Awareness: How far your brand's messaging could spread
- Acquisition: The growth of your online community
- Activation: How successfully you are engaging with the community
- Satisfaction: How your audience feels about your Government brand or services

Measuring the impact of online activities has always been a challenge, also the huge amount of information requires deep professional analytical skills. The most important uses & benefits that make this project strategic for all Qatari government agencies are the following capabilities:

- Listening and measuring public opinion about each government agencies regarding Quality of services & benchmark studies
- Early detection of incidents, facts, and Rapid decision making and response speed
- Understanding each government agency's audience according to each government service
- Monitoring the organization's reputation, and organization reputation impact
- Measuring the level of awareness campaigns each government agencies
- Providing mature social listening services to and above market standard level
- Giving a clear understanding of the amount and sentiment of online conversation, both qualitative and quantitative
- Monitoring and benchmarking campaigns, tracking potential issues, anticipating and following up in crisis situations
- Understanding and analysing the unsolicited opinion of the general population through social and digital channels

6 OPEN DATA POLICY AND PORTAL

The Government of Qatar announced the adoption of open government policy in 2014. Therefore, a project was initiated to establish an open data platform that would allow the agencies to release and manage their datasets as well as the recipients to discover and make use of the datasets at a single place in the most efficient manner.

One of the four strategic thrusts of [Qatar Digital Government (QDG) Strategy 2020](#) emphasizes promotion of open government and this is also outlined in one of the strategic objectives to increase government openness. This aligns with the UN SDG "Decent Work and Economic Growth" directly, and indirectly influences the achievement of other SDG's such as Sustainable Cities and Communities, Industry, Innovation, and Infrastructure, and Quality Education.

The Open data portal launched in April 2019 will enable the government agencies in Qatar to readily publish the datasets in an open format ready usage of the datasets, thereby contributing to the achievement of the national goals. This will also enable the people, institutions and business to freely access the datasets that were previously not available. The [Open data portal](#) will enable the government agencies in Qatar to readily publish the datasets in an open format ready usage of the datasets, thereby contributing to the achievement of the national goals. This will also enable the people, institutions and business to freely access the datasets that were previously not available.

7 SINGLE WINDOW

The [Single Window](#) (SW) is a smart platform providing a unified interface of the State of Qatar to all investors seeking to start or manage their businesses in the easiest and quickest way in order to raise Qatar's international rank amongst other countries in terms of starting businesses which in turn will contribute to its economic growth.

The platform has helped conduct extensive studies to analyse the landscape and its key challenges. It engaged all stakeholders and covered more than 22 entities and 180 services. Its outcome and benchmarking against similar successful international models shaped the SW's organization, components, and re-engineered state to be investor-centric and achieve SW's goals. The platform's technology component play a crucial part in its success. The digital platform is composed of: Smart Application, Digital Signature, Approval Portal, Company Information Center, Performance Monitoring and Management Dashboard, and Knowledge Portal.

The launch of its first phase focused on the establishment of new business services and is currently working on the second phase focused on their management. SW had a very positive impact and many benefits such as reduced costs of business licensing on both investors and government, it introduced a fully integrated digital transformation of the government services and offered enhanced and professional user experience. It utilizes technology to provide easy, efficient and human-friendly government services thus allowing an extended easier way to service rendering.

The digital transformation of the government entities involved in the SW resulted in them becoming more efficient and avail their true performance to all authority levels as well as the public, thus creating an open, transparent, and accountable environment. It also assisted the government entities in reducing their transaction processing expenses, thus meeting their planned expenditures. Being investor-centric and an advocate for the investor by design, SW will increase the satisfaction levels of the government public services. Moreover, SW utilizes the most up-to-date technologies in the aspects of the systems and data integration, security, work automation to connect the government, third-parties, and service providers, e.g., banks with the society ensure that technology is actively contributing to the enhance the capacity building. This fact accompanied by the excellent internet infrastructure in Qatar shall push more people towards the active use of the internet.

