Chapter 12

The fourth industrial revolution and government of the future: a case of South African Social Security Agency during the covid-19 pandemic

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Introduction

In the tumultuous year of 2020, the world was ensnared in the relentless grips of the COVID-19 pandemic. The pandemic ravaged countries and economies, which were forced into lockdowns as the virus spread rapidly, leaving death and destruction in its wake. COVID-19's impact reverberated across every corner and facet of South Africa, a nation already grappling with years of near-stagnant growth and mounting unemployment. In response to the virus's relentless spread, the South African government activated a state of emergency in March 2020, swiftly imposing a nationwide lockdown for an initial three-week period. Yet, as time progressed, it became evident that the varying levels of lockdown would persist throughout 2020 and into the foreseeable future. For many, the lockdown proved as devastating as the virus. Businesses were forced to close and the majority of the population

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could not work. Without an end in sight and restrictions in place, there was no way of earning a living for many, which placed the burden on the government as the unemployed sought relief.

The Department of Social Development (DSD) portfolio remained at the forefront in terms of the provision of essential services or interventions to the poor and vulnerable during this period (SASSA, 2020:2). The pandemic required a coherent and integrated response to the needs of the vulnerable sectors of the population. In light of the restrictions during this period, departments had to look for new and innovative ways of delivering critical services. It became evident that the South African public administration had to swiftly adopt a digital revolution to sustain its mandate of service delivery. Viewed through the lens of the fourth industrial revolution (4IR), the public sector presents a promising, albeit complex, opportunity poised to revolutionise service delivery for the better.

This paper seeks to contribute to the emergent body of knowledge on public administration, 4IR, and service delivery. It discusses how service delivery was impacted at SASSA during the COVID-19 pandemic and how the agency managed to embrace technologies afforded by the 4IR in order to sustain the dispensing of social grants. SASSA is a Schedule 3A Public Entity established in terms of the South African Social Security Agency Act (SASSA Act, Act 9 of 2004). The mandate of SASSA is derived from the Constitution of the Republic of South Africa, 1996 (Act 108 of 1996). Section 27(1)(c) of the Constitution states that "everyone has the right to social security, including, if they are unable to support themselves and their dependents, appropriate social assistance".

The pandemic compounded the country's crises of poverty, unemployment, and inequality as over two (2) million people (StatsSA, 2020) lost jobs and more households became impoverished, thus not affording basic necessities, including meeting their rates and service obligations to municipalities. As the pandemic reversed the economic gains made over

the past twenty-seven years of democratic governance, the national lockdown further reduced citizens' access to services, as in-person services were limited. SASSA's ability to sustain services was tested during this period, especially in the context of the new social relief of distress grant that was introduced and implemented during hard lockdowns (risk-adjusted levels 5-3). The organisation had limited lead times to prepare for the shift to adopting digital technologies to effectively serve the public and they did not have sufficient resources. There was no time for planned and intentional digital transformation; SASSA had to take a digital leap.

As stated in law, SASSA's responsibility is to ensure effective administration, management, and payment of social assistance and social security, and to render social assistance to eligible persons (SASSA, 2019). Acknowledging the significant role of institutions such as SASSA, the National Development Plan (NDP) underscored the imperative for South Africa to meticulously design and implement policies aimed at supporting the most vulnerable segments of society, particularly children, the disabled, and the elderly, many of whom face barriers to earning a livelihood. The form of social assistance they receive from SASSA reduces extreme poverty through income transfers (SASSA, 2019).

For more than a decade, SASSA continued to provide social relief to many families and households in South Africa. However, the need for social services has increased significantly due to the impact of the COVID-19 pandemic. With the country under lockdown to contain the spread of the virus, many people lost their jobs and had no source of income. Globally, the pandemic brought about an unexpected social and economic crisis. In response to this crisis, President Cyril Ramaphosa announced a massive social relief and economic support package of R500 billion in April 2020. This included a social relief grant of approximately R50 billion directed towards alleviating the plight of those most desperately affected by the pandemic (SASSA, 2020:2). With the added task of distributing these funds, SASSA's usual mandate had increased substantially, and innovative ways of service

delivery had to be established in order to improve performance. Against this backdrop, the reliance on technology became imperative, catapulting service delivery into the realm of the fourth industrial revolution (4IR). Consequently, SASSA had to undertake a digital leap to guarantee uninterrupted service delivery.

