

COVID-19 and Digital Economy in Pakistan

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Abstract

With every passing day digitization is gaining momentum, the digital disruption is the biggest, fastest and most powerful disruption of the century and the VIRTUAL is rapidly becoming REAL in every sphere of life. Partially compulsive but also facilitative in nature; the e-solutions managed to fill the gap between demand and supply of services during COVID-19 restrictions up to a great extent. Pakistan's e-businesses performed exceptionally well in the given circumstances, however, there was further room for improvement. The cumulative expansion in e-Commerce business registered with SBP was 62.79% during COVID-19 period. Similarly, the number of Internet banking users and mobile phone banking users also increased during this period which show the progress as well as the potential in these segments of digital economy.

However, in order to realize the true potential, the issue of digital divide needs to be addressed at the earliest. Similarly, the allied soft and hard infrastructure availability like regulatory regime, incentive for financial inclusion, improvement in logistics services, investment in digital economy sector and the most important the awareness in the general masses are required. The digital economy is a tool for development specially e-Commerce sector and Fin. Tech are two wheels of the same cart, which if successfully implemented result in increased level of financial inclusion, that directly helps in alleviation of poverty.

The changes in digital economy landscape especially e-Commerce segment is likely to continue in future, owing to multiple expected iterations of COVID-19, delays in immunization of general public, convenience of the masses, incentives for the firms and support of the government. We must ramp up our efforts to get maximum benefits out of this transition.

Introduction:

Victor Hugo said, "Nothing is more powerful than an idea whose time has come" This holds very true for digital transformation – digitization of everything from schooling to finance, medicine to engineering, manufacturing to retail – every process/activity is in transition phase. The digitization process which started in developed world in late 1980's, with mere computerization of records has transformed into complex information management systems and is now moving towards AI based planning and forecasting solutions.

Of all the segments of digital revolution – transition to digital economy is perhaps the lowest hanging fruit, with huge benefits for developed and developing world. Digital is no longer a subset of economy – it is THE ECONOMY per se and has

become an inescapable fact of life. Most of the developing countries started embracing this reality during last decade, however, progress was at snail's pace, until COVID-19 hit and pushed public and private sector for quick transition.

After identification of first case of COVID-19 in February 2020 in Pakistan, it was assumed that the virus would badly affect the masses due to poor health infrastructure and weak economy. But the situation somehow remained under control. Though the initial lockdown did impact the already fragile economy, but the government's policy to introduce smart lockdowns helped businesses come back to at least pre-COVID-19 position. Beside government interventions, most of the businesses (retail and restaurants etc.) modified their operations by themselves and shifted to 'AT YOUR DOORSTEP' model by using e-commerce platforms and other digital modes.

This COVID-induced digital transition was witnessed at a massive scale in e-Commerce businesses, banking sector, education, medicine and supply of government services etc. The extent to which this transition was successful or could have been successful and the reasons behind this success or less than optimal performance, need a comprehensive assessment to propose realistic interventions for sustainable growth of this sector and integration in national economy.

Statement of the Problem

The COVID-19 pandemic affected all sectors of the world economy and society. Global economic growth shrunk, owing to risks of uncertainty and global recession. Prolonged lockdowns and restrictions impacted daily socio-economic activities. Pakistan's economy, which was already suffering from acute balance of payment crisis and repeated foreign exchange issues, was considered more susceptible to the COVID-19 global economic crunch.

However, the restriction and mobility challenges became opportunities for digital segments of the national economy. From retail businesses to entertainment, e-governance, e-banking and socialization etc. all fragments of digital economy in one way or another evolved in these times of crisis. Though, there were challenges, but with average digital infrastructure, low internet penetration and fewer fin. tech. facilities etc. the very nascent digital economy ecosystem in Pakistan proved a springboard for the new and existing digital entrepreneurs.

This research paper critically examines the opportunities seized by the Pakistani e-businesses during COVID-19 and investigate regional trends and global benchmarks. After discussing major impediments faced by these tech companies in furthering their growth, the paper also suggests strategic policy interventions to maximize their output and share in national GDP. The research questions framed are:

Primary: Did Pakistani e-commerce/digital service companies benefitted from the COVID-19 crisis? An analysis of pre and post COVID-19 situation to determine whether this was the peak performance or there is still room for improvement.

Secondary: Was the performance of digital economy segment in Pakistan comparable with regional competitors and international benchmarks? If not, what were the impediments/challenges?

What policy interventions could be suggested to sustain and expand the digital economy sector of Pakistan?

Significance / Scope of Study

Being a relatively new development, very small amount of research has been conducted on the topic. The term digital economy is itself an emerging concept and has multiple dimensions and wide spectrum of activities and businesses, which could qualify as component of digital economy. Starting from digital entertainment to digital banking, e-governance, e-commerce, digital designing and manufacturing (3D), e-learning, e-medicine, robotics, digital currencies and block chain etc. all are in one way or another related to digital economy.

Though Pakistan is making progress in almost every field of digital economy, but owing to infrastructural and technical difficulties, progress on some areas is relatively slow as compared to others. e-Commerce, e-Governance and digital banking are few examples, where substantive progress has been made over past few years. The COVID-19 also proved to be a catalyst for public and private sector intervention to speed up the digitization processes in these areas, therefore, this research only studies impact of COVID-19 on the above three segments with special focus on e-Commerce being most relevant and significant for Pakistan's development. However, it also signifies that there is a need for thorough research on all segments of digital economy in Pakistan.

Review of Literature

The global crisis of COVID-19 pandemic has completely altered all aspects of people's lives and has brought to fore the interconnectedness of digitalization and development. (OECD, 2020) highlighted that the current state of transformation will continue and may lead to creation of new business models, market leaders and customer segments. However, the existence of digital divide at global as well as national levels, may hamper inclusive growth. (Malkani, 2020) pointed out that the tools of digitization (specially e-Commerce and Fin. inclusion) could be an engine of growth for marginalized areas/communities in the country. However, a holistic approach is required to create an enabling environment and ecosystem. (WTO, 2020) appreciated that the online mode of business is growing at good pace, however, we need to address the digital divides both within and across countries to

maximize the benefits.

(ITU, 2020) is of the view that digital infrastructure increases social and economic resilience, and that connectivity is now the national critical infrastructure which is as important as water, electricity and food. Covid-19 should be taken as a window of opportunity to drive digital transformation. (Javed, 2020) did an appraisal of e-Commerce in Pakistan and stated that there is huge potential for growth of this sector, however, the country is not technically ready to do rapid transformation. He compared Pakistan with regional countries on UNCTAD e-Commerce (B2C) Index and found that in Pakistan there are severe infrastructural issues, payment problems and regulatory gaps.

