

CITY EXPERIENCE RESILIENCE & IMPACT REPORT

A holistic view into the resilience of Dubai with regards to the impact on the city experience for services and service delivery due to the disruptions caused by the Coronavirus Covid-19 pandemic





orewor	A	
Execu	tive summary	-
Introd	duction	(
Resea	arch Methodology	
3.1 Pa	rticipants	
3.2 In	terviews & Analysis	
Findi	ngs	
4.1	General	
4.2	Employees	
4.2.1	Working Style: Remote working - A new way of working together, but apart	
4.2.2	Personal Overload: Clashing multiple roles and responsibilities	
4.2.3	Wellbeing: A need to live a balanced life - physical and mental	
4.2.4	Remote Working: Quick change in the work environment	
4.2.5	Agile Re-Organization: Shifting roles and re-deployments of staff	
4.2.6	HR Services: Most services were already online, and others were fast-tracked	
4.2.7	Training: New methods and new material	
4.2.8	Task-Oriented: Focused towards results and outcomes	
4.2.9	Management Availability: Senior staff available and accessible to team	,
4.2.10	Mothers: Work from home whilst attending to new-borns	
4.2.12	New Era: A new more productive work culture	
4.3	Operations	
4.3.1	No Changes or Challenges: Infrastructure already enabled	
4.3.2	Platform Readiness: Mixed levels of resilience	
4.3.3	Personal readiness: Lack of adequate personal equipment & infrastructure	
4.3.4	Clarity for Staff: Ensuring roles and expectations are understood	
4.3.5	Physicality: Proximity and social distance of physical services	
4.3.6	Artificial Load: Sub-quality design artificially increase load on call-centers	
4.3.7	Frequent Updates: Staff on high alert with reactive and proactive actions	
4.3.8	Remote Working: Dubai is ready to embrace remote working as the norm post COVID-19	
4.3.9	Office Space: New concepts leading to significant savings	

	4.3.10	Accelerated Digitisation: Quickly identify and close gaps	14				
		in digital infrastructure	14				
	4.3.11	Collaboration: A sense of a unified Dubai mission	14				
	4.3.12	Big Picture: We got stuck in the how/who, we missed the what	14				
	4.4 Services						
	4.4.1	No Changes or Challenges: Services already online	15				
	4.4.2	Stopped Services: Must be physical, by nature or by legal requirements	15				
	4.4.3	Traditionally Physical: We've always done it this way!	15				
	4.4.4	Quick Digitisation: Re-engineering towards a paperless city	15				
	4.4.5	Special Dispensation: Relaxing rules and giving discretionary powers	16				
	4.4.6	Shift in Demand: Swings in highs and lows	16				
	4.4.7	Clarity for Customers: Mixed messages & multiple sources confuse customers	16				
	4.4.8	Signatures: UAE PASS as a significant enabler	16				
	4.4.9	Shift to Call-Centers: As expert service channel	16				
	4.4.10	Barriers no More: A new culture of digitisation as a direct result of successes	16				
	4.4.11	Quality for Adoption: A business case for efficient service provision	16				
5	Reco	mmendations	17				
	5.1 R	emote Working: Dubai is ready to embrace remote working as the norm post COVID-19	17				
	5.2 N	w Work Culture: Productivity and outcome-oriented	17				
	5.3 V	Vellbeing: Living a balanced life - Physical And Mental	18				
	5.4 E	nabling Technologies: As foundations of a smart resilient city	18				
	5.5 lr	formation Clarity: Shared situational awareness and important information	18				
	5.6 G	tuality as a Strategy : System efficiency driven by a long-term view	18				
	5.7 D	igitisation: Maintain and improve digital services and infrastructure	19				
	5.8 R	Resilient City: Maintain a holistic city-view to thrive under pressure	19				
6	Conc	lusions	20				
7	Ackn	Acknowledgements					
8	Appe	ndices	22				
	8.1 <i>A</i>	Appendix A: Interview Questions	22				
	8.2 A	ppendix B: DGHR Remote Working Guidelines	22				
9	Gloss	ary	23				
10	10 References 23						

FOREWORD

The third decade of the millennium began on an interesting note, to say the least.

As the world welcomed the year 2020, news of a mysterious virus wreaking havoc in Asia quickly turned into a reality around the world. The COVID-19 contagion, a novel coronavirus, spread to virtually every country, confining millions to their homes. With very short notice, students shifted to studying entirely from home, and government and private sector employees followed soon after.

World governments found themselves in uncharted territory, faced with unprecedented challenges. The UAE and Dubai were no exception. Local and federal authorities immediately sprang into action, setting policies and implementing regulations to keep people safe and limit the spread of the virus. Individuals in Dubai were encouraged to stay home and benefit from the emirate's advanced digital infrastructure and smart services. I'm proud to say that Smart Dubai played a significant role in supporting these initiatives, for example, the provision of the DubaiNow mobile app, allowing residents and visitors access to over 120 services from 33 entities (private and government), and continuing the development and operation of UAE PASS, the UAE's national digital identity, allowing secure identification of individuals remotely whilst also providing digital signing capabilities.

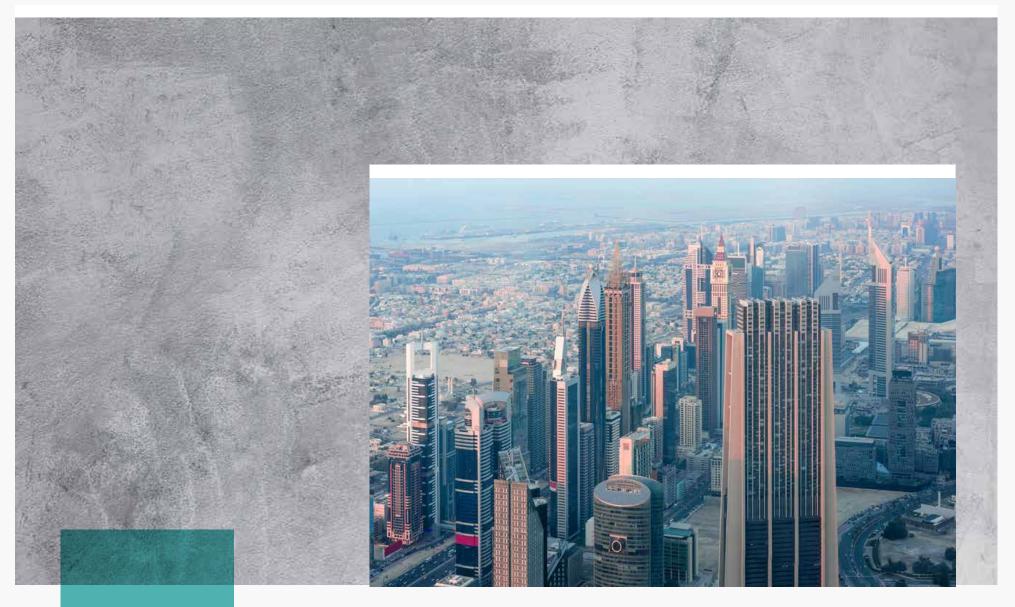


underpinning many vital smart services with authentication and digital signatures.

As Dubai and the UAE are slowly emerging out of the lockdown, we sought to explore the impact that these unprecedented crises have had on customer experiences around the emirate.

Though the the impact of the pandemic is still in a dynamic phase, many city systems today are under going a massive change. With these changes taking place we believe it is important to raise questions about how cities will accordingly evolve and adapt for a new future.

This document reports the research conducted by Dubai's Happiness Agenda team, which was undertaken with the help of the Smart City Experience & Work Environment Specialists, who are senior managers at various government, semi-government, and private sector entities. The report examines the true effects the COVID-19 outbreak, and the subsequent lockdown, have had on city services, and the resilience of these services to such disruptions.



