

Digital Disruption and COVID-19: A Review on the Paradigm Shift in Pakistan

Muhammad Saqib Iqbal¹, Zulhasni Abdul Rahim^{1,*}, Syed Aamer Hussain²

¹ Malaysia-Japan International Institute of Technology, Universiti Teknologi Malaysia, Malaysia

² Razak Faculty of Technology and Informatics, Universiti Teknologi Malaysia, Malaysia

ABSTRACT

Recent developments globally due to coronavirus have hustled the digital disruption and heightened the need for adopting the pillar technologies practised during the pandemic crisis. Clayton Christensen described disruptive technology as when one technology drifts the existing technology and changes the nature or structure of the industry. It is hard to conceive the technologies that will dominate in the post COVID-19 era since trends are changing drastically, changing economies, culture, employment, and the workforce individually and collectively. This study sought to understand how Founder-CEOs of entrepreneurial stage organisations are experiencing decision-making during the hustled digital disruption caused by COVID-19 pandemic. COVID-19 is reshaping the way we function, consume, and connect. Despite causing incredible distress to our work and social lives, it amounts to an outpouring of innovation in other contexts. The innovation will call for breaking down of typical silos both within organisations and within the external network of suppliers. Also, little is known about how operating decisions are made in entrepreneurial stage companies, especially in times of crisis or even in the pre-pandemic era.

Keywords:

COVID-19; Decision-making process;
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1. Introduction

In the new global economy, a novel coronavirus outbreak in 2019 (now known as SARS-CoV-2 triggering the COVID-19 disease) has become a central issue after spreading across China from Wuhan to more and more countries [1]. This disease has disrupted the whole world, and several myths circulate about its diagnosis, treatment, and prevention. The most potent prevention measures are known to be proper hand-washing, remaining at home and maintaining social distance, and are quick ways to save human beings from this invisible enemy [2].

John Robinson states that the COVID-19 pandemic is threatening the planet. It has triggered profound changes worldwide, speeding the transition to digital transformation and dramatically altering workflows. COVID-19 is reshaping the way we function, consume, and connect. Despite

* Corresponding author.

E-mail address: zulhasni@utm.my

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causing incredible distress to our industries and social lives, it amounts to an outpouring of innovation in other contexts [3].

In the broader digitization of businesses and services, post COVID-19 would also bring a new standard. So that daily affair, such as the education and learning cycle in classrooms, job activities within organizations, and food sales and products of necessity are not stopped, the digital platform must be improved, developed, and readily available before. It may be seen as challenging now, but with time it will come up as the new standard [4].

Despite causing incredible distress to our industries and social lives, it amounts to an outpouring of innovation in other contexts [3]. Social distancing and remote jobs have changed the way and shape of work. Unique environments require unprecedented actions.

Determining the impacts of coronavirus on the entrepreneurial phase ventures is essential for the future and post-pandemic paradigm shift. It is hard to conceive the technologies that will dominate in the post-COVID-19 era since trends are changing significantly; altering economies, culture, employment, and the workforce individually and collectively [5]. Recently, there has been an increased stress on hustled digital disruption during the COVID-19 pandemic. There is a surprising paucity of well-controlled studies focusing specifically on digital disruption aroused due to the pandemic. In this paper, the overall situation of COVID-19 in Pakistan is presented. It also covers a brief discussion on how the country is embracing the new realities and making full use of it.

The paper is organized as followed. Section 2 contains a brief discussion of digital disruption and COVID-19. It also discusses the technology trends around the world, and entrepreneurs combating the COVID-19 pandemic. Section 3 presents a brief overview of COVID-19 in Pakistan. Section 4 contains the discussion on the digital journey of Pakistan in recent years. Section 5 describes how Pakistan is cashing on the opportunities provided by the COVID-19. Conclusion and suggestions for future work are covered in the last section.

2. Digital Disruption and Covid-19

Digital disruption is the transition where the value quality of traditional goods and services is changed by emerging digital technology and business models [6]. In the recent past, COVID-19 pushed the digital transformation to be at the top of the priority list. The pandemic caused disruptions in every business, causing distress in the whole world [7]. The degree to which COVID-19 will accelerate the digital transformation of industries and companies and how it will affect the adoption of emerging technologies remains to be seen. However, with current trends, there is a need for network and data centre systems to be built, and these should be better, smarter, and more useful than ever [8]. The situation is mainly because of the lockdown techniques used to handle COVID-19. The reason seven hundred eighty million Chinese people stayed at home, and billions of people across the world now must be in self-isolation. The digital market has spread a lot because of it. The situation has caused massive games downloads, booming streaming services, and business for retailers with an active online presence [7].