The benefits to SW include:

- Significant reduction of complexity and ambiguity of the government services' procedures by merging, wrapping and re-engineering more than 180 services into 31 comprehensive services
- Reduced redundancy of issuing official documents by merging more than seven official documents, in the best-case scenario, into one official digital document, which also contributes to the protection of the environment
- Reduced the unnecessary use of papers by merging more than 100 applications into one digital smart form, thus reducing the waste of time and resources

(The above two points are expected to annually save an estimate of 165,000 USD, the cost of paper document printing, and archiving.)

- Contributing toward building an integrated government by integrating more than 22 government agencies and systems in one platform
- Reducing human errors in handling and reviewing the application by introducing electronic validation of the application's data via more than 50 system integration points with the official data sources, thus reducing the processing time and allows better utilization of the workforce to execute other non-routine tasks

- Providing a clear and transparent performance monitoring dashboard to measure the government agencies' commitment to offer their services efficiently, thus enabling transparency, accountability, and ability to make insightful and fact-based corrective actions towards the enhancement of the quality of the government services

(These above points are expected to reduce the annual cost on the government to issue business licenses by an estimate of 29,000,000 USD, and automate the manual tasks carried out by at least 380 employees.)

- Gathering all information related to the agencies in a central database, this provides a full and consolidated data about the investment landscape in Qatar, thus allows generating accurate statistics, avails data for decision-makers to conduct predictive analysis and also introduces the potential of introducing a data platform that could be used by the community and the government agencies to enhance their offerings.

(All of the above combined shall lead to increased public satisfaction levels and more trust in the government practices and reduction of the number of complaints and violations.)

8   QATAR GOVERNMENT CONTACT CENTER

MOTC implemented the "Government Contact Center" project to provide a centralized first line support service to the public, and to enable communication between with public and with government departments. In 2007, the Ministry established "Government Contact Center" which is being considered the official contact center supports Qatar government services 24/7. Companies, citizens, residents, and visitors can contact QGCC any time from any destination to ask about all government information or raise complaints or suggestions.

MOTC has developed the QGCC with the highest levels of technology and has adopted the best practices in industry (such as ITIL and ISO) to ensure the highest quality standards in the provisioned service. The e-Government support provided through the QGCC for these services, streamlines a wide range of administrative processes. By automating cumbersome processes, the government can increase productivity and redirect resources to more important priorities. It can also improve operating efficiency across and within agencies by leveraging shared platforms, data and resources. QGCC is also committed to preserve the environment, the usage of Electronic online services and the support of these services, helps minimize the paper-based applications and manual transactions government entities used to rely on.

QGCC is one of the largest government contact centers in the Gulf region, and it accommodates a large number of government entities and institutions. It is the linkage between all Gov. E-services and its target audience locally and internationally and provides:

- High-availability response time to facilitate and provide all technical support and information for all government services 24/7
- Providing the support for Gov. Service with 9 Languages (Arabic, English, French, Spanish Hindi, Urdu, Nepali, Malayalam, and Tagalog)
- Supporting different nationalities, as the agents in the Center, both males and females, speak various languages and dialects
- Improving the level of government services for individuals and companies. This target focuses on people living and working in Qatar and companies that support economic growth. And visitors who are planning to visit or invest in Qatar.
- Raise the efficiency of government E-services support. To maximize the utilization of the public resources of the state, also it works mainly to benefit the customers through high-quality standards and well-trained capabilities
- Increase the level of transparency and community participation, also to identify the political and economic value that can be achieved through openness and communication with all partners and providing services that meet their needs.

MOTC has made an effort to raise awareness of its Contact Center and prepared it to promote the various E-government services, provided by various government entities, such as the General Authority of Customs (GAC) and Communications Regulatory Authority (CRA). The Center provides the information to the customers through different channels:

- Calls
- E-mails
- IVRs
- Government website posts

QGCC has several branches from different sites to ensure resiliency, namely: Qatar, India and Sudan. All these sites are being managed by Qatar main site and are using the same systems and Information Bank. To maintain alignment with the central contact center's ethical dimensions, the agents across all the different contact centers sign "Non- Disclosure undertaking" which contain very strict rules.

