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Consumer's Adaptation and Financial Stability with a Modern Payments System Infrastructure in Guyana

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Abstract

A payments system is no more than a structured arrangement for moving value between its participants. So defined, it is crystal clear that payment systems are ultimate to the functioning of all monetary economies, no matter they are developed economies, transitional economies, or developing economies like Guyana. The aim of this work is to show how the architecture of payment systems (payment instruments, processing, participants, consumers, etc.) impact to payments industry (microeconomic approach) and for the promoting the role of the Central Bank in payment systems and financial stability (macroeconomic – public approach) along with consumers adaptation to these changes and developments. We use the method of qualitative to analyze, not experimental measures. Central Banks, as circulators of money, have always had a keen interest in the smooth functioning of their respective National Payments System and the way it affects the economy. Their involvement has, however, evolved over time, as Central Banks have increasingly taken on a blatant role in the pursuit of the Consumers good of maintaining trust in the currency and ensuring its smooth circulation in carrying out their core monetary and financial stability functions through the payment systems modern evolving infrastructure.

Keywords*: Payment Systems, Consumers Adaptation, Financial Stability, Central Bank, Guyana.*

Introduction

This article is crafted at a very good point in time when a modern Payments System infrastructure is being developed in Guyana to further promote efficiency with lessons learnt over the years from other countries and, by extension Central Banks around the world, especially in the Caribbean. A "Payment" is the transfer of financial value. Payment is a transfer of monies that discharges an obligation on the part of a payer vis-à-vis-a payee.

A payments system consists of a group of instruments, banking procedures, rules, policies, and, typically, interbank funds or monetary transfer systems that ensure the transmission of money within a country [1].

The Architecture of Payment Systems

Payments and the Payment Systems

As was highlighted previously, at a broad level, the term "Payments System" refers to the complete group of instruments, intermediaries, rules, procedures, processes, and inter-bank funds or monies transfer systems that aid the distribution of money within a country (or currency area). In this sense, a payment system comprises three main fundamentals or procedures [2]:

1. P*ayment instruments*, which are a means of approving and submitting a payment (i.e., this means by which the payer presents its Bank authorization for funds to be transferred or the means by which the payee

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presents its Bank directives for funds or monies to be obtained from the payer).

2. P*rocessing* (including clearing), which involves the payment directives being traded between the Banks (and accounts) of the concerned.
3. A median of *settlement* for the relevant Banks (i.e., the payer's bank has to recompense the payee's Bank, either jointly or through accounts that the two (2) banks hold with a third-party settlement agent).

Participants in a Payment System

In relation of the entity that is partaking in the payments system, the participants in a payments system are dedicated as follows:

Banks

Banks are the obligatory intermediates between Users and Payment Systems as they have a license to collect deposits and make payments for which they are subjected to regulation. They uphold accounts on behalf of their customers, which are debited or credited when payment is realized, or funds are collected.

The Settlement Agent

The settlement agent monitors the settlement accounts of the direct members and transmissions amounts between them to obtain conclusiveness. The Central Banks, all large-value systems such as the Real Time Gross Settlement systems (RTGS)'s and national Automated Clearing Houses (ACHs) are deemed to be systemically important.

Central Bank

The Central Banks commonly act as settlement agents. Central Banks are, however, accountable for oversight: a Central Bank task primarily intended to foster the smooth functioning of payment systems and to safeguard the financial system from possible ***"domino effects"*** which may occur when one or more participants in the payments system incur credit or liquidity issues.

Money Market

The money market is an essential component of payment systems, although it is not, strictly speaking, part of them. An efficient and liquid intraday market, offering a variety of instruments with varying maturities, is essential for the smooth operation of a payments system as it enables the Commercial Banks to fund their liquidity and settlement positions. From a macro-economic viewpoint, a payments system can only operate if those members of the clearing house (ACH) with extended positions accept to provide funds to those with small positions.

There is the chain of payments operations integrated with a set of participants within a payments system (Figure 1).