This study followed a secondary research approach where research data was collected from existing sources. This paper reviewed formal reports, presentations, and unstructured interviews with members of senior staff at SASSA who were directly involved with the delivery of services using digital transformation initiatives during the lockdown period.

Background

According to Mittal (2020), in the government of the future, citizens expect a personalised and responsive public service similar to what is received from the private sector. Certainly, in the digital era, leveraging technology and adopting a user-centric approach have the potential to greatly enhance the citizen's comprehensive experience of public services. The government needs to adopt a 'citizen-first' culture in framing policies, applying policies, and delivering services. The ultimate aim of the future government is to elevate service quality, bolster public trust in governmental policies, and achieve improved outcomes for citizens. Thus, the introduction of 4IR, digital public services, government procurement of advanced technology, data capability, technology skills, innovation capabilities, and artificial intelligence (AI) can enhance improvements in the efficiency and effectiveness of service delivery in the public sector (Mergel, Edelmann & Haug, 2019; OECD, 2019).

Defining the Fourth Industrial Revolution

Olojede, Agbola, and Samuel (2019:162) indicate that the global village is currently on the threshold of an unprecedented technological transformation that will fundamentally alter the way we live, work, and communicate with each other.

The previous industrial revolutions featured steam power and mechanisation, electricity and mass production, and computers and automation. It should be noted that any industrial revolution changes government policies and the way government provides services to various communities and influences both social and economic aspects of society (Kayembe & Nel, 2009:80). In a study by Vries (2008:158), an industrial revolution is referred to as the occurrence of modern economic growth during the transition from a pre-industrial to an industrial society.

Various studies (McKinsey, 2016; Uwizeyimana, 2019) have outlined the benefits of 4IR in both the private and public sectors. However, a number of concerns have also been noted. The most common concern is that the technological progress will substitute human labour with machines, which could lead to technological unemployment, that is, the loss of jobs caused by technological change, resulting in increased inequality in the short term, regardless of the long-term benefits (Mokye, Vickers & Ziebeth, 2015:32; Xing et al., 2018:175). Marwala, Mahola and Nelwamondo (2006) assert that 4IR will revolutionise industries so substantially that much of the work that exists today will not exist in 50 years' time. The 4IR is challenging traditional management and governance in the private and public sectors around the world. The innovations and technological advancements of the 4IR are uprooting and changing how societies normally do business and go about their daily work (WEF, 2017:6). The public service is not excluded from these advancements, as it has to move with the times or face being stuck in the stone age of working and thus relying on old ways of delivering the most needed services to the communities.

As per Kayembe and Nel (2019:79), the Fourth Industrial Revolution (4IR) represents the evolving landscape characterized by transformative technologies and trends like the Internet of Things (IoT) and Artificial Intelligence (AI), reshaping both our lifestyles and the way we work. The advent of the 4IR represents a number of implications for the public sector, such as reinventing processes of service delivery and

strategic approaches to increase creativity and innovation. As such, the 4IR is projected to bring about enormous benefits associated with increased efficiency and effectiveness in service delivery. It can thus be extrapolated that, in order to improve service delivery, the government has to adopt and implement more innovative and cost-effective solutions. This implies that the government has to take advantage of the development of 4IR technologies to provide innovative, reliable, efficient, and effective services to communities. Over time, integrating 4IR technologies has the potential to enhance the government's ability to directly serve communities more effectively.

