



PERFORMANCE-AUDIT: METHODS OF PAYMENTS AND PAYMENT-SYSTEMS IN THE PUBLIC SECTOR OF MONTSERRAT




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PERFORMANCE-AUDIT:
METHODS OF PAYMENT AND
PAYMENT SYSTEMS IN THE
MONTserrat PUBLIC SECTOR

Report by the Auditor-General

This audit was conducted and
report prepared in accordance with
Section 103 of the Montserrat
Constitution Order 2010

Florence A. Lee
Auditor General
Office of the Auditor General
31 July, 2017

PREAMBLE

Vision-Statement

The Office of the Auditor General (OAG.) plays a crucial role in ensuring that public monies are spent wisely. Our vision is therefore “to be a proactive Supreme Audit Institution (SAI.) that helps the nation to make good use of its resources”.

Mission-Statement

“The OAG is the national authority on public sector auditing issues and is focused on assessing performance and promoting accountability, transparency and improved stewardship in managing public resources by conducting independent and objective reviews of the accounts and operations of central government and statutory agencies; providing advice; and submitting timely Reports to Accounting Officers and the Legislative Council”.

The Goal

Our goal is “to promote staff development, enhance productivity, and maintain a high standard of auditing and accounting in the public sector, thereby contributing to the general efficiency and effectiveness of public finance management”.

AUDITOR-GENERAL'S OVERVIEW

In an effort to provide better value to citizens, the Office of the Auditor-General sought input from various stakeholders to determine possible areas for inclusion in its performance auditing programme. One focus-group, the Montserrat Chamber of Commerce, in year 2013, suggested that attention should be paid toward examining payment-systems. This suggestion was made as its members were encountering significant delays in receipt of the money outstanding to them for goods and services provided to the Montserrat Public Service. The claim was supported by numerous complaints from other members of the public via various media. It was further claimed that such delays in payment were resulting in severe negative impact on cash-flows, thus limiting their ability to function effectively.

Having regard to the need for a vibrant private sector to aid the development of Montserrat, we undertook this performance-audit into Payment-Systems and Payment-Methods within the Montserrat Public Service. The objectives of this review were to determine (a) the efficiency of actual payment-methods, (b) their effectiveness, and (c) their value for money to stakeholders, to GOM itself, and to the citizens of Montserrat.

Our review revealed that, for fiscal years 2015/16 and 2016/17, tardiness in payments still persists, as a large number of payments were still being made late. We noted that fewer than 30% of payments were made within the 7-day deadline that the GOM had set itself – the GOM's standard terms are for net payment within 7 days. We also noted that some invoices were being paid more than 365 days after the good or service was obtained. Some of the other weaknesses that we found included (1) lack of monitoring of payments and payables; (2) poor inter-departmental communication; (3) payment-systems are inefficient; and (4) frequent complaints about tardy tax-refunds and income-tax assessments. We also found that most of the GOM's payments were made by cheque, utilizing an 'antiquated' system that is labour-intensive, cumbersome, and costly.

We found that the GOM has an e-Government system that is underutilized and that, if it were better utilized to facilitate online payments via the use of debit-cards or credit-cards, the system could become much more robust and efficient. If clients were allowed to make payments online, revenues would be collected earlier, arrears of revenue could be reduced faster, and there would be greater compliance with regulations. This could also lead to better deployment of staff and/or reduced staff-costs.

We have also provided a number of recommendations that we feel would benefit the Government and the citizens of Montserrat once they are implemented.

I wish to thank all Accounting Officers within the Montserrat Public Service and their staff; managers of financial institutions; private-sector interviewees; members of the hospitality-industry; and all other persons who provided information, clarifications or extended any courtesy to my staff during this assignment.

A handwritten signature in blue ink, appearing to read 'Florence A. Lee', with a stylized, cursive script.