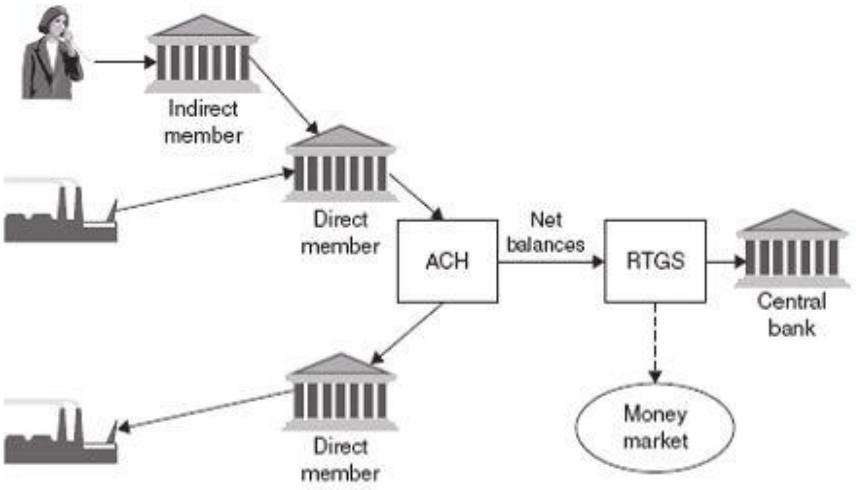

Figure 1. The Chain of Payments Operations between Participants in a Payments System [3]

Digital Banking & Covid-19 Pandemic

With the increased level of the population having access to the internet, disruptive digital banking such as Fintech is on the rise, which poses a great challenge for the conventional physical bank. It is caused by the power of the current Fourth Industrial Revolution, which is characterized by the fusion of technologies between physical, digital, and biological spheres. The onslaught of Covid-19 in 2020 has accelerated the rate of digital device usage and e-transactions [4]. This change has brought about greater velocity, scope, and impacts to all systems, including the role of the Government.

In order to achieve development outcomes, governments are encouraged to embrace and adapt to new, fast-changing environments [5]. Such changes are intensified by the changing context of growth. The high growth rate experienced worldwide before the 2008 economic crisis is now being replaced by what is called "the New Normal", a phenomenon is describing a slower growth in the global economy in the aftermath of the crisis [6]. The crisis of the Covid-19 pandemic in 2020 has speeded the New Normal not only in terms of slowing down growth but also in changing the way people interact with digital technology. Moreover, Covid-19 has also pushed government activities to increasingly be conducted online [7].

For the case of Guyana, before the Covid-19 pandemic, in 2015, the Government announced with the aim to build an innovation-led economy that produces higher value. Simultaneously, owning to the innovative developments in information communication technologies, the pace of change also opens up a new frontier of public engagement and policy-making of electronic Government or e-government. With awareness of such changes in mind, Guyana is on the realization of the need to embrace technology and changes to their current practice after a long period of being in a low-income trap and is now leading the trend for a new innovative pattern for development [8] in the Caribbean. Nonetheless, Guyana has faced and is still facing several challenges in positively transforming Government and the public sector in today's digital era [9].

National e-Payment, which is the electronic payment system established to facilitate electronic banking, has increased in consistency to the size of internet users. The national e-payment system consists of four strategic plans, including the introduction of a real-time payment system, expansion of electronic card users, e-revenue and e-transaction system, and public e-payment. Such policy aims to provide faster, safer, and more convenient means of public services in finance through innovative measures. Wherein it is much needed for the realization of Guyana's vision strategy.

In this fast-changing world characterized by uncertainties, including those seen in the aftermath of the Covid-19 pandemic, the critical question we should pose is whether there should be a future vision of e-payment in the public sector. Addressing this key research [10].

Information & Communication Technology (ICT) and Policies

The phenomenon of global financial market transformation in term of ICT influence on the world economy is examined in the paper as the result of Information and Communication Technology and fiscal market incorporation. The digital environment of the global financial-monetary system is realized in the phase of modern issues. Also, the paper explores the possible consequences of financial conversion on the world economic system. It is understood that it is necessary to convert the financial system according to its information and digital environment.

Guyana has undergone several changes in ICT and digital policies in the past couple of decades. During the planning phase of a policy framework on ICT, it was envisioned to improve the Government's general operations and services, develop government-run online

services, enhance opportunities and equality for Guyanese people, and maximize the security of Government's electronic services. Moreover, the Government of Guyana has now undertaken several policy measures and initiatives to boost efficiency in public management, such as Big Government Data and Government Cloud (G-Cloud), which provides Cloud technology for several government agencies where sources of information are stored on the Internet [11].

The e-Revenue system aims to create an integrated electronic tax system. To achieve this, the Government reformed the rules and regulations to enable electronic submission of tax documents, particularly e-Tax invoice submission and e-Receipt. Moreover, in the future, tax refunds can also be processed through Real-Time and Electronic Funds Transfer systems which are expected to be faster and more convenient as compared to the traditional method of cheques. Ultimately, other types of tax will gradually be moved to an electronic platform, whereas each taxpayer would ideally have a tax account in which tax payment and refund could be debited and credited and make a net settlement within this account [12].