DUBAI HAS DEMONSTRATED **FLEXIBILITY AND** RESILIENCE **DURING THESE** TIMES

The COVID-19: Citv Experience Resilience & Impact Report offers insight into how, by using technology, Dubai has demonstrated flexibility and resilience during these times, which has helped avoid reducing the quality of impact on urban experiences, whilst improving several services in parallel and in many cases making direct use of city data to make these improvements. It explores the extent of COVID-19's influence on employees, operations, and



internal and external services in various city sectors, in addition to outlining and detailing the challenges, opportunities, and procedures brought on by these unprecedented conditions.

It is our hope that the lessons and recommendations from this report will serve as foundations to setting policies that, in the post COVID-19 world, will continue to have people's best interest and wellbeing at heart, and help raise happiness among residents and visitors, and resilience of the city, making Dubai the happiest and smartest city on Earth.

H.E. Dr Aisha Bint Butti Bin Bishr Director General, Smart Dubai

EXECUTIVE SUMMARY





A HOLISTIC VIEW INTO THE RESILIENCE OF **DUBAI WITH REGARDS** TO THE IMPACT ON THE **CITY EXPERIENCE FOR** SERVICES AND SERVICE **DELIVERY DUE TO THE DISRUPTIONS CAUSED BY THE CORONAVIRUS COVID-19 PANDEMIC**

In continuing the mission of the Happiness Agenda, launched by H.H. Sheikh Mohammed bin Rashid Al Maktoum, Prime Minister and Vice President of UAE, and Ruler of Dubai, to make Dubai the happiest and smartest city on Earth, this report focuses on smart services. from the perspective of:

Employees, Operations, and Services (Customers)

The Happiness Agenda team interviewed senior managers in Dubai, working at the levels of service delivery for both customers and employees. The report focuses on changes and challenges and the extent that Dubai has minimised any negative impact, caused by the pandemic. It also discusses how Dubai has maintained its service levels, and future opportunities, with lessons learned, and the role of digital technology towards resilience (current state of the technology, gaps, and future roles).

In general, the report finds low level of disruption and negative impact to services in Dubai, for both customers and employees. Many organizations have reported that they already had significant infrastructure and services already digitised and working, continuing online delivery. They also reported many cases of quick and agile behaviour within their organizations to bring remaining services quickly into fully digital and usable condition.



Employees are at the heart of any organization at any scale, including the city as a whole. Their attitude and the way they operate influences the output of the organizations directly. Therefore, a particular focus was taken on how the pandemic affected the way people worked. Remote working has been found to be a strong theme emerging from the interview data, raising both positive and challenging aspects to the new way of working and delivering services. For example, the wellbeing of staff was something to be safeguarded in order to ensure normal social interactions are maintained, which are present in the normal physical work environment.

Postive aspects include the extra flexibility that employees found in the new setup, as well as the higher productivity and focus being consistent themes. Interestingly, the shift towards remote working also created new opportunities to re-consider the office space configurations, suggesting that offices will be redesigned in the future, to be more efficient in space requirements, and more flexible.

Overall, there were many reports of a new broader online culture becoming the norm, as far as expectations from customers, with call-centers filling the gaps where people required human assistance. This new culture, has also been seen inside organizations, where full digitization was seen as a challenge, but the urgent demand allowed people to innovate to quickly bring the rest of the services online.

This quick reaction was particularly evident in the way managers at all levels were alert and in quick-response mode, reacting to the fast pace of change, as the pandemic grew. Call-centers were quickly able to take up the load from customer service centers, with remote call-center infrastructure supporting staff working from home. However, where the quality of user interface design had not been at a sufficiently high standard, some services artificially increased the load on call-centers, requiring staff

to help confused customers, or people who had accessibility issues.

Many participants in the study reported various new opportunities that have been identified as a result of the recent changes and lessons learned, including the increased working flexibility options for maternal staff, as well as the cost and time savings. Some opportunities highlighted the use of more modern technologies towards improving services, such as UAE PASS, giving services more intrinsic value for customers and organizations, as well as holistic benefits across the city. These opportunities have been a direct result of the past implementations of foundational infrastructure, as well as the many smart services that have been provided in Dubai by many of the key government, semi-government, and private organizations, giving Dubai a strong resilient response during this global crisis. It is the combination of these tools and technologies, with the strong coherent leadership and vision for Dubai, that has allowed the city to maintain control and thrive in these challenging times.

Finally, the report concludes with a set of clear recommendations and overall conclusions based on key experiences during the pandemic, and how these will play out in the future to continue positioning Dubai as a leading global smart city.

2 INTRODUCTION

In May 2016, H.H. Sheikh Mohammed bin Rashid Al Maktoum, Prime Minister and Vice President of UAE, and Ruler of Dubai. launched Dubai's Happiness Agenda in order to formalise the efforts towards making Dubai the happiest city on Earth. The Happiness Agenda constitutes a structured framework and understanding of happiness and wellbeing, founded on academic research and data, as well as a methodical approach to raising the quality of life in Dubai. With direct support of the Happiness Champions, from organization and government and semi-government entities in the city, Smart Dubai was mandated to oversee the operational success of the Happiness Agenda, ensuring progress towards the goals and vision of the leadership.

After, more than three years of progress, on 24 Dec 2019, H.H. Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of The Executive Council of Dubai, launched the latest phase of the Happiness Agenda towards improving people's experience in the smart city of Dubai, and has emphasised the role of the Happiness Champions (now titled as Smart City Experience Specialists, and Work Environment Specialists) as a key aspect of the way smart cities work, saying that "Happiness Champions contribute to a smart city's soft power."

With such an important mission, critical to the competitive advantage that Dubai has as a global city, it is essential to

ensure that operations are resilient to challenges, and that progress is maintained, while reducing any adverse impact of potential disturbances. It is therefore important to assess the resilience of Dubai in the context of maintaining a high quality of experience and wellbeing afforded to its citizens and visitors. Further, the notion of resilience of cities is well established, and has had much attention globally, with such flagship projects as 100 Resilient Cities that was pioneered by the Rockefeller Foundation (100 Resilient Cities, 2013). Resilience of a city is defined here as "the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and thrive no matter what kinds of chronic stresses and acute shocks they experience" (Arup, 2019).

"

THE HAPPINESS **CHAMPIONS CONTRIBUTE TO A SMART CITY'S** SOFT POWER."

It is therefore important to examine the impact on city life, caused by the Covid-19 pandemic, and to endeavour to understand the changes, highlight the lessons learned, and act on the opportunities at hand. The impact of the pandemic is however still in a dynamic phase, raising questions about the way cities will evolve and adapt, as many systems still undergoing change (Batty, 2020).

By way of illustrating the context and sequence of events that led to this investigation and report, it is useful to make a brief description of these relevant events. As a response to the initial cases of infections in the city, combined with a careful assessment of developments of the pandemic worldwide, many organization in



to work from home, while ensuring that operations to deliver their services were unaffected. On 26 March 2020, the city underwent sterilization measures, which also limited physical movement within the city. Then, between 4 - 23 April 2020, full sterilization was in effect for two weeks (24/7 hours), and anyone wishing to move within Dubai, required a 'permit to travel'. which was obtainable through a new online portal (DXBpermit.gov.ae).



