



Cite us here: Sadia Malik, Abdullah Shahrose, Yousra Zafar, & Hira Khalid. (2024). The Role of Digitalization in Mitigating Pakistan's Economic Challenges. *Shnakhat*, 3(3). Retrieved from <https://shnakhat.com/index.php/shnakhat/article/view/329>

" The Role of Digitalization in Mitigating Pakistan's Economic Challenges"

Sadia Malik
Yousra Zafar

Abdullah Shahrose
Hira Khalid

Ms Mathematics, University of Management and Technology, Lahore
Lecturer at HITEC University, Taxila
Lecturer at HITEC University, Taxila
Lecturer at HITEC University Taxila

Abstract

Digitalization provides a round the corner solution to most of Pakistan's persistent economic issues including poverty, unemployment and infrastructural deficiencies. In this regard, technology has the potential to create fresh opportunities and increase productivity and growth in Pakistan. The e-commerce and digital entrepreneurship operations can unlock the economic growth since they open new market and offer new working places. Embedded Finance can help introducing millions of unbanked individuals to digital financial services and give a boost to the economy with mobile banking and digital payments. Besides, the IT and BPO sectors' development can create high-skilled employment in Pakistan, making it a regional center for these industries. Better governance and enhanced efficiency are another advantage that is realized through digitalization. The utilization of e-governance solutions can help the enhancement of the public services delivery, the minimization of corruption cases and the improvement of the overall transparency, which consequently will increase the citizens' satisfaction. Policy decision-makers and resource allocation can be based on the evidence collected; thus, the appropriate intervention is implemented, and resources are effectively utilized. In addition, digital technologies can enhance the management of infrastructures like the smart grids for power distribution and traffic systems thus enhancing service delivery and cost reduction. It is equally important for social challenges to be solved through digitalization. E-learning may also help bring quality education to facilities hard-to-reach regions and digital literacy training can equip the workforce for the digital economy. In healthcare delivery, remote consultations are made possible through telemedicine, and records through digital health records especially where healthcare facilities are scarce. Precision farming and other related ICT-based solutions for agriculture, including linking producers to markets, can enhance production and



Cite us here: Sadia Malik, Abdullah Shahrose, Yousra Zafar, & Hira Khalid. (2024). The Role of Digitalization in Mitigating Pakistan's Economic Challenges. *Shnakhat*, 3(3). Retrieved from <https://shnakhat.com/index.php/shnakhat/article/view/329>

revenues from agricultural produce hence eradicating poverty in the country's rural areas. For Pakistan to be able to realize these benefits to the optimum, it needs to deal with problems such as the digital divide, infrastructure, and cybersecurity issues as part of broader policies for development that involve going for digital infrastructure and human resources along with supportive policies. The country's adoption of digital technology can thus open the pathway to a society that is progressive, stable, and prosperous.

Keywords: Digitalization, Economic Challenges, Cyber Security, Healthcare, Digital Agriculture

Introduction

Pakistan like any other developing country is confronted with a number of economic problems such as poverty, unemployment and inadequate infrastructure. These are aspects that have for a long time been a negative influence to the progress and development of the country. However, one has to note that digitalization offers a favorable opportunity in overcoming these economic impediments. To achieve the set objectives of efficiency improvement, inclusive growth, and new value creation, Pakistan can utilize the potential of digital technologies. This approach is in conformity with today's world where digitalization is being considered as a driver of growth (World Bank, 2016).

The role of digitalization for the promotion of economic growth in Pakistan is beyond any doubt, an impressive one. New technologies are able to transform different segments, from trading to financial services online, which increases the selling market and inclusion of financial services. For example, digital trade, a segment of e-commerce, can develop new markets for businesses and employment which will increase a country's GDP (UNCTAD, 2019). In the same way, through the use of mobile phones in banking and other forms of money transfer, the unbanked can be enabled to engage in the economic market and support entrepreneurship. Moreover, establishing well-equipped IT and BPO industry may create high skilled employment and make Pakistan as a competitive player in the global digital economy (Kshetri, 2010).