As stated, the main purpose of the National e-Payment is to modernize the payment system into a more cost-efficient and more effective for both public and private transactions and is in cooperation between the Ministry of Finance and the Bank of Guyana along with other Government Organizations such as Guyana Revenue Authority (GRA) and National Insurance Scheme (NIS), and the private sector primarily comprising the six (6) Commercial Banks.

One of the perceivable achievements in the National e-Payment plan was the adaptation of consumers of the E-Payment systems that are presently undertaking vital changes, mostly because of technological revolutions. Such transformations include a diminishing role or necessity for cash and the rising fame of fast payment resolutions. In this article, it is discussed of these developments and the challenges they create for Central Banks generally. I do so take into consideration the historical evolution of payment systems and the insights derived from the literature on the economics of payments.

Methodology

The approach used for the purposes of this research is a qualitative one. It began with specific observations, which were used to produce generalized theories and conclusions drawn from the research. The reason for occupying the inductive approach was that it considers the context where the research effort is active and most current based on already available data from prior research.

For the purposes of this publication, comprehensive observations with related researched data and information were incorporated along with unstructured and informal interviews, which helped with identifying participants' emotions, feelings, and opinions regarding the research subject. The unstructured interviews created flexibility in terms of the flow of the interview, thereby leaving scope for the creation of conclusions that were not originally aimed to be derived regarding the research subject.

As far as data collection tools were concerned, the crafting of this publication was built primarily from researched artifact collection of information and data.

Further, based on careful literature review and qualitative information, the research design in this study utilized the qualitative technique with the aim to analyze the qualitative data obtained from various literatures. This study also used the Strengths, Weaknesses, Opportunities and Treats (SWOT) analysis to stir insightful discussions around the subject. The SWOT analysis is widely used in strategic management to develop an organization's strategy. It is a diagnostic technique typically employed at the start of the planning phase of future strategic plans. The SWOT analysis is a useful technique for assessing an organization's resource

capabilities, market opportunities, and external threats [13]. Aspects of an organization's internal dimension include strengths and weaknesses, while those of the external dimension include opportunities and threats [14]. The SWOT analysis provides advice on how to leverage strengths and mitigate weaknesses to maximize opportunities and minimize risks. Opportunities and threats are external, whereas strengths and weaknesses are internal factors. The reason for choosing this method is that it allowed me to critically consider and analyze national e-payment from various dimensions, and it also allowed me to construct new ideas and generate new ways of shaping the future of Guyana's national e-payment infrastructure. This consequently leads to a revamped framework for building a more efficient national e-payment system in Guyana in the post-Covid-19 era.

Results and Discussion

The Challenges from Operating of Payment Industry (Microeconomics of Payment Systems)

Access to most payment systems is restricted (regulated) to Banks a long time ago, but especially several disintermediation factors have surfaced over the last fifteen [15] years, and the fact this process as follows:

Legal Factors

For Banks, deposit taking is a regulated activity subject to minimum capital requirements, deposit insurance, and supervision by a national regulatory authority. By contrast, for instance, the recently enacted legislation in Guyana permits non-banks to bargain payment services; these payment organizations will be subject to much easier regulatory obligations.

Functional Factors

Non-banking payment systems functions with or without the integration of Banks. Most multinational organizations execute internal payments and netting systems for movements between their different national companies and/or affiliated legal establishments to decrease banking fees and float.

Commercial

1. Several closed payment systems functions almost in every economy, primarily stored-value prepaid cards offered by transport agencies (e.g., Oyster in London, MetroCard in New York, Navigo in Paris) and mobile phone operators (e.g., Mobile Money Guyana (MMG) in Guyana).
2. Other organizations (for instance, Western Union and Money Gram) offer cross-border low-value transfers, known as remittances, to migrant workers sending money to their families back home.
3. Store and supermarket chains, which until most recently just offered store cards, now offer credit cards co-branded with Visa or MasterCard, thereby gaining universal acceptance and recognition: Banks are losing out on lucrative fees and the interest on outstanding balances. It should be noted that the processes and IT systems required to operate these schemes are often subcontracted to Banks or Payments Providers/Processors.

Technical

The internet and mobile telephone companies have enabled several parallel payment systems to promote and integrate with the Banks. Pay-Pal, building on the accomplishment of the online auction system eBay, is gaining its market share in the person-to-person (P2P). Mobile phone operators are offering mobile payment services either individually or collectively with Banks.