Dubai had instructed their staff

IN MAY 2016 H.H. SHEIKH MOHAMMED **BIN RASHID AL MAKTOUM** LAUNCHED DUBAI'S HAPPINESS AGENDA

2 INTRODUCTION



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The restrictions were then relaxed on 23 April, with new Ramadan timings, where a permit was required to move in Dubai between 10pm - 6am, which then changed to 8pm - 6am towards the end of Ramadan and Eid Al-Fitr. All these changes required a reconfiguration of how staff worked, and the way some of the services are provisioned and delivered in the city.

This report is particularly focused on the context of a smart city, having ICT infrastructure, smart services, data collection, analysis and dissemination, and decision tools (manual and automatic), as was demonstrated by the Covid-19 dashboard developed by Smart Dubai. However, as highlighted in the Happiness Agenda goals, the quality of life, city experience, and fulfilling the needs of residents and visitors are the focus of all these technologies (Batty, 2018). The quality of these experiences must therefore be a key focus, since

"if technology does not work for people, the technology does not work" SERVICES





FIGURE 1

HIERARCHY OF PERSPECTIVES OF SMART SERVICES RESILIENCE The report therefore illustrates such service provision as one built on a hierarchy, starting with the people who work to deliver and maintain a viable infrastructure, and support the services provisioned to the inhabitants of the city. This simple hierarchy (Figure 1), therefore allows a structured assessment the impact on the city experience, and the resilience of the overall systems, from these three perspectives:

• EMPLOYEES

Staff with the appropriate skills and working environment

• OPERATIONS

Infrastructure and enabling technologies

• SERVICES

Efficient and convenient customer experience

The assessment within this report is based on qualitative interviews with senior employees within the city (government, semi-government and private organizations), giving their direct experiences of the changes, challenges and opportunities they identified throughout this period. The findings are discussed individually, and then summarised into a set of clear recommendations, which are a primary intended outcome of this report.

RESEARCH METHODOLOGY 3

3.1 **PARTICIPANTS**

More than 20 hours of in-depth 1-to-1 interviews were conducted, with a mix of Smart City Experience Specialists & Work Environment specialists, from government, semi-government and private organizations. (20 organizations in total).

SMART CITY EXPERIENCE & WORK ENVIRONMENT SPECIALISTS محساكسم دب DUBAI COURTS الصحة بدب THE EXECUTIVE COUNCIL UBAL HEALTH AUTHOR مؤسسة محمد بن راشد للإسكان ىپە دىس هيئة كهرباء ومياه دب med Bin Rashid Housing Es هيئة تنمية المجتمع هینهٔ تنظیم الا تصالات <mark>۲R</mark>۸ يبلطة واحة حبت للس i Silicon Oasis Authority Knowledge Las 9 شرطةدبب SMART ÖUBAI Emirates DUBAI POLICE EDUCATION

3.2 **INTERVIEWS & ANALYSIS**

The interviews were conducted online, using Microsoft Teams video conferencing tool, with the participants being made aware of the purpose of the questions, which is to allow analysis of the response to the Covid-19 pandemic, and to share the findings towards improving current responses for all, and to increase the resilience of the city to be better prepared for similar future events.

In reporting the findings from the interviews, quotes from the contributors have been anonymised to protect their privacy, and to allow focus on the intent and meaning of the points being discussed.

ANALYSIS METHOD

• INTERVIEWS: One hour in-depth 1-to-1 interviews

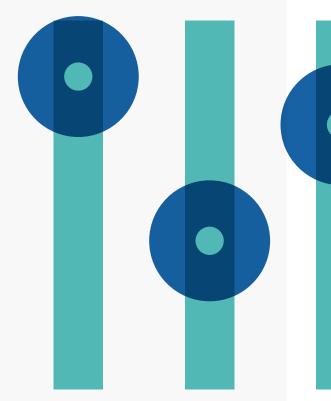
Based on semi-structured interview questions (see Appendix), 1-to-1 interview sessions (60 mins/interview), were conducted with the Smart City Experience and Work Environment Specialists (senior managers). Each interview was noted by two researchers, and notes were compared after the interview, in order to ensure full value was obtained, and nothing was missed.

• CODING: Thematic analysis within each interviews, and overall

The data were then carefully reviewed for all the participants' findings for each question, and grouping and coding the answers into themes, and topics of focus. Representative quotes were also collected for illustration purposes.

• WRITE-UP: Detailed descriptions for each theme and report structure

The overall themes were grouped according to the natural groupings found in the data, and written into the findings sections of this document, giving a concise description for each. These findings were then converted into recommendations, based on the success factors that the participants reported.



4.1 GENERAL

In general, all organizations had very similar technologies for their infrastructure to allow their staff to continue their work from home, and sustain operations and delivery of services. They also shared similar types of information and documents for awareness and dissemination of important announcements, information and guidelines. However, some participants specifically said that they and their colleagues preferred to get pandemic and medical related information directly from a trusted medical expert, saying that they "listen to DHA mostly, because they are the specialist [in the context of the pandemic]", though some recognised that HR departments are also potentially viable sources of such information.

SHARED DOCUMENTS

The list below shows the types of documentation shared within organizations. Some of the content of these documents were re-formatted, combining content from original sources (e.g. DHA, DGHR), to maintain organization branding.

• LEADERSHIP MESSAGES

Transparency on procedures and corporate decisions and decrees.

• GUIDELINES

Health and safety, hygiene and behaviour, wellbeing, travel restrictions (e.g. physical/social distancing, washing hands, videos on how to stay healthy).

POLICIES
Work from home policy.

• ALERTS & PRECAUTIONARY PROCEDURES Cyber-attacks alert, due to increased risks.



INFRASTRUCTURE TOOLS

The following types of tools are being used by organizations in order to operate efficiently during the Covid-19 pandemic.

• **COMMUNICATION/ VISUAL/ SHARING** Microsoft Teams, Skype Business, Zoom, GoToMeeting, JABER, Webex, GoToWebinar, Avaya, shared space.

OPERATIONAL TOOLS
VPN, Smart Employee, GRP, Smart
Messenger, Yamer, UAE PASS.

• **SPECIALIST TOOLS** Benefits allocation systems, loan platforms, call-center platforms etc.





4.2 EMPLOYEES

The following section describes findings from the perspective of the employees of organization, specifically regarding the changes and challenges the organizations experienced during the pandemic, as well as some of the opportunities they identified.

CHANGES & CHALLENGES

THE FOLLOWING ARE FINDINGS RELATED TO CHANGES AND CHALLENGES IDENTIFIED FROM THE PERSPECTIVE OF "EMPLOYEES" WITHIN ORGANIZATIONS.

4.2.1 WORKING STYLE

REMOTE WORKING - A NEW WAY OF WORKING TOGETHER, BUT APART

Though, the idea and practice of individuals working remotely or from home, was not new, employees suddenly found themselves in a new working environment, where they were working together as teams, but at the same time being physically apart. This raised issues of communication channels and methods, as well as matters concerning trust (trusting employees to perform their tasks), discipline (keeping regular working hours), and productivity (ensuring productivity levels are maintained). There were also some special cases where the physical layout of space and equipment that they were used to, was not available at home (e.g. double-screen working when comparing large and detailed documents).

4.2.2 PERSONAL OVERLOAD

CLASHING MULTIPLE ROLES AND RESPONSIBILITIES

For some people, working from home presented challenges that were due to other responsibilities at home in addition to the normal workload. Specifically, some parents found it difficult to work from home, while also having to attend to their children studying from home, because the children were also required to be at home.



Though each, parents and students, can work remotely, loading the parent with 'another job' is challenging. This new situation clashes with the normal context of home responsibilities, and some parents find it challenging to work from home and simultaneously control their children in the e-learning environment.