Nevertheless, the mentioned potentials look quite encouraging, though the road to digital transformation in Pakistan has its twists and turns. Challenges such as digital divide, lack of



Cite us here: Sadia Malik, Abdullah Shahrose, Yousra Zafar, & Hira Khalid. (2024). The Role of Digitalization in Mitigating Pakistan's Economic Challenges. *Shnakhat*, 3(3). Retrieved from <https://shnakhat.com/index.php/shnakhat/article/view/329>

infrastructure, and cyber security concerns are issues that must be overcome in order to fully realize the potential of digitalization. An integrated approach characterised by investments in the digital environment, human resource and sound policies is required. Through strategic digitalization, Pakistan can reduce the existing economic problems, support the sustainable development, and create the stable economy (Qureshi, 2014). This paper discusses various issues of Pakistan's economy and analyzes how digitalization can help solve them in addition to providing policy recommendations on how Pakistan can successfully go through the process of digitalization.

Enhancing Economic Growth and Job Creation

E-commerce and Digital Entrepreneurship

Digital platforms are among the biggest enablers of e-commerce and digital entrepreneurs hence driving the economy and employment. This eases the mode of transactions and increases market coverage hence increasing the scale of many businesses hence economic growth as measured through GDP. In Pakistan it can be seen in the form of increasing popularity of e-Commerce websites like Daraz.pk and Foodpanda.pk. These platforms have generated many employment opportunities ranging from deliver services to e-marketing (UNCTAD, 2019). Thus, the key advantage of this type of organization is the reduced barriers to entry to the market, which will enable numerous SMEs to compete with large companies. Digital entrepreneurship is thus supported by the government by focusing on issues of digitization and entrepreneurship by creating awareness through programs such as the National Incubation Centers as offered by the Ministry of IT and Telecommunication (2020). Such endeavours seek to establish a favourable environment for new and innovative business to thrive thus improving the economy's growth and employment.

Digital Financial Inclusion

E-commerce solutions and mobile money services are important ways of enabling the unbanked population in Pakistan and boosting the market's activity. The use of mobile phones in the delivery of banking services can help with the remittance, micro-finance, credits and growth of



Cite us here: Sadia Malik, Abdullah Shahrose, Yousra Zafar, & Hira Khalid. (2024). The Role of Digitalization in Mitigating Pakistan's Economic Challenges. *Shnakhat*, 3(3). Retrieved from <https://shnakhat.com/index.php/shnakhat/article/view/329>

business enterprises thus increasing financial inclusiveness (World Bank, 2016). The mobile money services like Easypaisa and JazzCash have emerged as prominent innovations that are offering basic financial services to millions of Pakistanis who have remained unbanked in the past (GSMA, 2019). Such platforms create opportunities for people to effectively and safely make various financial transactions, thus contributing to the development of the economy at the base. Furthermore, digital FI has the potential of decreasing income disparity in households by extending suitable saving, investing and financial planning instruments to the poor (Demirgüç-Kunt et al. , 2018). Through this paper, Pakistan can make digital financial service interlink with the other economy so that it can foster economic growth and to improve financial inclusion programs.

IT and BPO Sectors

It is crucial to establish the IT and BPO sector as the key to creating high-skilled employment in Pakistan. Much growth has already been observed in the IT segment of the country, export of which has already touched \$2. \$ 1 billion in 2021 (Pakistan Software Export Board, 2021). Pakistan can turn a dream into reality and become a hub of IT and BPO services in the region if it invests in the right things, namely digital infrastructure and people. Universities and IT courses can develop a competent workforce in these sectors to meet these industries' needs (Kshetri, 2010). Thus, the relaxation of policies regarding the FDI for IT and BPO industries can help in bringing multinational companies in the country and thus provide employment to the people along with development (Hussain, 2020). The advancement of such sectors creates employment opportunities and strengthens the technological assets of Pakistan in the international digital economy.