Central Bank and Potential Failure in the Payment Infrastructure

There is a firm basis for Central Bank integration in payments, clearing, and settlement issues. Modern countries are heavily reliant on the safe and efficient flow of transactions. The smooth operations of payments, clearing, and

settlement systems is a precondition for users' confidence in those systems and, ultimately, public confidence in the currency in circulation. The main possible failures exist because of issues with inadequate payment infrastructures. Let us address some of them as follows:

1. Circumstances may arise in which the market is incapable or reluctant to develop acceptable solutions to ensure the smooth operations of payments, clearing, and settlement systems.
2. An existing of a sufficient degree of competition or contestability in the base infrastructure and services in the financial market.
3. Market imperfections as a presence of negative externalities.
4. Balancing between costs and efficiency is undertaken of the operators of payment because of their actions in the competitive market.
5. The question of moral hazard, or when some entities acting as "too big to fail" and believe the Government will rescue them if the business failure.

Like all forms of market, also in the money market (for payment) commercial failure is possible to happen. The key sources of such market letdowns in payments, clearing, and settlement systems relate to 1) insufficient competition, 2) negative externalities, and 3) moral hazard.

The focus was placed on four (4) future trends that are expected to have an impact on markets for payments, clearing, and settlement services (in developed and transitional economies):

1. Innovation and technological progress.
2. Increased interdependencies.
3. Dislocation (decentralization); and
4. Concentration.

Innovation and Technological Progress

Improvements is possible to 1) all type of payments (wholesale, retail, and cash); 2) all type of amount of payments (small and large payments), and 3) all participants in the payment systems (operators, settlement agents, private entities, and central banks).

Increased Interdependencies

Regional cooperation, globalization, and rapid technological advancement, and business model changes in the payments, clearing, and settlement landscape have led to several growing interdependencies in the market and its environment.

Dislocation

Another critical development concerns "dislocation," – i.e., changes in the location of Systems. Regional integration, globalization, and innovation have allowed many Banks and markets to [15] expand their operations across borders, with the result that markets have become international and services are increasingly being offered by international players.

Concentration

The merging of financial organizations and market infrastructures may give rise to certain specific trials for Central Banks, particularly in the case of payments and securities infrastructures.

The Payment Systems and the Central Bank - the Future

This portion of the work presents some ideas about the future path of payments and Central Bank integration in payment systems. Firstly, we examine 1) whether cash will endure in the future, and we then move on to discuss 2) how wholesale financial dealings will be made in the future. In this challenge, we also explore the consequences for the ability of Central Banks to carry out their key monetary and financial stability functions in the future.

How will Consumers Pay for Goods and Services in the Future?

When thinking about the question of how consumers will pay for goods in the future, one question to ask is whether cash will endure or

whether some form of electronic money will replace it. In rationalizing about why cash is so lasting, it is important to note that any substitute would have to deal its user with the same level of 1) anonymity, 2) universal acceptability, and 3) recognizability. One might think that eventually, in place of cash, some form of e-money will exist that offers the same complete anonymity, universal acceptability, and recognizability as cash but will not be useable by anyone other than the holder of the e-money. This will reduce the incentive of others to steal the e-money and so make it a 'safer' asset to hold than cash. Some economists suggest that the demand for Central Bank money – and cash in particular – has fallen dramatically over recent years and that it will, possibly, fall to zero eventually. Given this, they argue that changes in the supply of Central Bank money – that is, monetary policy – will increasingly have less impact on the wider economy, in the limit having no impact at all. In effect, Central Bank money is just one [1] of several competing monies; the price level itself, at that point, would need to be tied to a commodity or, alternatively, a bundle of financial assets [16]. But some economists note that if Central Bank money is the ultimate settlement asset – that is, there is a need for it in order that banks can make payments to each other – there would always be some demand for it even in the absence of Central Bank notes, and this would mean that Central Banks could carry out monetary policy exactly as before [17].

How will Wholesale Payments be made in the Future?

With respect to wholesale payments, the trends seem to point to two opposing outcomes: 1) one integrated payment system perhaps covering the whole world (a mega-version of the Continuous Linked Settlement (CLS) system that settles foreign exchange transactions for the major world currencies) or a 2) the large number of competing for private payment systems. The benefits of the one integrated payment system outcome would be large savings in 1) collateral, 2) IT communications, and 3) other costs. But the downside would be the 'single point of failure problem associated with a massive concentration of risk in one system and the general inefficiencies usually associated with monopoly providers. But there is still the issue of what the acceptable settlement asset would be. Some economists argue that payments must be made in terms of money rather than other assets because there is a commitment problem with repaying loans with returns from investment [18]. But there are authors who make the point that Central Bank money is likely to continue being preferred to other assets for two reasons: 1) because it defines the unit of account, it will not be subject to bid-ask spreads, and 2) payment in it is finally given its 'legal tender' status [19].

