Chapter 5

Principle 5: Experimentation and Innovation

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5.1 Huduma Kenya — implementing innovation and measuring impact: Public service delivery innovations

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Overview

This study reviews the origins of public sector reforms and transformation in Kenya and the momentum for innovation-driven transformation in service delivery. It looks at the theoretical and conceptual framework for public sector innovations. The central analytical premise is predicated on the diffusion theory of innovation as it relates to the supply- and demand-side adoption of innovations in the delivery of converged public services. The focus is on the Huduma Kenya programme, as a major public service innovation.

There is also a specific focus on the programme impacts on both the supply and the demand sides, as well as the structural and systemic challenges facing the programme. Also presented are the strategic options for leveraging the Kenyan experience to scale impacts on public service delivery both locally and regionally. The Huduma Kenya trajectory suggests sector-wide innovations can be capital-intensive. As a result, such large-scale projects require direct top-level government support and political goodwill and the accompanying budget prioritisation.

In addition, the Huduma Kenya case indicates that, for governments to reap the maximum long-term benefits of innovations in service delivery, they must accept present trade-offs and overlook the current initial costs in order to realise the national development goals and vision.

5.1.1 Introduction

Public sector reforms in Kenya date back to the preparation of Sessional Paper 10 of 1965 on African socialism. Results of the government's efforts in the implementation of the provisions of this sessional paper were seen in significant overall economic growth and development (Oyugi, 2006). Hope (2012) also observes that, as a result of the policies arising from Sessional Paper 10, the immediate post-independence period was, beyond the success with the economy, characterised by some forms of public sector transformation. Depending on the factors considered, different writers on public sector reforms and transformation in Kenya characterise the country's reform journey into four phases. Oyugi (2006), for example, observes that,

although the first attempts at the reform and transformation of the public sector in Kenya began in 1965, it was not until the early 1990s that serious efforts were made towards the reform and transformation of the country's public sector management. Other works (Sawe, 1997; Nzioka, 1998; OPM/PSTD, 2010) have generally characterised reform and transformation in Kenya into phases that more or less mirror the presidency regimes. In this classification, the first transformation phase spanned the 1963–78 period, for the first presidency. The second phase coincided with the second presidency, of 1977–2002. Reforms under the third phase spanned 2003–12. The fourth phase, the current one, commenced in 2013.

In line with the aspirations of the Kenya Vision 2030, the new government, which came to office in 2013, prioritised the provision of quality public services to citizens. The Huduma[1] Kenya programme — the public sector innovation of focus in this study — is a critical part of this effort. This programme aims at transforming public service delivery by providing citizens with access to various public services and information from one-stop-shop citizen service centres (CSCs) called Huduma Centres and through integrated technology platforms. The decision by the current government to invest limited public resources in the programme was informed by the belief that improved service delivery would lead to realisation of the vision. The programme was thus incorporated into the system of planning, budget, disbursement, procurement, accountability for results and value for money.

To ensure quality and access to public services, Huduma Kenya aimed specifically at transforming the public service to be people-centred, professional, efficient, transparent and accountable so as to meet global standards and best practices. To this end, the presidency through the Ministry of Devolution and Planning spearheaded Huduma Kenya as a flagship project under the Kenya Vision 2030.

5.1.2 Innovation and public sector service delivery

Innovation in the public sector refers to significant improvements to public administration and/or services. Drawing on definitions adopted for the business sector and their adaptation in public innovation measurement, public sector innovation can be defined as the implementation by a public sector organisation of new or significantly improved operations or products (OECD, 2012). In their Guidelines for Collecting and Interpreting Innovation Data, the OECD and Eurostat (2005) define innovation as the implementation of a new or significantly improved product (goods or service), process, marketing method or organisational method in business practices, workplace organisation or external relations. Early definitions of innovation, like Schumpeter's (1934), restricted themselves to novel

products and processes finding a commercial application in the private sector. Later definitions have broadened their scope, to include social innovations, innovations in services and innovations in the public sector as well (Halvorsen et al., 2005).

Today, increasingly sophisticated public demand and new challenges as a result of fiscal pressures require innovative public sector approaches. However, knowledge about public sector innovation, and its results, costs and enabling environment, is fragmented. Public sector innovation is rarely institutionalised in government budgets, roles and processes, and there is limited knowledge and awareness of the full range of tools available to policy-makers for accelerating innovation (OECD, 2012).

Governments around the world are looking for innovative solutions that enhance the design and delivery of public services. They are reaching out to the private sector and citizens, to become partners in solving key social challenges (UNDP, 2016). Recognising this new push for co-design and co-production, the UN Development Programme (UNDP) Global Centre for Public Service Excellence partnered with Social Innovation Camp Asia to explore social innovation as an approach to improve the reach, access and quality of public services. This could be in the form of a mobile phone application, a social enterprise or a platform for co-creation of public policy. Innovations could address demand-side issues (tools for citizens), support supply (tools for public servants) or even bridge the gap between the two and allow each to leverage their full potential (ibid.).

5.1.3 Theoretical and conceptual frameworks for public sector innovations

Theoretical framework: Diffusion theory of innovation

One theoretical framework for understanding the adoption or uptake of innovations in the public sector is the diffusion theory of innovations. In principle, the diffusion theory is considered a meta-theory based on the fact that, as pointed out by Rogers (1995), it combines several theoretical perspectives that relate to the overall concept of diffusion. Within the theory are four major supporting sub-theories: innovation decision process theory, individual innovativeness theory, the theory of rate of adoption and the theory of perceived attributes.

The diffusion theory of innovation is applicable to the adoption and uptake of Huduma Kenya and its services, since it addresses both the supply and the demand sides. The innovation diffusion process on the supply side of the public service is seen in the increase of adoption of the programme service delivery platforms by the various government department and agencies. On the other hand, demand-side diffusion is seen in the uptake of

Huduma services across segments of the citizenry. This study focuses on two dimensions of diffusion theory: innovation decision process theory and the theory of rate of adoption.

Innovation decision process theory: Within the public service, innovation decision process theory can be based on time and five distinct stages (Nutley et al., 2002). The first stage is knowledge. Here, government departments and agencies, as potential adopters, must first learn about the innovation. Second, the potential adopters must be persuaded as to the merits of the innovation. Third, they must decide to adopt the innovation. Fourth, they must implement it. Fifth, they must confirm that their decision to adopt was the appropriate decision. Confirmation of the appropriateness of adoption decisions would take the form of monitoring and evaluation of the impacts of the innovations. Diffusion results once these stages are achieved (Rogers, 1995).

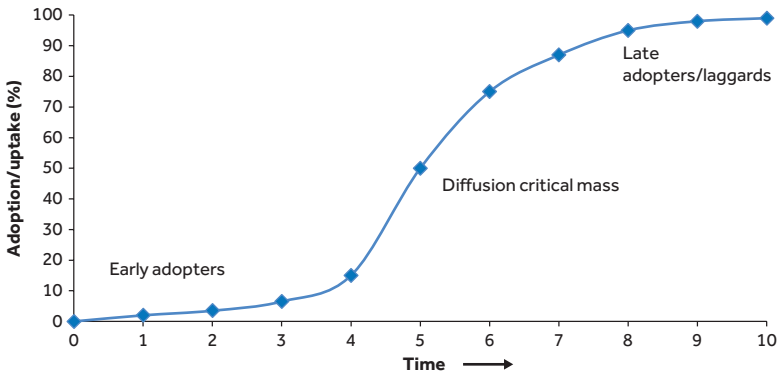
Theory of rate of adoption: The theory of rate of adoption suggests that the adoption of innovations is best represented by an s-curve on a graph (Nutley et al., 2002). In the case of the public sector, this theory holds that adoption of an innovation among government departments and agencies may grow slowly and gradually in the beginning. The adoption will then have a period of rapid growth that will taper off and become stable and eventually decline (Rogers, 1995). The Bass model, however, suggests other representations (Robert-Ribes and Wing, 2004).

Another aspect of importance is time. This is because innovations are seen to be communicated across space and through time. Time has been identified as being significant in the diffusion of innovations in three main ways (Rogers and Scott, 1997). First, the adoption or uptake of an innovation is viewed as a psychological process that evolves over time, starting with initial awareness and knowledge about an innovation that evolves into an attitude towards that innovation. This influences the decision as to whether to adopt or reject the innovation.

Second, in a voluntary adoption environment, the rate of adoption among individual government departments and agencies differs throughout the public sector. It starts off slowly, with only a minority of departments and agencies adopting the innovation. The rate increases over time; eventually, enough organisations have adopted the innovation, making the rate of adoption self-sustaining.

Third, time is involved in the relative speed at which public sector organisations on the supply side adopt innovations. Closely related to this is the demand side: citizens are expected to take up the new modes of service delivery. Ordinarily, where there are no supply-side constraints across geographical regions, again an s-curve is expected to represent the innovation uptake rate among citizens (Figure 5.1).

Figure 5.1 Innovation diffusion model for adoption and uptake



Source: Author, based on models in Rogers (1995), Dearing and Permanente (2012) and Ekobom (2012).

Implications of the innovation diffusion theory for adoption and uptake of Huduma service systems

The public service and its agencies in Kenya provide hundreds of service streams. Whereas the exact count of individual streams remains unknown, in the absence of government process mapping, the Huduma Kenya programme, which is in its nascent stages, has selected some 45 streams to be delivered in its service centres. Viewed through the prism of diffusion theory, the first 26 public agencies and departments that have started offering their services within the service centres qualify as early adopters of the innovation. These agencies and departments are those that have been easy to reach with information from the Huduma Kenya Secretariat on the operational merits and economic and efficiency benefits of relocating their services to the Huduma Centres.

Although information on the supply side of the Huduma Kenya programme has been centrally 'disseminated' from the Cabinet Summit and the Huduma Kenya Technical Committee, comprising accounting officers, principal secretaries and CEOs of agencies and departments, the growth in its service diversity can still be likened to the conventional innovation diffusion process. This is characterised by early adopters, majority early adopters, majority late adopters and laggards or late adopters.

In general, the rate of innovation adoption under the Huduma Kenya programme can be classified into two parts: the supply and the demand diffusion sides. On the supply side, the diffusion of the public service innovation under service integration in the CSCs implies that government agencies and departments receive communication or some form of signalling from the 'centre' so as to adopt the option of providing their services within one-stop shops. Application of the diffusion theory on the demand side of public services is located in the fact that the citizens, who are the

service-seekers, also receive information on the CSCs and, after evaluating the merits, opt to adopt this service stream or continue with the diversely located traditional points of service.

With increased consolidation of more public services and migration to online platforms, the 'central signalling' of adoption of Huduma Kenya services, especially on the supply side, tends to distort the expected bell-shaped distribution in rates of adoption. The resulting distribution is thus expected to be a right-skewed distribution curve, with more public agencies and departments bringing their services in the early adoption phase. The last few laggard supply-side adopters would therefore represent those departments and agencies offering complex services, whose integration requires more time, technological adjustments and significant capital outlay. The diffusion rate on the service demand side, supposed to drive uptake of services on Huduma platforms, may, however, depend on a great many more diverse factors, such as the population distribution between urban and rural areas, the proximity of citizens to service centres, the level of information symmetry and the expansion rate of the programme.