Apart from that remote work technology companies now see rising demand as their remote work capabilities are accelerating. Third-order advantages from rising remote workers are seen in security apps. The situation calls for a need for endpoints, cloud-based software, log management, and VPNs for organisations. That caused IT spending to increase on security tools. Network devices and collaboration are central to the need to access data and automation increasingly rapidly. There is also a surge in the use of apps for video conferencing, as more businesses allow workers to travel [9]. To remain competitive in the post-COVID 19 worlds and take a human-centric and inclusive approach to

technology governance, building the infrastructure required to sustain a digitised world and maintain a state-of-the-art technology is essential in a country or sector [10].

2.1 Technology Trends During Covid-19

Yan Xiao and Ziyang Fan [10] in an article published by World Economic Forum (WEF) stated that technologies had played a crucial role in keeping our culture functioning during the COVID-19 pandemic in periods of lockup and quarantine. Moreover, these innovations may have a long-term impact beyond COVID-19. WEF blog by Yan Xiao and Ziyang Fan [10], further assessed the few technological trends that can help to build a resilient society and consider their effects on how we do business, trade, work, manufacture of goods, learning, health care services, and our way of entertaining [10]. Nevertheless, communication technology provides solutions to meet some of the pandemic's challenges in this new reality [11].

Mika Ruokonen [5], emphasised not to lose sight of the new market opportunities currently emerging, without reducing the devastating impact of COVID-19. Congruence in digital terms is the act of bringing culture, people, structure, and jobs into line with digital trends [12]. The situation will call for breaking down of typical silos both within organisations and within the external network of suppliers [3]. Face-to-face meetings and huddles need to be redefined with lockdowns and travel limitations. In the field of industry, virtual meetings are growing. Users are already spurred on by applications including Zoom and Google Meet, allowing transition from 4-5 attendees meetings to huge international workshops and conferences with thousands of participants. This pattern will probably continue as people retain social distance mark in the post COVID world [11]. The number of "smart" devices connected to the internet has increased rapidly. Post COVID-19 there is going to be increased growth in these tools as a result of social distancing requirements. In "Smart" homes, we will see the use of "Smart" devices. For starters, "Smart" cooling machines will store and order food online [11].

2.2 Entrepreneurs and Covid-19

The global spread of the COVID-19 pandemic presents unparalleled threats to businessmen, their businesses, and their communities. Crises may make high-tech founders become more likely to disengage, whereas the opposite holds for founders far into the process [13]. Against the global COVID-19 pandemic, entrepreneurs must face a new reality, which not just concerns millions or billions of people around the world as a massive health and health crisis [14]. The drivers of business decisions during war know little about this, the perceived danger is linked to the entrepreneurial ambitions of a person, but slightly lower among highly resilient people [15]. Persistence policy decisions are heterogeneous based on the challenges and principles faced by the entrepreneurs [16]. Entrepreneurs had to begin shifting the company online. However, not everything can be easily moved to an online platform. Some businesses had to be temporarily shut down because of government restrictions; others had to enforce precautions and carry out their work to a reduced degree.

3. Covid-19 and Pakistan

According to official statistics provided by the government sources, there are a total of 240 thousand active cases and 4983 deaths, as shown in Table 1 [17].

Table 1

Government of Pakistan Official Statistics [17]

Provinces	Total Cases	Recovered	Deaths	Tests	Critical
KPK	29,052				
Punjab	84,587				
Sindh	99,363				
Balochistan	11,052	145,311	4,983	1,491,437	2,193
AJK/GB	1,459/1,605				
PAKISTAN	240,848				
(OVERALL)					

While the official national shutdown is still not in place, the regional governments implemented their mechanisms. Public assembly was prohibited in most parts of the world, schools were shut down, and shops shut down rather than those that supply food or medicines [18]. In Pakistan, it has been challenged by pervasive misery to balance the act between preventing a health crisis and holding the economy afloat. Roughly 39% of households in Pakistan live in poverty. It could lead to a social crisis if low day-to-day workers' wages vanish [18].

The government distributed Rs 150 billion (£734 million) in cash to the poorest 12.5 million households in an emergency aid package announced late March. The administration claims that 67 million people will benefit from this package. Mostly funded by the World Bank and the Asian Development Bank, the package will be passed in the next few months to the beneficiaries by the government [18].