SWOT Analysis

Strengths

Past few years have seen the strong commitment from the Guyanese Government to developing the digital economy and, ultimately the e-Payment system. This system has a clear and concise master plan with four distinguished areas, serving as a platform for the utilization of Fintech in the public sector. This is empirically done through the setup of various strategic plans and legal frameworks aimed at facilitating the development and promotion of the e-Payment system. Moreover, there are also a setup of a dedicated and responsible government organization to drive the e-Payment system in the public sector, the Bank of Guyana (Central Bank), which is mandated specifically in this area. Overall infrastructure in Guyana can provide adequate conditions for the use of national e-payment [20].

Additionally, the Bank of Guyana plays the role of supervisor and regulator as well as for the Commercial Banks in Guyana, which have increasingly adopted technology into their operations and services. Key improvements in ICT in Guyana have enabled the Banking Community to launch new types of financial

services, such as electronic banking services and mobile banking services [21].

Furthermore, with the rise of Fintech, new startups from the non-banking sector have also emerged to provide financial services through various platforms, including payments, lending, and crowdfunding. The rise of new financial services indicates a strong awareness of vast potential in the incorporation of technology with the payment system, which has prompted both the Government and private sector to take the initiatives in this matter and allow the public to become increasingly familiar with new types of financial services that are changing in accordance with their lifestyles [22].

Weaknesses

One of the major challenges in Guyanese society has been closing the development gap between citizens in rural and urban areas. In this regard, the development gap in using e-Payment refers to a different perspective on the form of payment; while citizens from urban areas increasingly opted for e-Payment, citizens from rural areas preferred holding cash [23]. Such a scenario would prove to be challenging for the system to function efficiently, as many of the master plans and frameworks have now focused on the issue of financial inclusiveness. Moreover, there are concerns on the disclosure of their personal information to e-Payment systems such as the Real Time scheme. The mistrust and concerns on the system itself could potentially be attributable to a lack of effective marketing and communication of plans and intentions to audiences in public. In other words, the e-Payments Systems in Guyana so far has led to a low confidence level for the average Guyanese citizen across the country due to its cash-oriented culture [24].

However, this adds to another weakness which pertains to the lack of skilled ICT labor in the country, according to [25].

And lastly, when looking at firms' readiness in Guyana in terms of innovation, it is found that most new businesses are not using innovation. Guyanese firms, especially in SMEs, lack three qualities needed to compete internationally, namely: the utilization of external financing sources; lack of internationalization and export orientation; and lack of innovation and technological utilization. In the last weakness, on a majority of newly registered businesses in Guyana did not utilize innovation for production, whereas newcomers offer products or services that are already common in the market.

Opportunities

Guyana has a large proportion of citizens holding bank accounts. According to World Bank's Global Fintech database, which studies financial inclusion, Guyana has relatively high account penetration, especially among adults and by extension, women. In conjunction to the above scenario, the level of smartphone penetration in Guyana is also predicted to have risen rapidly annually. The smartphone penetration in Guyana stands at approximately 40 percent in 2019 and is projected to reach over 50 percent by 2023. Moreover, sales growth on Year-Over-Year (YOY) of smartphones in Guyana as reported in 2019, have risen by 45 percent compared to 2015. This shows a growing trend of smartphones among Guyanese citizens. Additionally, in terms of e-payment, Guyanese smartphone users in Guyana became much more active users in mobile wallet applications. This fast increase also came from the changing behavior of people during the social distancing practices because of the Covid-19 outbreak [26]. The number of internet users have already risen significantly, and there is a clear trend toward mobile services as the demand has increased drastically.

One more significant opportunity is in the upcoming spectrum auction for 5G, which would significantly increase the speed of the internet. Additionally, with 5G foreseen operational soon, it would enable the application and connection of the Internet into other industries such as self-driving cars, and medical

robotics, or generally known as the Internet of Things (IoT) [27]. The connectivity between the devices and the Internet could open new opportunities for innovation both in services and products, ultimately enabling the Government to reap the benefit by launching public services in a more effective and efficient manner.