5.1.4 Conceptual frameworks: Public sector innovation and citizen service centres

Framework for public sector innovation

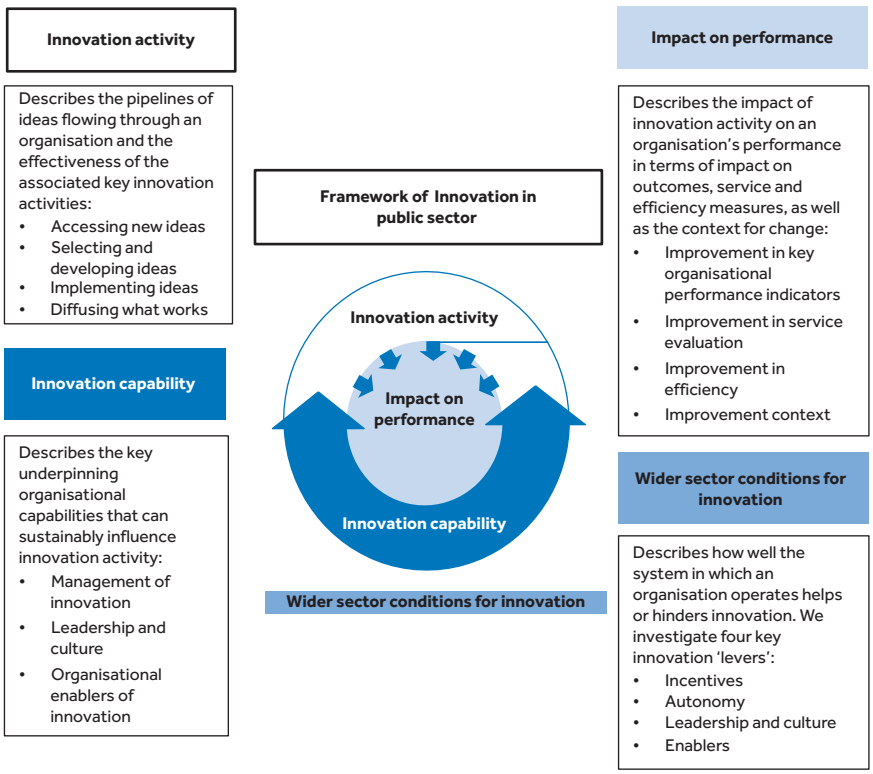
A public sector innovation framework proposed by Hughes et al. (2011), shown in Figure 5.2, reflects innovations that are important in the public sector, while remaining consistent with an international standard definition of innovation. The Hughes et al. framework reflects that public sector organisations operate in a range of different systems and assesses the impact of the system conditions on innovation in organisations.

The coloured areas within the circle represent those aspects that are within the control of a public sector organisation: these are 'innovation capability', which underpins public sector 'innovation activity', which in turn 'impacts on performance'. The area outside, 'wider sector conditions for innovation', represents those aspects that are outside of the control of the organisation but within the control of policy-makers or other public sector bodies of strategic influence. These conditions describe how the system in which a public sector organisation operates helps or hinders innovation—that is, the impacts a system has on an organisation's innovation activity and capability.

Framework for citizen service centres: Types of one-stop-shop models

The one-stop-shop concept is based on the provision of public services to citizens in one place; facilities are provided by grouping representatives of the government's department/departments under one roof, to ensure ease

Figure 5.2 Framework for innovation in public sector organisations



Source: Adapted from Hughes et al. (2011).

and speed of service delivery, and therefore reduce costs as well as providing better services (USAID, 2011). In its brief on the methodology to implement one-stop shops in the public sector, the US Agency for International Development (USAID) (2011) identifies two foremost models.

The first, the *single door model,* is a type of one-stop shop where representatives of different government agencies are brought together in one place, with each representative handling the procedures of his/her agency. This approach does not require changes in legislation or institutional authorities; it requires only cooperation between the parties involved in the provision of services. The second, *the single window model,* is a type of one-stop shop where only one employee deals with service recipients. The employee receives the required documents and forms and then distributes them to the organisations' representatives in the same site, who then implement the required processes. On completion, the application is handed to the service recipient through the window. This model requires that the single window attendant be aware of the sequence of processes between organisations and of the required documents.

5.1.5 Citizen service centre models: The Huduma Kenya programme

While all CSCs aim to integrate multiple services into a single location, CSC systems can be differentiated along four primary dimensions that need to be considered during the design stage: channels, levels of service, financing and types and number of participating departments and organisations. The decisions made regarding these design issues determine the final form CSC initiatives may take (World Bank, 2011).

Channel types: Merits and demerits

A channel refers to the delivery model a CSC uses to provide services. Whereas some initiatives use primarily one CSC channel, others integrate multiple channels into their CSC programmes. Choices about which channel, or combination of channels, to adopt should be based on available resources and the characteristics and geographic distribution of beneficiaries. Table 5.1 presents a typology of CSC channels and their respective merits and demerits.

The Huduma model and delivery channels

The Huduma Kenya programme currently combines the stationary CSC with multiple windows and internet portal delivery channels. To actualise the programme, a strategic implementation model that involved integrating the delivery of all transactional and citizen facing public services from one-stop shops was formulated.

This one-stop-shop approach enables citizens and customers to access various public services and information from a single location and integrated service platforms, with an emphasis on high customer service standards and customer dignity. The programme has so far established five one-stop-shop channels as platforms for integrated service delivery: Huduma Centres, the Huduma Web Portal, the Huduma Mobile Platform, the Huduma Call/Contact Centre and the Huduma Payment Gateway (Figure 5.3).

Of the five channels, the first two are already operational. *Huduma Centres* are physical facilities that provide several transactional public services of different ministries, departments and agencies. The *Huduma Web Portal* is an online portal that enables customers to transact public services electronically.

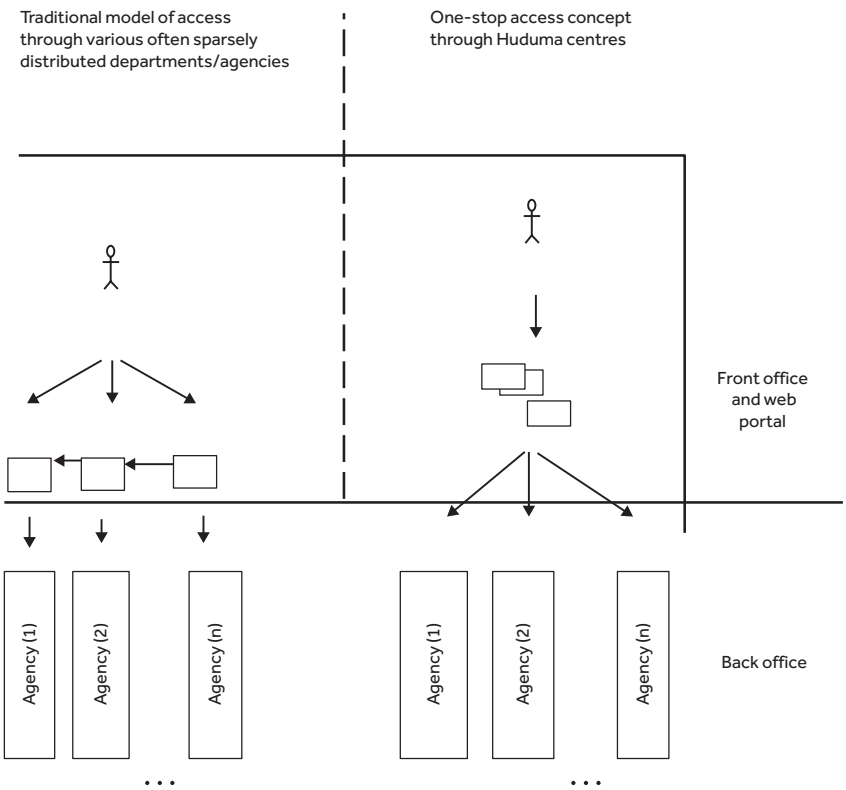
One of the three planned channels is the *Huduma Mobile Platform*, which will offer m-government services to citizens from their mobile phones. The second delivery channel currently in the pipeline is the *Huduma Call/Contact Centre*, which is intended to be a toll-free way to provide services, with a single dialling prefix that citizens can use to enquire about services offered by different government agencies. To handle future transactions, a third channel, a unified and integrated multi-channel payment gateway, the *Huduma*

Table 5.1 Merits and demerits of CSC channels

CSC channel	Merits	Demerits
Call centre: Citizens can call a central phone bank to access government services.	• Easily accessible to citizens with phones. • Good for providing citizens with information about public services.	• May not be appropriate for delivering some types of services.
Stationary CSC with multiple windows: A central location houses multiple service providers with different desks (e.g. utility companies, government departments).	• People do not have to go to multiple offices for services. • May be easier to incorporate both public and private sector (e.g. utilities) service providers. • All back-office functions are under one roof.	• Transaction time at each window can be long. • Usually confined to urban areas.
Stationary CSC with one window: All front- and back-office functions are in one location; clients have to visit only one window for all of their needs.	• Less costly to run than model with multiple windows. • Users have to visit only one window. • Easier for government to monitor activities and reduce corruption. • All back-office functions are under one roof.	• Can require high set-up costs. • May need to coordinate activities and responsibilities across multiple organisations and sectors. • Usually confined to urban areas.
Mobile CSC: The government brings the services to the people through agents or by using specially outfitted trucks and buses.	• Useful to serve populations in isolated or peripheral areas. • Allows poor and vulnerable groups easier access to services.	• Needs advanced technological infrastructure. • Higher operating cost per beneficiary than stationary models.
Internet portal: This is a web-based delivery model that allows citizens to access a variety of services.	• Low day-to-day costs. • Convenient for users with Internet access. • Can establish partnerships with private sector operators.	• Needs advanced technological infrastructure. • Many people in developing countries do not have internet access.
Kiosk: Services are provided through integrated Internet kiosks.	• Good for rural or difficult-to-reach areas where stationary CSCs might not be cost-effective. • Private sector can potentially roll out and operate kiosks. • Good for services that do not require agent assistance.	• More technologically advanced. • High upfront costs.

Source: World Bank (2011).

Figure 5.3 One-stop government: single front office structure in Huduma Centres



Source: Author.

Payment Gateway, will facilitate ease of payment for government services through debit cards, m-pesa and PayPal, among others (Figure 5.4).

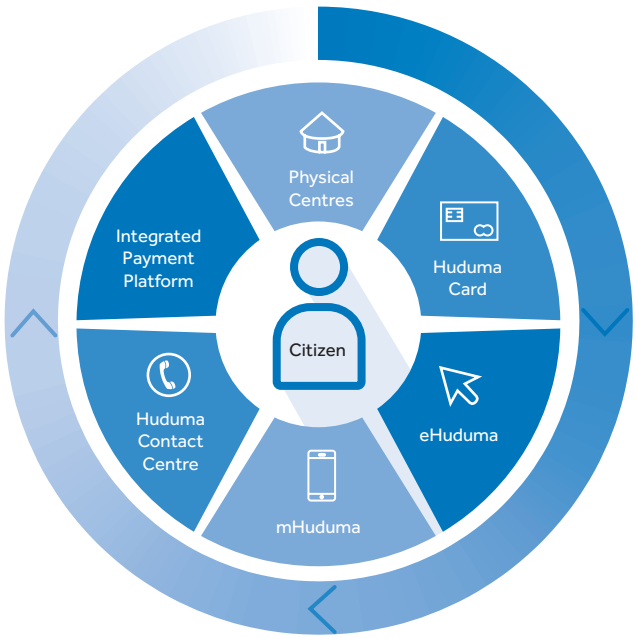
The Huduma Kenya programme initially offered 20 services at the first Huduma Centre located in Nairobi's Central Business District, opened in November 2013. Subsequently, an additional 20 Huduma Centres have been set up, bringing the total number to 21 by mid-2014. By the end of the first quarter of 2016, 33 centres were fully operational in 26 out of 47 counties.