4.2.3 WELLBEING

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A NEED TO LIVE A BALANCED LIFE -PHYSICAL AND MENTAL

Maintaining a healthy balance in physical and mental wellbeing is critical during these challenging times, and is especially important in order to manage stress and uncertainty, while maintaining staff engagement levels (Scott-Jackson & Mayo, 2017). Such stresses are amplified by various factors, such as a lack of separation of working time and home time (tasks were given at all times of the day), lack of casual team social physical interaction or when there is a reduction in the quality of communications. Such reduction in communication quality has been experienced with an increase in the use of video calls instead of face-to-face interactions, also referred to as 'Zoom fatigue' (Fosslien & West Duffy, 2020; Sklar, 2020).

Some organizations made a point of checking in with their staff on a regular basis to ensure their wellbeing, especially for organizations who already monitor daily happiness scores, and act accordingly (regular surveys given to staff). Nonetheless, the physical safety and wellbeing are also important, and in some cases, staff had concerns regarding physical interactions with customers (in terms of risks of passing infections). Further, on the point of improving and maintaining physical wellbeing, some organizations actively encouraged/provided the use of online fitness programs.



4.2.4 **REMOTE WORKING**

QUICK CHANGE IN THE WORK ENVIRONMENT

One of the most significant changes to occur in the way people work is that of 'remote working'. This has been the case for many aspects of work, including the hiring process itself (apart from the medical test and visa). Though DGHR has previously discussed policy and guidelines to allow options for remote working in Dubai Government (see Appendix), they had not been implemented. Though there were initial challenges for management to get used to running their teams remotely, e.g. regarding maintaining productivity and trust, the revision and implementation of the DGHR policy and guidelines has since been accelerated across Dubai Government, taking advantage of the practical lessons learned during this period. A particularly interesting development has been the successful implementation of remote working for call-center staff, which was previously seen as a challenging option. This raised the point of the need for offices in the first place "If we can do all this from home, why are we going to work?". Nonetheless, it seems that people miss the significant value of the physical social interactions available in a traditional working environment, and suggesting that "work [is] a type of therapy?".

4.2.5 AGILE **RE-ORGANIZATION**

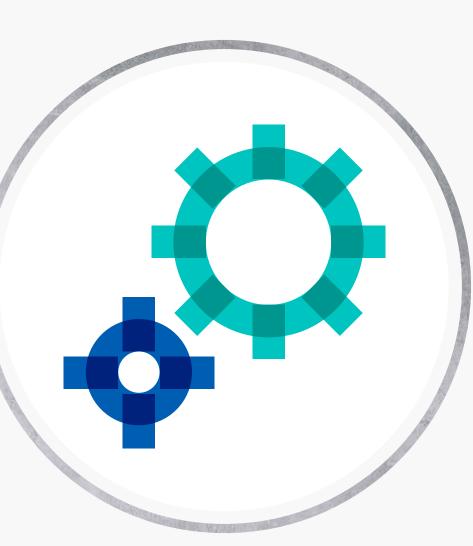
SHIFTING ROLES AND **RE-DEPLOYMENTS OF STAFF**

Some organizations were actively shifting roles and re-deploying people into different positions in the organization that are more suitable for remote working, in order to meet changing demands, for example reception workers and physical event managers were no longer required, and would therefore be utilised towards increased call-center load. There has already been changes in organizations, with such new titles as "Remote Customer Service Specialist" being proposed.

4.2.6 **HR SERVICES**

MOST SERVICES WERE ALREADY ONLINE, AND OTHERS WERE FAST-TRACKED

Many organizations reported that there were no significant changes in their HR services, as they were mostly online already, like the Smart Employee app, which allows punch in/out, sick leave applications, and many other services. However, few reported a quick implementation of remaining services that had not been digitised and provided online, and are now fully available, including the digitisation of claims forms, and other HR documents.



4.2.7 TRAINING

NEW METHODS AND NEW MATERIAL

Due to the changes in working practices, that are more remote in nature, some new training material was created (e.g. 'how to' remote working), while others were reconfigured accordingly. For example a teaching curriculum that was designed for a physical setting may no longer be suitable for a remote context, and should therefore be re-considered. Further, the methods and channels that such training material should be delivered, are also being re-considered to suit the remote working environment, which therefore means that the training facilities, such as physical classrooms and tools, are no longer relevant. One additional point that was raised was that due to the availability of extra free time at home (restricted movement within the city), people could also engage in online training to further develop their skills and careers.

4.2.8 **TASK-ORIENTED**

FOCUSED TOWARDS **RESULTS AND OUTCOMES**

Most people have reported a palpable change in the way they manage their teams, with managers being more

task/outcome oriented, and less concerned about personal issues and attendance, saying that they are "now only focused on results". In this way, some managers found the relationship to be more flexible, agile, more direct, more professional (less social) and focused on delivery of outcomes.

4.2.9 MANAGEMENT **AVAILABILITY**

SENIOR STAFF AVAILABLE AND ACCESSIBLE TO TEAM

Due to the fact that most managers are working from home, and not travelling to any events or conferences (due to health and safety measures in place), employees find it easier to arrange meetings, and have better access to senior members of the team, due to better availability. In some cases, some managers have created a "walk-in virtual meeting", where managers have an open invitation to anyone to be able to connect to a group video call, and talk about any topic they wish, including social chats.

OPPORTUNITIES

THE FOLLOWING **ARE FINDINGS** RELATED TO **OPPORTUNITIES IDENTIFIED FROM THE PERSPECTIVE OF** "EMPLOYEES" WITHIN **ORGANIZATIONS.**

4.2.10 **MOTHERS**

WORK FROM HOME WHILST ATTENDING TO NEW-BORNS

In the past, there have been cases of new mothers and pregnant women wishing to return to work (as a way to introduce variety into their day), whilst also keen to continue being with their newborn child. This dilemma of having to be physically at the office, whilst also attending to the baby, was a challenge. However, having the remote working tools and systems provides an opportunity for these women, provides them the flexibility of undertaking some part-time work whilst at home, which will also ease their return to full-time employment.



A NEW MORE PRODUCTIVE WORK CULTURE

The forced changes in the physical working environment, moving to a remote environment, and the focus on productivity, and efficiency, including physical changes such as reduced office space and hot-desks, have given many people the sense that this is the start of a new era. There is a general feeling that people will be more mindful, and "grateful for the little things", with better clarity on productivity habits.

There is a general feeling that people will be more mindful, and "grateful for the little things", with better clarity on productivity habits. There seems to be a potential for an improved productivity culture, with perhaps a gamification of productivity among staff, and a re-assessment of process in order to maximise performance.



4.3 OPERATIONS

The following section describes findings from the perspective of the operations of organization, specifically regarding the changes and challenges the organizations experienced during the pandemic, as well as some of the opportunities they identified.

CHANGES & CHALLENGES

THE FOLLOWING ARE FINDINGS RELATED TO CHANGES AND CHALLENGES IDENTIFIED FROM THE PERSPECTIVE OF OPERATIONS OF ORGANIZATIONS.

4.3.1 NO CHANGES OR CHALLENGES

INFRASTRUCTURE ALREADY ENABLED

Many operations and their infrastructure did not require any changes or modifications, as they were already fully digitized and operational. However, some organizations reported that their flat organization, with a culture of 'independent' staff, allowed them to act in more agile ways to cope better with quickly changing circumstances.