Threats

Although after decades of growth in the use of technology in manufacturing and industrial sectors, public spending in Guyana on research has been growing accordingly in a sustained manner.

When looking at the share of public spending from overall GDP, it is found that the proportion is still relatively low. It is not until recently, under the National Development Strategy, that the goal of public spending on Research & Development (R&D) was set to increase significantly, with a large portion of funds coming from the Government (Public Sector). Secondly, the rapid change in conditions pertaining to the stability of the economy is also critical to maintaining the rate of investment and activities that are conducive to the development and facilitation of innovation [28].

Another threat derives from an internal factor which is concerned with the security of government services itself. Since the launch of many government initiatives on e-payment, many have expressed concerns on its security and discretionary of personal information due to the people having to give up some information for the use of a system [29]. The concerns are also directed to the fact that the Government, in the past, has only communicated the benefits but have not has a chance to provide a security management system or cyber security. Such a threat would continue to discourage citizens from participating in the e-payment system, which would impede the Government's ability to provide services according to the master plan if not being handled correctly. The post-Covid era should create certain attributes for each sector involved in the following ways, namely accountable and modern government, an innovative and up-to-date private sector, and a digitally iterated and engaged citizen.

Accountable and Modern Government

Regarding the role of Government, it is essential for the Government to act as a catalyst for change according to the plan they have set. It is also crucial to assure the users, which is public, that the system is both beneficial and safe to use. Therefore, the role of the Government is to further develop and strengthen the national e-payments framework.

The increasing trend toward digital usage fuels Guyana's prospects in helping the Government virtualize the many possibilities of providing electronic services to citizens. While the Government is keen on the project, the emergence of the digital economy is now adding a major concern as to the readiness of the workforce, especially in digital skills. The Government has engaged citizens and targeted workforces to develop their digital skills to meet their needs. The effect of this move may not be immediate and remains to be assessed. However, it shows the Government's commitment to addressing the problem at the structural level. In addition, internet users, social media users, and online shopping usage is also in significant and constant increasing trend.

Ensuring Security

It is empirical that there was a concern about the disclosure of personal information along with its discretionary. The direction that Guyana is moving is linked to large-scale connectivity such as Real Time payments or the use of cloud systems for storing and transferring government information. The central question that follows is then directed to how the Government assesses and addresses the systematic risk or even seeks to prevent this risk under such a complex network of connectivity. Therefore, the Guyanese Government should provide more security-related and concrete frameworks to the public to ensure security against possible threats

such as cyber-attack and hacking as well as increase the level of confidence among citizens.

Increase Quantity and Quality of ICT Workforce through Better and Updated Education

There are problems of human capital, especially the fresh graduates who do not fulfill the need or do not possess the necessary skills for the development of digital Government and digital economy, which in turn affects the subsequent development of the e-payment system. Therefore, the education system must be updated in synchrony with the national e-payment system in the two major perspectives. The education system in Guyana must be conducive to the creation of innovation, which is a combination of life and career skills, learning and innovation skills, and information, media, and technology skills. Guyana also experiences a shortage of workforce with technical skills. Hence, vocational education should be reformed and promoted to produce more human capital needed for the digital economy.

Shared Vision among Government Organization

To make a successful national e-payment, every government organization must share the same view in this changing paradigm shift in policy and be willing to incorporate this payment technology into their services. This is due to the past challenges among government organizations in Guyana, whereas the weak coordination and low shared vision have impeded the effectiveness of strategic plans.

Establishing the Task Force

Central Banks have played a prominent role over the past decade or so in worldwide initiatives to improve understanding and standards in payments and settlement systems. In particular, the G10 Central Banks have published analytical studies and have developed guidelines, norms, and strategies to improve clearing, payment netting, and settlement arrangements. In response both to the 1997 report of the working party on financial stability in emerging market economies and to the demand from emerging market countries, the G10 Central Banks' Committee on Payment and Settlement Systems (CPSS) decided in May 1998 to establish a Task Force on Payment System Principles and Practices (the 'task force') to foster an overall framework of essential values for the creation, operation, and supervision of payments and settlement systems for all economies. The final report was published by BIS in the second half of 2000 [30].