The service menu in each Huduma Centre comprises between 25 and 45 national and county government services on an end-to-end basis (Table 5.2). The initial services were carefully identified based on specific criteria: relevant services; services commonly sought after; high-impact services; services for common citizens and not specialised clientele; transactional services; and services whose processes have some level of automation.

Implementation of the innovation: The Huduma approach

Implementation of the Huduma Kenya programme has been undertaken in three phases. The first involved piloting the concept in two pioneer

Figure 5.4 Huduma delivery channels



Source: Huduma Kenya (2016).

service centres within the capital, Nairobi. The other two phases were made to run concurrently. In the second, the government has rolled out the one-stop shops in the counties. In the third, government services are being moved from analogue to digital platforms. This effort is supported through various support structures, initiatives and strategies, including a formal governing structure; piloting of the programme; post-pilot scaling; whole of government; leveraging existing infrastructure; use of broad band connectivity/back-end support; decentralisation/aligning scaling to government structures; integration of information and communication technology (ICT)/digital solutions; and incremental service scope.

A formal governing structure: The governing structure of the Huduma Kenya programme was formalised through a gazette notice in April 2014. At the top of the structure is the Service Delivery Summit, comprising the entire Cabinet led by the president. Under the Summit is the Huduma Kenya Technical Committee, comprising accounting officers, principal secretaries and CEOs of agencies and departments represented at the Service Delivery Summit. The Committee defines the strategic actions undertaken in the rollout of the programme and oversees overall implementation. The Cabinet secretary in the Ministry of Devolution and Planning chairs the committee.

Piloting: In the absence of a feasibility study, implementation of the programme used two pilot centres. Piloting was used to ascertain the viability of the concept and the feasibility of the proposed model.

Table 5.2 Huduma Kenya adoption by public sector organisation and services offered

Department/agency	Services
1. National Registration Bureau	1. Issuance of initial national identification
	2. Issuance of duplicate identity card
2. Civil Registration Directorate	3. Issuance of birth certificates
3. Ministry of Housing, Land and Urban Development	4. Assessment of stamp duty
	5. Franking of stamp duty documents
4. Treasury	6. Access to government procurement opportunities
5. Public Procurement Oversight Authority	7. Receiving complaints on procurement
6. Ministry of Labour	8. Registration of self-help groups
7. Attorney-General	9. Registration of welfare societies
	10. Registration of business name
8. Inspector-General	11. Issuance of police abstract
9. National Transport and Safety Authority/ Postal Corporation of Kenya	12. Renewal of driver's licence
10. National Social Security Fund	13. NSSF registration
	14. NSSF statements
11. Criminal Investigations Department	15. Police clearance certificate
12. Department of Pensions	16. Status of pension claims
13. National Health Insurance Fund	17. NHIF registration
	18. NHIF statements
14. Kenya Law Reporting Council	19. Provision of Constitution and other legislation
15. County Services	20. Seasonal parking tickets
	21. Issuance of single business permit
	22. Payment of rent
	23. Payment of rates
	24. Adult education services
16. National Cohesion and Integration Commission	25. Receive and investigate complaints on discrimination based on tribe and religion
17. Immigration Services	26. Issuance of temporary pass
	27. Issuance of pupil pass
	28. Issuance of passports
18. Higher Education Loans Board	29. Application for loan
	30. Student loan repayment
	31. Student loan clearance certificate
19. Kenya Film Classification Board	32. Issuance of film regulatory licences
	33. Issuance of film classification labels
	34. Collecting films for examination and classification
	35. Receiving feedback on film and broadcast content

(*Continued*)

Table 5.2 Huduma Kenya adoption by public sector organisation and services offered (*Continued*)

Department/agency	Services
20. Independent Electoral and Boundaries Commission	36. Registration of voters
21. Ombudsman	37. Reporting complaints on public service
22. Ethics and Anti-Corruption Commission	38. Reporting corruption and clearance certificate
23. Ministry of Foreign Affairs	39. Protocol services
	40. Authentication of documents
24. Ministry of Health	41. Body Mass Index and Health Promotion Messages
	42. Blood pressure
	43. Blood sugar
25. Kenya Power	44. Electricity services
26. Kenya Revenue Authority	45. i-Tax services: PIN, tax compliance certificate

Source: Huduma Kenya Secretariat (2016).

Post-pilot scaling: Once feasibility and viability were determined in the pilot centres, appropriate budgets were allocated for the scaling of programme to cover more centres within the capital city and other counties.

Whole-of-government approach: Implementation of the Huduma Kenya programme was premised on a whole-of-government approach that has since attracted service providers from across the public service.

Leveraging existing infrastructure: In the rollout phase, the Huduma Kenya Technical Committee identified existing government post offices whose utility was otherwise sub-optimal to be the sites for Huduma Centres. In essence, the conversion of these offices into one-stop-shop service centres greatly reduced the initial costs that could have gone into the construction or renting of office space for the centres.

Broadband connectivity and back-end support: With few personnel on the front desk at the Huduma Centres, the system relies on reliable broadband connectivity to back-end systems in the respective public sector organisations whose services are provided.

Decentralisation/aligning scaling to government structures: Scaling on coverage has been aligned with Kenya's new governance model characterised by devolution. The initial coverage plan is to establish at least one Huduma Centre in each county.

Integration of ICT/digital solutions: The set-up of the Huduma Kenya model greatly leverages ICT as a key component in the successful delivery of services in centres.

Incremental service scope: One strategic approach in the rollout was to start with fewer, less complex, service systems in the pilot phases, following this with integration of more complex forms of public services with advanced infrastructure, technology and interconnectivity requirements.

5.1.6 Huduma Kenya model results: Impacts, outputs, outcomes and achievements

Presently, an assessment of the impacts of the Huduma Kenya programme on public service can be based only on the available observable, documentary or anecdotal evidence. Given that only two budget cycles have been completed, with no impact evaluation undertaken yet, very little solid or hard data evidence exists on impacts. For the present purposes, therefore, an assessment of the impact of the initiative relies largely on anecdotal evidence, stakeholder observations and self-reported facts from the Programme Secretariat.

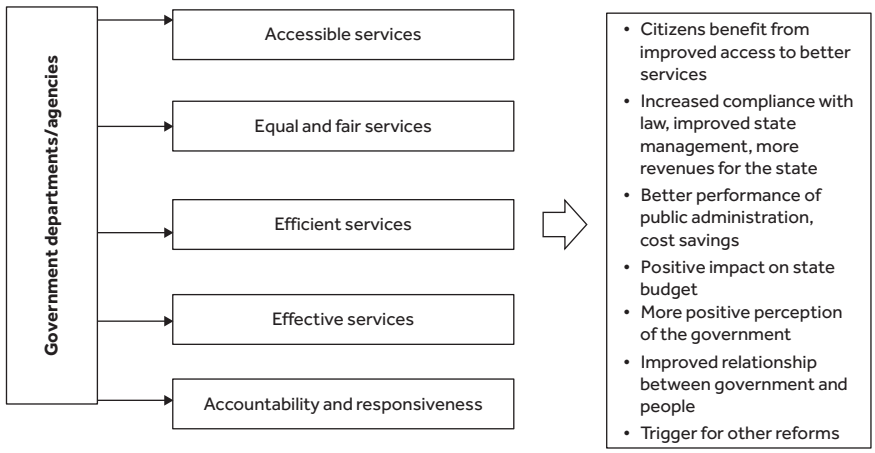
Supply- and demand-side impacts of Huduma Kenya

Although the Huduma Kenya programme was established almost exclusively as a service delivery improvement initiative for Kenya's public service, it has since registered significant impacts that spread way beyond the initial goals. The present anecdotal and observable impacts of the programme are consistent with those found in similar programmes in other jurisdictions. Broadly, over the short period since its inception, the legacy impacts of the programme can be classified into three dimensions: governance, economic and social (Annenberg, 2005; SDC, 2010; Fredriksson, 2015).

Similar to the public service reform impacts cited in Fredriksson (2015) on Poupatempo, a similar initiative in Brazil, the Huduma Kenya programme has registered major service efficiency gains. Examples of specific demand- and supply-side impacts of the Huduma Kenya programme include regional momentum for public service improvement seen in benchmarking visits from African countries; seamless services; decongestion of government offices; improved efficiency and speed of services; customer care and comfort; complementarity; improving compliance; bridging the gap between citizens and government; cost-effective service provision; changing people's perception of government; improving transparency; the pull effect for service convergence; and breaking broker cartels. Figure 5.5 summarises the impacts of the Huduma Centres.

Regional momentum for public service improvement: As a result of the awards and the rising global profile of the Huduma Centres, as models for public service excellence, delegations from 16 African countries have since visited Kenya to benchmark with Huduma Kenya. These visits are the first

Figure 5.5 Summary of supply- and demand-side impacts of Huduma Kenya



Source: Adapted from SDC (2010).

steps towards possible uptake and replication of the Huduma concept and model for service delivery across other countries in the region.

Seamless services: By clustering 25–45 different service points under one roof, the Huduma Centres effectively help provide connected government services by placing linked services in close proximity. For example, since issuance of a voter card is dependent on being a holder of a national identity card, having the two service points under one roof increases the chances that new ID holders will also take up voter cards.

Decongestion of government offices: Given that most government offices, which have historically doubled as service points, were not designed to host large groups of service seekers, the Huduma Centre innovation has been effective in reducing the number of citizens who visit government offices. Moreover, as originally designed, most government offices do not have the open office plan that characterises most Huduma Centres.

Improved efficiency and speed of services: By integrating ICT solutions to service provision, the Huduma Centre service points have significantly improved the efficiency and speed with which public services are provided. For example, acquisition of documents that previously took days or weeks in paper-based processing now takes only a few hours, most of which are spent in the queue, given high demand for such services.

Customer care and comfort: Huduma Kenya has profoundly revolutionised the way government services are provided, going from a monopoly of largely substandard services to align with the principles of citizen-centred services that focus on customer care and comfort.

Complementarity: Under Huduma Kenya, all related services are provided under one roof. This makes it possible to avail oneself of all services with the utmost convenience without the need to move from one point to another.

Improving compliance: One explanation for low levels of compliance by citizens with their public obligations, such as payment of taxes or renewal of permits and licences, is the inconvenience of service segregation. By placing many interconnected services under one roof, the Huduma Kenya programme has succeeded in improving overall compliance.