The centers provide the necessary training and monitoring for their agents to ensure a solid understanding of the products and services, policies and procedures and the tools that they use to perform their job, such as the information bank that provides agents with all the information they would need to better service their callers.

Capacity building trainings are provided to agents includes:

- Soft skills training
- Knowledge and system training
- HPSM training
- Monitoring & feedback
- Coaching agents

QGCC provides the 1st line support to E-services within Qatar Government. The Center creates value for the direct customers. It saves them time because they no longer need to make many trips to government offices. It provides a better user experience, when paper forms and certificates are not required. It enhances service quality, as automation allows for faster and less error-prone processing of customer requests.

An example of a government entity that uses the QGCC to better provide their respective services to the general public is the Ministry of Municipality and Environment (MME). The QGCC offers the 1st line support to the MME via the short number "109" which allows to provide and/or support any environmental requests around the clock.

The main services provided through QGCC for MME are:

- General cleanness services
- Tree pruning request.
- Pest control request.
- Drainage system.
- Sewage vehicle.
- Rain water removal.
- Abandoned vehicles request.
- Provide garbage containers.
- Hazard Materials protection and waste management.
- Environment sector services.
- Electronic Environmental permit.
- Chemicals shipment custom release.
- Agriculture Sector services.
- Agricultural Consignment inspection.
- Issuing veterinary Health Certificates for animals.
- Public park services.

Another example of the services provided by the Center includes the healthcare appointments service "107 Hotline" which allows to provide and/or patients who needs Schedule appointments, reschedule appointments, Cancel appointments and General Inquiries and complaints

9 ELECTRONIC LABOR CONTRACT MANAGEMENT SYSTEM

The project came as part of State of Qatar's program of initiatives to enhance the level of awareness of expatriate workers of their rights according to Qatari Labor Law and other related legislation. An Electronic Labor Contract Management System (ELCMS) supporting multiple languages (currently 11 major languages) available through different electronic channels locally and globally. The contract narrative generation in different languages is fully automated based on a set of predefined templates that can be expanded dynamically. It provides expatriate workers with an authentic way to fully understand their rights in contractual agreement terms with their potential employers in their native language.

The system that started with one channel through MADLSA public website. Currently has been expanded through partnership with the Ministry of Interior (MOI) to a be a part of a portfolio of services provided by Qatar Visa Center with the ultimate goal of streamlining the process of expatriate recruitment end to end, through their physical existence in six countries around the globe. The system through its different services and channels has proved to enhance the recruitment transparency process and minimize the cases of disputes and eliminate the intentional manipulation of workers' rights. Providing the potential worker in Qatar with customized content that respects their linguistic diversity, generating customized contents that help protect their employment rights.

The project has clear linkage with number of Sustainable Development Goals (SDGs) such as Descent Work and Economic Growth (SDG 8) and Sustainable cities and Communities (SDG 11). It encourages the creation and distribution of software/E-service in different languages that provide content relevant to different segments of the population. It supports content development, translation and adaptation, content that is relevant to the cultures and languages of Information Society individuals (expatriates).

In the area of supporting non-literate expatriate workers, the project team has already piloted providing translated voice assistance as part of project extension to provide developed Electronic Complaints submission E-Service. The project model has proved to replicable both for the development MADLSA other E-services (E-Complaint , E-Wage Protection, etc.) under development, or as the successful use within the partnership with the MOI as part of their Qatar Visa Centers services outside the country. Based on the current standard character sets, Universal language codes (Unicode character set) and other technology advancements. Nothing prevents the project model to be replicated on similar or different E-services provided by any other country around the globe.