Public Administration and the Imperative of Service Delivery

Thornhill (2010) defines public administration as "a study of the administrative activities concerned with governing and the administrative requirements to give effect to government policies". Sebola (2015:3) posits that public administration is a field that involves and deals with complex interactions within a public sphere for the achievement of the welfare of society. In the works of Ngcaweni (2020:608), public administration is seen as a cornerstone of the functionality of society, including the management of the economy. Thus, the safety and wellbeing of citizens and a thriving private enterprise depend on a capable, responsive, effective, and efficient public administration. Service delivery refers to the efficient and effective provision of basic services that a selected municipality or department should provide to its citizens (Mpofu & Hlatywayo 2015:134).

The democratic values and principles enshrined in the Constitution must govern public administration, according to Section 195 (South Africa, 1996). It sets out the principles and framework within which public administration must operate in order to deliver government services to the people. It is thus imperative that the mandates of government departments and entities are implemented based on these principles to ensure that service delivery takes place in an efficient and effective way.

Over the past few years, the public sector in South Africa has been working on moving away from manual and paper-based processes towards the Fourth Industrial Revolution (4IR) and the use of technology. SASSA is one of the government organisations that were heavily reliant on manual processes, thus characterised by long queues and unhappy citizens. The COVID-19 pandemic and the subsequent lockdown have accelerated the adoption of technology, enabling the public sector to maintain its commitment to service delivery throughout this challenging period.

Discussion

In response to the COVID-19 pandemic and the consequent impact on individuals and the economy, the President announced a massive social relief and economic support package of over R500 billion on the 21st of April 2020 (SASSA, 2020:2). This amount included approximately R50 billion for the Social Relief Grant (SRG) support directed towards alleviating the plight of those most desperately affected by the pandemic. Part of the package of benefits introduced by the government to assist the vulnerable that were mostly impacted by lockdown was the special COVID-19 Social Relieve Distress (SRD) grant of R350. This grant primarily sought to assist individuals who are currently unemployed and do not receive any form of income (SASSA, 2020:2). SASSA pays approximately 18.4 million grants to 12 million beneficiaries every month. Thus, the total disbursed amount is around R15 billion every month. The top-up to various grants as a result of the COVID-19 special government intervention increased the total amount disbursed through the SASSA system to about R20 billion a month (SASSA, 2020:2).

Prior to the COVID-19 pandemic and the national lockdown, SASSA used an in-house system (SOCPEN) to onboard and administer the payment of social grants. SOCPEN is a reliable, stable database that has been used for the administration, maintenance, and payment of grants to all qualifying beneficiaries. Until the introduction of the special

COVID-19 SRD grant, all grant applications, including normal SRD, were processed manually, from screening applications to onboarding. Payment or disbursement was done through SOCPEN payment processes. This system is capable of processing in excess of 18 million grants to 12 million beneficiaries every month. Data for all 12 million beneficiaries is stored and maintained in this database. The critical data content about beneficiaries includes, amongst others, the following information: name and surname; identity document number or refugee identification number; banking account details; address; and contact details. SASSA has collected the majority of beneficiaries' biometric data and is in the pilot phase of implementing an Identity Access Management (IAM) module for biometric access by staff to all corporate systems, starting with access to SOCPEN. However, despite SOCPEN being a mature, stable system, it is a legacy mainframe system built on old technology. As a result, it is not agile or able to respond to new ways of working quickly. As a result, the new COVID-19 grant could not be processed on SOCPEN (SASSA, 2020).

Due to the impact of COVID-19, many employees had to work from home in order to curb the spread of the virus. This meant that even though the objectives of SASSA had increased substantially, face-to-face contact with its clients had to be reduced in order to avoid the spread of the virus and to comply with the regulations promulgated under lockdown levels. The logical response was for SASSA to invest in technology that would enable the processing of this additional grant in an efficient and effective way. This is supported by the study conducted by Gumede (2021:291) where the findings indicate that technological changes drastically influence decisions at levels of policy development in South Africa. Accordingly, policies required recalibration to align with the emerging paradigm; crucial operations like supply chain management necessitated adjustments; and legislation concerning procurement underwent redrafting (Malatjie, Poonsamy & Ngcaweni, 2021).