Bridging the gap between citizens and government: Government monopoly of service provision has historically resulted in citizen disillusionment with service quality. As a result, citizens often lose faith in the government's ability to provide services of acceptable standards. By ensuring a quality service, the Huduma Kenya programme has effectively restored citizens' faith in government.

Cost-effective service provision: Compared with the previously largely disparate and silo model of service delivery, the Huduma model has achieved expected service results, quality and standards at much lower cost.

Economic cost savings: Resulting from the overall cost-effectiveness associated with the integration of ICT in the provision of Huduma Kenya services, various departments and the whole of government, generally, benefit from cost savings in a way that frees public resources for other equally high-return public investments.

Changing people's perception of government: The overall improvement in service quality, promptness, cost-effectiveness and reliability under the Huduma model has played a major role in changing the perceptions of the citizenry with regard to the government's capability and willingness to offer services that meet the minimum standards. Because the model works, citizens who have experienced the Huduma service system get to believe that the government can indeed invest in systems and processes that work for its people.

Improving transparency: Provided in an open office space plan, government services within Huduma Centres have greatly improved transparency in the supply of and demand for public services. The open plan in service provision is a major disincentive for bribery or rent-seeking behaviour, which characterises closed spaces.

The pull effect for service convergence: Given its publicly known and recognised successes, the Huduma Kenya programme has led to a convergence of public services, with erstwhile isolated public agencies like independent commissions also setting up service desks at the centres. Examples here include the Higher Education Loans Board and the Ethics and Anti-Corruption Commission.

Breaking broker cartels: By significantly reducing the amount of waiting time for services, the programme has helped eliminate rent-seeking middlemen and brokers who thrived on citizens who would rather pay a little money for broker services than incur the huge opportunity cost associated with the to-and-fro travels in search of scattered government services.

Outputs

Notwithstanding the absence of an objective programme-wide evaluation for Huduma Kenya, available Secretariat data point to phenomenal growth on a number of key progress indicators.

Increased number of centres: From only 2 pilot centres within the city of Nairobi, the number of Huduma Centres had increased to 33 spread across 26 counties by the first quarter of 2016.

Increased number of services: At the start, the pilot Huduma Centres offered just about 10 services. This has since increased to an average of 45 services.

Exponential growth in customer numbers: From only a handful of clients on Day 1 of the programme, the initiative has undergone exponential growth, to serve more than 30,000 customers per day in the 33 operational Huduma Centres. Cumulatively, more than 4 million people had been by the first quarter of 2016. This is also a pointer to the improved productivity of the centres as government service points.

Growth in revenues: By June 2015, total revenue collected from services that require payments amounted to over KSH 6 billion (US$60 million).

Outcomes

Often, outcomes are considered medium- to long-term results of a policy or programme. Given the uniqueness of its model and the public service situation in the Kenyan context prior to its commencement, there exists some observable and anecdotal evidence that the Huduma Kenya programme has already registered some notable outcomes over its 20-month life. The following are highlights of examples of the programme outcomes.

High customer satisfaction: By the first quarter of 2015, customer satisfaction levels at the pioneer centre, the Teleposta Huduma Centre, stood at 93 per cent. Customers have lauded the centre's courtesy, guidance and information points.

Convenience to customers: The establishment of Huduma Centres has ensured customers can access a myriad of government services end-to-end at one point and in real time without being referred to other service points. Further, provision of an integrated payment gateway to facilitate ease of

payment for government services in all Huduma Centres through the Posta Pay platform has enhanced convenience.

High customer service standards: Staff are trained on customer excellence before deployment to the Huduma Centres. Further, they are motivated in various ways in recognition of excellent work. This has led to high customer standards, which has led to visible transformation of public service delivery.

Predictable service turnaround times: A comprehensive Huduma Centre service charter has led to predictable government service turnaround in adherence to the charter as agreed with the ministries, departments and agencies offering services in the centres.

A new government brand: Implementation of Huduma Kenya has helped create a new government brand that Kenyans and customers associate with newness, freshness and high standards in the delivery of public services. This new brand marks the shift in public service management, and customers have provided positive feedback about the good quality of service especially around customer service and efficiency in the Huduma Centres.

Ease of doing business: Service provision under Huduma Centres has contributed to an overall improvement in the Ease of Doing Business Index through the devolution of services like search and reservation of business names and predictable government service turnaround times.

Meeting citizens' service expectations: The Huduma model has facilitated implementation of a modern government service delivery model that meets citizens' expectations around timely access, anchored in new and emerging technologies.

Achievements and awards

Over a period of only three budget cycles, the Huduma Kenya programme has shown great promise, as evidenced by the number of local and international awards it has received for public service excellence. The programme has won at least a dozen national and international awards for service excellence. Examples of the main awards include top prize winner in Africa in the Innovative Management of Public Service Awards by the African Association for Public Administration and Management (February 2015); top prize in the UN Public Service Awards for Improving the Delivery of Public Services (June 2015); winner in the African Public Service Awards in the Special Recognition category (June 2015); first in Customer Service Excellence in the Public Sector Awards of the Institute of Customer Service Kenya; and winner in the use of ICT in the Public Service Awards by the Information Communication Technology Association of Kenya.

5.1.7 Structural and systemic challenges of the Huduma Kenya programme

Structural challenges

Like all forms of change, innovations in the public sector are bound to face all manner of challenges. This section reviews the main structural and systemic challenges that the implementation of the Huduma Kenya programme has faced over its two years of life.

Latent demand: Whereas client reach remains impressive in the areas where the centres have been set up, a significant proportion of the potential demand for the services still remains unmet.

Limited infrastructure to cope with demand: Closely related to the latent demand problem are infrastructure limitations. Huduma Centres require developed, permanent and spacious sites for the mounting of services and associated back-end infrastructure. In the absence of appropriate sites, no centres can be mounted even in the face of a concentrated demand potential for services.

Support service constraints: The successful mounting of Huduma Centres requires the existence of other services such as electricity, broadband connectivity and roads for the supply of materials. Hard-to-reach and economically marginalised segments of the population, such as those in remote regions, slums and informal settlements, who would otherwise be the target of the Huduma initiative, end up excluded by these support service constraints.

High initial cost: With the aim of establishing at least one Huduma Centre in each of the 47 counties in Kenya, the initial cost may prove inhibitive. This is especially true in erstwhile marginalised and un-serviced regions where virtually no primary infrastructure and supporting services can be found.

Long-term sustainability concerns: The Huduma Kenya programme currently enjoys immense political goodwill at the top. However, not much is known about the extent to which sustainability considerations have been integrated in the concept. The current model is a skewed one, with only one player on the supply side, the Ministry of Public Service, Gender and Youth, responsible for initial structural set-up costs.

Information asymmetry/low levels of public awareness: The expected full-scale impact of the Huduma Kenya initiative remains limited by asymmetric information distribution across segments of the citizenry. In urban areas, for example, it is the poor who are unlikely to raise even fares to the town centres, where the Huduma Centres are located, who also lack information and access to the ICT facilities necessary for transactions and payment for services offered under Huduma.

The last mile problem: While provision of public services under the Huduma Kenya initiative targets the marginalised, the traditionally, poor and hard-to-reach segments of the citizenry, the spread of the centres face user proximity limitations since most centres remain concentrated mostly in urban and peri-urban areas.

Systemic challenges: Public service culture impediments

Behavioural resistance to change: Notwithstanding the real and well-documented positive impacts of the Huduma Kenya programme, there exists a segment of the public that remains sceptical about the lasting legacy prospects of the initiative. To this group, the initiative, like some white elephant projects of previous governments, may just be a 'flash in the pan'.

Systemic resistance to change: This is exemplified by instances of passive incompetence of public sector organisations and agencies as a result of the difference between the capacity required for the new model of service delivery and the capacity available to implement the model. The unavailability of many customer-facing public services on the Huduma platform can be explained in part by this passive incompetence resulting from a lack of service delivery capacity in some government agencies.

The public sector silo mentality: As in most developing economies, the public sector in Kenya is still bedevilled by the silo mentality, where each public agency feels obliged to protect 'its turf'. Such constraints result in unfavourable conditions for shared information, data, services and facilities at the level the Huduma Kenya model requires.

Lack of a shared vision in the public sector: Closely related to the behavioural resistance problem is that of a lack of a shared vision across the public sector. In this case, not all public officers own the reform agenda. As a result, people pull in different directions in a way that only helps defeat reform initiatives of great promise.

5.1.8 What made the Huduma innovation work? The lessons

In establishing a basis for recommendations on scaling and successful uptake of similar innovations by other developing countries, this section outlines and discusses the collection of factors to which we can attribute the success of Huduma Kenya.

Political goodwill at the top: The public sector momentum the programme has generated is attributable, in part, to political commitment and goodwill at the highest levels of government, especially in the presidency. The programme thus serves as a compelling illustration of the strong impact of government priorities on change in the way people receive services and are governed, generally.

Staff capacity and capability improvement: To support the efficient and effective delivery of identified services, staff are carefully identified and are trained in the Customer Service Excellence and Huduma Service Delivery Standards before they can be deployed. This is geared towards ensuring adoption of the desired values, ethics, attitude and dedication to service; consistent customer friendliness; and according clients unparalleled customer experience. Each centre is managed by a centre manager reporting to the Huduma Kenya Secretariat.

Public sector momentum for change: Kenya's momentum and drive for the provision of better services has peaked at a level that provides an enabling environment for public investment in all practical, viable and economically sustainable solutions aimed at improving overall efficiency and effectiveness.

National development blueprint: The Kenya Vision 2030, the national development blueprint, identifies ICT, science, technology and innovation as enablers across the economic, political and social pillar goals. Public investments in the enabling infrastructure for Huduma Kenya are thus seen within the purview of broader national development priority investments under the Kenya Vision 2030 goals.

5.1.9 Leveraging Kenya's Huduma programme experience for scaling impacts

A number of strategic options exist to support the scaling of Huduma Kenya for legacy impacts.

Review of regulatory framework: The disjointed nature of Kenya's regulatory framework for public sector service provision towards efficiency and effectiveness goals requires a review of existing policies and legislation to provide an enabling environment for enhanced, seamlessness, efficient and effective sector-wide service delivery.

Service supply- and demand-side capacity-building: Low ICT literacy among public servants and the citizenry, generally, can slow uptake and adoption of service delivery on e-Huduma and m-Huduma platforms. This calls for interventions by both private and public sectors to mount programmes that target user skills on both the supply and the demand sides of the Huduma model.

Public sector ICT budget scaling: Because it is expected that emerging technologies will drive the new frontiers of the Huduma model, systemic capacity gaps in the public sector call for increased budget allocation to high-impact ICT investments that will elevate service delivery from operational efficiency to social and economic inclusion.

Engagement with public policy implementers: Low government investment in ICT that would provide an enabling environment for the Huduma model is also partly attributable to lack of buy-in among those charged with implementation of government policies. Targeted awareness programmes that expose this segment of the public service to the overwhelming evidence on the benefits of ICT and e-government uptake will be instrumental in establishing a critical mass of change agents and early adopters of technology for e-Huduma and m-Huduma.

Improving interoperability: Towards whole-of-government planning for the integration of e-government solutions in the Huduma Kenya model, investment decisions on government ICT systems should also focus on interoperability of systems across the entire government. This would be a critical step towards breaking institutionalised public sector service silos.