Florence A. Lee (CPA, BSc, MSc)
Auditor General
31 July, 2017

ABBREVIATIONS USED

ATM	Automated Teller Machine
BOM	Bank of Montserrat
DITES	Department of Information Technology & e-Government Services
CARICOM	Caribbean Community
CAROSAI	Caribbean Organisation of Supreme Audit Institutions
DFID	U.K. Department for International Development
ECCB	Eastern Caribbean Central Bank
ECCU	Eastern Caribbean Currency Union
ECSE	Eastern Caribbean Securities Exchange
FCO	U.K. Foreign and Commonwealth Office
GDP	Gross Domestic Product
GIS	Geographical Information-System
GOM	Government of Montserrat
ICT	Information and Communication Technologies
IRD	Inland Revenue Department
INTOSAI	International Organisation of Supreme Audit Institutions
ISSAI	International Standards for Supreme Audit Institutions
MBSL	Montserrat Building Society Limited
MCC	Montserrat Chamber of Commerce
MCRS	Montserrat Customs & Revenue Department
MOVA	Montserrat Online Visa-Application
MPS	Montserrat Public Service
MUL	Montserrat Utilities Limited
OAG	Office of the Auditor-General
OECS	Organisation of Eastern Caribbean States
RBC	Royal Bank of Canada
SDP	Sustainable Development Plan
SEO	Search-Engine Optimisation
SMEs	Small and Medium Enterprises
SPCCUL	St Patrick's Co-op Credit Union Limited

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EXECUTIVE SUMMARY

Why We Performed This Audit

1. **Predominance of Government.** In Montserrat, the public sector is much larger as a percentage of the workforce and as a percentage of Gross Domestic Product (GDP) than it is the case in most other countries in Caribbean and Latin America. Hence, public procurement, generally, and payment-methods, particularly, both play a pivotal role in either catalysing economic development or impeding national progress.
2. **Late payments.** Over the past several years, numerous complaints have arisen from various stakeholders, including focus-groups such as the Montserrat Chamber of Commerce (MCC), pertaining to (a) the tardiness of Government of Montserrat (GOM)/Montserrat Public Service (MPS) payments to suppliers and to contractors, as well as (b) issues experienced within the general population with respect to tax-payments and, moreso, with regard to timeliness of tax-refunds and/or corrections of payment-errors (e.g., over-payment of taxes, fees, or duties). Any inefficiencies in payments have ramifications for the entire country, not least of all the sustained development of flourishing small businesses and vibrant job-creating micro-enterprises, whose existence is imperilled by deficient cash-flows, and whose revenues often depend wholly or principally upon a public-sector clientele, either directly through the central Government or indirectly through State-owned agencies and statutory corporations and their various contractors and suppliers.

How We Performed This Audit

3. **Interviews.** Initially, we engaged in high-level interviews with Heads of Departments throughout the public sector of Montserrat. With the guidance provided by these meetings with senior officials in respect of payment-handling units, Ministries and Departments, we proceeded to devise questionnaires and data-gathering techniques suitable for the purpose of assessing (i) the efficiency, (ii) the effectiveness, and (iii) the value for money (from the perspective of the end-users), of the prevailing methods and systems of payment throughout the public sector.
4. **Reviews of relevant law, regulations and literature.** Before we began our fieldwork, we engaged in extensive research of existing GOM laws and regulations in order to establish the legislative framework for our performance-audit. The programme of research then encompassed the scholarly literature on such relevant subjects as (a) payment-methods, (b)

payment-systems, (c) public-sector efficiency and effectiveness, and (d) governmental collections, payments, and procurement. It also included various local, regional and international sources to capture recent and current trends in these areas, with particular emphasis on journalistic articles, authoritative papers, eminent practitioners' experiences and perspectives, and academic case-studies of existing and emerging technologies for information, for communication, and for payments. Select lists of references used and of the sources that were researched are given in the relevant Appendix 2 and Appendix 3 hereto.

Main Findings

5. **Late payments; dissatisfied suppliers.** Despite the passage of four years since the initial year-2013 high-level meetings with members of the Core Management Team of the Government of Montserrat, as well as the inputs from the focus-groups, all available evidence suggests that very little has changed for the better in terms of suppliers' level of satisfaction with the public-sector's timeliness of disbursements for goods and services received by the GOM. Moreover, several Permanent Secretaries admitted experiencing repeated instances that private-sector suppliers were unwilling even to do business with the GOM, owing to a history of protracted payments from GOM and the resulting impact on their cash-flows.