Before the pandemic, SASSA had started engagements with industry stakeholders to improve the payments of social grants through automation and digitisation of many processes. Furthermore, among the initiatives was the modernisation, transformation, and replacement of the legacy technology with modern service-oriented architecture, which increased the ability to integrate with other systems. With the advent of COVID-19, SASSA has had to accelerate some of its plans, including the introduction of the contactless application platform and electronic disbursements of this relief fund. SASSA opted to execute the special COVID-19 SRD through its internal systems and processes, given that grant payments constitute a fundamental aspect of its operations.

Nevertheless, the introduction of this new grant entails the requirement for system upgrades and capacity enhancements to accommodate the accompanying directives effectively. The system that was implemented for potential beneficiaries to apply for this grant was largely electronic, using simple technologies such as WhatsApp, unstructured supplementary service data (USSD), and web applications (SASSA, 2020:5). Via these four application channels, over 16 million raw applications were registered in under four weeks, all accomplished without any physical interaction between applicants and DSD or SASSA personnel.

The Minister for Public Service and Administration issued a directive outlining arrangements for employees to work remotely while ensuring business and service continuity to support the delivery of public services (DPSA, 2020). In the reports that were analysed, it has become more evident that SASSA had to rely on technology for service delivery as its mandate had increased while its employees had to be at home to curb the spread of the virus. According to Dimitrieska, Stanskovska and Efremova (2018:184), some of the advantages of the 4IR are recognised as higher productivity (producing more with fewer resources); the creation of new jobs in place of those that are automated; and the replacement of manual work with knowledge.

His statement is exemplified by the case of SASSA, wherein within a year, technology facilitated the processing of 6 million new individuals (SASSA, 2020:10) to access direct income support from the government. These improved measures introduced with the implementation of the special COVID-19 SRD grants are expected to improve the decisions regarding the broader social grants administrative systems and specifically the SRD payments in the long term. The investment and development endeavours were not solely geared towards a six-month project; rather, they aimed to foster enduring enhancements in how the government interacts with these citizens over the long term.

Figure 12.1 depicts the distribution of social grant recipients across provinces in November 2020. Kwazulu-Natal (KZN) emerged with the highest percentage of grant recipients, trailed by the Eastern Cape (EC) and Gauteng Province (GP). Conversely, the Northern Cape exhibited the lowest number of grant beneficiaries. The integration 4IR technologies has empowered the SASSA to extend its services to a broader demographic, including individuals residing in rural and remote locales.

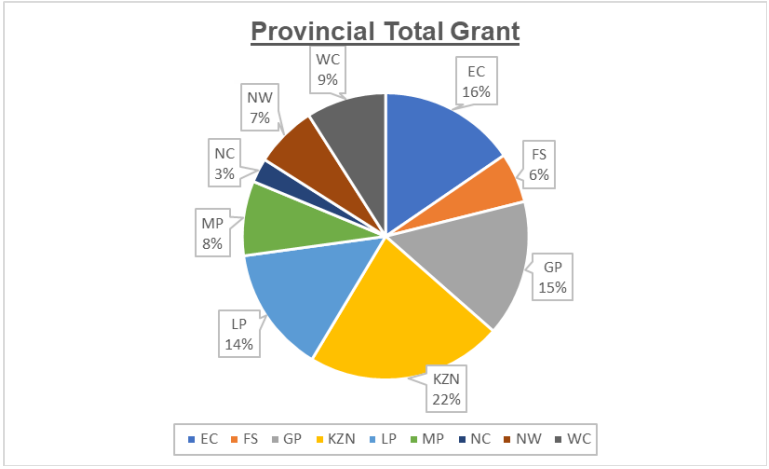

Figure 12.1: Provincial Total Grant – November 2020 (Author's own graph - Source: SASSA report)

Figure 12.2 below indicates that approximately 90% of the beneficiaries access their grants using the National Payment System network, 6% through the Post Office, and 4% at the remaining cash pay points. SASSA deposits money directly into the bank accounts of all beneficiaries, including those using Post Bank cards. The Post Office only serves as a withdrawal channel. Normally, SASSA staff is there on payment days to provide support to beneficiaries and deal with queries. However, during Stage 5 Lockdown, all SASSA local offices (where at least 5 000 staff work) were locked (SASSA, 2021). Therefore, the use of technology was essential to ensure that service delivery is not interrupted.