Strengthening the public–private partnership (PPP) approach for sustainability: As an economy with competing public sector investment needs, against a backdrop of limited or even declining public revenues, the government should leverage PPPs in scaling the Huduma model across all regions of the country. This would help solve the problem of asymmetric distribution of supporting infrastructure for the Huduma Kenya programme.

Integrating monitoring and evaluation: Deliberate programmatic improvements should be undertaken to establish key impact indicators on both the supply and the demand sides of the Huduma Kenya programme. This will improve the ability of the Secretariat to objectively monitor and evaluate programme impacts.

Change management: The changes Huduma Kenya is effecting require significant shifts in the 'silo' framework of operation prevalent in the public service. Coupled with the whole-of-government approach informing reform efforts, it will be critical to intensify change management efforts to secure the appropriate institutional culture focusing on the citizen, and collaboration across and between public agencies in the national and county governments and between the two levels of government.

5.1.10 Conclusions

Compared with past initiatives, evidence from progress with the current public service transformation, under the Huduma Kenya programme, suggests that top-level government support remains a critical factor to the success of public service transformation efforts. For operational efficiency and effectiveness, staff capacity and capability development in the delivery of quality services remains central to the success of citizen-facing initiatives like Huduma Kenya. Further, centralisation of Huduma Kenya has proved

effective in the implementation and management of sector-wide service integration for results.

In terms of measurements of impacts, programmatic improvements to establish key impact indicators on both the supply and the demand sides of the programme will be vital in the objective monitoring and evaluation of its impacts. The current implementation, development and result trajectory of the Huduma Kenya initiative suggests sector-wide innovations can be capital-intensive. As a result, such large-scale projects require direct top-level government support and goodwill and the accompanying budget prioritisation.

In addition, the Huduma Kenya case indicates that, for governments to reap the maximum long-term benefits of innovations in service delivery, they must accept current trade-offs and overlook the current initial costs. Overall, the Huduma Kenya programme is a self-sustaining innovation, since its long-term economic and social benefits from cost-effectiveness and cost-efficiency will by far outweigh the initial investments.

5.2 Seychelles e-Government development and implementation: Lessons for small island developing states

by Katherine Kirkby, Lanka Dorby and Anthony Ming, Commonwealth Secretariat

Overview

Small island developing states can benefit significantly from e-government, which can help governments modernise processes for cost- and time-saving benefits, reach isolated communities, facilitate citizen participation in decision-making and improve the quality of institutions, with positive impacts on political stability and economic growth. However, they face a very different set of obstacles, and opportunities in terms of developing e-government, compared with large states, and very little research has been conducted in small state contexts.

This study identifies key strategies and activities involved in the initiation and development of Seychelles' e-government programme, which has topped e-government indices in Africa, with an emphasis on the structures, relationships, interests and incentives that underpin such a public reform process. A practical framework drawn from the case study offers other small states in similar socioeconomic conditions a structure to plan and strategise the primary stages of e-government.

5.2.1 Introduction

Public agencies worldwide are leveraging the potential of information and communication technologies (ICTs) to provide better services to their

citizens and businesses, as well as to increase transparency, strengthen accountability and improve government efficiency—a process now referred to as e-government. E-government capabilities can vary from the provision of simple information via a website, to enabling two-way government, to citizen or business interaction, the conduct of financial transactions, the connection of government agencies and the provision of e-democracy. The extent to which these activities are undertaken mirrors the stage of maturity of e-government in a country, commonly described as progressing from 'emerging' to 'interactive' to 'transactional' to 'integration' and 'participation' (Almarabeh and AbuAli, 2010).

The real added value of e-government comes from a customer-centric approach. e-Government enables user-friendly and accessible government services and information, without the limitations of time and space that office hours and municipal buildings impose (Rose and Grant, 2009) and with the potential to also increase the openness, transparency and responsiveness of government (OECD, 2005). The increased freedom, flexibility and opportunities for citizens to play complementary roles in the formulation and implementation of good public policy can enhance sustainable development, economic growth and well-being (UNPAN, 2012).

However, realising the benefits of ICTs demands epochal passages and implies significant efforts on the part of the government to overcome the challenges of reform. Technological complexity and incompatibility, as well as lack of appropriate, accurate and consistent information and data to make IT decisions (Brown, 2000), are not the only, or the most difficult, challenges to overcome. e-Government is a facilitator and a catalyst, and therefore e-government goals must be aligned with wider organisational goals. e-Government often requires reform, reshaping and reengineering of government structural processes for greater efficiency (Ndou, 2004), while managing other political and legal factors (Gil-Garcia and Pardo, 2005). Moreover, governments often have to balance the benefits of investing in ICT development against the need to build human resource capacity, a body of highly skilled ICT personnel and a literate public (UNPAN, 2012).

5.2.2 e-Government in small states

Despite the growth in the volume of research output on the topic of e-government, very little is focused on or is applicable to small island developing states (SIDS). The UN recognises 46 SIDS — almost a quarter of the nations in the world — 9 of which are microstates with populations under 100,000. While they vary considerably in terms of population size, land size/distribution, isolation, resources and ICT development (Table 5.3), small states share considerably different characteristics to those of large states.

Table 5.3 Economic, social and IT statistics for very small island states

Small states	Population, 2008	Number of islands	GDP per capita, 2010 (PPP US$)	UN e-Government Rank, 2012 (×/190)
Tuvalu	12,000	9	3,400[a]	134
Nauru	14,000	1	5,000[b]	141
Palau	20,000	250	8,370	113
St Kitts and Nevis	49,000	2	16,400	81
Marshall Islands	60,000	34	3,015	146
Dominica	73,000	1	13,900	73
Seychelles	87,000	115	24,100	84
Antigua and Barbuda	87,000	2	18,300	49
Kiribati	97,000	33	5,800	149
Tonga	104,000	176	7,400	111
Grenada	104,000	7	14,000	75
St Vincent and the Grenadines	109,000	32	11,700	85
Federated States of Micronesia	110,000	607	2,200[c]	127
São Tomé and Príncipe	160,000	2	2,200	138
Saint Lucia	170,000	1	12,800	90
Samoa	179,000	1	5,900	114
Vanuatu	234,000	83	4,900	135
Barbados	255,000	1	23,700	44
Maldives	305,000	1,192	8,400	95

Sources: [a]CIA World Factbook, 2012 est. [b]CIA World Factbook, 2005 est. [c]CIA World Factbook, 2008 est.

High-quality services are expensive to produce in small states owing to indivisibilities in production, capacity limitations and the small size of the domestic market; small states therefore spend 3.7 percentage points more of gross domestic product (GDP) on producing public goods and services than do larger states (Favaro and Peretz, 2010). Small states are increasingly integrated into world markets, and, while Easterly and Kraay (2000) have found that small states have on average higher income and productivity levels than large states, this comes at cost.

Shocks in developed markets are felt more keenly in smaller states, and per capita GDP growth rates are more volatile because of their much greater exposure to international trade. Whereas Easterly and Kraay find that the growth disadvantages of this greater volatility are outweighed by the growth benefits of trade openness small states reap, an alternative study conducted by Winters and Martins (2004) finds that the costs associated with border crossings, small market size, transport, insularity, distance and

the correspondingly expensive utilities exert cost penalties that undermine any comparative advantage that may accrue to very small and micro states. As well as cost penalties, isolation causes communication challenges both between islands and with the outside world. In addition, a modest pool of highly skilled individuals limits the institutional capacity and manpower within the public sector, resulting in restricted development and ability to compete and participate in the global arena. For instance, studies show that, the smaller the population, the more challenging it is for the government to progress towards achieving the Millennium Development Goals (Roberts and Ibitoye, 2012).

The application of ICTs in small state governments can improve public sector efficiency and effectiveness and help overcome the barriers associated with small size and isolation. ICT solutions can modernise government processes for much-needed cost- and time-saving benefits without having to invest in a great deal of infrastructure. Moreover, improved communication between isolated government agencies and populations — as well as with the rest of the world — enhances the ability of the public sector to efficiently reach and tailor services to isolated communities and also enables widespread citizen participation in decision-making. Sealy (2003) notes the potential of Multi-Community Access Centres or information kiosks to create 'smart communities' to bridge the digital divide in Caribbean island states. Furthermore, flatter government structures are also an advantage in terms of rolling out e-government, enabling governments to identify national challenges and priorities and apply best-fit ICT solutions to respond to them (Chan et al., 2008; Favaro et al., 2010b). Given that in small states the public service is usually the largest employer, e-government can have a wide ripple effect throughout the country.

A process of global transfers dominates e-government projects in developing countries. However, mismatches between the context of technology development and that of deployment account for the failure of many e-government projects (Heeks, 2005). Scaling global best practice and adapting technology to specific social, political and economic contexts are one of the biggest challenges micro states face. Moreover, the very factors of isolation, limited resources and limited ICT capacity are themselves obstacles in the initiation and development of e-government. Small and remote markets make reducing ICT price baskets to affordable levels challenging (Sutherland, 2010), and scarce engineering, economics and legal skills in the country slow policy design and implementation (Favaro et al., 2010a).

The absence of studies highlighting success factors for e-government adaptation and contextualisation in small states points to a gap in the e-government literature. Moreover, reviews of the plethora of research on e-government have noted an absence of review of the human, social

and political elements of e-government, resulting from a lack of primary data collection (Heeks and Bailur, 2007). This study provides an in-depth examination of the strategies and practices used to build a successful e-government programme in Seychelles, an island nation in the Indian Ocean. The following sections describe the research methodology and results of the case study of e-government in Seychelles; this is followed by a review of the development of a practical framework and a discussion of lessons learnt and key practical strategies for SIDS in the primary stages of e-government.

5.2.3 The research

Study area

Seychelles is an archipelago of more than 100 islands, home to just 87,000 people. With its very small population, large number of islands and isolated location, it is representative of many small states. Like many SIDS, the country's main industries are tourism and fishing, though the government has been promoting diversification in the economy by supporting the development of agriculture, small-scale manufacturing and the transport of petroleum; all of these industries need robust ICT infrastructure.

The country's top ranking in e-government in Africa on the UN Public Administration Network (UNPAN) 2012 e-Government Index and on the International Telecommunication Union's 2010 ICT Development Index show it is making great strides in ICT and e-government development. ICT access and coverage have greatly increased in recent years; mobile phone penetration is over 100 per cent and internet use, already the highest in Africa at approximately 40 per cent of the population, will be further facilitated by a recent link to a submarine broadband fibre-optic cable. Over the past 10 years, the government has developed an online government portal, as well as dozens of e- and m-services for citizens and businesses. Seychelles' e-government experience offers valuable lessons for other SIDS that share many of the country's characteristics, including small population size, geographical isolation, lack of ICT capacity, lack of resources and lack of economies of scale.

Research method

This study was conducted using a triangulation of methods, capturing data from interviews with key actors in the government of Seychelles' Department for Information and Communication Technology (DICT) with direct experience relevant to the design and development of e-government, as well as data from official strategic documents and statistical data.