A comprehensive analysis of digital economy of Pakistan has been done by (SBP, 2020), according to the report, Pakistan has made substantive progress in e-commerce and e-banking sectors and various regulatory/facilitative measures have been taken by concerned authorities to support expansion of these sectors. (Sarfranz, 2020) and (Niazi, 2020) have shared some success stories in Pakistan during COVID-19 crisis and have predicted future trends based on the consumer behaviors and support infrastructure. (WTO4, 2020) is quite optimistic about the international growth of digital services sector and predicts long-term shifts towards online-services.

Methodology

It has been almost a year when the first case of COVID-19 was traced in Pakistan, therefore, the exact dimensions and estimate of the kind and volume of damages that this pandemic may have inflicted on society and economy are unknown. Similarly, the type and quantum of gains or opportunities exploited by some segments of economy are also very recent and their sustenance or otherwise cannot be determined at this stage. Usually, the economic impacts of such disruptions are long-term and complex in nature. One complete cycle of Financial year, in this case from July, 2020 to June, 2021 would help us answer a lot of unaddressed questions.

The research adopts descriptive analysis method to examine the prospects and challenges that COVID-19 has offered to firms operating in the sphere of digital economy in Pakistan, specially e-Commerce firms. Secondary data has been obtained from published research and government sector publications to ascertain the positive and negative externalities generated by COVID-19 for digital economy of Pakistan. Policy documents of relevant Government Ministries/Departments have been reviewed to study the regulations, initiatives and interventions for promotion of digital economy in Pakistan. International benchmarks of hard/soft infrastructure mandatory for growth of this sector have been obtained from literature and quality standard documents of UN and other International Organizations.

Organization of the Paper

The paper is divided into three sections. Section-I is the stage setting i.e. how the virus emerged on the global scene, the havoc it has created and the type/quantum of disruptions it has caused in global trade of goods/services. Later part briefly explains the economic profile of Pakistan, role of services sector and pre-COVID situation of digital economy. Section-II explains the ecosystem of digital economy in Pakistan, and how it responded to COVID-19. A few success stories have been shared. Section-III briefly touches upon the future prospects and critically analyzes the performance of marginalized areas/communities and the overall performance viz. a viz. regional competitors and international best practices. Various initiatives taken by the public sector during this period and barriers to growth are discussed in the end. This is followed by the Conclusion and Recommendations.

COVID 19 – Times Unprecedented

The outbreak of COVID-19 was initially taken by the international community as a sequel of SARS and the intensity and spread of the virus was expected to limit to China and Far East only. However, taking advantage of the fastest means of travel/transportation, the virus spread all across the world and proved itself as a true global disruptor. In addition to unprecedented damage to human lives, the COVID-19 pandemic also jolted the global economy by halting movement of people, goods and services across the world, interrupted global value chains, caused job losses across the world, thus pushing 40-60 million people below the poverty line.

With more than 1 million people lost their lives to the pandemic, the global economy was estimated to shrink by 4.8% during 2020 (WTO2, 2020), resulting into deeper and longer global economic shocks, which could result in reversal of economic development achieved by various developing countries during past decade.

The UNDP predicted that the Human Development Index (HDI) is expected to decline for the first time in 30 years. Due to loss of jobs in international markets, economies of Asia and the Pacific (which receive 43% world remittance) became more vulnerable to economic shocks which could destabilize their balance of payments. Similarly, economies dependent on tourism were also badly affected, as per estimates of UNWTO, the total loss suffered in terms of tourists arrivals globally is around US\$ 195 billion.

Apart from pure economic impacts, the social impacts of COVID-19 are very deep and long lasting, these included psychological effects, human rights violations, discrimination against women, domestic violence, access to medical facilities, undernourishment of children and access to education etc.

Impact on Global trade of Goods and Services

The World Trade Organization (WTO) forecasted a 9.2% decline in global trade for 2020, based on the statistics that global manufacturing output fell by 20% in April, 2020 as compared to the same period of the previous year. However, WTO also forecasted that if the pandemic is contained, the recovery could touch the pre-COVID levels (WTO2, 2020). There were some positive signs in global trade during June/July, 2020, however, the fall bring back the second wave of COVID-19, forcing lock downs and closure of manufacturing activities. A steady recovery was impossible owing to major disruptions in global value chains, means of transport, increased costs of freights and insurances and trade related restrictions imposed by various countries.

Although, the current trade decline is almost equivalent to the trade decline during financial crisis of 2008-09, however the economic implications of the current decrease are far more painful and complex in terms of recovery (WTO2, 2020). The main reason behind this is the contractionary GDPs of major economies due to lockdowns and movement restrictions – not only trade but almost all contributors of GDP have decreased. (Chohan, 2020)

The sharp decline in merchandise trade created a domino effect on services trade. Since services sector has a pivotal role in providing inputs for manufacturing sector as well as distribution of manufactured goods to destined markets by facilitating the global value chains, therefore, disruptions in services affected goods production negatively (WTO4, 2020)

The importance of the services can be assessed from the fact that services sector contributes more than 65% of the global GDP, and has share of 48% in global employment. Further, services sector accommodates majority of the women workforce and is dominated by micro, medium and small enterprises (MSMEs). An interesting development in services trade is the structural shifts i.e. gradual shift from traditional services like transport/travel-related services to telecommunications, computer, information, business, financial and audio visual services etc. (WTO3, 2019)

Pakistan's Economy

Structure of GDP & Challenges

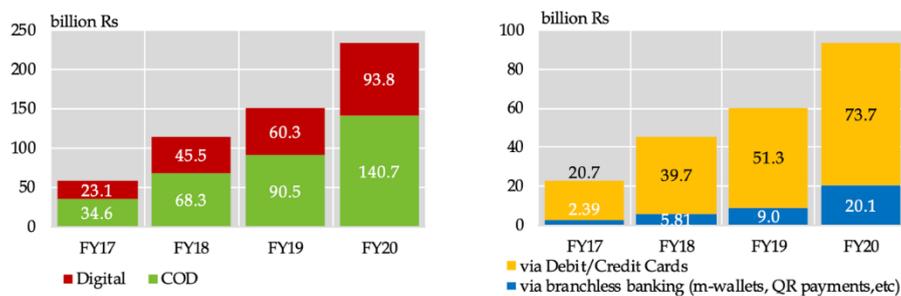
The structure of Pakistan's economy is based on Agriculture (19.31% of GDP), Industrial (19.29% of GDP) and Services (61.40% of GDP). Pakistan's economy before the advent of COVID-19 was facing the decades old issues of low tax to GDP ratio, extremely unbalanced fiscal and current account deficit, overvalued exchange rate, depleting foreign exchange reserves and mounting debt service expenditure. The government was trying to do structural adjustments and reportedly, it was on a stabilization path, when the COVID-19 hit the global as well as Pakistan economy (MOF, 2020).