Initial findings indicate that cash provided to the needy families will give some peace and protection in an unprecedented crisis. While the program is early, it is optimistic about adding that this kind of approach can contribute to at least a certain number of the likely damage caused by COVID-19 [19].

After Pakistan locked down the country to curtail the COVID-19 on March 23 millions of daily wagers were left with no work at all. So now in an effort, the displaced day workers have been granted new jobs as 'jungle workers', planting saplings under the 10 billion tree tsunami scheme in Pakistan. Such "green incentives" can also help the nation to prepare for the next significant danger: climate change and funds that help families and keep the economy going through pandemic shut down [20].

To boost back the industries, PM announced 'PM's Chotta Karobaar Imdaadi Scheme'. More than 80% of commercial and industrial meters shall be benefitting. Through this scheme, the Federal Government will be paying the electricity bills of 35 lac small businesses across the country for three months [21-23].

4. Digital Journey of Pakistan

Pakistan's digital journey has attracted tremendous interest in recent years. Vision 2025 terms Information and Communications Technology (ICT) as a critical driver of innovation, economic growth, and greater social inclusion in the national economic plan, which calls for a bridging of infrastructure and digital literacy to carry the ICT industry to a level that will allow a 'knowledge economy' [24].

Pakistan is on the right road to success, with 5.8 % economic growth and enhanced investor confidence, despite the years of the war against terrorism. eBay's CEO, Devin Wenig, highlighted Pakistan as one of the world's quickest growing e-commerce markets at the 2017 World Economic Forum. Alibaba acquired the biggest email portal in Pakistan, Daraz.pk in 2018 [25]. Other significant power and communication networks, development, and digital infrastructure developments are driving progress. The largest online provider for payment services in China, Ant Financial Services recently gained an investment in 45% of the Telenor Microfinance Group, estimated at \$410 million in a deal to the Pakistani government [25]. However, with all these encouraging facts, the country lacks internet usage among other regional countries. Internet usage by masses is an incredibly important aspect of the digital journey for a country. Figure 2 depicts the internet usage percentage in 2017 worldwide.



Fig. 2. Percentage population using the internet – 2017 [26]

To break the statuesque and overcome the hurdles, Pakistan also introduced an ambitious Digital Pakistan Policy [27]. Digital Pakistan's goal is to improve Pakistan 's internet inclusion and the use of technology for the greater public good. The Initiative is a landmark on the path to building a digital economy, which is focused on five strategic pillars (access, communication, digital technology, e-government, technical knowledge which literacy, creativity, and entrepreneurship) [28].

In an economy such as Pakistan, the potential for growth in digital financial services is immense [29]. Tele-density of 69% of the population (mobile phone ownership). One hundred and thirty million biometrically checked SIMs make it reasonably easy to access mobile wallets [29]. Due to some progressive State Bank regulations, the necessary digital financial services infrastructure was already established in Pakistan. These contain branchless banking legislation capitalising on the broad telecommunications network to make it easier to open a branchless 13.2 million bank account [29]. Figure 3 and 4 depict the IT expenses and branch expansion breakdowns in the year 2019 by banks [30].

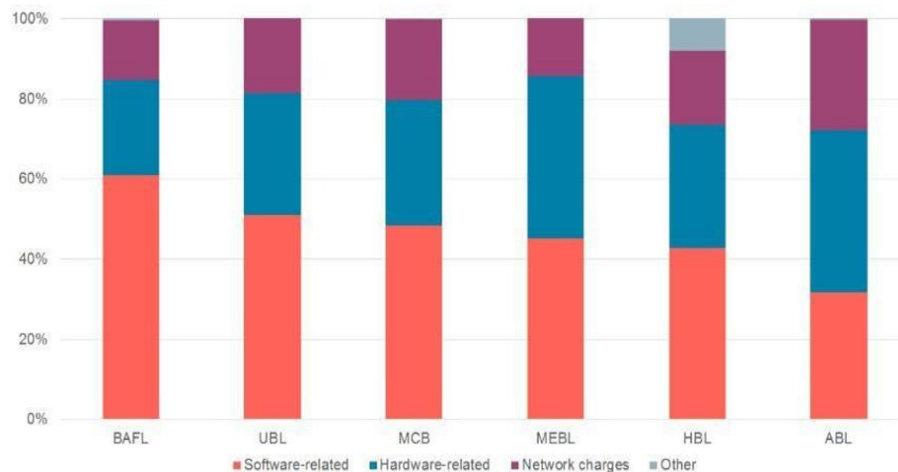


Fig. 3. IT expenses breakdown by banks – 2019 [30]