As an individual case study, the study provides evidence on exactly why and how formal and informal processes and relationships were involved in e-government development and implementation, offering insights into

factors that contributed to successful initaitives and stimulating new ways of thinking about e-government issues in small states. The method sheds light on the factors that influence institutional design for which few data are available, and documents the transition from one institutional setting to another, helping identify problems that arise during implementation of an institutional reform and strategies to manage them. The focus of the research was on deriving key strategies and activities for use to form a practical framework suitable and applicable to other SIDS.

5.2.4 Seychelles' e-government programme

Government support for e-government

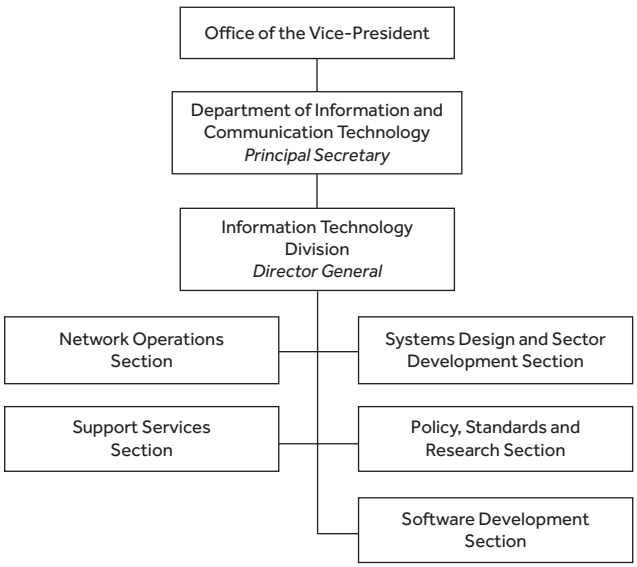
The impetus for change: In the mid-1990s, the government of Seychelles began to envision an electronic government in which information technologies enabled collaboration between agencies. The resulting e-Government Project aimed to implement automated information systems and transform the way government operated. However, the government's subsequent IT programmes were developed piece-meal by various departments without collaboration or coordination. The resulting silos impeded the synchronisation of data and services, and thus the further development of e-government. Therefore, in 2004, in recognition that IT cross-cuts government and with the vision of enhancing Seychelles' competitiveness through leveraging IT, the government decided to consolidate ICT systems under the direction of one department, DICT. IT staff who were previously working in various departments were absorbed into DICT, and all subsequent e-government reforms were rolled out from these central agencies.

Governance and leadership: DICT falls under the responsibility of the vice-president, who acts as the e-government champion (Figure 5.6). This executive support for the centralised DICT proved an effective tactic in obtaining government-wide commitment and buy-in as well as in managing resistance to the change, highlighting the importance of leadership and champions of e-government among higher levels of government. DICT's principal secretary also played a key role in managing change through communicating the e-government vision throughout the public sector and engaging in and maintaining relationships with government contacts. Developing an appropriate and efficient governance and organisational structure is essential for e-government projects that involve cross-cutting technical, managerial, policy and research elements.

e-Government Strategic Framework

The country's National ICT Policy, developed in 2006, looks to international best practice and promotes the use of ICT in all sectors, including within

Figure 5.6 DICT governance structure



the government itself. Developed through a multi-stakeholder process that involved an e-readiness assessment and benchmarking of ICT goals, the ICT Policy emphasises the vision of leveraging ICT to enhance the country's economic competitiveness and improve quality of life. Mindful of the cross-sectoral and multifaceted nature of ICT, it notes that its five areas of focus — ICT infrastructure, legal and regulatory framework, human resource development, ICT industry and e-government — are integrated and interdependent and rely on partnership with the private sector and civil society.

The preliminary years of the e-government programme focused on building the prerequisite requirements of e-government that would be necessary for its future growth, including infrastructure and software development, connectivity, legislation and analysis of the ICT needs of government. An implementation framework outlined a roadmap and the sequencing of activities.

In 2010, and with support from the Commonwealth Secretariat, DICT developed an e-Government Strategic Framework and Roadmap. The framework recognised the potential of e-government to both automate processes and make government service delivery faster and more efficient, accessible and user-friendly, and available 24/7. The strategic plan is very simple yet effective; it directs the division's work towards specific yet manageable and attainable goals. The plan is focused on three strategic directions: 1) connectivity between all public agencies (including government offices, hospitals, schools and police); 2) transforming and reengineering

processes for efficiency gains; and 3) delivery of e- and m-services. In determining just three strategic directions, the framework operationalised a lesson learnt from previous reform efforts. In the past, e-government polices had engendered large, highly detailed and multi-pronged plans that had proved unwieldy and, ultimately, un-implementable. These aspirations gathered dust on office shelves, a visual reminder to the new DICT of the risk of taking on too many initiatives at once.

Seychelles' e-government programme is designed to be closely linked with the overarching goals of government. While the programme has its own strategic goals, its initiatives are synchronised with national priorities determined at the start of every year. For instance, as the current national focus is on facilitating business drive and integration with government, e-government too has been geared in this direction. From 2011 to 2012, Seychelles climbed 29 places in the World Bank ranking for Ease of Doing Business, and much of the progress is linked to facilitation of business processes through ICT. Like many small island states, Seychelles' economy is highly dependent on tourism, which the e-government programme benefits indirectly through facilitating private investment, increasing internet connectivity for tourists and consolidating tourist information online. Over time and as the e-government programme has grown, it has become apparent to politicians that public service improvement and economic growth are synonymous with e-government. As a result, while ICT has until now been reactive to government reforms, DICT will soon have a place in the High Level Committee that decides government reforms so that a better fit between policy needs and IT solutions can be found.

5.2.5 First steps: Getting the house in order

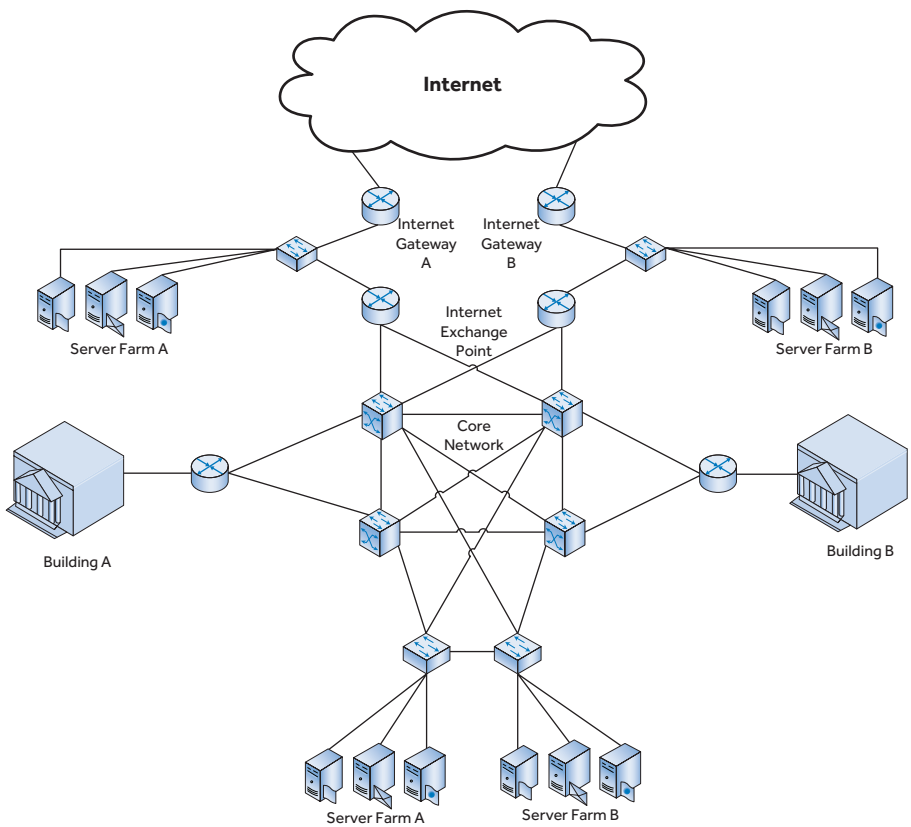
The preliminary years of e-government development were largely spent developing the internal ICT capacity and systems of the government, or, in other words, 'getting the house in order'. This included:

- Implementation, management and maintenance of the government ICT infrastructure;
- Development and maintenance of software applications to support the delivery of government services;
- Development and implementation of legislation, regulations and policies pertaining to telecommunication and related services;
- Collaboration and coordination with various government sectors/ministries to address their specific ICT needs and requirements;
- Establishment of the role/s of ICT in the various sectors/ministries and supporting the enactment of these.

5.2.6 IT architecture and system integration

The delivery of e- and m-government services depends on the design, development and implementation of underlying ICT systems. Effective e-government systems rely first and foremost on high levels of network connectivity, therefore a priority of the e-government project was to develop a high-capacity government network, connecting not only all government departments to allow for secure integration of the various IT systems of government but also all points of government service delivery around the country to the network. A plan and blueprint for ICT infrastructure, developed with the support of Microsoft, mapped a basic foundation for an e-government network on which the department could gradually build (Figure 5.7). The main prerequisite infrastructure costs of DICT were for the core network and the server hardware/software. Having a centralised system and a very small population means that, compared with in larger countries, there are fewer data in need of processing, which keeps costs down. Rather, the infrastructure to increase bandwidth — including fibre-optic cables — has been the biggest cost to the department.

Figure 5.7 IT infrastructure blueprint developed by Microsoft



Software and standards

Before the consolidation of IT systems under DICT, departmental IT systems were based on open source software. While open source was initially cheap to implement, the systems were highly technocratic; systems reflected the knowledge of the technical developer rather than the user, and their maintenance was highly dependent on the technicians who had designed them, a model that proved unsustainable in the long run. With the development of DICT, the need for a system that was keyed to users and that required fewer technical skills and less education, thus removing dependence on highly skilled technicians and facilitating the development of standards in systematically training staff, was identified. Cisco and Microsoft were deemed better suited to DICT's context and needs: the reliability, ownership, responsiveness, security, support, updates and ease of use of their products were priority features for the Seychelles e-government system.

With the introduction of more standards for hardware and software throughout government, processes became increasingly efficient and easier to run, and fewer technical staff were needed. Many systems are now built in-house, reducing the need to purchase or maintain licences; where specialist services and expertise from overseas are required, the department ensures they comply with standards and selection criteria. The department cost-shares or receives support from other organisations such as Microsoft and the Commonwealth Secretariat to overcome cost barriers to the procurement of software or the development of new systems.

The Software Development Section focuses on developing applications, standards, templates and libraries, and procures specialised software deemed suitable for DICT's needs, based on compatibility with existing systems, cost and maintenance requirements. Well-developed back-office standards and libraries mean that systems can be reused and adapted to various contexts, rather than being redesigned for each project, saving time and resources in the long run. When it comes to developing and managing new software, in-house expertise is preferred so that systems are contextualised and cost-efficient. When in-house expertise is not available for a particular project, the Policy, Standards and Research Section carries out research to determine best-fit options or to aid staff to develop software; if neither is possible, software development is outsourced to the private sector, which has the additional advantage of boosting local industry. In this way, international best practice and new technologies and techniques relevant to the shape and scale of Seychelles' e-government programme are constantly brought to bear on the development of the initiative.