4.3.2 PLATFORM READINESS

MIXED LEVELS OF RESILIENCE

Due to the availability of several digital platforms and pre-existing Work From Home (WFH) policies, Dubai Government was able to successfully respond to the need for agility during the Covid-19 pandemic, with one particular organization had implemented a WFH policy as early as Q4 2019. However, though the platforms were technically available (e.g. GRP , Smart Employee, Smart Messenger, VPN), some organizations reported that not all were used effectively. Nonetheless, some organizations where able to fast-track the implementation of new and and bespoke online portals to help their staff and customer-base (e.g. e-learning platforms). Further, although some organizations conducted resilience drills, at various depths.

it was only when the real crisis came and requirements to work and deliver services remotely, did the employees realise that the simulations had not been sufficiently realistic, and some elements had been missed. For example, test were conducted at the scope of individual corporate buildings, but not as a whole organisation, with the required process interconnectivity between its sub-parts, while some buildings housed critical installations and operations that must be manned.

4.3.3 PERSONAL READINESS

LACK OF ADEQUATE PERSONAL EQUIPMENT & INFRASTRUCTURE

Although systems and infrastructure were available and fully operational from the organization point of view, there were some surprises when staff were unable to work remotely due to basic requirements such as having a smartphone, computer at home, or even broadband internet connectivity installed at home. These findings first raised the question of who should provide such basic requirements, and the time/effort required to source, procure and deliver such goods and services.



4.3.4 **CLARITY FOR** STAFF

ENSURING ROLES AND EXPECTATIONS ARE UNDERSTOOD

Many organizations raised the issue of strategic direction and the clarity of expectations and requirements, as information was being passed within the organization, as well from outside the organization. They emphasised the fact that when information and requirements were clear and concise, rather than bitty, they were able to operate at a much faster pace, rather than slow progress. Though some organizations witnessed some level of denial, where staff did not quite grasp the gravity of the pandemic situation, other organizations took the initiative and conducted some ad hoc interventions, without adequate service prototyping, which led to some further confusions and misunderstandings.

4.3.5 PHYSICALITY

PROXIMITY AND SOCIAL DISTANCE OF PHYSICAL SERVICES

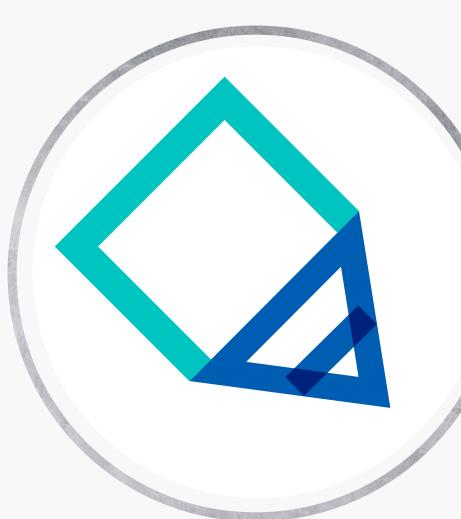
Some organizations provided services that were necessarily physical in nature (e.g. equipment or goods testing). Is such cases, there were some concerns raised by some staff about the virus.

4.3.6 **ARTIFICIAL LOAD**

SUB-QUALITY DESIGN ARTIFICIALLY INCREASE LOAD ON CALL-CENTERS

Certain organizations reported excess volume of calls increasing the load on their call-centers. This was partly attributed to various reasons. like customers from some segments were unable to use the digital channels provided. These reasons ranged from simple accessibility issues, like the inability to access the service due to device or technical limitations, low cognitive ability, insufficient digital literacy (e.g. elderly, low education), and even usability issues resulting from confusing designs. However, some of the increased load was also due to stale information on digital channels, which prompted customers to call the center. For example, one organization initially had good adoption on a chatbot, but saw this adoption diminish when the chatbot database had not been updated.

These artificially increased loads on the call-centers, consequently adversely affected operational efficiency by increasing the demand for more staff, as well as the technical support for the call-center itself, in order to maintain viable operations to meet the demand.



4.3.7 FREQUENT **UPDATES**

STAFF ON HIGH ALERT WITH **REACTIVE AND PROACTIVE** ACTIONS

Due to the fast pace of change in the overall crisis around the world, as well as both reactive and proactive changes (internal and external), and the rate of new incoming information, managers and staff at all levels were on high alert, in order to be able to respond quickly and effectively.

OPPORTUNITIES

THE FOLLOWING ARE **FINDINGS RELATED TO OPPORTUNITIES IDENTIFIED FROM THE** PERSPECTIVE OF **OPERATIONS OF ORGANIZATIONS.**

4.3.8 **REMOTE WORKING**

DUBAI IS READY TO EMBRACE REMOTE WORKING AS THE NORM POST COVID-19

The concept of remote working is not just a simple matter of working from home, or just being online. There are many implications and considerations; technical, organizational, and 'remote working' as a method, had to be figured out. Flexibility is a key aspect, bringing advantages such as increased

productivity, the increased potential of conducting external meetings online, reducing logistical overheads (e.g. not moving between meeting locations), and even MoUs can now be concluded online. Some organizations also changed the way they operate internal feedback sessions and discussions, and KPIs are now managed remotely and differently. The wider public now accepts that 'remote' is a very viable way to receive services, and there is an increased culture of acceptance towards this method. Basic and fundamental changes are now possible, like night shift workers can now operate from home, thereby changing the logistics and costs of 24/7 operations. One participant summarised these fundamental shifts by emphasising that

99

"EVERYTHING CAN NOW BE DONE REMOTELY WITHOUT **EXCEPTIONS...**

DUBAI IS READY TO EMBRACE REMOTE WORKING AS THE NORM POST **COVID-19**"

4.3.9 OFFICE SPACE

NEW CONCEPTS LEADING TO SIGNIFICANT SAVINGS

Due to remote working being more common, and a viable option, office capacity need not be as large as it has been historically, in order to accommodate a large workforce. Space can be utilised in more efficient and flexible ways, e.g. options for hot-desks and common areas. Since the lack of office space is no longer an issue, and while allowing more remote working, entities are therefore likely to re-organize their offices, or look for smaller office space. The office of the future will be re-designed.

4.3.10 ACCELERATED DIGITIZATION

QUICKLY IDENTIFY AND CLOSE GAPS IN DIGITAL INFRASTRUCTURE

Some participants pointed out that, although most of their infrastructure was digitised, there were some gaps identified, which were quickly addressed in order to facilitate remote provision of services. These quick reactions and shifting priorities showed the mission-critical nature of digital transformation, especially at a time where efficiency and remote service delivery are important for continuity.

4.3.11 COLLABORATION

A SENSE OF A UNIFIED DUBAI MISSION

Though organization have differing mandates and KPIs, some organization have found that the context of the pandemic created a common sense of purpose, to deal with the pandemic across the city, and it was easier to collaborate with other organizations when they all had one clear goal between them, i.e. the same KPIs, maintaining service levels and ensuring safety within the city. In this case, all organizations were working to reduce the adverse effects of Covid-19, and cross-organization request were usually met with quick and positive responses. Some participants felt this collaborative atmosphere was motivational and a refreshing contrast away from competing against each other in awards. Therefore, a sense of one direction and one priority from the city leadership; helps people to work together more efficiently, and improve relationships, leading to proper and focused collaboration between entities.

4.3.12 BIG PICTURE

We got stuck in the how/who, we missed the what

When discussing the overall lessons learned, some participants suggested that crisis management and business continuity plans should be revised, in favour of more practical, plans that are also more integrated across the city. They felt that by nature, city crises have a holistic impact, and therefore require a truly integrated approach in order to achieve a properly resilient response. However, some participants felt that such holistic thinking on the scale of the city, is also necessary in order to better compete in a wider ecosystem that is globally connected. For example, the simple matter of increased use of online tools in Dubai, has impact on the bandwidth throughput in the place where the server is, in another city in the world, and vice versa. There is an acute sense of a connected world where "we are not isolated from the world, it will come to us sooner or later" and consequently "we should always be ready for the worst situation; mentally and to ensure work continuity. We should not take things for granted", and certainly not to "delay today's work to tomorrow." In both of these points (holistic city and global connectedness), a sense of a real goal and a clear idea of the mission, are paramount to success. One participant summarised that the big picture was missed, and they had "got stuck in how/who, mostly formalities... the 'what' was missed."

