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THEMATIC BRIEF: DIGITAL TRANSFORMATION

THE PIVOT EVENT

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THEMATIC BRIEF: DIGITAL TRANSFORMATION¹

BACKGROUND

In recent decades, the accelerated development of digital technologies has transformed nearly every sector and aspect of our daily lives. It has reshaped our work practices and environments, provided instant access to droves of public and private information, simplified international trade, and facilitated learning and socialization. Electronic commerce, and its counterpart, electronic payments, are now commonplace in many countries. Notably, they have enabled a means for millions of manufacturers and retailers to survive the pandemic and consequently have given locked down consumers access to many products. Video-sharing platforms have become an increasingly significant source of entertainment and education. Video games now occupy a significant portion of leisure time, especially for the younger population. In 2020, audio and video social interactions rely increasingly on IP communication. Artificial intelligence, machine learning, robotization and automation are here to stay and will continue to have an impact on this profound and fast-paced transformation.

The Caribbean has adopted several of these digital innovations, but nevertheless lags behind the rest of the world in many regards. While fixed broadband subscriptions have increased yearly by 8 to 10% since 2010, their absolute level of 15.3 subscriptions per 100 people remains at about half the level observed in OECD countries. In comparison, mobile cellular subscriptions per capita are now at nearly 90% of levels observed in high income, European and North American countries. These are positive results. However, the proportion of individuals using the Internet in the Caribbean is estimated at only 50%, a fairly low level relative to cellular uptake. Unsurprisingly, exports of information and communication technology (ICT) goods represent less than 0.5% of total exports, while imports of these ICT products comes in at less than 5% of the total – indicating real room for growth.

In this context, digital technologies offer significant opportunities to stimulate productivity and improve quality of life across Caribbean economies. While it may not yet be realistic to expect a stream of breakthrough innovations from the region, a much broader appropriation of these technologies by firms, workers, consumers and the public sector is to be anticipated. Reinforcing digital transmission infrastructure, automating factories and agricultural facilities, integrating real-time data collection and intervention capacities, improving online public services, and building e-commerce networks all have the power to rapidly increase the economic efficiency of farms, businesses (across a very wide spectrum of sectors), and governments. For this to happen, an effective digital transformation strategy needs be implemented, and should consist of three main components: 1) building a reliable and powerful digital infrastructure; 2) improving all levels of education and technical training programs; and 3) developing programs designed to effectively disseminate applied knowledge throughout the economy. Most of these strategies must be conceived of at the mezzo level, using appropriate sector financing instruments to allow for radical coordinated change.

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PROBLEMS AND OPPORTUNITIES

Many Caribbean countries are not performing well on many basic levels of the digital economy. Varying regulatory environments and market development trajectories have resulted in differing market outcomes throughout the Caribbean. Cybersecurity and the use of digital platforms – public and private – are still emerging in most of the region’s countries. Digital literacy and professional skills development remain low, and digital entrepreneurship has progressed less than in comparable countries².

In recent decades, investment in digital infrastructure has risen faster than in any other area. Three main issues must be considered when assessing the opportunities such infrastructure projects offer: first, ensuring the overall levels and composition of their capital investment keep up with population growth; second, properly measuring the project’s potential state of wear and tear, especially since most depreciation schedules are related to physical infrastructure, as is the case with roads and bridges; and third, correctly projecting their effect on the economy. This last point implies a disaggregated understanding of the project’s productivity benefits in various, more or less technology-intensive industries.

In terms of network infrastructure in the Caribbean, Digicel Group and Liberty Latin America (Flow) are currently the main providers of telecommunication services. Consequently, they possess local business units throughout the region, as well as fixed-line and mobile infrastructure assets. Competition between them has encouraged investments, which has resulted in extended fibre and LTE networks while also increasing an interest in 5G infrastructure. Although not a material constraint, pre-pandemic conspiracy theories and security considerations have hampered the deployment of this technology in many areas. COVID-19 has essentially stopped the inflow of international tourists, and slowed down international trade in many sectors. This has negatively impacted telecom services³ consumer spending, particularly when combined with increased recourse to IP telecommunication, which is notoriously less expensive.

More generally, COVID-19 has prompted the entire world to take a closer look at the kind of connectivity and high-speed Internet reaching residential areas, especially in developing economies like the Caribbean. Quality broadband services have become vital in a new setting where physical distancing must be respected. As a result, any new capital investment must include sufficient financial provisions for shielding infrastructure against exposure to extreme weather events.

One sizeable opportunity for digital transformation in the Caribbean has been created by the low level of automation and digital management of most farms and manufacturers. The market size is considerable for potential digital improvement of operations, management, and communications of firms operating in all sectors of the economy. According to Compete Caribbean, it is estimated that innovative firms made up a quarter of all businesses, while 59% were “potential innovators”, and 15% were non-innovators⁴. Among innovators, 27% expressed that technical uncertainties were an important barrier to their growth, 31% were concerned about the level of information relative to new market trends, and 39% wanted to know more about the flexibility or openness of laboratories/research centers for collaborative approaches. Preliminary results of the recent IFPG survey point to an increase in innovation, even if the overall level of innovation remains low. For these firms, digitally transforming their manufacturing, service and agricultural operations also

² <http://documents1.worldbank.org/curated/en/848701593136915061/pdf/Dominica-Grenada-St-Lucia-St-Vincent-and-the-Grenadines-and-the-Organization-of-Eastern-Caribbean-States-Caribbean-Digital-Transformation-Project-Digital-Caribbean.pdf>

³ <https://www.budde.com.au/Research/Caribbean-Telecoms-Mobile-and-Broadband-Statistics-and-Analyses>

⁴ <https://www.competecaribbean.org/wp-content/uploads/2020/05/Exploring-Firm-Level-Innovation-and-Productivity-in-Developing-Countries-The-Perspective-of-Caribbean-Small-States.pdf>

implies obtaining new equipment and disposing of used machinery, tools and other productive assets, as well as acquiring new hard skills, all of which must be efficiently planned out and executed.