Government of Pakistan as well as the provincial governments responded quickly to the pandemic. An immediate response was required to successfully contain the spread and limit impact of the virus disruption on economic activity and social movement. The natural outcome was to impose a complete halt on the micro economic activities which not only impacted the macroeconomic indicators but also had deep and long-lasting impact on the socio-economic conditions of the marginalized people in the society.

Foreign Trade, Services Sector & Digital Economy

The foreign trade sector of Pakistan, specially goods trade was performing well till February, 2020, but it started showing signs of decline in March, 2020 and upto April 2020 the goods trade dropped to an alarming low. The YoY exports declined by 54.2% i.e. to US\$ 957 million as compared to US\$ 2,089 million in the corresponding month previous year (MOF,2020). The Services sector exports declined by 7% for the period July-March of the financial year 2020. Major services sector exports included telecommunication, computer and information services while big losers were business services, government goods and services, transport services and insurance services etc. The services sector showed some signs of recovery in as early as Q1 of FY 2021 specially in sub sectors like wholesale/retail trade, transport, storage & communications etc.

Historically, the domestic consumption of services sector was limited to finance, insurance, construction, transport and education services etc. However, during previous decade, the services related to digital economy, specially e-Commerce services observed exponential growth. In overall terms, the estimated e-Commerce sales in Pakistan have grown at a CAGR of 62% during financial year 2017-19 to FY 2019-20. The e-commerce market is expected to touch Rs. 234.6 billion with 55% increase YoY basis (SBP, 2020)



Source: State Bank of Pakistan (SBP, 2020)

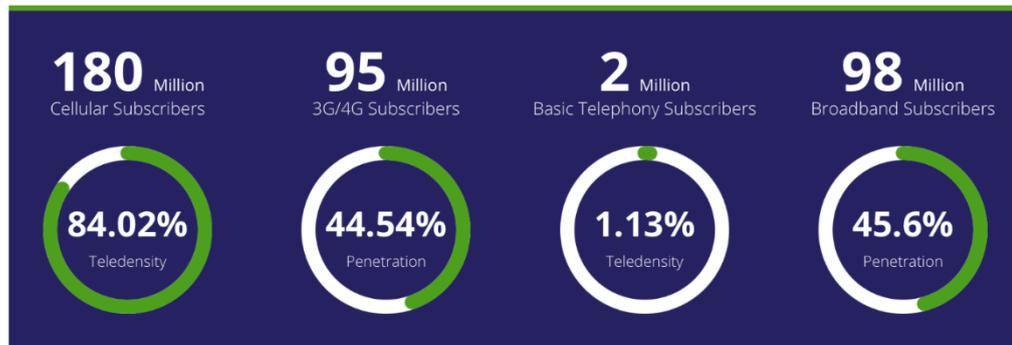
The e-Commerce segment of digital economy of Pakistan ranges from individual entrepreneurs to multinational companies. Multiple marketplaces and delivery services such as Daraz, Mega.pk, Grocers APP, kaymu.pk, Shophive, Yayvo.com, Darewara, Food Panda, Cheetay exist, which act as intermediaries to various sellers

and buyers. Online contract management companies and information exchanges such as PakWheels, Rozze.pk, Zameen.com and Graana etc. are also flourishing. Web-based transportation companies such as Careem, Bykea, and Uber etc. have stable base in Pakistan now.

Ecosystem for Digital Economy in Pakistan

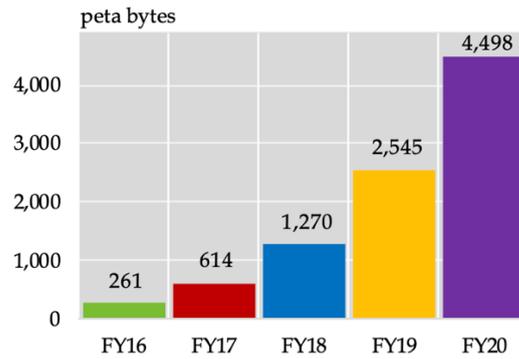
The turn of 21st century highlighted the importance of digital technologies in shaping up the future of economy. Various efforts were made from time to time to create a policy framework for digital economy, but the most practical and holistic efforts were made in recent years, as a result of which three important policy documents emerged, The Digital Pakistan Initiative, Pakistan E-Commerce Policy and National Payments System Strategy (Malkani, 2020). State Bank of Pakistan also developed Micropayment Gateway (Raast).

On the digital infrastructure side, Pakistan faces huge digital divide within the country, in the region and globally. Snapshots of key digital infrastructure parameters as follows:



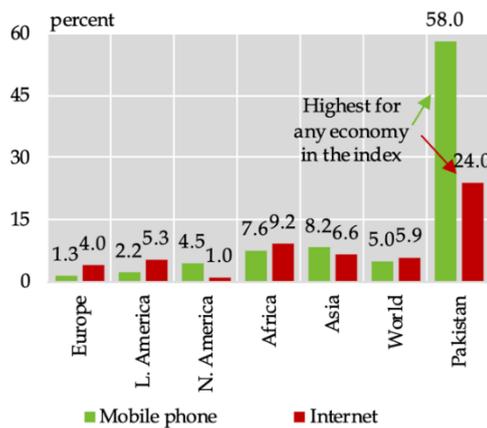
Source: Pakistan Telecommunications Authority (PTA) website

Pakistan's tele-density has improved from 60.7% in 2015 to almost 84% in March 2020, similarly, broadband penetration has improved from 8.9% in 2015 to approx. 4.6% in 2020. Due to improved network infrastructure the internet traffic surged constantly, and maximum utilization of data was observed during lockdown period (an increase of 76.7%):

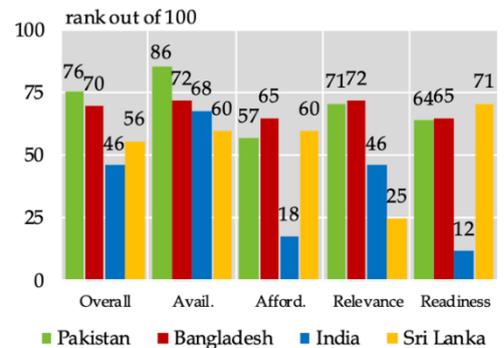


Source: PTA

However, despite these positive developments, Pakistan lags behind in crucial infrastructure indicators such as mobile internet penetration, coverage gaps, rural/urban divide, gender-based usage, internet exclusiveness and financial inclusion when compared with regional countries and international best practices:



Note: Calculated as the difference in the proportion of males and females having access to mobile phones and internet.