4.4 SERVICES

The following section describes findings from the perspective of the services delivered by organization, specifically regarding the changes and challenges the organizations experienced during the pandemic, as well as some of the opportunities they identified.

CHANGES & CHALLENGES

THE FOLLOWING **ARE FINDINGS RELATED TO CHANGES AND CHALLENGES IDENTIFIED FROM** THE PERSPECTIVE **OF SERVICES PROVIDED BY** ORGANIZATIONS.

4.4.1 **NO CHANGES OR** CHALLENGES

SERVICES ALREADY ONLINE

Many services did not require any changes or modifications, as they were already fully digitized and online.

4.4.2 **STOPPED** SERVICES

MUST BE PHYSICAL, BY NATURE OR BY LEGAL REQUIREMENTS

There were challenges to move services to a remote setting where the service required a physical presence of an object, or customer. For example, in testing a vehicle or conducting a lab test on food, or imported materials, such services can only be conducted in a physical setting. Also, some restrictions were due to legal constraints, such as the requirement of person in question to be present (e.g. for a wet signature) or provide biometric authentication. Consequently, some physical services were stopped due to large gatherings of people at a location (e.g. visas, marriages, legal proceedings), while some organizations implemented various new approaches, such as appointment-based services, in order to avoid crowds, and some luxury elements to certain services, such as lounges, were temporarily discontinued.

4.4.3 TRADITIONALLY PHYSICAL

WE'VE ALWAYS DONE IT THIS WAY!

Some services required change in order to fit within the remote working and online culture that is fast taking shape. However, upon careful examination, it was clear that these services were not fully digitized as previously thought, and the reasons were mostly historical, and traditional. For example, some services required physical cheques to be collected, others required paper documents by other external organization.

4.4.4 QUICK DIGITIZATION

RE-ENGINEERING TOWARDS A PAPERLESS CITY

In order to assist the quick movement of services away from physical centers, some services were fast-tracked to shift them to the online digital environment, e.g. the use of electronic permits instead a of paper visa stamp. These activities also required some measure of service re-engineering, including the changes in their requirements or



paper documents and fees, highlighting the need for digital payment systems. Although, some services only required a simple conversion of paper documents to PDF (which is not necessarily in the spirit of digitization), others required more complex changes, and some were simply moved to provision by call-center staff, email, and WhatsApp. Nonetheless, overall, there has been a sense of discovery of the hidden value within the existing digital infrastructure of organizations, "we have now discovered the power of our smart services. In our smart portal, we have everything."

66

"WE HAVE NOW DISCOVERED THE POWER OF OUR SMART SERVICES. IN OUR SMART PORTAL, WE HAVE **EVERYTHING.**"

4.4.5 SPECIAL DISPENSATION

RELAXING RULES AND GIVING DISCRETIONARY POWERS

In the spirit of agility and ensuring flow in people's lives, many organisations relaxed certain rules and requirements for services, as a temporary measure during these times of regular change. Some organizations also waived charges, and others gave increased authority to supervisors to have more discretionary powers.

4.4.6 SHIFT IN DEMAND

SWINGS IN HIGHS AND LOWS

Some organizations experienced a significant shift in demand for their services, in both directions (Koeze & Popper, 2020). For some services, for example those related to travel and aviation, there was practically no demand, while others, for example those related to digital communications, there was a massive increase in demand, especially for those related to remote working. Interestingly, departments dealing with complaints, saw some usual complaints disappear, while different ones appeared. For example, parents were now having an added workload to control

their children at home, rather than having to deal problems at the school yard.

4.4.7 **CLARITY FOR CUSTOMERS**

MIXED MESSAGES & MULTIPLE SOURCES CONFUSE CUSTOMERS

Due to the fast pace of events and the multiple organizations involved in such a new and unpredictable situation. customer did not have a clear idea of the best source for reliable and updated information, against a backdrop of rumours and fake news. This was evident from the large increase in calls to the call-centers asking for clarity on procedures.

OPPORTUNITIES

THE FOLLOWING **ARE FINDINGS RELATED TO OPPORTUNITIES IDENTIFIED FROM** THE PERSPECTIVE **OF SERVICES PROVIDED BY** ORGANIZATIONS

4.4.8 **SIGNATURES**

UAE PASS AS A SIGNIFICANT ENABLER

The availability of UAE PASS as a legally accepted nationwide digital signature was seen as an enabler of some services (e.g. legal services). However, some organization used standard Adobe digital signatures technology, as a viable alternative. Nonetheless, most organizations have a growing understanding and appreciation of the wider applications of UAE PASS.

4.4.9 SHIFT TO **CALL-CENTERS**

AS EXPERT SERVICE CHANNEL

There is a growing cultural and mindset shift towards call-centers as a channel for service delivery, rather than simply a help or query channel. This shift is due, in part, to the easy way of interacting with a human agent, and to the improvement of the quality of the call-center services. as well as additional enhancements (e.g. personalised call back) (Johnson, 2017). This is potentially a challenge, as the load on these centers increases when people find it easier than digital channels, such as apps and websites. This raises the question of how digitization can help make

these call-centers even more efficient, and improve the experience.

Along with health concerns around physical gatherings of people, the above shift towards call-centers is contributing to the strong impetus towards closure of customer service centers "We can do more from the call-centers without requiring visits". In other words, zero visits.

Finally, an interesting finding about the knowledge base within these call-centers, raised the point that permanent staff usually hold wider and deeper knowledge around the organization and its services, as compared to outsourced staff, who maybe trained on a specific and narrow set of services, without a wider understanding. This was reported as a challenge by some organizations.

4.4.10 **BARRIERS NO** MORE

A NEW CULTURE OF DIGITIZATION AS A DIRECT RESULT OF **SUCCESSES**

As a result of the successes witnessed in various organizations delivering their services remotely (especially in an accelerated and innovative manner for some services), there has been a growing realization that previously sensed barriers to full digitization

were not technical, rather they were artificial and more cultural "IT department personnel were the barrier to digital transformation, not the technology." This is in contrast to what people believe is the general directive "The law says we should be able to do it. IT and HR said we couldn't. Now we have proven that we could."

4.4.11 **QUALITY FOR ADOPTION**

A BUSINESS CASE FOR EFFICIENT SERVICE PROVISION

Some organizations have recognized that ensuring that the services are easy and convenient to use, will increase adoption, and allow for more efficient and lower cost of service delivery. They have therefore sought to improve the quality of the design of their apps and websites, and make them more user-centered, and saw this improvement as a business case (Al-Azzawi, 2014), thereby reducing total cost of implementation and provision.

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"IT DEPARTMENT PERSONNEL WERE THE BARRIER TO DIGITAL TRANSFORMATION. NOT THE **TECHNOLOGY.**"

The following is a list of recommendations based on the findings from the research conducted for this report. They summarize clear lessons to be passed from successful outcomes, using best practices, highlighting what worked, the fixes used, what to avoid, and what to keep post-Covid-19. These recommendations also emphasise the role of technology in the successes in dealing with challenges, as well as the opportunities post-Covid-19 era.