The Role of Central Banks

While a variety of different public sector agencies may have an interest in payment system issues, Central Banks have a vital role to perform in overseeing safety and efficiency because of their responsibilities for financial stability, their function in delivering settlement accounts for payments system participants, and their duties for the implementation of monetary policy and maintaining confidence in the domestic currency. In most countries, the Central Bank is itself the operator of at least one systemically important payments system. Compliance with many of the core principles - for example, those dealing with risk controls - is directly under the Central Bank's control in those instances. Oversight procedures can vary between Central Banks, and the responsibilities for applying the core principles are intended to encompass different practices so that they can be applied in a variety of circumstances. A Central Bank's oversight, however, should always have a sound basis. There may be a variety of means by which this can be achieved. Some countries have a statute-based system of oversight with specific tasks and responsibilities assigned to the Central Bank and sometimes also to other agencies. Others rely more on custom and practice. Type of approach can work. Current practices vary widely but are also changing fast. Changes in the institutional structure of payment system oversight have recently been implemented in several countries, for example, in Australia and

Italy. Canada too has given the Central Bank responsibility to designate and oversee systems of systemic importance which is like Guyana.

Innovative and Up-to-Date Private Sector

In order to build a stronger national e-payment framework, firms in the private sector whether Commercial Banks, big firms, or even SMEs, should be well informed on the context of national e-payment and should be reaping the benefits from current technology and existing research.

Closer Interaction between Banking Institutions and SMEs on National E-Payment

Although the Guyanese Government has taken a significant role in informing the public through multiple platforms, such as through official news, conferences, or workshops. However, the public, in general, has varying ability to receive information which may be due to several factors such as location, income, or household technologies. Since firms, especially SMEs, have a significant link to Commercial Banks for various reasons, it is then crucial for commercial firms to further communicate and advocate government policies and incentives of the national e-payments infrastructure.

Digitally Literate and Engaged Citizen

Citizens may be perceived as merely end-users with no say in the process of development. However, it is the citizens themselves who determine the effectiveness of government programs as they form an integral part of the Government's goal: to improve public services. Therefore, a stronger national e-payment should have the interest, trust, and confidence of the citizens.

Citizen with Trust and Confidence

Since the beginning of the launch of the national e-payment strategy, there has always been criticism about and concerns about its security such as the discretionary use of personal information and safety concerns vis-a-vis cyber-attacks and hacking. While there is no doubt that the strategy will prove to be beneficial, the Government must take a harder attempt to communicate with the public on its security to ensure a higher level of citizens' trust and confidence.

Narrower Development Gap between Rural and Urban Area

A narrower development gap between rural and urban area as well as among citizens allows citizens to have access to better government services and help spread the effects of growth and development. More equitable development in terms of human capital can serve as a solid foundation for a sustainable national e-payment system, which can promote the growth of the economy in the long run.

Have Efficient Digital Literacy

Lastly, the abovementioned goals would not be possible to attain to if the public has a limited understanding on digital literacy. Therefore, Government should also strive to build the digital literacy necessary for the utilization of national e-payment for citizens across the country. As [31] puts in, the success of e-government depends largely on two factors: the Government's support and citizens' willingness to adopt the initiatives. While the Guyanese Government plays a pivotal role in laying out the fundamental framework and spearheading the direction, private sectors and the public are required to adopt through a shared vision. These main pillars are expected to move forward simultaneously should the vision is going to be fulfilled.

Robust financial infrastructure can help contain systemic risk. Payment systems are at the core of the financial infrastructure, and they need to be designed and operated in ways that ensure their safety as well as their efficiency. This article looks at an international initiative to provide a universal framework for analyzing these issues by establishing core principles for systemically important payment systems in

Guyana. It suggests they reflect a wide consensus and can be used to promote payment system reform throughout the world. The initiative is led by an international task force of payment system experts who are establishing the principles that are common to payment system assessment and reform exercises around the world. The work includes looking at counterparty credit risk issues - which were discussed for both payment and securities settlement systems in an article in the previous edition of the [32] but went broader than that by also considering other financial risks; legal and operational risks; and questions of efficiency, access, and governance. The report discusses the key function of Central Banks in injecting the core philosophies and supervising payment systems.

Conflict of Interest/Limitations/Implications

Due to the methods used for this publication, there was no significant conflict (s) of interest encountered as the information gathered from sources was mentioned and kept confidentiality with usage solely for the purpose of this publication. The present study contributes to the theoretical and empirical knowledge on the national e-payments system in Guyana. The following subsections will outline the research implications in terms of both theories, and practice.