Identity management

A key element in the machinery of e-government was the existing national identity number and a business registration number system that act as a key

identifier 'PIN' for citizen- and business-centric information systems and e-services. The PIN ensures that all applications have consistent person- or organisation-related data based on a standard data architecture. Moreover, once a unique identity is verified, it is maintained across the entire process, which transcends organisational boundaries for the purpose of increased integration and for the elimination of duplicated or error-laden data-processing.

Preliminary projects therefore included building a national population database and business registration system, used for vehicle registration, social security, taxation, civil registry and health purposes. Establishing accurate, effective and efficient national identification systems, building a database and incorporating technology that reduces fraud and identity theft represents one of the key building blocks for effective government service delivery. The system is to be further expanded in the future with the introduction of digital signatures and biometric identity cards.

IT service management

DICT's Support Services Section is responsible for responding to system problems through an IT Service Management (ITSM) system — a feature implemented with support from the Commonwealth Secretariat and Collective Minds Incorporated. The ITSM is based on systems for data management, network management, problem management, security, database management and service delivery and support. Working alongside experts facilitated by support from the Commonwealth Secretariat was key to the development of the system and the capacity-building of local experts. Moreover, automating basic procedures right from the beginning helped reduce needless system errors. A maintenance plan proved essential to keep systems up-to-date and secure. The service desk forms the basis of the customer relationship concerning e-service provision and also helps ensure e-services remain functional. The ITSM also helps DICT cope with the high and growing workload as more projects are developed and more citizens use the services.

Development of legislation

The development of e-government necessitated new legal and regulatory legislature, much of which was designed with help from consultants and organisations such as the Common Market for Eastern and Southern Africa (COMESA) Secretariat. Legislation was developed early on in the e-government process, and investing in changes to the regulatory environment enabled the later adoption of emerging technologies. For instance, the Electronic Transaction Act introduced the equality of physical and digital signatures so as to enable e-service authentication. The Data Protection Act, Computer Misuse Act and Cyber Security Policy introduced

the privacy and security legislation necessary with the digitisation of private and government information.

Building ICT capacity

Lack of manpower owing to the limited number of IT professionals in the country, many of whom are appropriated by the private sector and businesses abroad, was a significant challenge to the development of the e-government programme, slowing its growth and limiting its scale. To attract IT graduates, standards for the DICT salary bands and staff training were developed, as was a certification system in partnership with the Qualification Authority. This enabled staff to build recognised qualifications during their work with the department. To build ICT capacity in the country more widely, the government has implemented a subsidised student laptop scheme for high school students. While it took three to four years to build the current ICT team, the ensuing relationships and teamwork have proved conducive to delivering quality e-government programmes in a cross-cutting work environment and are consistently cited as a success factor for the programme. The team's work and successes have increasingly bred more interest and support for e-government.

The University of Seychelles now offers undergraduate degrees in the field of computing/information systems management. Previously, studies at this level required that individuals be sent overseas. More technical/diploma-level training is also now available locally for pre-service students. Technology-specific training and certifications (e.g. Cisco Certified Network Associate certifications) can now be undertaken locally. These developments will provide Seychelles with a pool of qualified resources to sustain the e-government programme well into the future.

5.2.7 Building interest and confidence in e-government

Once basic ICT infrastructure, legislation and processes were in place, DICT initially implemented and managed small-scale IT projects within government departments. Once sufficient interest and confidence were developed among government employees, DICT extended e-government projects to the rest of the population.

Computerising government internal business processes

Computerisation of core government processes began in the preliminary e-government project, a procedure that emphasised the benefits of ICT in making government procedures, from payroll management to census data organisation and storage, more efficient. A lengthy process of scanning and electronically categorising all official documents was initiated throughout the government departments. This process helped introduce government employees to the use and benefits of electronic systems in their back-office work.

The government portal

A government portal is an important initial e-government project as it forms the government–citizen interface that provides a platform for information exchange, e-service delivery, transactions and two-way government-citizen interaction. Government portal development has been often characterised as progressing in stages through the delivery of the aforementioned processes, and this pattern has been mirrored in Seychelles. Given that citizens were already familiar with the government's department structure, the portal was similarly organised. The portal is designed to be the external face of the government, where citizens can access information; later, citizens will be able to download official documents and government strategic plans, and subsequently access e-services such as applications for import/export permits and passports.

Quick-win projects

To abate initial doubts concerning the consolidation and development of ICT, DICT focused on delivering 'quick-wins', or short-term projects that demonstrated progress parallel to the development of long-term projects. As e-government is complex and built of many 'moving targets', consistently selling the vision of e-government as a whole and delivering quick-wins helped win the support of politicians who, because of the nature of their work, have short horizons. Many of the initial quick-win e-government projects were carried out with the Ministry of Finance, whose structured and systematic work is suited to e-government. Moreover, building a positive relationship with the Ministry of Finance through supporting business services and increasing government revenue was an important tactic in gaining support and funding for future e-government projects.

e-Government projects were utilised as prototypes to demonstrate e-services and processes to new government clients to build confidence in and showcase the potential of e-government. Moreover, as understanding and knowledge of e-government spread, the department took advantage of various opportunities and requests to build the portfolio of services. For instance, a request from the electoral commissioner for a voter registration verification system via mobile phones, a service that had been seen to operate in Maldives, opened the doors for the development of further m-services. Considering that the country has over 100 per cent mobile penetration, mobile phones act as a key device to extend the reach and efficiency of government services, especially those that require mobility.

In very small states, decision-making structures are generally flatter than those in larger countries, a factor that enables flexibility in planning and adaptation. DICT plays an active role proposing working solutions to government department e-service requests. Flexibility and adaptation were therefore important elements in the start-up of e-government and are

lauded as key to its success. In keeping the framework simple, stakeholders had a clear understanding of the overall vision, and more importantly could envisage how their own work was to fit within the new regime.

5.2.8 Project management

Seychelles' political stability has greatly aided the development and sustainability of its e-government programme. The fact that many managers have remained in government for long periods of time has helped build partnerships, support, working relationships and trust between the managers of DICT and those of other departments. Less hierarchy and bureaucracy owing to a flat management system, a common characteristic in most small states, aids decision-making, consensus and project development. Direct contact and communication with management levels, as well as open-door policies, facilitate the cooperative atmosphere of the department. Moreover, top-down support from managers for major projects has been an effective way of ensuring clients remain committed to projects. Staff support and encouragement, in particular through supporting opportunities to increase qualifications, have helped maintain staff motivation as well as keeping the department abreast of the constantly growing and evolving world of ICT management and planning. Moreover, awareness of the programme's weak points and proactivity in learning about possibilities for partnerships and support — as well as knowing how to best pick between them — has proved essential for e-government managers.

Change management

While the initial steps of e-government development focused largely on developing preliminary ICT infrastructure and automating government processes, the e-Government Strategic Framework envisaged that ICT could improve government service delivery not only by introducing an electronic component but also by redesigning antediluvian processes. Under the framework, business process reengineering techniques are used to analyse and redesign processes to support new models of service delivery and increase efficiency in workflows. It follows that, owing to the relative complexity and newness of some technologies and changes to workflows, change management is essential to ensure the benefits of new systems are accepted and utilised to their full potential. In the change management process, success stories from Seychelles and other countries, the benefits of e-government and past project prototypes are showcased to clients to build awareness and manage potential instances of resistance and distrust. Once a new e-service has been developed and released, TV and radio advertisements in English and Creole are created to raise public awareness and understanding of the e-service.

Expanding the e-government programme

As the added value and benefits of e-government were increasingly noted throughout government, through project success stories and the influence of e-government champions, buy-in and interest increased rapidly. More and more departments submitted requests for e-government projects and DICT's project scope grew.

Project planning

The growing number of requests necessitated more planning and project prioritisation. At the start of each year, projects are chosen and their implementation is planned in alignment with the five-year strategic plan and with wider government policy goals. The small size of DICT, which counts just 30 staff, and the flat organisational structure greatly facilitate a rapid, participatory and cooperative decision-making and planning process, but also limit the rate at which e-government projects can be developed. From the growing number of e-government project requests, DICT prioritises projects that:

- Are in line with government economic priorities, such as improving services for businesses;
- Are based on a line of business application so the service is easier, faster and more cost-effective to automate;
- Target security and connectivity, as these are prerequisite conditions for future e-government;
- Are cross-cutting or used by majority of government, as such projects tend to yield more positive results;
- Are backed or requested by large or influential sectors;
- Have fewer risks and higher chances of success, including good client commitment;
- Have fewer people required for implementation;
- Are outside-facing and have visible results;
- Are financially viable, particularly if the project involves buying a system and maintaining it.

Monitoring and evaluation

Like the strategic plan, the system for monitoring and evaluating e-government projects is straightforward and effective, equipping DICT with sufficient information to plan future directions. At the end of each financial year, DICT reviews its performance in terms of the attainment of yearly project goals that align with the three strategic directions. The indicator

used for connectivity is the number of government locations connected as a percentage of all locations. Transformation is measured by the number of core systems in government that have line of business systems, which are built with integration in mind. e-Service development is measured by the number of client-facing services and the number of citizens and business users. In this way, the department is able to easily assess progress in meeting goals and results can be easily communicated. As goals evolve in the future, so too can indicators be expanded.

Expanding access to e-services

Citizen use of government e-services is highly dependent on the availability of channels to access them, related to internet, broadband speeds and cost and mobile phone service penetration, which are controlled by the telecommunications industry. Seychelles has a strong privatised telecommunications industry of long standing, and the government has largely focused on keeping it healthy to foster reinvestment in infrastructure. A good working partnership with the main telecommunications providers and with the telecommunications regulator has facilitated government efforts to balance the market; increased competition brings down prices, but if prices are too low operators will cut back on reinvestment. This involves playing with a thin line. New legislation that allows telecommunications companies to compete in every ICT sector has increased competition and reduced prices, and legislation that requires the government regulator to approve tariffs for the wide consumer market enables the government to control anti-competitive behaviour. While Seychelles charges operators one of the highest licensing rates in the world, at around 10 per cent of profits, competition has meant the telecommunications industry is still profitable. However, the geographically isolated position of Seychelles makes connectivity a key issue, as reliance on satellite connections is costly.

In 2012, the government, through a public–private partnership (PPP) with the two largest telecommunications operators, financed a US$27 million project to connect Seychelles to a submarine fibre-optic broadband system in recognition of its benefits to the country and the imperative of pooling skills and resources for such a large-scale project that otherwise would be challenging for a single organisation to carry out. This has already greatly increased internet speeds and will continue to reduce costs for the end-user, especially as telecommunications operators drop costs to increase their penetration and widen their customer base. Such connectivity will not only benefit Seychellois citizens but also give a further boost to inward investment and the crucial tourist industry.

Between 2012 and 2015, broadband penetration almost doubled, from 18 per cent during 2012 to 34 per cent in 2015, and cost per gigabit has dropped by

a third from £9 to £3. This has allowed more citizens and businesses to access e-services and enabled cloud-based services to become more reliable.