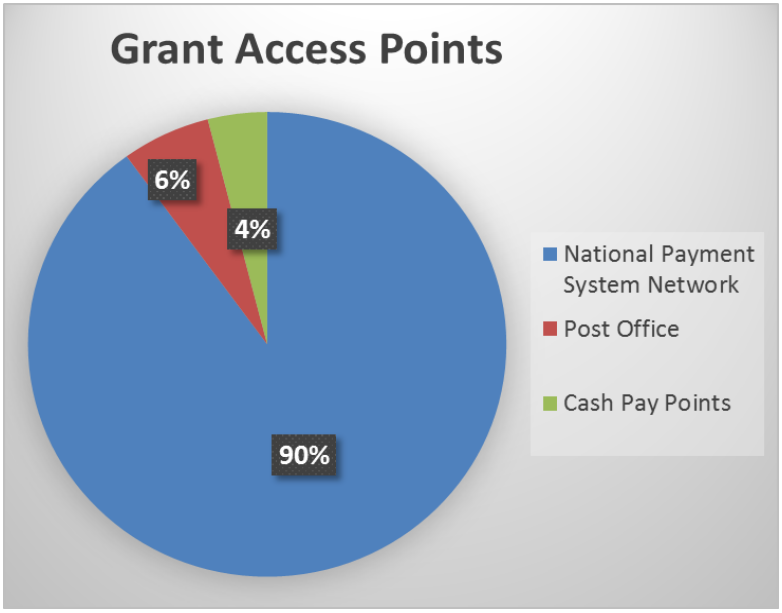

Figure 12.2: Grant Access Points (Author's own graph – Source: SASSA report)

McKinsey (2016) asserts that developing and developed countries seem to have embraced the innovative technologies made available with the 4IR. These technologies can assist local and central governments to accelerate service delivery to their constituents. This was evident in the case of SASSA,

where the use of technology ensured that service delivery was not affected and that the organisation was able to deliver on its added mandate.

Lessons learned through the SASSA case study:

- During this transition, SASSA encountered challenges in implementing relief measures, such as delays in processing payments and appeals, as well as issues with overcrowding and system failures.
- The introduction of the Special COVID-19 SRD Grant (the first in the history of SA) has brought over 6 million new people, who had never received a grant before, into the space of receiving direct income support from the government. This was possible to process in a short space of time by relying on technology.
- Implementation of the grant has opened doors for full automation of the social assistance programme. There is an urgent need for full automation of the programme going forward to sustain the gains achieved with the R350 SRD grant.
- The introduction of the special R350 SRD Grant has also led SASSA to rethink the alternative distribution of these government services and related benefits in the future.
- The R350 SRD grant has also opened doors for alternative payment methods, including cellphone payments, EFT's, and e-vouchers.
- Overall, government departments should prioritise investment in technological infrastructure, as it has been paramount in ensuring efficient service delivery throughout the lockdown period.
- In the future, the government will increasingly depend on technology rather than human resources. Consequently, the existing government workforce requires retraining and upskilling to prepare them for roles demanding cognitive abilities (SASSA, 2021).

The finding of the study points out that, during lockdown, SASSA increasingly adopted different 4IR tools to ensure

that they delivered on their mandate and that service delivery continued unaffected in spite of the large volumes of applications and payments that they had to process. As such, SASSA was able to effectively deliver on the government's priority 4 as contained in the Medium-Term Strategic Framework (MTSF) of "Consolidating the Social Wage through Reliable & Quality Basic Service" (SA, 2019). These observations indicate that South Africa has pockets of excellence that need to be replicated in other departments. Mhlanga and Moloi (2020) posit that, considering that the pandemic has brought massive human suffering across the globe, it presented an opportunity to assess the successes and failures of deployed systems, the costs associated with them, and scale this to improve service delivery. Therefore, the government must devise a strategy to increase budgets to ensure greater investment in technology across the entire public sector.