Policy Recommendations for Sustained Growth

The country still requires a coherent set of policies to ensure that digitalization is fully utilized to its potential in boosting economic growth and job creation. Hence, the development of digital environment including bandwidth, security, and digital transactions are important for enabling e-commerce, digital finance, and IT/BPO industries (Qureshi, 2014). Therefore, the liberalisation



Cite us here: Sadia Malik, Abdullah Shahrose, Yousra Zafar, & Hira Khalid. (2024). The Role of Digitalization in Mitigating Pakistan's Economic Challenges. *Shnakhat*, 3(3). Retrieved from <https://shnakhat.com/index.php/shnakhat/article/view/329>

of regulations that enhance the business environment and consumer affairs assists in fostering digital entrepreneurship and innovation. The government, private sectors, and educational institutions must work hand in hand to create a competent workforce and coordinate the need for constant learning and changes (Hart & Milstein, 2003). Through such strategic steps, it will be possible to create a stable digital economy of Pakistan for the common welfare of all the citizens to enable sustainable development.

Improving Governance and Efficiency

Digital Government

The implementation of e-governance solutions is a revolutionary process which means simplification of public services, eradication of corruption and ensuring transparency in the country of Pakistan. E-governance is the process of delivering the services offered by the government through the internet, thus increasing convenience. This change can dramatically decrease the level of formalism for example, in handling of such services as filing of taxes, license renewals, and social benefits (UNESCAP, 2016). Third, it is really hard for corrupt officials to influence the digital government platforms since information is easily accessible to the public, which eliminates potential for the corrupt officials to twist the facts. For example, what is being offered in terms of public procurement through online outlets can be made to have fair competition and accountability? These enhanced methods of performing civil duties bear benefits not only on the citizens and their satisfaction, but also on the general population's trust in governmental entities.

Data-Driven Decision Making

The use of data analytics is therefore paramount in policy formulation and management of resources with the view of enhancing good governance in Pakistan. The decision making process which is based on data helps governments to process large amount of information, detect tendencies, evaluate the effectiveness of the undertaken actions, and determine the spheres that require improvements. Thus, by using big data, it is possible to carry out such interventions that will be effective in addressing particular issues (Deloitte, 2017). For instance, in the usage of big



Cite us here: Sadia Malik, Abdullah Shahrose, Yousra Zafar, & Hira Khalid. (2024). The Role of Digitalization in Mitigating Pakistan's Economic Challenges. *Shnakhat*, 3(3). Retrieved from <https://shnakhat.com/index.php/shnakhat/article/view/329>

data, sources can be applied in surveillance of health requirements in different communities and the provision of health care with accompanying resources in the regions that require such services most. Likewise, it is possible to improve education policies with the help of performance indicators that can be observed for students to increase the efficiency of learning. The integration of data-driven measures means that the government does not guess or make decisions based on assumptions or hunches, but it makes decisions based on facts that are obtained through research.

Infrastructure Development

ICT solutions are essential in enhancing the efficiency of infrastructure aspects such as electricity distribution through smart grids and an efficient traffic system. Integrating smart grids can increase the effectiveness of electricity distribution by controlling the flow of electricity in real-time, thus minimizing wastage and increasing the dependability of the electricity supply (IEA, 2020). Likewise, traffic management systems which may incorporate actual-time data can assist in minimizing the incidences of bottle neck and enhancing the movement of traffic in cities. They also serve to improve on service delivery while at the same time increasing efficiencies since wastage can be kept to a minimum. Therefore, the development of such digital structures holds a strategic role in enhancing the capacity of sustainable urban growth and enhancing human welfare for Pakistan. Thus, the country can retain better and more reliable infrastructure networks through the use of digital technologies suited to the increasing population's requirements.