External support and collaboration

Learning from other small states' e-government projects has proved essential in the department's development and expansion. Visits to Singapore and Malta, two small states with strong e-government, revealed that the Maltese model was more suited to Seychelles' context as it was based on one centralised body with fewer required resources. Workshops and conferences built awareness of best practice, showcased e-government programmes such as those of Singapore, Canada, South Korea and the UK and provided spaces for making connections with countries and organisations that could offer Seychelles support. For instance, as a result of such connections, Seychelles is exploring the possibility of purchasing South Korea's highly successful e-Payment Gateway. Moreover, COMESA in collaboration with the UN Conference for Trade and Development (UNCTAD) has supported development and training in the use of customs software in Seychelles. In exchange for support, the managers of the department have offered the use of Seychelles as a case study or pilot to showcase to other COMESA countries.

Strategic partnerships that offered organisational and technical support have also proved critical to the development of Seychelles' e-government initiative. Partnerships struck between DICT, the Commonwealth Secretariat and Microsoft provided the capacity, training, insight and expertise necessary to design and implement the framework. The partnership with the Commonwealth Secretariat formalised pre-existing relationships between staff members in DICT and the Commonwealth Secretariat, an advantage that enabled the Commonwealth Secretariat to provide precise interventions that were jointly determined and that, as a result, were less likely to encounter resistance or disruption during implementation. Throughout the journey towards e-government, DICT had access to a trusted cadre of technical experts contracted by the Commonwealth Secretariat, who in turn supported development the e-Government Strategic Framework and Roadmap, advanced the capacity of local experts and assisted the department to develop an ITSM system. Technical support was also forthcoming from a partnership with Microsoft, which developed a plan for ICT infrastructure, mapping a basic foundation for an e-government network (see Figure 5.7).

e-Government to e-governance

As government departments are increasingly sensitised about ICT, an increasing number of requests for e-government projects have been received. DICT has aided government departments in digitising records and information, from payrolls to housing applications, land applications, drug

prescriptions and a company database. e-Services such as applications for import/export permits and passports are delivered through the government portal's e-Service Gateway. m-Services currently available are a system for citizens to verify their voter registration location and an application for police officers to check vehicle licences and registrations on-the-go. More m-services, including apps for smart phones, are being considered for future development.

DICT is constantly improving and expanding its e-government projects. A national e-Payment Gateway enabling online payments for services and taxes, which links mobile, kiosk, cash and card payment methods, is currently being developed. Kiosks are soon to be placed in all of the 27 districts to increase user-friendly access to e-services for those without internet in their homes. The government portal is consistently being updated and improved, with plans to add an online searchable government document repository and an online directory of government officials' contact details — initiatives that have been shown to greatly improve government transparency and accountability (see Kim et al., 2008). A new fibre-optic network is soon to replace the lease lines connecting government offices to improve broadband speeds, a project in partnership with the South African Development Community (SADC), facilitating the development of more e-education, e-health and e-security services. Meanwhile, software systems are upgraded regularly and cloud computing is being considered as a means to decrease costs as the need for data storage increases.

The e-government focus in Seychelles has been until now on service delivery, while its other potential benefits — including transparency, accountability and citizen participation — are yet to be developed. e-Solutions, such as an e-procurement system that emulates and improves transparency systems, are being considered for the future. While there are spaces for e-participation — such as a feedback option on the portal, a direct email service to the Office of the President and a 'Your Say' option on the website of the Electoral Commission — these are not yet widely used. This is mainly because, in small island fashion, citizens have natural connections to local and national government. Email and internet are not yet in the island's culture.

Between 2012 and 2015, additional e-services have been deployed, including electronic payment solutions via a range of channels. All government documents are now in the public domain contributing to e-governance and e-participation, and open data architecture now provides access to government statistics online.

5.2.9 Success factors, lessons learnt and implications for practice

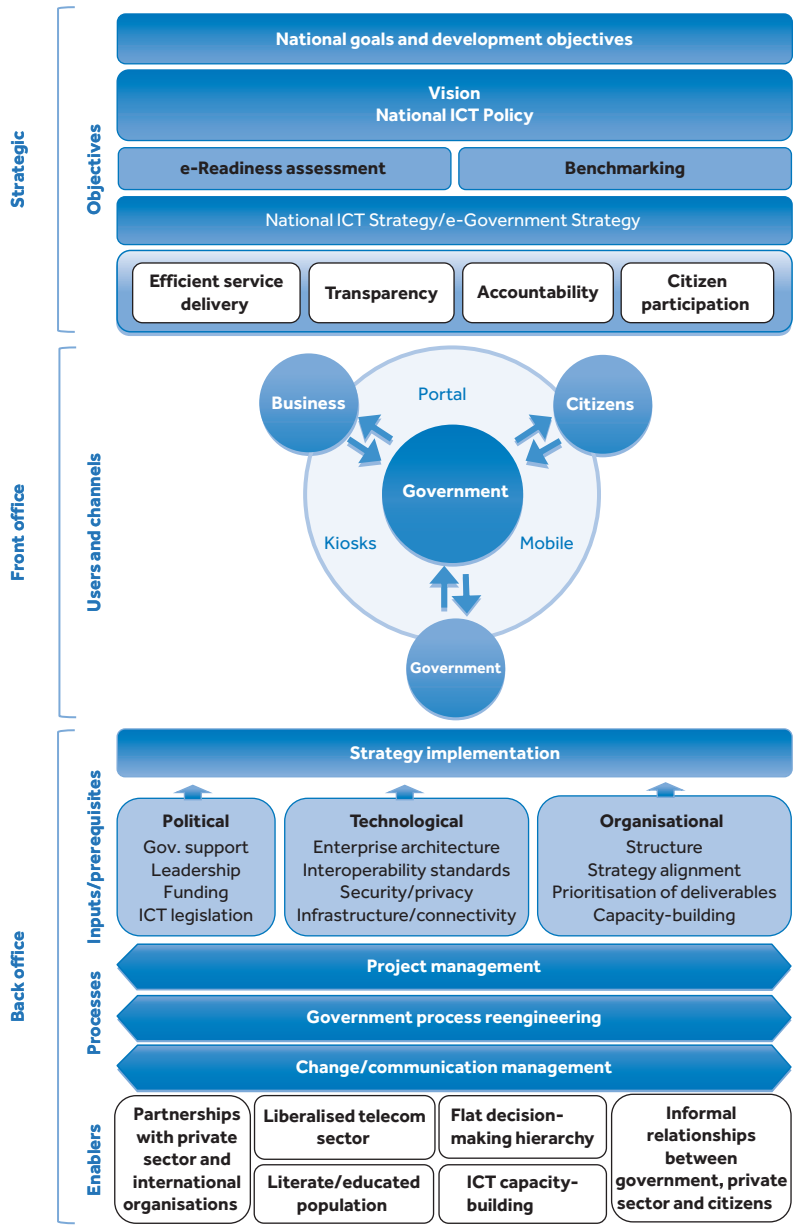
This section provides an overview and discussion of findings from this study of the Seychelles' e-government programme that are relevant for other

SIDS. Figure 5.8 presents a framework for the initiation and development of e-government in a small state.

Strategic planning

The case of e-government in Seychelles highlights the importance of linking e-government and ICT with wider national goals and development visions.

Figure 5.8 e-Government framework for small states



Inputs and prerequisite conditions

The government of Seychelles' belief that enhancing economic competitiveness and improving the quality of life of citizens is crucially dependent on its developing as an ICT hub has been an important catalyst to the development of a strong e-government programme, including for the dedication of resources and long-term support. The difference in a small state context lies in the scale of its ability to undertake projects; in Seychelles, manageable, workable and easily measureable strategic objectives made it possible to organise and achieve work plans. A clear organisational structure delineates responsibilities and workflows and an infrastructure blueprint sets a base for a good-quality and homogenous information system. Developing a network and building connectivity between government agencies and other public offices has formed the backbone for future e-government projects. Appropriate software, data structures and definitions are critical to the success of IT initiatives, and, especially for inter-organisational initiatives, it follows that products should be chosen based on security, support, ease of use and staff capacity. Investing in changes to the regulatory environment allows for and enables the adoption of emerging technologies, while developing appropriate government-wide IT policies, common standards and structures can provide an adequate framework for e-government initiatives to be successful. Leadership in developing change management strategies, building awareness and support for e-government, seeking partnerships and developing and managing project teams is essential.

Enablers and lessons learnt

Several factors enable the development and rollout of an e-government programme that are largely outside the control of the programme itself. Basic technological infrastructure and a liberalised telecommunications industry form the base for building country-wide access to internet and mobile telephony, while the widespread use of e-government is facilitated by an informed and literate population (91.8 per cent adult literacy). In the case of Seychelles, the long-term existence of national identity numbers was a key element in the e-government databases, ensuring the interoperability of various systems.

In very small states, decision-making structures can be flatter than those in larger countries, a factor that enables flexibility in planning and adaptation; in Seychelles, the flexibility of the e-government framework is lauded as key to its success. Small country and government size also facilitates informal and long-lasting partnerships both within government and between government, businesses and citizens, which can compensate and boost formal institutions (IDS, 2010) and in turn support the development of e-government projects. Cognisant of the culture of government and aware of the need to win support from other government departments, DICT adopted a 'hand-holding'

approach during the development and implementation phase, encouraging departmental staff to respond to requests for support with informal face-to-face interactions until a minimum level of institutionalisation of the system was achieved. High-level leadership emanating from the Office of the Vice-President counterbalanced this 'softer' approach. Together, these tactics, which endeavoured to generate common ownership of the reform, purposefully safeguarded the framework from the failure experienced by the piece-meal e-government reform efforts attempted in the 1990s.

Strong technical skills and expertise in the hands of the project leader and team members are critical (see Bishop and Savoury, 2004), as is proactivity in developing innovative financial schemes and partnerships to get e-government initiatives off the ground. To achieve this, the vast array of knowledge, technical expertise and financial support available in the international arena can and should be drawn on to compensate for limited capacities in-country, and efforts should be made to ensure relationships of trust are developed. In Seychelles, the strategic external partnerships brokered between DICT, the Commonwealth Secretariat and Microsoft proved critical to the design and overall success of the e-government reforms.

When asked to synthesise the lessons learnt through their journey towards e-government, officials in DICT credited the success of the e-government initiative to their commitment to keeping the framework simple, flexible and within the understanding of the people it intended to serve. In ensuring that members of government and the public understood the initiative, by offering hands-on support for colleagues undergoing business process reengineering, in securing pinpointed technical expertise from trusted partners and by securing high-level support from the executive arm of government, DICT ensured common ownership of the reform, and as a result ensured its success.

5.2.10 Conclusion

SIDS face significantly different challenges and hurdles in designing and developing e-government programmes than do large states, owing to their isolation, small population size, island geography and limited human and financial resources. e-Government is strongly connected to the social context in which it is deployed. While the development solutions reported in the case study of Seychelles may not be directly applicable or effective in different circumstances, their analysis will help inform related programmes in other small states, and the framework proposed here outlines steps in initiating and expanding e-government in a small state context. The study is also useful in drawing attention to the long maturation time and effort needed for e-government development and to pitfalls to be avoided. The successful development of e-government in Seychelles demonstrates that small

states can leverage ICTs to transform and improve the political, economic and social government-citizen, government-business and government-government relationships. Underscoring the human, social and political elements of e-government, the case highlights that informal relationships, teamwork and political commitment become particularly important when building momentum and support for e-government.

Endnote

1 *Huduma* is the Swahili word for 'service'. Huduma Kenya loosely translates to 'Service for Kenya'.

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