An efficient and sustainable labor market is considered a major pillar for economic development of any country; transparent contractual rights and responsibilities between employment parties enhance   the stability of such market.

Removing the language barriers between employers and expatriate workers with basic education/illiterate has proven to contribute in decreasing employment agreement dispute cases. At the same time an increase of the cases of expatriate workers negotiating or rejecting the employment agreements before even moving from their countries has been noticed as workers are now better informed about their rights and obligations.

10 CENTRALIZED CONNECTIVITY IN THE SCHOOLS NETWORK

Ministry of Education and Higher Education of Qatar had undergone a significant transformation in the recent years, with large investments in Education Facilities, Services, Technologies, Security and Infrastructure Transformation to ensure the education need of the nation's fast-growing population.

MOEHE had implemented a most coveted project, the Centralized Connectivity In The Schools Network, which enables MOEHE to have a high speed centralized, monitored, secure, reliable, scalable internet infrastructure for all the Government Schools & Kindergartens nationwide. This is achieved by restructuring the current scattered independent connections to the internet and MPLS line to a robust, integrated, secure, cost effective and performance based architecture with 200 Mpbs per School and 60 Mbps per Kindergarten with the Centralized Internet solution. This project has covered all the Schools & Kindergartens nationwide not only in the urban but also and rural areas as well. State of the Art technology has been deployed for Security, Monitoring and Wireless Management.

Stakeholders that are benefiting from this strategic project are about 200 Schools + 70 Kindergartens accommodating over 151,000 users (Students/Teachers/Staff). The network is an isolated zone created to serve only Government Schools & Kindergartens with ease of connecting into the network from anywhere in Qatar without much dependency on other services. Single policy, Single blacklist and patch deployment for all the Entities mentioned above, are deployed with state-of-the-art multi-vendor technology which are also scalable for the next couple of years.

It network contains a centralized monitoring system for all the entities and pro-active service from support team before the school or KG reports or upload the issue. Big cost saving on cutting down independent Internet lines from all the above entities and provide them Internet through Centralized, Controlled and monitored way.

11 NATIONAL DIGITIZATION PROJECT

In compliance and alignment with Qatar Vision 2030, MOTC took the initiative to launch NDP. The project seeks to facilitate the digital transformation of the government sector in Qatar by digitizing active and legacy physical documents. The project provides a catalogue of diversified digitization and Record Management services. Key aspects of the program are:

- Digitization of physical documents
- Enterprise Content Management (ECM)
- Storing physical documents in purpose-built, highly secured stores
- Secure records destruction
- Data Tape Management
- Secure and safe destruction of media storages.

This resulted into the following:

- Easy access to these documents. Using few keywords and in a minimal time a user can retrieve the required document.
- Multiple access to same documents at same time
- Saving time by eliminating filing, retrieval and refiling.
- Documents can be shared across different government entities.
- Minimize the use of papers and stay green.
- Minimize the cost of storing physical documents.
- Eliminate the risk of official documents being lost or ruined accidentally
- Control and Track access to sensitive information.

12 THEQA

Theqa is a non-for profit governmental program that aims to support the online shopper's community in Qatar regardless of their gender. The program means "trust" in Arabic, it is an eCommerce Trustmark, an electronic label indicating that an online merchant has demonstrated its conformity to standards regarding business practice, privacy, and security.

Introduced to help drive eCommerce in Qatar given the high internet penetration rate. The badge of trust provides peace of mind to local residents and nationals that it is safe to shop from local merchants that have the badge. It aims to inspire trust and empower growth across Qatar by encouraging spending and facilitating entry to market of new eCommerce players. The entrance of new merchants increases job and investment opportunities across the country.

MOTC has been working on setting up the Theqa Trustmark for over a year and officially launched it in October 2019 with 42 early members from the local online merchants' community. MOTC is planning to grow nationally with local service providers and internationally by partnering with international Trustmark associations to ensure their common goals are achieved together and the network of eCommerce in Qatar becomes international.