6. **Most persons prefer online payments.** The overwhelming majority of interviewees is in favour of using online payments, electronic banking channels, and debit-cards or credit-cards for both in-person and online payments.

7. **E-Government has started but not widely used.** Some aspects of the public service are already facilitating electronic payments and/or online channels: for example,

(a) The Montserrat Online Visa Application (MOVA) (<https://www.immigration.ms>) service is totally online and with e-payments [13];

(b) The inter-island ferry-service has a functioning website (www.ferry.ms) that facilitates both (i) online reservations and (ii) credit-card payments, but, most surprisingly, not for payments at the cashiers in person at the Little Bay Port; and

(c) There is a comprehensive electronic geographical information system (GIS) for Montserrat, under the aegis of the Physical Planning Unit in the Ministry of Agriculture, Trade, Lands, Housing & the Environment, which offers both Internet-accessibility and online fee-payments capabilities (www.landinfo.gov.ms). However, despite its impressive history, and despite the many functionalities of the Montserrat GIS itself, the website is not currently working as of April, 2017.

8. **Paper remains dominant.** Notwithstanding the wide availability and usage of social media, websites, electronic banking, smart phones, mobile devices, and wireless Internet-connections in Montserrat, most of the units of the MPS remain stuck in manual processes and

offline modus operandi, neither permitting online filing of information (contrary to the Income Tax Act, for instance), nor allowing electronic payments (contrary to the Electronic Payments Act, for instance). All of the points of entry to the country continue in a local-currency mode and perpetuate manual transactions, paper-based processes, and a cash-only paradigm, all of which are greatly impeding the flow of travel, of commerce, and of transactions. This is costly and inconvenient to Montserratians and to thousands of visitors alike. It also makes the local economy uncompetitive with neighbouring islands.

9. **Status quo is very costly.** The cost of manual processes and of cash-handling is extremely high versus all other payment-methods, encompassing (a) labour-costs, (b) handling costs, (c) insurance-risks, (d) duplication of efforts, (e) time-costs, (f) paper and stationery costs, (g) printing costs, (h) transportation-costs, (i) storage-costs, and (k) all of the attendant risks and inconveniences that each of these variables imposes both on the GOM itself and on all of its stakeholders and tax-payers.

10. **Retarded economic growth.** The adverse impact of reputational risk is severe in such cases, because, among other effects, inefficiencies in the GOM's payment systems limit the pool of willing suppliers when tenders or quotations are being sought for public-sector procurement. Hence, the GOM further risks paying significantly more than necessary for the goods and the services that it does obtain. This is a further disincentive to micro-enterprise and small business development on the island and stymies overall economic progress whereas local procurement is ideal in most circumstances.

Key Recommendations

11. **Install card-payments at all ports.** Install wired or wireless electronic device-readers at all ports of entry immediately, facilitating trade, travel, and tourism, while also raising the modern profile of the country in line with the expectations of sophisticated consumers, business-persons, returning Montserratians, and prospective investors. This deserves to be treated as a matter of utmost priority and urgency for reducing the Government's current costs, and for improving both the effectiveness of revenue-collections and the satisfaction of stakeholders.

12. **Accept card-payments Government-wide.** Concurrently with paragraph 11 above, install wired or wireless electronic device-readers at all client-facing Ministries/ Departments, and units of the MPS over the next 3 weeks to 3 months. Among its several advantages, this essential payments-infrastructure [a] will encourage the highest level of compliance, [b] will ensure the promptest collection of revenues of all forms, and [c] will significantly reduce the cost, the time, the risks incurred, and the efforts currently expended in the area of collections, together with the related administration, accounting, and reporting.