INFORMATION CLARITY



ENABLING TECHNOLOGY



QUALITY AS STRATEGY



RESILIENT CITY



WELLBEING



DIGITIZATION



5.1 REMOTE WORKING

DUBAI IS READY TO EMBRACE REMOTE WORKING AS THE NORM **POST COVID-19**

Remote working is a reality and is here to stay (O'Duinn, 2018). Organizations should therefore ensure that they are fully geared and ready for their staff to conduct work from any location, with a variety of options for remote working (e.g. 100% or 50% remote working). This will require various infrastructure and operational details to be worked out, including security levels, as well as equipment and connectivity availability. Technology will play a pivotal role in the successful implementation of remote working culture, not only in ensuring connectivity, but in the use of collaborative tools, and service provision. However, offices will still be available, though redefined.

The traditional concept, operation and layout of offices should be re-examined, focusing on more remote and flexible working (e.g. hot-desks, and reconfigurable spaces), and include best practice in technologies to support such working methods.

Consequently, traditional training techniques will need to be re-considered, and in some cases new training material will need to be developed, that take into account the remote context in more depth. New office concepts have the potential of leading to significant cost savings overall.

Importantly, remote working, as it is currently conceived. misses the ad hoc nature of interactions between staff that often create opportunities to share challenges, leading to collaboration and innovations. There are therefore opportunities to invent new ways to allow such beneficial mixing of ideas.

5.2 **NEW WORK** CULTURE

PRODUCTIVITY AND OUTCOME-ORIENTED

The changes in the working environment (e.g. remote working), as well as the acute need to respond to the pandemic, have created a shift in working habits and behaviours, where people have noticed a strong task and outcome-focused culture, that is also agile and oriented towards producing desired results.



Organizations have witnessed many examples of roles being redefined, and staff being re-deployed, in order to maximise efficiency and utilisation within. More responsive and agile behaviours were seen, where managers were empowered with discretionary powers, and some rules being relaxed in order to achieve outcomes. These changes were also accompanied by senior managers being more available and accessible to their team members. Therefore, and using such technology tools as AI and data analysis for production predictions, as well as more basic task tracking tools, in order to further drive such a positive cultural change.



5.3 **WELLBEING**

LIVING A BALANCED LIFE -PHYSICAL AND MENTAL

In times of high social stresses, as is in a pandemic situation. there are unfortunately many opportunities for people's wellbeing to suffer, where people try to balance work and personal pressures (Prossack, 2020). This has been especially important during this pandemic, where people's physical movements were restricted, and thereby also adding risks to their physical wellbeing. It is therefore important to be extra vigilant and provide support to staff for both physical wellbeing, e.g. online physical fitness programs, or wearable fitness monitoring tools, as well as mental wellbeing, e.g. encouraging people to have more social and ad-hoc interactions, in order to maintain closer to normal behaviours seen in a physical office environment. Keeping regular hours (while respecting home vs. work timings) is essential, as is having regular interactions, for example using beneficial tools such as FuelBox (as provided by Smart Dubai's Designing Cities Training Program, within the Happiness Agenda) (Smart Dubai, 2019). However, it is important to be aware of the potential challenges caused by the excessive use of technology as a mediator for social interactions, e.g. Zoom

fatigue, and to ensure there is a healthy balance of communication methods. Nonetheless, there are opportunities to provide improvements in wellbeing for some employees, where new working methods can give them the chance to work in ways they were not able to in the past. For example new mothers may be given the choice to work part-time, from home, thereby helping increase their social interactions and stimulation, leading to improved wellbeing.

5.4 **ENABLING TECHNOLOGIES**

AS FOUNDATIONS OF A SMART RESILIENT CITY

In order to be able to provide services in a smart city context, there are many technologies that need to be in place, in order to enable such provision. This can range from basic secure VPN access, video conferencing tools, to more complex data-sharing models and systems. However, there are some technologies that not only enable other technical requirements, but also are critical to other dimensions in the city, such as the economy (including digital payments), and the judicial system.

In this pandemic, though some organizations took advantage of older enabling technologies, such as the Adobe digital signatures technology, most organizations have used more modern technologies,

such as UAE PASS which is the first national digital identity in the UAE (Smart Dubai, 2020). This technology not only provides the facility to digitally sign documents, but also allows authenticated to access government and other city services. The availability of UAE PASS as a legally accepted nationwide digital signature was also seen as an enabler of some key services (e.g. legal services). It is therefore encouraging to see a growing level of understanding of the wider practical applications, and the real benefits of UAE PASS, especially towards innovations in new economic and business models. Therefore, in the context of hyper-remote service delivery and remote-working, these enabling technologies are key factors for resilience, and should be treated as mission critical

5.5 **INFORMATION CLARITY**

SHARED SITUATIONAL AWARENESS AND **IMPORTANT INFORMATION**

During times of constant changes and disruptions, a major source of stress and inefficiency on any system is a lack of clear and correct information. For these reasons, many organizations sought to ensure that both staff are kept informed on the expectations of their roles, and customers being kept up to date with changes, and avoiding mixed messages and multiple sources, which could confuse them. Staff should therefore have clear and updated information on the current situation, and expectations from them. Therefore information should be made fully available, and communication channels kept open, so that they feel part of the team, leading to increased trust.

City leaders should therefore provide a single point of information that collates various sources, to give every manager in the city a single and point of information, from credible sources, and will ensure that all managers are able to monitor for updates, like a shared bulletin board or dashboard, showing trusted and updated information on the city status. In this way, managers will not rely on potentially inefficient efforts to find such information, and avoid the added risk of wrong or stale information.

5.6 **QUALITY AS A STRATEGY**

SYSTEM EFFICIENCY **DRIVEN BY A LONG-TERM** VIEW

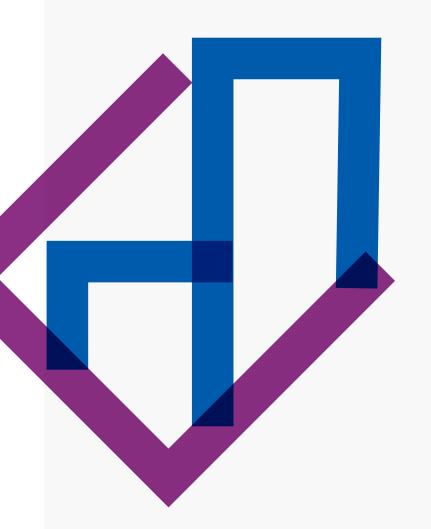
All organizations had many fully operational mobile apps and websites to deliver their services, and most were following basic design and accessibility guidelines to ensure proper function.

However, when the load on digital services increased during the pandemic, there was a noticeable shift, with customers using call-centers more, creating significantly increased load on call-center resources, which increased the cost of operating the call-center. Many organizations reported the main reasons for the increase were unclear information layout, confusing User Interface (UI) design, or people not being able to access the service (e.g. due to lack of digital literacy). Such load increases, and their associated costs, are therefore artificial and avoidable

Organizations should therefore ensure that UI designs are using best user-centered methods (e.g. design thinking), that the designs are also fully accessible, and take into account various issues that are relevant to particular customer segments and contexts, e.g. elderly people, low technology interfaces, or cognitive disability.



Instructions and content must also be tested, in order to ensure they will be understood, and not cause confusion that forces people to contact the call-center for explanation. User research, proper design and prototype testing help reduce total cost of implementation and service delivery, as well as the overall speed of delivery. In this sense, ensuring high quality of design and accessibility provides a strategic advantage by reducing overall costs and resources.