The project will contribute to a number of SDGs as Theqa was created to support the community. It will help reduce poverty and hunger by providing new job opportunities and investments for new merchants given the support given by MOTC. People can also use the eCommerce Portal that MOTC also created to offer information around setting up an eCommerce business, finding partners to work with and eCommerce guidelines that will facilitate earning the Theqa Trustmark.

Given the breadth of eCommerce industries and products, eCommerce and Theqa promote gender equality; it does not matter if the eCommerce shop was set up by a man or a woman, it is treated equally. Theqa will also support economic growth through the increase of eCommerce sales expected given that the program is promoting eCommerce and its benefits.

Theqa provides an easy alternative for people with accessibility difficulties by offering options of eCommerce shops to replace physical shopping that requires movement, a luxury not everyone has. Theqa also makes sure that merchants who become members follow a coherent straight forward process and menu to ensure consistency throughout the online shop and contribute to user experience.

13 SAFE SPACE

First launched in 2010, SafeSpace is designed as an online cyber-safety platform based on three fundamental principles: prevention, protection and empowerment. Its goal is to guide the community of Qatar and Arab region towards a safer and more responsible use of Information and Communication Technologies. We were able to deliver cyber-safety awareness workshops for more than 400 governmental and international schools within Qatar with over 30,000 people participating in direct workshops.

The SafeSpace portal essentially caters to young people, caregivers and educators. It is equipped with valuable information and resources on cyber safety and security, provides educational games and tips, and up-to-date insights on cyber-bullying to help parents and teachers protect children against those threats. Additionally, the platform offers two unique educational programs called Digital Literacy Curriculum and HASEEN. Each programme includes extensive courses - in both English and Arabic – accompanied by a wide range of online resources to provide high-quality training for institutions, schools and homes.

The website can be used in other countries as the main values being developed are accepted in Arab and international communities as well. The values created in our Code of Ethics, which is the main reference point for Safespace website content. We encourage values such as respect, honesty, and responsibility are values that shall be used while being online not just in real life. SafeSpace's vision is to be the ultimate reference for anything related to cyber-safety and to be the source for good netizens in Qatar and the Arab world. This involved collaboration with several stakeholders like Ministry of Education and Higher Education (MOEHE) and Ministry of Administrative Development, Labor and Social Affairs (ADLSA) and other governmental entities, also collaborating with private and large organizations, such as Microsoft and Vodafone to achieve our mission.

Through the information and content we provide in the website, we empower caregiver, youth, teachers and the public to know how to deal and use information technology in a safer way, and prevent incidents. All content available was not created to make reader/listener aware of thread, but to also change his/her behaviour for the better. Quizzes and videos are one of the most effective and easy tools that people tend to use to raise awareness of cyber-safety. SafeSpace aims to increase the user experience and make the knowledge of cyber-safety essential.

MOTC has developed the code of Ethics guidelines, which teach users the values that we raise like honesty, responsibility, modesty. Over 400 government and international school has been used SafeSpace Digital Literacy Curriculum and other related content to educate students, educators and also parents about cyber-safety:

- 30,000 people has been taken cyber-safety awareness session through SafeSpace content.
- 9 local partnerships between governmental entities and private organizations to promote cyber safety awareness.
- 90% users have been interviewed after using our content and they said they learned more about cyber-safety.
- 1500+ book under digital parenting has been delivered to target people with 4 different topics.
- 1.5mln impression about cyber-safety campaign for #AmenTaslam.

With the launch of the updated portal design, the MOTC has re-envisioned the current platform by adopting a human-centred approach and a brand-new user experience for greater interaction across different age groups. The latest version includes new content, improved navigation, optimized interface design and higher functionality. With the launch of the updated portal, SafeSpace aims to become the ultimate hub for cyber-safety in Qatar and the Arab Region. Furthermore, as awareness around the topic keeps growing and evolving, we also hope to create responsible netizens community that would act as a foundation for future generations.