Theoretical Implications

The analysis in this study, conducted using the case of Guyana, has several theoretical implications. First, the current research opens new avenues of research by highlighting the internal and external aspects of the SWOT analysis of Guyana's national e-payments system. Second, current research offers a new conceptual framework for the future of e-payment systems in Guyana. Third, it highlights the role of e-payment systems in various sectors of the economy. Fourth, it connects public and private sector's e-payment channels using FinTech. Finally, the current epidemic has changed the dynamics of business and people's lifestyles that will challenge the current payment system in the future. Therefore, this research will contribute towards existing knowledge by highlighting the factors that could be used to further develop the new e-payments system in Guyana after the Covid-19 era.

Practical Implications

It is crucial for the country to continuously develop its national e-payment system to overcome current and future challenges. A sounder framework is needed as it can pave the way for future actions, especially at the national level. The future framework for national e-payments in Guyana should aim to achieve an accountable and modern Government, an innovative and up-to-date private sector, as well as having digitally literate and engaged citizens. Delivering a national e-payment system on this prospectively promising framework in the post-Covid era will help benefit the economy in every sector collectively, and not only the government and private sector entities but also individual citizens.

Future Research Directions

Although this study provides a new and critical framework for the future of national e-payments in Guyana, the results illustrated in the framework are a product of only qualitative analysis and may, therefore, not comprehensively represent the readiness of the public sector to adopt and implement this framework taking into consideration it is embedded with a cash-oriented society. Furthermore, the focus of this research has been to address and analyze the past and current aspects of the e-payments system in the context of Guyana's e-government; therefore, the domestic experience was more important than international ones. Another key limitation of this study is that it only applies to the case of Guyana, so the results may not easily be transferred to other cases. Guyana is a small country with a fast increase in the rate of Internet usage and the

number of mobile users with unique challenges that should be considered before any generalization.

Conclusion

Payment systems are crucial to our lives as individuals and to the smooth operations of a country. They allow money or funds to achieve their role as recognized means of exchange when procuring goods or services. If money is the lifeblood of modern monetary economies, payment systems are the circulation systems. A well-designed payments infrastructure provides to the suitable running of markets and assist in removing conflicts in trade. Payments, clearing, and settlement systems are usually characterized by significant counties or markets of scale and have leniency to evolve into natural denominations or *quasi-monopolies*. To address such market disappointments and prevent them from arising, Central Banks must be involved in payments, clearing, and settlement activities.

The smooth operations of systemically important payments, clearing, and settlement systems has a powerful impact on financial stability, and that is a public goal and public service. The main potential failures exist because of problems with payment infrastructures. Central Banks aim to prevent systemic risk, promote the efficiency of payments and instruments, and ensure security. Central Banks, as circulators of currency, have always had a keen interest in the smooth operations of the national payment system and the way it impacts the country. Their contribution has, however, evolved over time, as Central Banks have progressively taken on a dominant role in the quest of the public good of sustaining trust in the currency and ensuring its smooth distribution.

Consequently, their integration in payments, clearing, and settlement has transformed. Payment systems and Central Banks, historically, have grown in collectively. The finish is the ultimate development of the core functions of modern Central Banks – monetary and financial stability – which has been closely linked to their role in the provision of the ultimate settlement asset in the payments system.

There are two important aspects: 1) whether cash will endure in the future, and we then move on to discuss 2) how wholesale financial transactions might be made in the future. The answers are complicated with economists and planers still agree and disagree.

It is concluded that the economics literature in the field of payments is surprisingly scarce. Because of this some ideas are offered that will meet research in field of payments in the future. The integration of e-government and Fintech in Guyana has been evident. Guyana has reached an advanced stage in the implementation of the national e-payment system, with many of its schemes and tasks being successfully implemented under the national e-payment master plan. Despite the strong desire and concise schemes of the master plan with demonstrably firm strengths aimed at driving the Guyanese economy, the country still faces several challenges and opportunities. Certain aspects should be considered for successful implementation in the future. The present study has targeted the area which is national e-payments in the post-Covid era while specifically contributing to the literature in the field of e-government. It ensures that the theory and concept of e-government is still very prominent both in the current situation and will be even more important in the future in terms of benefit to its society. It confirms that e-payment has played an important role in promoting the e-government model. There is clear evidence that the Guyana government has practically placed emphasis on the development of e-government and e-payments in the public sector.

Further, households, billers, and banks are already expressing considerable interest in e-billing systems, but it is still too early to know how rapidly the technology will be adopted. Households have shown inertia in switching to new payment methods. Nonetheless, high-speed

internet access at home is rapidly increasing in Guyana, which should facilitate the adoption of e-billing, and consumers may respond very favorably to a technology that makes bill payments very easy and adaptable which will change Guyana's cash-oriented society slowly but surely.

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