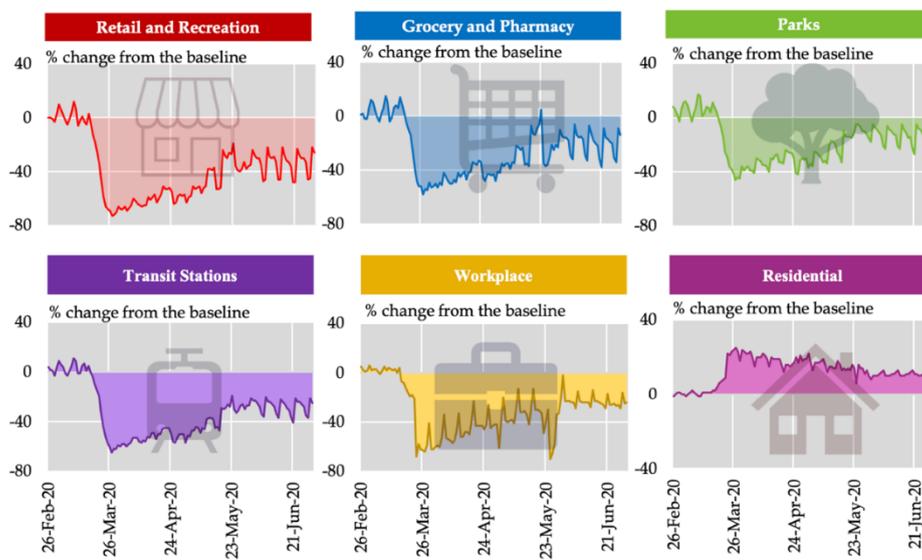
Availability measures the quality and breadth of infrastructure; Affordability examines the cost of access relative to income level and marketplace competition; Relevance indicates the existence and extent of local language/relevant content; Readiness shows the level of capacity, skills, cultural acceptance, and policy environment to access the internet.

Source: EIU Inclusiveness Index 2020

The 2017 World Bank Global Findex Report states that only 21% of the Pakistanis (adult) have a bank account, as compared to 70% average of South Asia. The SBP in cognizance of this situation launched the NPSS, 2019 which is expected to bring this ratio at par with regional competitors. In addition to bank accounts the increasing number of mobile wallet accounts are also a strong driver to fill up this gap. The FinTech provides opportunities of financial inclusion to the marginalized people living in far flung areas where brick and mortar bank branches are not feasible.

Bracing for the Impact

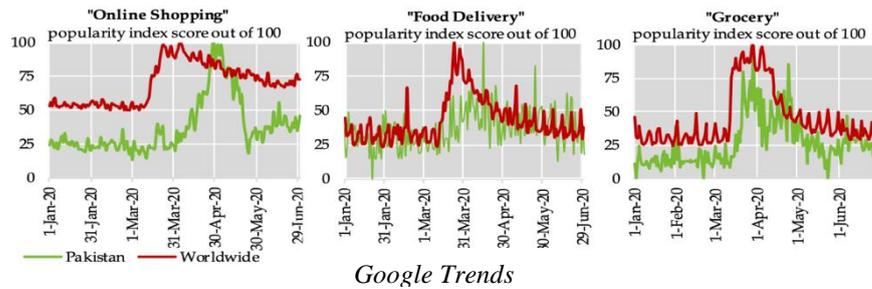
The introduction of lockdowns and confinement measures accelerated the pace of adoption of digital technologies. Though e-Commerce and related businesses were already flourishing, the advent of the pandemic catalyzed the transition. The restrictions brought dynamism in the business models and created opportunities for the new entrants, provided expansionary environment for the existing players, created new customer segments and introduced new product range. The complete lockdown resulted in sharp reduction of people’s mobility, but when slowly government started to shift towards smart lockdown the mobility trends started improving. The following Google Mobility Report based on the data collected by Google analytics show sharp decrease in physical mobility of people to shopping malls, grocery stores and parks etc.



Source: Google Mobility Report real time data at

<https://datastudio.google.com/u/0/reporting/a529e043-e2b9-4e6f-86c6-ec99a5d7b9a4/page/yY2MB?s=ho2bve3abdM>

If we superimpose this mobility data with Google Trends data for online search specifically to online shopping, online food and Grocery, it is revealed that during same time period there was a sudden surge in Google searches. Below is a comparison of search trends of Pakistan



Not all types of businesses could transform from physical to virtual, however, majority of business in the above three categories shifted to online mode and reaped gains. Though there are upfront costs involved in setting up the e-Commerce portal, but the sudden surge in demand was so lucrative that entrepreneurs jumped in and performed relatively well.

No doubt the government facilitation, specially incentives from SBP were very supportive for this transition. Another option available to MSMEs was to register themselves with leading marketplaces to avoid initial sunk costs. Similarly, the restaurants started to enroll with the online food delivery apps taking advantage of their already built infrastructure, making it a win-win situation for both. As per PTA, the bandwidth capacity was sufficient to meet the sudden surge in demand, however, the public opinion was different, users faced bandwidth issues during peak hours of lockdown days.

Market expansion and new entrants.

Not all products/services were gainers in this race, while some product's sale was reduced, significant increase was witnessed in household goods and pharmaceuticals, food delivery services etc. Various new startups emerged in Pakistan and those already established expanded their businesses.

Success stories – Online Marketplaces, Delivery Services

Online marketplaces and delivery/logistics service provider like Cheetay, Daraz, Deliveroo were first to introduce contactless delivery in Pakistan. Food Panda quickly took the load of food delivery as the dine in was stopped and restaurant were almost on the verge of closing down. Daraz an online marketplace utilized state of the art inventory management system and optimized their delivery times by simultaneously focusing on safety of staff, delivery boys and customers.