13. **Make e-Government the default.** Within 3 to 6 months, create a central e-Government portal for all of the public-sector entities that issue or receive payments of any kind. This could be either (a) an enhancement of one of the existing e-Government websites (e.g., www.ferry.ms or the MOVA), or (b) an entirely new and comprehensive e-portal to which content and functionalities from all other GOM websites could be migrated for simplicity, for the convenience of users, and for large annual and recurring cost-savings (e.g., hosting fees, updates, maintenance, security, and network administration) to GOM directly. This will produce several immediate benefits: e.g., (a) create synergies, (b) encourage inter-departmental co-operation, (c) speed collections, (d) increase compliance rates, (e) ensure real time accounting and reporting for the prompt actions of all key decision-makers, (f) reduce the costs of the current archaic modes of manual processes and cash only methods of payment, and (g) consolidate cash-management for even greater cost savings by the Treasury. With effective website-management to ensure that all content is correct, complete and current, and with search-engine optimisation (SEO), this e-Government portal can be a powerful revenue-generating and value-creating multifaceted interface to market the country's products, services, culture, history, venues, events and festivals, starting with those provided directly by the GOM or through any of its affiliates and partners, including those that receive GOM aid, grants, investments, or subventions of any kind.

Auditor's Opinion

14. **Standards used.** This audit was conducted according to standards promulgated by the International Organisation of Supreme Audit Institutions (INTOSAI) for performance-audits. Those standards require that we plan and perform our audit in order to obtain sufficient and reliable evidence to reach a reasonable conclusion about the performance of the MPS with regard to [a] its efficiency, [b] its effectiveness, and [c] the value for money that its services provided to its tax payers during the period under review.

15. **Opinion.** The current status of the MPS's payment-methods is extremely outdated, very expensive to maintain, and neither efficient nor effective, (a) whereas bureaucratic processes incur total costs up to 50% of the revenues collected in some instances, and (b) whereas the GOM's recurrent local revenues remain less than 40% of its recurrent local expenditures, more than 20 years since the initiation of the era of aid-dependency in the post-volcanic crisis of year 1995. The current payment-system, procedures and practices make little use of 21st-century technologies and tools, and they systematically underutilise many of the functionalities embedded within already installed hardware and software. In turn, this means that GOM is getting a very low return on investment for the many millions of dollars spent during the past two decades on infrastructure and, in particular, (1) electronic information and communication, and (2) payment-methods and payment-systems. Overall, it is not serving the public nearly as well as it could be doing, and it is certainly not advancing the country towards the GOM's published Vision for 2008 to 2020, wherein information and communications technologies (ICT) become one of the central

pillars of the new Montserratian economy and a pivotal enabler of private-sector development. These tools and technologies are especially vital for economic growth and employment through (a) the nurturing and transformation of incipient microenterprises, (b) the launch and export-readiness of innovative products and services, and (c) the strategic local, regional and international expansions of established small and medium enterprises (SMEs).

CHAPTER 1: INTRODUCTION

Background

1. This report represents the first investigation of payment-methods and payment-systems in the Montserratian public sector¹. This performance-audit focused on the forms, the methods, and the systems of payments, with implications (a) for efficiency, (b) for effectiveness, and (c) for value for money to citizens and tax-payers. Payments, both (1) inward from the public to the GOM and its agencies, and (2) outward from the GOM (and from all its various appendages) to employees, to the public, to contractors, and to suppliers, constitute fundamental and vital aspects of daily operations. In turn, payments in the MPS constitute the biggest part of the flow of funds throughout the national economy and have numerous multiplier-effects.

Impact

2. In turn, these activities determine (i) the cash-flows of contractors and private enterprises, (ii) the compensatory treatment of all public servants, (iii) the timeliness, the completeness, and the effectiveness of collections of revenues, and (iv) the honouring of national obligations. In the case of Montserrat, regional and international comparative analyses show that the public sector is disproportionately large both (1) in absolute and relative employment of the workforce, and (2) in terms of its share of the national GDP of the island-economy. Hence, the operations of the GOM largely calibrate, catalyse, and/or impede the functioning of the entire economy. Some key points follow:

- a. **Public sector.** The payments of the GOM directly affect some 987 public-sector employees (who represent 20% of the population and 50% of the workforce). By extension, this effectively includes impacts on their households, which comprise the majority of the Montserratian population.
- b. **Private sector.** Through its procurement of large quantities and varieties of goods and services, the GOM has direct dealings with many aspects of the economy, thus affecting growth, enterprise-development, and employment in every sector (e.g., agriculture, tourism, transportation, hospitality, accommodation, entertainment, utilities, and construction).
- c. **Financial institutions.** Given the preponderance of civil servants in the workforce and, correspondingly, within the active on-island clientele of all financial institutions on the island, the MPS is unquestionably the biggest contributor to the financial system: both (i) through its employees and their various accounts, fees,