Addressing Social Challenges

Education and Skill Development

The opportunity to take courses through an online education platform could dramatically impact the quality of education in Pakistan, especially in the rural areas where schools are scarce. By doing so, with the help of digital technologies, educational materials can be provided to a larger number of people, thus, closing the gap between the educational opportunities in urban and rural areas (Means et al., 2014). It can encompass simple learning activities such as elementary education to complex professional development opportunities available through websites such as



Cite us here: Sadia Malik, Abdullah Shahrose, Yousra Zafar, & Hira Khalid. (2024). The Role of Digitalization in Mitigating Pakistan's Economic Challenges. *Shnakhat*, 3(3). Retrieved from <https://shnakhat.com/index.php/shnakhat/article/view/329>

Khan Academy, and Coursera (Veletsianos, 2015). Moreover, targeted training in digital competencies can increase the workforce's readiness to adapt to the requirements of the digital economy and improve employment rates and social mobility. It does not only benefit the career of individuals, but also helps the nation to improve the level of human capital which in turn fosters economic development.

Healthcare Delivery

Health IT has the potential to greatly improve the access and delivery of healthcare services in Pakistan with special reference to the rural areas. Telemedicine interfaces assist patients in consulting with medical providers without physically going to the hospital and this makes doctor's advice much easier and convenient to attain (Kvedar et al., 2014). Also, the use of digital health records can enhance the organization of patients' records, thus helping to address issues associated with enhanced care delivery and lessening the burden on health care facilities (Blumenthal, 2010). Such innovations can fill important deficiencies in the healthcare system and make it possible to help more patients get adequate and proper care when they need it. For instance, through the MH apps, patient education and constant timely notifications of critical information on diseases and prevention can be availed to the needy patients. The incorporation of digital solutions in the Pakistani healthcare sector will help improve services delivery, contain costs, and therefore increase health outcomes within the country's population.

Agriculture

It is evident that the successful implementation of digital agriculture technologies, including precision farming and digital market linkages, will greatly impact the agricultural sector in Pakistan and help to increase productivity and rural incomes, and also ultimately decrease poverty. Precision agriculture is an application of advanced technology in farming where information is used to increase production while minimizing on the use of resources (Gebbers & Adamchuk, 2010). Using digital platforms, farmers can also be linked to markets thus enhancing the flow of information relating to price hence boosting farmers' revenues (Ferroni & Zhou, 2012). These technologies do not only improve the operations of agriculture but also provide farmers



Cite us here: Sadia Malik, Abdullah Shahrose, Yousra Zafar, & Hira Khalid. (2024). The Role of Digitalization in Mitigating Pakistan's Economic Challenges. *Shnakhat*, 3(3). Retrieved from <https://shnakhat.com/index.php/shnakhat/article/view/329>

with improved decision-making tools as well as markets. Pakistan can solve issues related to food security, improve the living standards of the rural population, and stimulate the further growth of the agricultural sector as a whole only by promoting digital agriculture.

Challenges and Way Forward

The fact is that digitalization holds the promise of such enormous opportunities, but there are enormous challenges that Pakistan has to overcome to fully unlock them. A primary concern is the digital divide which includes the difference between the groups that have access to digital technology and those that do not. This is even more manifested between the urban and the rural population as well as between the different classes in the society. This gap can only be closed with significant investments in digital capital like increasing the availability of connectivity and devices. Secondly, infrastructure deficiency is another challenge that organizations face, as most of the areas do not have appropriate technological and supportive systems to enable the digital transformation process. For these gaps, it entails not only constructing the infrastructure to support those technologies and having reliable electricity and other support services.

The second key risk is cybersecurity, which has become an increasingly pressing issue in recent years. With the ever increasing trend of computerization in Pakistan, the chances of computer crimes and hacking become more frequent. Preserving the confidentiality of information and the safety of the sites are critical for gaining users' trust and maintaining the credibility of electronic services. This will demand a strong cybersecurity system that is based on the new regulations, adequate security technologies, and cybersecurity culture among the citizens and organizations. In addition, the country should implement human capital development that would ensure that the human resource available for a country's productivity is competent in the aspects of the digital skills. This includes infusing digital literacy as well as higher technological education in the system of learning as well as availing ongoing practicing sessions for existing workers. Thus, through capacity building of the human resource, Pakistan can more effectively harness technology for purposes of economic development and advancement.