All modes of payment like credit cards, QR codes, SimSim, JazzCash etc. were accepted by delivery companies and online platforms during COVID-19 times. Cheetay CEO Majid Khan in his interview with a local newspaper pointed out that the trend will persist even after removal of restrictions. However, Daraz CEO, on the other hand was bit hesitant to make further capital-intensive investment on the

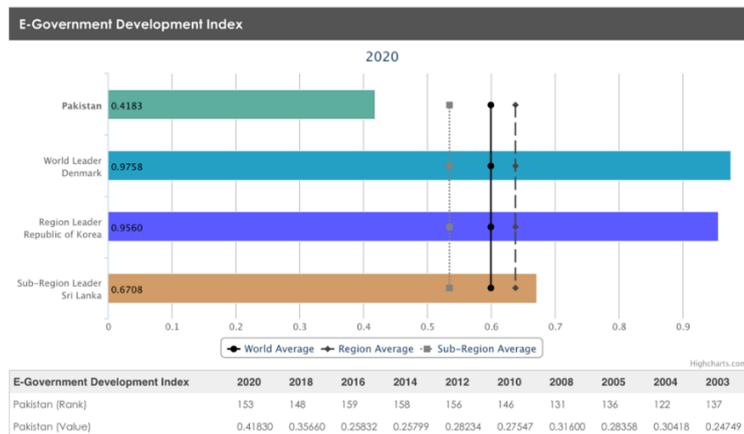
basis of current situation. He told that though their orders grew almost 9%, but it is like a bubble and not normal (Niazi, 2020)

Darewro is an on-demand delivery service in Peshawar, which helps customers by delivering goods and services from local businesses. Though established in 2013, the company has seen massive increase in its business since the imposition of lockdowns. GrocerApp an online marketplace which has been in operations since 2016 saw market growth considerably during lockdown. Tehzib Bakers a famous Bakery in Islamabad quickly shifted to online sales within a month time and started taking online orders. Besides very formal online stores, there were thousands of online sellers who utilized social media platforms like facebook, Instagram and whatsapp to market and sell their products.

There are multiple other companies in other domains such as Doctory – a telemedicine app has been helping people find the right doctor without wasting time and costs on multiple referrals. The app was chosen for World Bank funding through SDGs&her initiative and is now part of Pakistan’s rapid response program.

e-Governance during COVID-19

e-Governance is defined as the provision of government services to respective clients through use of ICT technologies in a virtual mode. Various government services were already on path of digitization before the COVID-19 pandemic. Most of the Federal government Ministries/Departments were using e-filing and other digital means for record keeping and exchange of information. In provinces, multiple efforts were made by departments for computerization of record. However, Pakistan was still ranked at 153 out of 193 countries in the e-Government Development Index, which is far below the global as well as the regional average



Source: UN e-Governance Knowledgebase

The Digital Pakistan Policy highlighted the importance of digital government

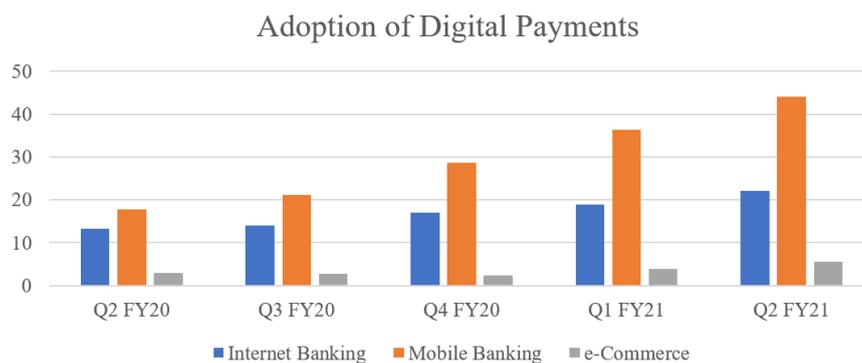
services and various initiatives were launched under the program. Most of the federal and provincial departments have websites as well as web portals for dissemination of information to general public. Pakistan Citizen Portal and Prime Minister Delivery Unit were major initiatives launched by the government to bring digitization in public service delivery. The COVID-19 app, online monitoring of infections at NCOC, PM portal for distribution of support package etc. were digital interventions which were recognized at the level of UN as well.

It cannot be denied that with the inception of COVID-19, the digitization process in public sector was forced to speed up. Work from home was tested for the first time in Pakistan in public sector during first lockdown spell. Tele School and Taleem Ghar were launched in collaboration with PTV and some private sector EdTech companies to reduce education loss of students due to closure of schools. FBR made massive strides in digitization of its revenue collection, disbursement of tax refunds and online processing of complaints etc.

The national database of NADRA provided solid base for all type of online government services. The most important achievement in e-governance was performance of Prime Minister EHSAAAS program. Despite all odds, the program successfully identified the vulnerable/marginalized segments of the society and by using advanced data verification techniques filtered the most accurate and needy people who were delivered cash support through e-payment mechanisms.

e-Banking and mobile wallets

State Bank of Pakistan rolled out various policy measures to support banking sector, but at the same time also issued strict COVID SOPs as well as facilitative measures to help general public and businesses. Due to availability of capital and trained human resource, the banking industry quickly shifted to online mode – web-based portals and apps were launched with facilities ranging from simple transfer of funds to payment of government taxes/fees, utility bills, mobile tops ups, school fees and donations etc. The SBP Quarterly Payment Systems Review (Q2 FY21) shows constant increase in numbers and value of online transactions from Q2 of FY20 to Q2 of FY22 in all modes such as internet banking, mobile banking and e-commerce transactions. The Internet Banking users increased by 26.3% and Mobile Phone Banking users increased by 27.5%. Similarly, the number of registered e-Commerce Merchants also increased by 62.79% (SBP, 2021).



Source: SBP Quarterly Payment System Review (Q2, FY21)

The gains in digital banking and e-commerce transactions prove that COVID-19 actually triggered the transition towards digitization in Pakistan, which could have taken another couple of years to roll out, had COVID-19 been not there. The delivery of cash support (EHSAAAS) was successfully executed by banks all across the country and more than 15 million people benefited. Similarly, the Zakat and Usher Department of Punjab distributed funds to needy people through Easy-Paisa and The Citizens Foundation distributed cash to vulnerable people through JazzCash.