¹ In this case public sector refers to central government, that is, Ministries and Departments.

interest income, and loans, and (ii) also directly as a client-entity in its own name via its large cash-holdings, foreign-exchange transactions, and local cash-movements throughout the year. Even one day of delay in public-sector payroll-disbursements, for instance, has a material impact on the credit-portfolios of local banks --- i.e., the Bank of Montserrat (BOM) and the Royal Bank of Canada (RBC) ---, the Montserrat Building Society Limited (MBSL), and the St. Patrick's Co-operative Credit Union Limited (SPCCUL). Moreover, delays in remittances of MPS employees' loan-payments and savings-amounts deducted from the GOM Treasury's payroll-processing incur direct costs (e.g., increased fees, higher de facto delinquency-rates, and higher interest-expenses, as these accrue daily on balances owed, and especially on large loans such as those for mortgages), as well as significant opportunity-costs to all involved.

- d. **Suppliers and contractors.** The dominance of the GOM in the local economy inevitably means that it affects, inter alia, (1) the rate of economic growth (or lack thereof), (2) the quality and extent of sectoral and micro-enterprise development, (3) the engagement of local businesses at all levels, and (4) the quality of each of the multiple linkages between the public sector and the private sector in every sphere of life. Moreover, delays in payments of all kinds have multiple adverse direct costs and side-effects for suppliers, for contractors, for their employees, for their suppliers, and for their creditors.

Local Context

3. In short, the GOM has such a predominant size in the local context that it must not only provide policies and laws that facilitate business, trade, and economic activity by citizens and private businesses, but the State must also lead by daily example in its own diverse and far reaching operations: for example, in efficiently designing, specifying, acquiring, and deploying appropriate (i) software, (ii) hardware, (iii) systems, (iv) people, (v) training and user-support, and (vi) processes, all of which contribute to a fully modern apparatus for accelerating, at the least cost per transaction, payments of all types and of all sources, both inward and outward, and both local and foreign. This is vital both for governance and for national development.

Objectives of the Audit

4. The audit sought to examine (a) the efficiency of actual payment-methodologies, (b) their effectiveness, and (c) their value for money to stakeholders, to the GOM itself, and, by extension, to the citizens of Montserrat. Finally, the study aimed to identify, to measure, and to assess any performance-gaps between (i) the usefulness and the feasibility of **existing** technological modalities for payments, and (ii) their actual degrees and rates of usage, as well as (iii) their expected contribution to the Government's enunciated **National Vision** and to the **Sustainable Development Plan (SDP) 2008 to 2020**.

Scope of Performance-Audit

5. The scope of this performance-audit was a ground-breaking, investigatory pilot-project to examine the status and the performance of payment methods and payment systems in the MPS and their interfaces with the rest of the economy overall. Special regard is merited respecting the enabling legislative framework already established for the country, and to the modern, competitive telecommunications infrastructure thriving on the island. We included any Ministry or Department whose annual expenditures were at least 4% of the GOM's annual budget for fiscal year 2015/16.

Scale of Performance-Audit

6. The scale of this performance-audit encompassed most entities within the MPS that handle receipts or payments in any form, including cash, cheques, international transfers, remittance-systems, electronic transactions of all types, and/or online transactions of all types. This will, in part, address the concerns expressed within local focus-groups, such as the focus-group convened with the MCC in the year 2013, including such issues as tardiness of governmental disbursements, thus contributing to cash-flow crises in fledgling enterprises, impeding the functioning of the nascent private sector, and stifling economic growth.

What We Excluded from this Audit

7. We excluded any Ministry or Department whose annual expenditures were less than 4% of the GOM's annual budget for fiscal year 2015/16. Owing to the concentrations within the MPS, those units selected actually represented 93% of the total budgeted allocations. The full list is provided in Chapter 4.

Audit Standards Used

8. The standards used to perform this audit-engagement and to assess the findings of this audit include ISSAI 1, ISSAI 100, ISSAI 3000, and ISSAI 3100.

CHAPTER 2: LEGISLATIVE REVIEW

Laws and Regulations

9. In this section, we will review the legal framework (applicable Laws, regulations, and policy-documents) that underpin the payment-methods and payment-systems within the MPS.