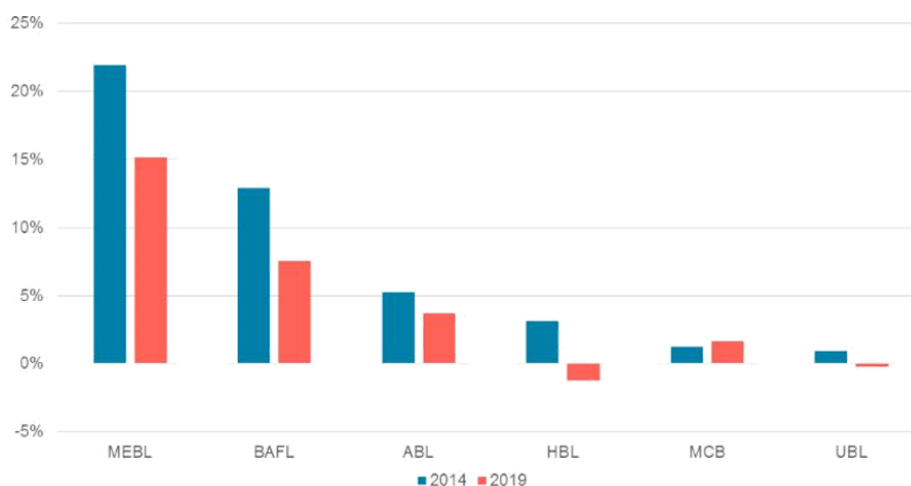


Fig. 4. Branch Expansion expenses breakdown by banks – 2019 [30]

5. Covid-19 Paradigm Shift in Pakistan

Covid-19 may give digital payments a lasting boost. In recent years, the state bank in Pakistan has

- i. wiped out digital banking transaction taxes to facilitate cashlessly and branch free transaction.
- ii. government relief for low-income workers will likely be paid out via mobile wallets believe.

The following developments could trigger a lasting change in consumer behaviour from cash and lead to a sharper growth in digital payments [30].

Pakistan is increasing local production capacity to securely and self-sufficiently fight coronavirus, with essential medical supplies [31]. In cooperation with Pakistan Engineering Council (PEC) and others, the Ministry of Science and Technology organized the show to demonstrate the potential of the country. The exhibition entitled "Changing Calamity in Opportunity" featured locally manufactured masks, PPEs, sanitizers, disinfectants, and ventilator prototypes by both public and private organizations [31].

The country is on the move to raise an electro-medical equipment industry with export level capacity. Prime Minister opened the country's first indigenous ventilation plant to make Pakistan autonomous for the manufacture of medical equipment [32]. The country will produce its indigenous ventilators over the next few weeks as six local-designed machines have taken clinical trials in two hospitals [33]. At least 48 proposals were received by PEC officials for mechanical ventilators locally

produced, 13 of them approved [31]. The cost of indigenously manufactured ventilators would be three times less than the imported ones [33]. National Radio and Telecom Corporation (NRTC) has also produced thermal cameras, crosses gates, and VG70 fan systems and is about to start selling them [31]. NRTC also successfully produced indigenous spray drones in a fight against swarms and COVID-19 [34]. Figure 5 is the picture of PakVent-1 one of the approved locally developed ventilators in Pakistan [31].



Fig. 5. PakVent-1 (locally developed ventilators in Pakistan) [31]

When schools had to avoid the spread of the new coronavirus, Pakistan opened up an educational channel. It provides a one-hour curriculum for each grade, so the students have to look in shifts, with content programmed for kindergarten in high school [26].

6. Conclusion

COVID-19 has taken the world by surprise and shaken up every segment of life and industry. Pakistan has the same story too. However, so far, the steps taken by the government to combat the pandemic and facilitate the economy are encouraging. The Stimulus packages, especially cash disbursements to the poorest of poor and electricity bill compensations to the 90% of SMEs, are satisfactory in times of crisis. The most encouraging fact that was reviewed in this paper is the production of self-indigenously medical equipment which started in this pandemic. Pakistan has started to manufacture the ventilators, spray drones' masks, PPEs, sanitizers and disinfectants, which shall not only reduce the costs but could have a significant impact on the economy if exported. The steps will encourage the entrepreneurs; they not only have to strive for survival by adapting to the hustled digital disruption but also need to look for the more excellent opportunities created by the pandemic. In the future, further qualitative and quantitative investigations can be made into the entrepreneurial ventures reacting to COVID-19 in Pakistan. Studies can also be initiated on the future interest of Industry 4.0 post COVID-19 in Pakistan.

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