Compulsive v/s Facilitative Trend

The COVID-19 forced corporate entities as well as individuals to shift their routines to virtual modes. The companies adopted work from home practices, virtual meetings and shared virtual spaces for daily interactions. Whereas the individuals shifted to online entertainment, shopping, tele-medicine, e-learning and e-banking etc. The psychological analysis of this sudden change requires field study and data analysis; however, the traditional human psychology prescribes that a normal human being requires almost two months to adopt a new behavior. Since the cumulative periods of lock down and mobility restrictions was around 4-5 months during first and second wave, thus patterns of daily domestic life and that of work changed considerably and a ‘new normal’ was attained (Sarfranz, 2020)

Initially it was a compulsive behavior, but with passage of time and realization of ease of doing routine things digitally, the compulsive behavior turned into facilitative trend. There were already a good number of on-line shoppers, but the new entrants quickly realized the ease of convenience and savings in terms of fuel costs through online mode. It was observed that the time saved in commuting, shopping, bill payments and allied hassles could now be utilized elsewhere e.g. with kids, family and/or entertainment purposes etc.

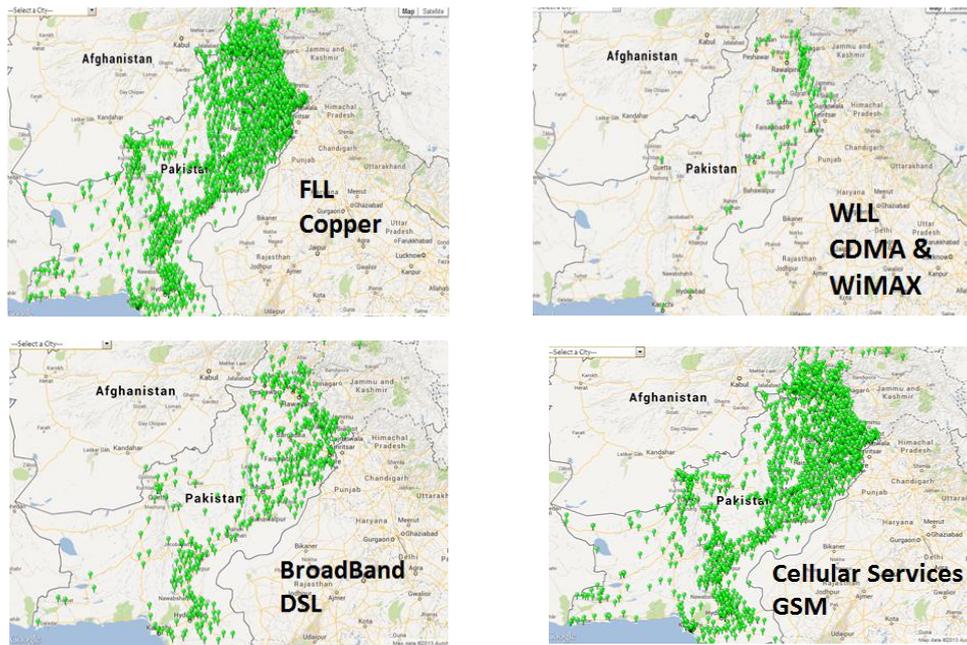
The urban populace was the first to adopt and is expected to continue this routine even after the easing out of restrictions. Initially the trend was adopted by one or

two persons per household, but in majority of cases the entire family is now using online method for buying groceries, clothes, gadgets and food etc. It is expected that this trend will have a lasting impact, however, it depends on the kind of innovation that digital sector brings and the incentives it offers to online consumers viz. a viz. physical consumer (OECD, 2020)

Response/Effects on Marginal areas/communities

In the global perspective, the dividends of digital economy are real and tangible, but the barriers of digital divide restrict developing and least developed countries to get benefit from them. Similarly, at national level, the digital divide is the biggest challenge in maximizing gains from digital economy. Apparently, the statistics of tele density and broadband penetration appear to be reasonably well, but it is not evenly distributed.

Majority of the components of digital ecosystem are concentrated in metropolitans. The hard infrastructure i.e. availability of internet through mobile/DSL is hugely concentrated in the northern parts of the country or Karachi and surroundings, but majority of southern Punjab, South West KP and Baluchistan are sparsely covered by telecom companies, even the fixed land line concentration in Baluchistan is very low.



GIS mapping on the basis of PTA data

Digital literacy is also a hindrance in adoption of ICT technologies in rural/marginal areas and communities. However, despite all these odds, there are icons of entrepreneurial success in these areas. Imran Khan Hara hailing from Sibbi District,

Baluchistan is one such example who created an e-Commerce platform ‘Baluchistan Traditional Shop (BTS)’ and is successfully selling traditional Baluchi goods all across the country as well as abroad.

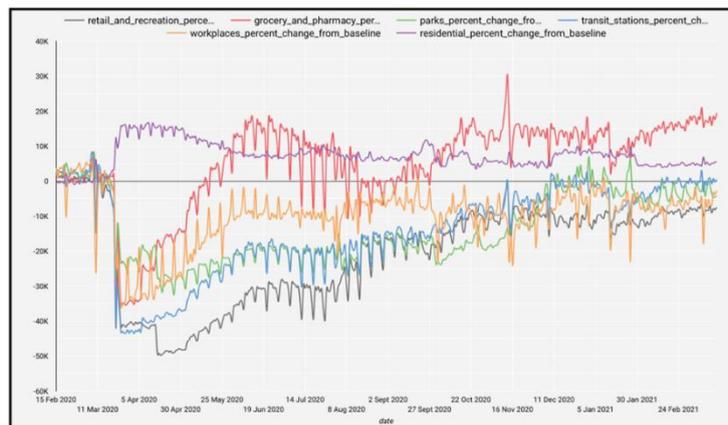
The China Pakistan Economic Corridor is a ray of hope for such marginalized areas and hopefully the planned projects including laying of optic fiber as well as establishment of technology parks along the route shall provide opportunity for people of these areas to jump on the bandwagon of digital transformation.

Critical Analysis of our Performance

By mid 2020, the COVID-19 pandemic had hit the entire global economic structure, however, the states as well as businesses, came up with innovative ideas to cope up with crisis. The extent to which such ideas/initiatives remained successful or otherwise depend on number of factors, but one outcome which was common across all economies – that COVID-19 restrictions accelerated the expansion of online businesses in almost all the countries.

In EU-27 for example, retail sales via mail order or internet, increased by 30% in April, 2020 as compared to April, 2019, whereas, the total physical retail sales reduced by 17.9%. Similarly in USA the e-commerce sales in retail sector spiked to 16.1% between the First and Second Quarter of 2020. In Korea, the e-Commerce transaction’s value rose by 15.8% between July, 2019 and July, 2020. In China, the food sector e-commerce sales rose by 36% between January to April, 2020. (OECD, 2020)

India being regional economic giant, having 64% mobile penetration and 41% internet penetration registered massive increase in online retail sale. However, the imposition of strict lockdowns and curfew in major cities severely hit the delivery business in India. The Google mobility report of India for lock down period show strict implementation of mobility restrictions.