Cite us here: Sadia Malik, Abdullah Shahrose, Yousra Zafar, & Hira Khalid. (2024). The Role of Digitalization in Mitigating Pakistan's Economic Challenges. *Shnakhat*, 3(3). Retrieved from <https://shnakhat.com/index.php/shnakhat/article/view/329>

These challenges and the outlined potentials of digitalization therefore make Pakistan need to pursue a coherent strategy that is backed up with suitable policies and coordination across sectors. The government has to have an active role in the process of shaping the environment for digitalization through its policies that should encourage innovation, investments and competitive environment in the sphere of digital industry. Private and public sectors are closely connected and can foster digitalization, as it is based on the synergy of two sectors, which can provide large-scale and effective outcomes. Moreover, the promotion of a digital culture and of the digital entrepreneurship can help to foster the economic growth and the job creation. If Pakistan accepts digitalization as the agent of change it can handle its economic problems and with its opportunities can build a better future for its people and society. Thus, this approach it will be possible to reach all levels of society with digital technologies and thus to contribute to achieving the country's development objectives.

References

- Blumenthal, D. (2010). "Launching HITECH." *The New England Journal of Medicine*, 362(5), 382-385.
- Deloitte. (2017). "Data-Driven Government: The Role of Data in Policy Making."
- Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). "The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution." World Bank.
- Ferroni, M., & Zhou, Y. (2012). "Achieving sustainable development goals: The role of ICT in agriculture." *Global Partnership for Sustainable Development Data*.
- Gebbers, R., & Adamchuk, V. I. (2010). "Precision agriculture and food security." *Science*, 327(5967), 828-831.
- GSMA. (2019). "State of the Industry Report on Mobile Money."
- Hart, S. L., & Milstein, M. B. (2003). "Creating sustainable value." *Academy of Management Executive*, 17(2), 56-69.
- Hussain, S. (2020). "Challenges and opportunities for the IT industry in Pakistan." *Pakistan Journal of Commerce and Social Sciences*, 14(1), 42-56.



Cite us here: Sadia Malik, Abdullah Shahrose, Yousra Zafar, & Hira Khalid. (2024). The Role of Digitalization in Mitigating Pakistan's Economic Challenges. *Shnakhat*, 3(3). Retrieved from <https://shnakhat.com/index.php/shnakhat/article/view/329>

IEA. (2020). "Smart Grids: Tracking Progress."

Kshetri, N. (2010). "Cloud computing in developing economies: Drivers, effects, and policy measures." *Telecommunications Policy*, 34(6), 432-441.

Kvedar, J., Coye, M. J., & Everett, W. (2014). "Connected health: A review of technologies and strategies to improve patient care with telemedicine and telehealth." *Health Affairs*, 33(2), 194-199.

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2014). "The effectiveness of online and blended learning: A meta-analysis of the empirical literature." *Teachers College Record*, 115(3), 1-47.

Ministry of IT and Telecommunication. (2020). "National Incubation Centers."

Pakistan Software Export Board. (2021). "Annual Report 2021."

Qureshi, S. (2014). "Overcoming technological challenges in developing countries: Case studies of ICT in South Africa." *Information Technology for Development*, 20(3), 240-257.

UNCTAD. (2019). "Digital Economy Report 2019." United Nations Conference on Trade and Development.

UNESCAP. (2016). "E-Government for Sustainable Development in Asia and the Pacific."

Veletsianos, G. (2015). "Emerging technologies in distance education." AU Press, Athabasca University.

World Bank. (2016). "World Development Report 2016: Digital Dividends." Washington, DC: World Bank.