In terms of learning opportunities, as digital technologies improve in capabilities, as well as in application diversity and user-friendliness, so will the ease with which they can be adopted by all. While early computers required programming skills to operate, most pre-school children and elderly people can now navigate the various functionalities of tablets and cell phones with ease. Of course, specialized technical training is also crucial, yet its relative importance is small compared to the innumerable applications used by everyday workers and citizens. In other words, for most of the software and devices that have concrete economic applications, the main challenge they face stems not from their complexity, but rather from effectively transmitting their existence to vast segments of the population via education systems and professional training.

Otherwise, another prevailing weakness pertains to financial services and payment infrastructure. Currently, digital payments are not yet the norm in the Caribbean, which limits online transactions and inhibits financial inclusion. In response to natural disasters or pandemics such as COVID-19, this shortfall inhibits the possibility for wide-scale social payments. The high cost of opening and maintaining bank accounts reinforces the preference for cash transactions, which limits interaction with the formal banking system. Few merchants accept electronic payments at point of sale and those that do, charge high fees for the service. Many government payments are still primarily handled through cash or checks, which increases administrative costs and limits the demand for digital financial services. These market difficulties also hinder any attraction of foreign direct investment in this sector.

CURRENT REGULATORY AND LEGAL ENVIRONMENT

Above all else, a significant step towards an effective digital transformation of the Caribbean will be to modernize the legal, regulatory, and institutional frameworks of the region's telecommunications sector. At present, such reforms should aim to address market failures, promote consumer interests and digital inclusion, and keep pace with the rapid evolution of technology. On a broad level, governments and local institutions support greater competition in telecommunications. In some cases, however, small markets, risk considerations and more generally imperfect competition may produce preferable economic outcomes, with single supplier/quasi monopolistic market structures.

The lack of public services offered online is also a major problem in the current environment. Many Caribbean countries perform poorly on the Online Services Sub-Index (OSI) of the UN E-Government Development Index (UN E-GDI), which ranks the level of development of digital government services and government portals. This is due to insufficient financing and capacity of agencies responsible for digital transformation. Scale is lacking to justify the high costs of investment in new systems and human resources, and regional collaboration is inadequate to set common standards, as well as to pool scarce resources⁵ and hard skills deficits.

In addition, the implementation of modern regulation and legal frameworks on data privacy and sharing will also be a significant task, for personal data constitutes a cornerstone of the digital economy. The nature, use, and control of personal data is an active and fundamental social debate all over the world, to which the Caribbean must also participate and contribute.

Another main regulatory and policy challenge lies in financial services. Improving policy, legal and regulatory frameworks will provide structure and reinforce banking and payment infrastructure and services. This in turn will then facilitate their integration and expansion throughout the region's businesses. Also, information security, data protection, as well as privacy laws and regulations

⁵ C.f. note 1.

must be developed in order to better protect the public and private sectors from virtual and physical cyberthreats.

AVENUES TO FACILITATE SUCCESS

The continued development of a dynamic, inclusive, and safe digital economy in the Caribbean will require a comprehensive approach, one which aims towards best-in-class outcomes, yet accounts for the current situation, to ensure realistic planning and expectations. On this subject, perhaps the most encouraging element is the vast adoption of mobile phones, which can serve as a population-wide tool to deploy new technologies and applications.

Also, it is important to focus this development on the private sector. Certainly, the increased availability of online public services, “smart management” of cities, and modernized digital regulation are worthy endeavours. However, most of the efforts should be geared towards further adopting, using and developing digital technologies within the private sector, considering the potential benefits they have on productivity and wealth creation, as well as on the ensuing positive consequences for the entire population.

To this purpose, the Inter-American Development Bank (IDB) has proposed a six-part agenda, which will address digital transformation challenges in Latin American and Caribbean countries, including essentially how to improve the digital economy’s understanding and its impact across the region; it will engage governments and the private sector in projects that maximize the possibilities of the digital economy in all sectors, notably in resolving market failures and exploiting the potential of open digital innovation and platforms in areas such as scientific research, business innovation, technology commercialization and talent development, as well as by supporting investments in digital infrastructure and focusing on investments in human capital for the digital economy at all levels; it will also prioritize support for entrepreneurship in the area of digital technology and digital ecosystems development, particularly at the local, city level⁶.

Two comments on this promising menu. First, once the proper infrastructure is in place, the main focus will be on training and education. Indeed, one of the main benefits of digital technologies is their scalability, and to reach their full potential, individuals of all sectors and socio-economic status need to understand their characteristics, functions, and usefulness. Also, it represents a great opportunity to partner with world leaders in their respective fields, from Canada, the United States and the United Kingdom, who have already implemented large-scale transformations of this sort in high-income economies.

⁶ Navarro JC, The Digital Transformation Imperative: An IDB science and business innovation agenda for the new industrial revolution, IDB, 2018. Link: <https://publications.iadb.org/publications/english/document/The-Digital-Transformation-Imperative-An-IDB-Science-and-Business-Innovation-Agenda-for-the-New-Industrial-Revolution.pdf>.