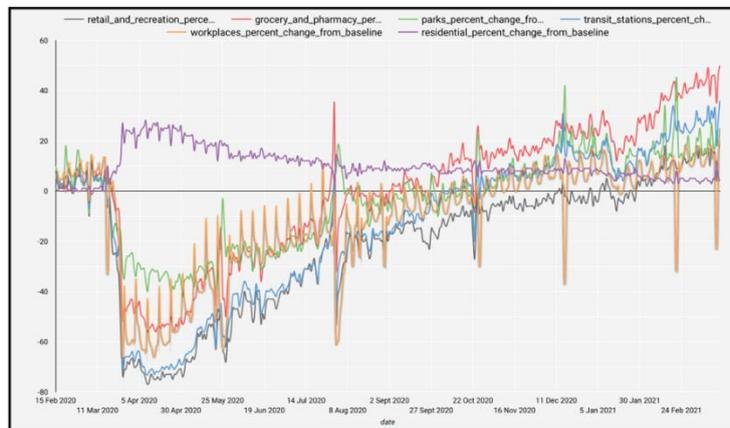


Source: Google Analytics Report real time data at

<https://datastudio.google.com/u/0/reporting/a529e043-e2b9-4e6f-86c6-ec99a5d7b9a4/page/yY2MB?s=ho2bve3abdM>

The cities of Delhi, Maharashtra and Karnataka made up to 65% of the e-consumer base in India, however, remaining 35% consumers were from Tier-II and III cities. (Das, 2020) Another salient feature of Indian online retail was that it was driven by mobile shopping (53% in 2020) which is expected to raise up to 62% by 2024 (Abrar, 2020). The Reserve Bank of India estimated e-Commerce market to grow threefold i.e. up to US \$ 85 billion by 2024 (Poojary, 2020). During COVID times, several Indian internet startups such as Unacademy and Nykaa crossed \$ 1 billion mark in valuation and became entitled for unicorn tag.

Similar situation was observed in Bangladesh, where the size of e-Commerce business reached BTK 166.16 Billion (US\$ 1.960 Billion) in August, 2020 as compared to BTK 5.6 Billion (US\$ 66.07 Million) in 2016. The e-Commerce industry of Bangladesh comprises of giants like Daraz, Evaly, Ajker Deal, Othoba, Priyoshop, Chaldal and Deligram etc. (Kabir, 2020). In addition, more than 100,000 people do online business through Facebook etc. In total, there are around 2,500 e-commerce websites/pages selling products worth US\$ 2 billion, making Bangladesh 46th largest country in terms of e-commerce revenue. Bangladesh also imposed strict lockdowns to control the spread of virus. The Google Mobility restriction report of Bangladesh is as follows:

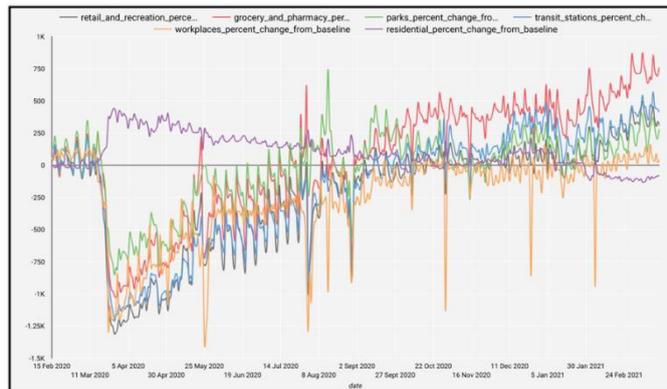


Source: Google Analytics Report real time data at <https://datastudio.google.com/u/0/reporting/a529e043-e2b9-4e6f-86c6-ec99a5d7b9a4/page/yY2MB?s=ho2bve3abdM>

According to e-Commerce Association of Bangladesh the sector grew during COVID-19 pandemic and online sales increased 70-80% in the 3rd quarter of calendar year. Around 80% online customers of Bangladesh live in big metropolitan

cities of Dhaka, Gazipur and Chattogram and the extent of online facilities is not available in the rural areas. (Sahoo, 2020)

In Pakistan, the situation was much better as compared to India and Bangladesh, the virus spread was controlled initially through border closures and contact tracing etc. The government imposed strict lockdown initially, but later on moved towards the smart lockdown, however, there was never a curfew like situation during this whole time. As a result, the mobility of general people was restricted, but the essential services continued their operations. The Google mobility survey show sudden drop and gradual return to normal of the people at selected public places.



Source: Google Analytics Report real time data

Critics believe that the sudden demand surges and customer attraction towards retail business was transitory and the things would return to normal. However, the experience of SARS in 2002-2003 reveal that the crisis proved to be an opportunity out of adversity for many, specially in China, where new entrant like JD.com and Taobab emerged as market leader after the crisis and are now a retail giant in the country (OECD, 2020) With the expansion in infrastructure, support of the government, changes in consumer behaviors and mechanisms of digital payments, it is expected that the online retail sector of Pakistan shall continue to grow.

Support from Government

Government support at multiple levels and from multiple departments was crucial for survival and expansion of nascent e-commerce firms through the unprecedented times like COVID-19. Multiple interventions by State Bank of Pakistan helped these companies overcome the teething difficulties some of them were (SBP, 2020):

- i) Waiving off all interbank and intrabank charges on digital transactions.
- ii) Strict monitoring of ATM and IVR services
- iii) Fixed a floor on the Merchant Discount Rate and capped the Interchange

Reimbursement Fee (IRF) for debit and prepaid cards

- iv) Introduced simplified rules for digital onboarding of merchants to facilitate digital payments.
- v) Issued standards for QR code based payments
- vi) Allowed upto US\$ 200,000 for local companies for import of digital services mandatory for their businesses.
- vii) Initiated Micropayment Gateway (RAAST) and Asaan Mobile Accounts.
- viii) Freelancers' remittance limit has been revised from US\$ 5,000 to US\$ 25,000.

Ministry of Commerce introduced first ever e-Commerce policy before the advent of COVID-19 which provided a strong platform for all stakeholders. The constitution of National e-Commerce Council also helped the stakeholders to resolve issues under one window. MoC also facilitated enlisting of more than 30 exporters on Amazon.com as a pilot project, which would increase outreach of domestic exporters in the international markets. The Government of Punjab also announced to decrease GST on payments made by using digital platforms which would incentivize the customers.