10. ***The Electronic Transactions Act 2009*** provides a fully enabling legislative framework for electronic transactions, payments, contracts, invoices, communication, and information throughout the MPS and the general economy. Importantly, whilst most of its provisions are optional, Part 9 (paragraph 36) of this law **mandates the creation of an e-Business Advisory Board**. Furthermore, the amendments thereto by Act 9 of 2011 strengthened the Act of 2009 by giving precise details about (1) the number of persons to be appointed to this Board, (2) the role of the Governor in their appointment, and (3) the procedure for the appointment of the Chairman of this Board.

11. Generally, this law expressly permits and encourages the use of modern electronic information-systems and communications technologies in every aspect of public administration and, by extension, national trade and commerce. It further explicitly ensures the legality of all documents, contracts, invoices, receipts, and other traditional instruments of payments and certificates or records of transactions. Vitally, it brings the technological dimension of the laws of Montserrat firmly into the 21st century, giving equal esteem in the legitimacy and legal treatment (a) of physical documents and (b) of electronic versions of documents submitted before the Courts of Law within Montserrat.

12. ***The Payment Systems Act 2008*** creates a broader provision of the requisite national financial architecture for the effective development of infrastructure in support of all electronic banking, electronic payments, electronic remittances, and electronic delivery of financial services of various types. Importantly, in Part 3, paragraph 4, gives pre-eminence to the electronic aspect of the payment-system for Montserrat, under the aegis of the Eastern Caribbean Central Bank (ECCB). Furthermore, in Part 3, paragraph 5, **it mandates that large transactions must be conducted through the electronic central banking system**. This is fundamentally distinct from the traditional use of paper-based cash, personal cheques, corporate cheques, bankers' drafts, et cetera.

13. Moreover, in Part 6, paragraph 23, the Act declares the validity of electronic data and records, as well as their admissibility as evidence in legal procedures under the ***Evidence Act***. This is reinforced in Part 6, paragraph 24, which allows parties to retain all payment-related records in electronic formats.

14. ***The Income and Corporation Tax Act***, Part 9, paragraph 50 (2) clearly states: “A person may, in accordance with section 5 of the Electronic Transactions Act, deliver the return in subsection (1) online in the prescribed form.” (p. 42, Cap. 17.01, last revised January 1st, 2013).

15. ***The Money Services Business Act*** (Act 4 of 2008, as amended by Act 9 of 2011) defines “money services business” as, first of all, being “(a) the business of providing as a primary business any one or more of the following: (i) transmission of money or monetary value **in any form**; . . .” [emphasis added]. Thereafter, the four classes of licences prescribed by this law give the highest ranking to Class A, which gives prominence to “(i) transmission of money or monetary value **in any form**; . . .” [emphasis added]. It further specifies that a licensee may perform receipts and payments in the following forms: (a) money-orders, (b) traveller’s cheques, (c) cheques, and (d) foreign currency. This law clearly gives full scope for all manner of modern electronic payments and transactions, while encompassing traditional paper-based transactions and modalities of remittance. Moreover, Part 3, paragraph 21(2), expressly permits the retention of all payment-related records in electronic forms.

16. ***The Public Finance (Management and Accountability) Regulations 2009*** gives clarity of procedures with respect to payments in the public sector, as well as to the related accounting and record-retention, all including electronic forms. Part XIII provides for overseas payments by draft as well as by electronic transferral as follows:

“67. (1) Payments of public moneys to persons outside Montserrat shall be made by direct payment to such persons by banker’s draft or otherwise **through the banking system**; and where direct payment is considered to be inappropriate, payment shall be made on the authority of the Accountant General through agents duly appointed for the purpose with the approval of the Financial Secretary.” (p. 32) [emphasis added]

“Payment vouchers or electronic documentation

69. (1) All disbursements of public moneys shall be properly vouched on payment vouchers or electronic documentation approved by the Accountant General”

“(5) All payments due shall be made as soon as possible to the persons entitled to receive them.”