5.7 DIGITIZATION

MAINTAIN AND IMPROVE DIGITAL SERVICES AND INFRASTRUCTURE

Existing levels of digital transformation and readiness were a significant factor in Dubai's resilience and ability to respond to the pandemic, without substantial degradation in the quality of experience in the city. For example, most services were already fully digital using mobile apps such as Smart Employee (for government HR services) and DubaiNow (for general city services), and other entity-specific apps. However, there were some services that were stopped due to their physical nature, such as vehicle and commodity testing, or due to physical presence of customers required by some legal services. Nonetheless, some organizations were able to quickly identify and close gaps in their digital infrastructure, following the Dubai Paperless Strategy to ensure that all services are digitized, and documents and data are exchanged digitally across the city.

These are of course important steps for progress and economic development, however, simply having services online and converting processes and documents into paperless digital form is not enough to establish a lead in true digital transformation. Genuine digital transformation necessarily undertakes a process of

reimagining services based on various enabling technologies and availability of data and emerging technologies (e.g. AI and blockchain), to disrupt the status quo and target high efficiencies and exponential transformations with additional value and benefits that were not available in traditional services. In this way, the pandemic can be seen as an opportunity to not only maintain levels and quality of services, but to significantly improve them.

5.8 **RESILIENT CITY**

MAINTAIN A HOLISTIC CITY-VIEW TO THRIVE UNDER PRESSURE

A key element to Dubai's successful response to the pandemic has been the strong collaborative spirit within the city. Organizations worked well with each other, and were often quick to respond to various requests from across the city. This spirit is supported by a strong sense of one direction and one priority for the city. It is therefore imperative to fuel this spirit by further supporting collaborations and increasing the clarity of messages, and the primary and unified goals of the city.

Ultimately, the city's resilience and its capacity to survive, adapt and thrive in challenging times, will depend on the actions of its inhabitants and managers. There should be robust and practical plans for management and business

continuity in such times, to "build back better." Having an integrated and holistic approach to these plans and collaborations is key to the success of the whole city. Indeed, in a global context, these plans should not be isolated from the rest of the world, rather they should take into account the hyper-connected world (Wolfe, 2017). Organizations should not just be concerned with daily operational targets, but should continue to include the big picture, and the ultimate goals of a whole city, driving the development of the economy and wellbeing of its inhabitants.



6 CONCLUSIONS

DUBAI HAS BEEN RESILIENT TO A LARGE EXTENT, AND HAS BEEN ABLE TO SUCCESSFULLY WITHSTAND THE STRESSES OF THE GLOBAL PANDEMIC SHOCKS

This report has sought to identify the level of resilience of Dubai regarding the quality of city experience, and the extent of the impact on city services, caused by the disruptive Coronavirus Covid-19 pandemic. Data was gathered from senior managers across a variety of organizations in the city, from various sectors.

Upon analysis of this data, it is possible to conclude that, mostly, there has been little overall disruption, due to the level of digital readiness by the organizations in this sample. Disruptions were mostly short-lived due to the quick actions by organizations, providing fully functional online services, including provision of services at call-centers. A strong and fundamental theme of remote-working is evident in the findings, showcasing many important considerations for the practical application of this concept regarding; employees, operations, and

the services themselves. However, though staff have been quick to switch to an effective remote-working mode, organizations recognise the importance of maintaining the physical, psychological and social wellbeing of their staff, and some have implemented initiatives to mitigate such risks.

Fundamentally, technology continues to play a critical role in these responses to the pandemic, bringing efficiency,

contactless exchanges, and remote operation and delivery. Nonetheless, organizations also recognise the value of quality in service provision, in order to ensure that increased adoption of digital channels leads to overall operational efficiency rather than shifting system load, and are consequently prioritizing these aspects. These experiences have also identified many opportunities in the various aspects of delivering smart services,

including adoption of modern and emerging technologies, including the need to share data effectively.

Dubai has been resilient to a large extent, and has been able to successfully withstand the stresses of the global pandemic shocks, and though there is room for improvements, this has been in large part due to the maturity of its smart services. It is clear however, that Dubai has an opportunity to maintain and increase its lead



and competitive edge, as other cities strive to excel in a globally competitive world. Reimagining services based on various enabling technologies and availability of data and emerging technologies (e.g. AI and blockchain), to disrupt the status quo and target high efficiencies and exponential transformations with additional value and benefits that were not available in traditional services. In this way, the pandemic can be seen as an opportunity to not only maintain levels and quality of services, but to significantly improve them.

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Roudha Al Mutawa Dubai Government Human Resources Department

Shooq Al Ali The Executive Council of Dubai



We look forward to further collaborations within the wider Happiness Agenda team in our forthcoming projects.

8 APPENDICES

8.1 APPENDIX A

Interview Questions

Challenges

Operations

1. What challenges did you face?

2.

What challenges are you currently facing?

Changes

3.

What do you do now that was different to before the disruption?

4. What changes have you made to the services?

5.

What changes have you made in the way you deliver services?

6.

What changes have you made in the way you organize the service teams?

12.

What lessons have you learned?

13.

What documents have circulated in your organization?

7. How has remote working practices impacted your

8.

services?

What digital infrastructure and services did/are you using?

9.

What expected permanent process changes will you make?

Opportunities

10.

What opportunities have you identified during this disruption?

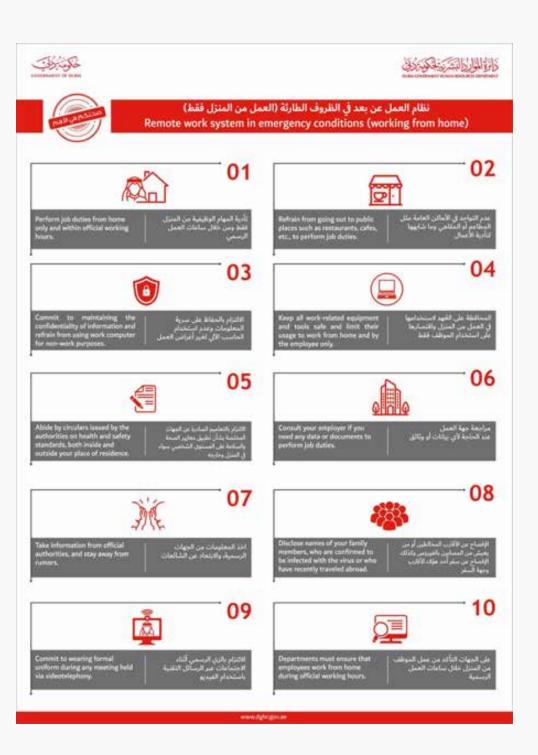
11.

Because of this event, what will you now do/think differently?



8.2 APPENDIX B

DGHR Remote Working Guidelines



9 **GLOSSARY**

REFERENCES 10

CDA Community Development Authority

DCAA Dubai Civil Aviation Authority

DC Dubai Courts

DEWA Dubai Electricity and Water Authority

DGHR Dubai Government Human **Resources Department**

DHA Dubai Health Authority

DM Dubai Municipality

DP Dubai Police

DSOA Dubai Silicon Oasis Authority

EK **Emirates Airlines**

DU Emirates Integrated **Telecommunications Company** (etic/DU)

ETISALAT Emirates Telecommunications Group Company (PJSC/Etisalat)

GEMS **GEMS Education**

GDRFA General Directorate of Residency and Foreigners Affairs - Dubai

GRP Government Resource and Planning

HR Human Resources

KHDA Knowledge & Human **Development Authority**

MBRHE Mohammed Bin Rashid Housing Establishment

RTA Roads and Transport Authority Dubai

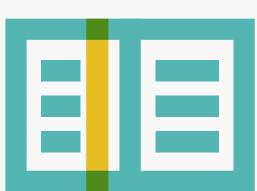
SD Smart Dubai

TRA Telecommunications **Regulatory Authority**

TEC

The Executive Council of Dubai **UAE PASS**

UAE National Digital Identity



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