Barriers to progress

Despite conducive environment, support by the government and consumer confidence, there are several bottlenecks which impede the continuous growth of digital economy in Pakistan, specially the e-Commerce segment.

From consumer point of view the issues of connectivity, digital literacy, financial inclusion, digital security and privacy, consumer protection, alternates of Cash on Delivery, affordability of smart phones, high costs of internet and uneven distribution of infrastructure etc. need to be addressed by the firms as well as by the government.

From the firm's perspective, issues related to e-payments, regulatory uncertainty, special tax regimes for e-transactions, logistic support, access to capital, collaboration with international market players, conducive import/export regime, availability of trained manpower for IT and IT related services, high upfront costs of setting up a secure and user-friendly digital payment platform and difficulty in compliance with the KYC requirements of on-boarding with banks are the important areas of concern. Moreover, customer awareness about advantages of using online services is also important for expansion of e-businesses. Similarly, low spectrum allocation and high license fees for broadband services also impede the investment in new telecom companies with latest technologies such as 5G.

From Government's perspective, investment in infrastructure, roping in of MSME's and women entrepreneurs, strict regulatory regime for compliance purposes, providing even playing to all players to avoid crowding out of small players and consolidation by bigger companies, robust logistic/postal infrastructure, bilateral/multilateral commitments and dispute resolution mechanisms etc. are major areas where policy intervention is required. High degree of informal economy is also one of the biggest impediments in transition to digital economy, as businessmen don't want to document each and every transaction.

Conclusion

Digital technologies are enablers and a real development tool if used correctly i.e. making them accessible, affordable and open to all. If not, the same could cause inequality, control and concentration, which leads to crowding out and firm cannibalism.

According to a 2018 International Telecommunication Union (ITU) report, an increase in the overall digitization of 1 percent in an economy leads to a 0.13% growth in GDP per capita and a 0.23% increase in labor productivity . As per estimates of SBP, Pakistan can increase its GDP by \$36 billion and create 4 million job by 2025 through an increase in the use of digital financial services only. Imagine what would be the magnitude of economy, if simultaneously e-Commerce/e-Trade and e-Government initiatives are also supported and implemented at full throttle by the government.

In Pakistan, COVID-19 has reinforced the need to upscale and improve accessibility of digital connectivity and infrastructure, strengthen the outreach efforts to enhance digital literacy and promote digital skills and embrace technology in the provision of business, financial and government services. A well thought out strategy to handle digital economy would help Pakistan implement the Sustainable Development Goals (SDGs 8, 9 and 12) in their true spirit.

Due to their agility and rapid adaption, three areas of digital economy of Pakistan benefited the most due to COVID-induced digital transformation; these are e-Commerce businesses, e-Banking and e-Governance. Multiple success stories have been explained above under all three categories, however, the growth of e-Commerce sector during last year has been un-precedented. Pakistani e-Commerce companies gained a lot during COVID-19 times, however, in comparison with regional and international best practices, the performance was below optimal, and the true potential could not be realized. A multitude of problems are hindering the growth of e-Commerce sector in Pakistan, most important being the non-availability of relevant hard infrastructure and regulatory regime.

Pakistan has around 5,000 IT companies and call centers, more than 300,000 expert English-speaking IT professionals, 13 software technology parks, every year around 18,000 IT graduates pass out of universities and a rising culture of IT startups. In Forbes, top 10 fastest growing freelance markets in the world, Pakistan ranks 4th with 47% growth YoY basis (MoC, 2019). All these indicators suggest that basic ecosystem for digital transformation exist, but we need to build on infrastructure part to reap the benefits of the transformation. Various stakeholders would be involved in this process starting from individual firms, households, business enterprises, free-lance service providers to financial institutions and regulators, tax collectors and border management authorities, academia and related government Ministries/departments etc.

Recommendations

In order to ensure an efficient digital landscape that delivers for all stakeholders, policy makers need to foster the enabling environment in areas of both hard and soft infrastructure. The policy interventions should be realistic, inclusive and provide for a holistic growth of digital economy specially e-Commerce across the country and that digital economy delivers for everyone. A detailed action matrix with policy intervention, key areas and stakeholder responsible for implementation has been prepared.

Recommendation	Authority Responsible
Ensure that the transition is not from brick-and-mortar to click-and-mortar rather business process re-engineering is done with efficient logistic and value chains as per international standards	All stakeholders
Extending coverage of 3G/4G in Baluchistan, South Punjab and NMDs of KP (PTA/Telecom Companies) Improving Bandwidth and introduction of 5G	PTA/Telecom Companies and MoITT
Making internet affordable	PTA/Competition Commission of Pakistan
Facilitating phone manufacturing units (specially smart phones)	Ministry of Commerce Federal Board of Revenue Special Economic Zones Authority
Foster participation of vulnerable in e-Commerce, people from marginalized areas and segments of society	Federal and Provincial Governments, Chambers of Commerce & Industry
Involve MSMEs and Women entrepreneurs segment specially in e-Commerce and generally in overall digital economy landscape (SBP, MoC)	SBP/MoC/SMEDA
Support startups/freelancers	MoC

	Incubation Centers
Controlled introduction of digital currencies	SBP
Allowing international payment solutions such as PayPal to operate in Pakistan	SBP
Interpretability of various payment platforms	SBP
Support for making/receiving international payments specially export proceeds	SBP
Incentives for customers to shift from COD to digital payments	SBP/FBR Federal Board of Revenue
A healthy competition and level playing field may be ensured which could discourage monopoly, firm level cannibalism, extreme protectionism as well as invasion of foreign service providers at the cost of local businesses.	CCP/MoC/BoI
Promoting Investment in IT Sector	BoI
Business Facilitation Hubs for e-Commerce companies	BoI/MoITT
Establishment of independent e-Commerce regulator	MoC/MoITT
Issuance of code of conduct of e-commerce platforms	NCEC/Regulator
Consumer Courts (e-Courts)	Fed. and Prov. Governments NCEC/Regulator
Developing Consumer Protection Law	MoC/SBP/Regulator
Development of ADRs	MoC/SBP/Regulator
Data Protection and Privacy Law	FIA/SBP/Regulator
Revamping Pakistan Post, creating MOUs with Intl. service providers like UPS, FedEx etc.	Ministry of Communications Pakistan Post MoC
Establishment of e-Chamber of Commerce	MoC/DGTO
Increase in e-Commerce export, getting market access and negotiations with international market leaders	MoC Trade Development Authority of Pakistan
Relaxed taxation regime for e-Commerce companies and facilitative border taxes (FBR)	FBR

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