The U.A.E.'s Ultra-Smart Cities Go Back To Basics

While buzzwords such as blockchain and AI have us envisioning a city run on space-age technologies, could big data hold the key to driving the future of digitalization in our cities after all?

By Inga Louisa Stevens

In today's interconnected, hyper-digitalized world of smart devices, the expectation that our cities will also embrace technological transformation to improve their services and enhance our experiences is a given. Indeed, many of us have no doubt that in 10 years' time we will be paying our bills, applying for loans or hailing autonomous vehicles via personal digital dashboards that aggregate all of these services together in one seamless, paperless, experience. In the U.A.E., with its journey towards digital transformation already in full swing, the future may be closer than we think.

Dr Aisha Bin Bishr, Director General of the Smart Dubai Office

The Smart Dubai Initiative, launched in March 2014, has ambitious plans of making Dubai a global benchmark smart city by taking a collaborative approach to delivering an efficient, seamless, safe and impactful city experience for its residents and visitors. The first phase of the initiative, which was successfully completed in 2017, became the digital backbone and fully-fledged foundation of the smart city strategy.

"During the first phase, we scanned our horizons to discover the technologies that are coming to our city and we adapted our strategies and plans accordingly," explains Dr Aisha Bin Bishr, Director General of the Smart Dubai Office, the government entity charged with overseeing Dubai's citywide smart transformation. "Today, we have adopted a number of strategies based on tools for the 4th Industrial Revolution (4IR) including blockchain, the Internet of Things (IoT) and Artificial Intelligence (AI) and we are now in the process of orchestrating the implementation of these advanced technologies to the benefit of our society."

Earlier this year, Dubai's Crown Prince, His Highness Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, announced December 12, 2021, as the target to make Dubai a paperless city. Seen as the second phase of the emirate's smart city strategy, it focuses on the full adaptation and implementation of these 4IR technologies to digitize the city.

The Dubai Paperless Strategy aims to ensure that Dubai has the full infrastructure and fully-embedded technologies to achieve a paperless city, as well as making sure that the legislative framework in Dubai supports this move and, perhaps most challengingly, that it fosters a cultural shift to the adoption of these strategies.

The first phase of the Dubai Paperless Strategy, which ends in September 2018, involves six government entities that have been fully digitized—the Road Transport Authority (RTA), Dubai Electricity & Water Authority (DEWA), Dubai Police, Dubai Economic Department (DED), the Department of Tourism & Commerce Marketing (DTCM) and Dubai Land Department. "So far, we are on track to achieve 100% digitalization and these use cases will be our role model to scale the project across the entire government," says Dr Aisha.

Dubai's award-winning Blockchain Strategy, launched in 2016, is also on track to conduct 100% of its transactions via an online encrypted database by 2020. When completed successfully, Dubai will be the first blockchain-powered government, driving the future economy. Smart Dubai is in the process of compiling a comprehensive roadmap of all 20 ongoing blockchain use cases in the city in order to transform them into real experiences and to eventually scale the technology out across the city.

"As blockchain is a nascent technology, we realise that it is not necessarily the magic solution to everything in our city, but we want to support the creation of the blockchain industry in Dubai by making the technology available for everyone in our

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city, and through this, ultimately become a global leader in this industry," explains Dr Aisha.

When it comes to AI, Dubai began its journey by partnering with IBM on their Watson project to produce Rashid—the first Arabized AI implemented in Dubai. This was the first use case of the city's 2015 Artificial Intelligence Strategy, which utilized Rashid as an interactive tool for anyone searching for information on starting a new business in Dubai.

"Today we have more than 38 other use cases in which we are working directly with government entities to start coding their specific use cases around AI on top of our platform," says Dr Aisha.

While blockchain and AI may be the buzzwords associated with digitization, without Big Data these technologies cannot be implemented. Overseen by the Dubai Data Establishment, the Dubai Data Law, which is the first of its kind globally, allows the government to classify both open and shared data. "Once this is done, only then can you legitimately say that you have a digital economy in your city," Dr Aisha explains.

The Dubai Data Establishment ensures that the government departments are compliant with the law and that privacy and security are strictly adhered to. The Establishment also provides a digital platform to publish the data allowing users to analyze the data, develop dashboards and make predictions, among other services.

Measuring how the process of digitization is having an impact on the wellbeing of people is a core goal for Smart Dubai and Dubai has chosen happiness as its metric. "Smart Dubai is not about technology, it is about enabling technology for the benefit of our people and making sure that our people are happy in our city," says Dr Aisha.

His Excellency Sheikh Fahim bin Sultan Al Qasimi

Dubai's Happiness Agenda has a simple methodology—to understand the needs of the people, make the necessary changes in the system to fulfil these needs, and then educate people that processes have been changed based on their feedback. Today, the Happiness Meter has over 40 million votes and, at the end of 2017, the Happiness Index showed an 89% achievement of happiness in their services. By the end of 2021, this figure is hoped to reach 95%.

"Our strategy focuses on the impact of digitization, making sure that it is not only centered around efficiency, but it is about increasing people's happiness as well as the sustainability of our city," Dr Aisha notes.

When asked about what being a smart city means to Dubai, Dr Aisha explains that it is a city where the government can understand, predict and provide for the needs of its people without any paper, making it efficient and seamless, and using the entire infrastructure available. "The Expo 2020 will be a testament of all of the advanced technologies that we are implementing in our city," she adds.

Dubai's smaller neighbour, the Emirate of Sharjah, is also going through its own journey of digital transformation. The Higher Committee for the Digital Transformation of Sharjah, which oversees the digitalization of services for 1.4 million residents, is guided by a data-led strategy approach that combines information on activity in Sharjah's economy and society on four anchors: the person, the place (the geographical location), the entity (any company, government department or N.G.O.), and the infrastructure.

"Sharjah has what we call a data-led strategy driven by the need to access accurate and live data," explains His Excellency Sheikh Fahim bin Sultan Al Qasimi, who is the Executive Chairman of the Department of Government Relations & Chairman of the Higher Committee for the Digital Transformation of Sharjah. "If we can anchor all data points on those four anchors, then we can rationalize a lot of analysis and we are encouraged to digitize our entire value chain and processes."

Through this strategy, Al Qasimi believes that Sharjah can achieve the transparency that it needs, and, as a byproduct, achieve service improvements. "So rather than just focusing on faster, more efficient services, we are driven by the guiding ethos of smarter policymaking, through data-driven decision-making."

Al Qasimi says that instead of referring to Sharjah as a smart city, he prefers the term "intelligent city". "An Intelligent Sharjah means that we will be able to apply the appropriate policy tools based on the fact that we have that accurate representation on what we are working with. We have a legacy of creating a knowledge-first economy and, with that, we work closely with the academic institutions to help us work on this Intelligent Sharjah strategy."

Al Qasimi is a firm believer that what Sharjah is looking to achieve in terms of digital transformation can be achieved with the technology already available to them today. However, working closely with Sheraa—the emirate's accelerator program—he says that the government is able to allocate 10% of their resources to ensure that startups are part of their delivery. "Not only does this allow a certain part of the economy to be represented in our society, but more opportunistically, it helps the government crowdsource some of our ideas."

Sharjah's proud legacy as the U.A.E.'s capital of culture, education and innovation, has Al Qasimi looking towards the future. "We have a platform that we hope will become a benchmark to other cities as they realise that a data-first approach to digitization will help them achieve everything that they set out to achieve; through cooperation rather than trying to introduce untested technologies."