Organisational implications

SASSA managed to deliver on its additional mandate using technology such as smart phones. The agency relied on the fact that access to cell phones in South Africa was already very high. Therefore, they used USSD, which is a technology that was already in use by community members to upload airtime. Thus, applications for grants were done via platforms such as USSD, WhatsApp, email, and the web. In addition to that, volunteers were appointed to support communities in rural areas. It's worth noting that SASSA already possessed the largest database of individuals in need across the country, simplifying the process of matching applications to existing data. Additionally, applications underwent matching with data from other government databases, including the South African Revenue Service (SARS), the Unemployment Insurance Fund (UIF), the Government Employees Pension Fund (GEPF), and Persal/Persol. This measure aimed to prevent applicants from receiving duplicate financial assistance from the government, thus mitigating the risk of double-dipping. Back-end processing was automated for most of the process except for

a few databases where data dumps were used. The outcome of this entire endeavour was the establishment of the largest database of impoverished individuals in South Africa by SASSA. This database presents an opportunity for the government to use it for future planning and interventions.

Strengthening Partnerships for Digital Transformation

GovTec

Ensuring comprehensive digital transformation within an organisation is paramount to unlocking its most significant rewards. Given the connectivity of systems and processes in this digital age, any blockage in the process hampers the efficiency and effectiveness of all systems involved. Therefore, it is imperative that the government, in its digital transformation efforts, partner with experts in the space that can assist them in making the absolute most of the technologies. The National Digital and Future Skills Strategy issued by the Minister for Communication and Digital Technologies is a key strategy document for empowering South Africa with digital skills and addressing the digital skills divide (South Africa,2020: 22). Thus, the ability to harness the 4IR in the public sector rests on forging collaborative partnerships between the government and the private sector, with policymakers and industry experts, and with our counterparts nationally and internationally.

Conclusion

In this study, secondary research was done to understand the impact of COVID-19 on influencing the digital transformation in the public sector. In essence, the study investigated how the public sector adopted the use of 4IR tools during the COVID-19 lockdown period. The study was based on the review of secondary data sources such as internal reports, peer-reviewed journals, recently published journal articles, and policy reports by the government.

This case study attempted to provide an understanding of how the public sector responded to the crisis brought about by the COVID-19 pandemic, paying attention to the shift in policies and a move towards 4IR. It is clear from the study that the public sector was able to continue to deliver services through the use of technology during lockdown. It is evident from the case of SASSA that technology can successfully improve service delivery. The agency managed to process the applications for special grants from over 6 million people through the use of technology. Therefore, the 4IR is crucial for governments to serve their citizens in an efficient and effective way.

Ngcaweni (2020:612) asserts that the COVID-19 pandemic played a pertinent role as a catalyst to accelerate innovation in areas that faced the most strain, including the health and education sectors. As strategic future plans are made, the momentum gained from the pandemic's embrace of technology must persist. The boundless potential of technological adoption holds the promise of heightened efficiencies and effectiveness, offering endless possibilities for advancement. In a country where unemployment and rising levels of poverty persist, if agencies like SASSA are to improve service delivery, then the utilisation of intelligent technologies must be adopted. Thus, the government needs to invest more in technological infrastructure in order to ensure continued efficient and effective service delivery.

Ultimately, the government must streamline its operations, harnessing the appropriate skill sets to effectively use technology and emerging digital tools. Collaboration and interaction with citizens, society, and businesses are imperative for enhancing service delivery. The digital transformation of governments is not merely desirable but essential to cater to the needs of modern digital societies and economies. To achieve this goal, the governments need to use data capabilities and skills as strategic components of their efforts to improve and modernise services in the public sector.

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