SafeSpace is also promoting a new children's cartoon (Salem and Salma) twins exposed to situations that would establish the values of safety on the internet and provide guidance tips for children in a fun and entertaining way.

The main difference between SafeSpace website and other sites:

- Its ability to stimulate the state's intrinsic values
- It packages relevant content in snack-able, easy to digest formats – Videos, Articles, Quizzes, Games, etc.
- It raises awareness around the importance of preserving the great values Qatar was built on

14 IMPROVING STUDENTS THROUGH EFFECTIVE EDUCATION

Producing a set of digital education lessons associated with the Qatari curriculum standards for all school students from the third grade to the twelfth grade for the following subjects: Arabic, English, Social Studies, Mathematics, Islamic Education, General Science, Chemistry, Physics and Biology). These courses are produced by the teachers of these subjects in public schools after receiving a specialized training in the production of video lessons and reviewing them academically and technically by specialized committees in the Ministry of Education and Higher Education (MOEHE).

The objective of these courses is to raise the standards of academic achievement for students and ensure the achievement of their educational goals. These video lessons are uploaded on the MOEHE's YouTube channel and they are available for anyone to make use of.

The production of these video courses began in 2015. So far, 1836 video lessons have been uploaded to the channel. Results achieved:

- Raising the standards of academic achievement for students.
- Encouraging self-learning and reduce the reliance on private lessons by publishing approved video lessons to be accessed anytime and anywhere by teachers, students, parents and adult students.
- Providing various learning opportunities that enable teachers to improve their potential and contribute effectively to the workforce and the Qatari community. The number of views has reached 3,893,177 worldwide, and the number of subscriptions has reached 30K from different countries around the world.
- Contributing to building the technological capacities and skills of different teachers to design and produce video lessons.
- Empowering local communities, especially those in rural and underserved areas, in ICT use and promote the production of useful and socially meaningful content for the benefit of all
- Producing video tutorials and publishing them on the YouTube channel, with the help of teachers teaching different subjects in public schools. This includes all the subjects teachers teach in their respective disciplines.
- Developing domestic policies to ensure that ICTs are fully integrated in education and training at all levels, including in curriculum development, teacher training, institutional administration and management, and in support of the concept of lifelong learning.

The video tutorials project was adopted by the MOEHE and was disseminated to the entire community. This contributed to the shifting of the curriculum from the traditional form to a more developed digital content, making the channel a face to the parties in the educational process in the local and international community. The courses offered are continuously updated according to the national curriculum and contribute to the refinement of teachers' skills by providing them with ideas that would allow them to explain subjects to the students. Develop and promote programs to eradicate illiteracy using ICTs at national, regional and international levels.

The video tutorials target non-formal education students, the elderly, and all other groups locally and internationally. Governments, in cooperation with other stakeholders, should create programs for capacity building with an emphasis on creating a critical mass of qualified and skilled ICT professionals and experts.

Specialized training in the production of lessons is provided to all productive teachers by the MOEHE. This training includes:

- Shooting videos and editing using Camtasia
- Advanced features in Microsoft Office

- Motion graphics websites such as Paw toon and go animate
- Interactive projector software
- Audio recording using Camtasia and specialized audio programs.

Through questionnaires distributed regularly to the different contributing parties in the educational process (teachers, students, educational guidance), the following was observed:

- The level of academic achievement of students has increased.
- The students' motivation towards self-learning has increased.
- The teachers have developed their academic and technological skills.

Playlists for third grade to twelfth grade students have been created and are easily utilized. There are also playlists for the subjects of each grade and they are categorized by the topics of each subject. Relevant tags & keywords have been added to each video tutorial to facilitate the search process on the YouTube channel. The video lessons have been added to the learning management system within the e-content tab. This will allow the teacher to easily access the desired lesson by using search tools associated with the subject, the class, the name of the lesson, the name of the unit, the criterion, etc.