Part XVIII permits all public-sector records and accounting to be made by paper documents as well as by electronic forms, storage, and retrieval as follows:

(3) A book, account or record that is required to be kept under the provisions of the Act or these Regulations may be kept or prepared—

(b) by recording or storing the data concerned on electronic or other media by means of a mechanical, electronic or other device; . . .”

Policies

17. The ***Montserrat Sustainable Development Plan 2008 to 2020: Journey to Sustainable Prosperity***, which espouses a national vision of “**A Healthy and Wholesome Montserrat**” (SDP, 2010, p. i), explicitly captures the concept of the technological drivers of economic progress and national re-development. The section entitled *Strategic Goal 1: Economic Management*, sub-section *Issues and Challenges*, succinctly states: “Information and Communication Technology (ICT) – The development of the ICT sector has transformed life in Montserrat in many ways There is the challenge to liberalize and regulate this sector so that it fulfils its potential as the basis for the transition into an **information society**, thereby profoundly influencing business processes as well as our social lives.” (SDP, 2010, p. 39) [emphasis added].

18. Several corollaries for private-sector development follows under the sub-heading ***Strengthening and development of the private sector***: “Focus placed on the implementation of initiatives to support the strengthening and development of the private sector, in particular, small and medium-size enterprises in these sectors, thus enabling them to fully assume a leadership role in the process of economic growth. These initiatives will include ensuring a **facilitating policy, regulatory and institutional framework for business development**, facilitating increased access to capital and strengthening of investment promotion and trade facilitation. Also, a strategy of outsourcing and divestment of government activities will be pursued.” (SDP, 2010, p. 40) [emphasis added]. This clearly announces the GOM’s policy-focus on enabling economic actors to function in a competitive regional and global environment, and recognises that the future of Montserrat depends on a smaller, more agile public sector facilitating a much larger, much stronger, and much more technologically integrated private sector and national economy.

19. Of great relevance and importance for the background to this performance audit is the ensuing sub-section entitled ***ICT infrastructural and institutional development***: “Ensuring that the required **ICT infrastructure** and institutional framework and facilities are in place, that is, a **facilitating** legislative, policy and regulatory framework for investment and **business activities**, as well as appropriate facilities for the **effective delivery of services** to the **various customers**.” (SDP, 2010, p. 40) [Emphasis added]. This is the most concise and cogent enunciation of the fundamental and transformative role and capabilities of ICT in powering the economic growth and social development of Montserrat. Thereby, all policies, procedures, practices, and functions of the MPS can be evaluated against objective policy-based metrics and assessed against sub-regional (e.g., OECS and ECCU), regional (e.g., CARICOM), and global benchmarks and best practices, with particular regard to case-studies of (a) successful e-Government, (b) the enhanced delivery of public goods and services, (c) the improved inclusiveness for the most vulnerable, including hitherto unbanked and underbanked citizens, and (d) the effective integration of ICT in public-private partnerships, joint ventures, and other interfaces.

20. The ***Budget Speech 2014-2015: Restoring growth; expanding opportunities*** gives absolute clarity about the GOM’s policy-related priorities for various economic sectors, including information-technology as a pillar of the new economy:

21. “Government has committed to lessening the overall dependence not only on **government expenditure as the main driver of growth in the economy**, but also **reducing our almost total dependency on aid**. In this regard, we have identified the expansion of the Agricultural, Mining & Quarrying, Manufacturing, Tourism and **Information Technology sectors as the main pillars for long-term growth**. This shift of focus has already paid dividends. In 2013, the Agriculture and the Mining & Quarrying sectors saw the greatest growth of all the sectors within the economy of 23.94% and 15.00% respectively whereas export manufacture has once again commenced after a hiatus of over 15 years. The other sectors that experienced significant growth in 2013 were Wholesale & Retail which is estimated to have grown by 2.75% and **Financial Intermediation with growth of 4.03%.**” (p. 5) [emphasis added].

22. Indeed, these sectors have proven their immense capacity to contribute to economic growth in other developing countries. In Kenya, for instance, agriculture contributes 29% of GDP and 80% of national employment, and 75% of farms are small-scale operations (KPMG, 2015)².

23. Significantly, the ICT sector is the fastest growing part of the economy: 2.4% in 2012, 12.2% in 2013, and 13.4% in 2014, reaching 8.4% of GDP in 2014. This compares very impressively with the overall 5.2% growth-rate of real GDP in 2014; projected growth for the ICT sector accelerated to 15% in 2015 and 20% in 2016, en route to 10% of GDP by 2017. This remarkable achievement is “. . . driven mainly by 1) the development of ICT infrastructure across the country and 2) enhancement of favourable policy frameworks that facilitate private sector partnerships. This growth is evidence that the government’s policies for the sector are working and the government further plans to move over 60% of public sector services onto the digital platform, with an expectation that the move will enhance efficiency, transparency and accountability.” (KPMG, 2015, p. 20).

24. The penetration of mobile-phones (as a percentage of the national population) rose from 76.2% in December, 2013, to 78.2% in March, 2014 (CAK, 2014). It further rose to 90.0% in June, 2016 (CAK, 2016, p. 5). This is all the more remarkable whereas the estimated Internet-access in the population was only 53.3% as of March, 2014, demonstrating the importance of mobile telephony and of m-payments and e-payments (CAK, 2014). The national penetration of access to Internet and/or data subsequently soared to 85.3% by June, 2016 (CAK, 2016, p. 25).

² (http://www.rich.co.ke/media/docs/True%20Value%20Booklet_Mail.pdf).

CHAPTER 3: REVIEW OF THE LITERATURE

Introduction

25. **Rationale.** Operations within the MPS influence fiscal, economic and other factors that impact on its payment-methods and payment-systems. As a result, we have performed an extensive review of authorities, of scholarly literature, and of regional and global best practices (Cayhan, 2008; Deng, 2008; Ebrahim & Irani, 2005; Heeks & Bailur, 2007; Nasim & Sushil, 2010). It is envisaged that such a review will, over time, assist all stakeholders in devising a more coherent framework to guide this and following audits, and in creating more value to citizens and to public-sector decision-makers alike. GOM can greatly reduce learning-curves and save implementation-costs by systematically embracing a multidisciplinary approach to learning from public-sector experiences in other countries both what is best avoided and what is highly effective and efficient (Abdullah & Kaliannan, 2006; Al-Busaidy & Weerakkoddy, 2009; Al-Ghaith, Sanzogni & Sandhu, 2010; Ghosh & Lahiri, 2003; Guanghu, 2009; Joia & Magalhaes, 2009).

26. **The Context of the Information Age.** As the pace of technological innovation quickens, Governments and central banks around the world have been grappling with the issues of (1) economic empowerment, (2) facilitation of enterprises, and (3) smart regulation. The theme of e-Government is well developed both locally and regionally, including electronic filings and tax-refunds with the Inland Revenue Department and Customs & Excise Department (e.g., in Barbados and in Trinidad & Tobago). The Eastern Caribbean Currency Union (ECCU), of which Montserrat is a member-country, very well exemplifies e-Government in having a fully functional electronic securities-exchange and an electronic securities-repository (www.ecseonline.com). Thus, all transactions involving listed bonds or shares of publicly listed companies (e.g., initial issuances, purchases, sales, pledges, redemptions, changes of ownership) are recorded electronically both in the primary market (e.g., Governments' Treasury Bills, Treasury Bonds, and Debentures) and in the secondary market. This electronic platform facilitates both transactions in the local currency (i.e., Eastern Caribbean dollars) and transactions in foreign currencies (e.g., ECCU member-Governments are also listing sovereign bonds in United States dollars). Any citizen or firm within any CARICOM State can easily invest in, and trade, ECSE-listed securities through local brokers.

Methods of Payment

27. **Cash.** After millennia of use, cash is rapidly diminishing in importance in the modern world.



Several central banks have already eliminated production of some denominations of coins, for instance, (e.g., the 1-cent and 2-cent coins have been discontinued by the Eastern Caribbean Central Bank), owing to

the fact that the cost of production exceeds the value of the denomination in circulation (**Anand & Kumar, 2016**).

28. **Cheques.** While offering several advantages over cash in the form of notes and coins,



cheques are also diminishing in their proportion of transactions worldwide. Traveller's cheques, in particular, are already obsolete in several jurisdictions, as credit-cards, debit-cards, and cash-cards proliferate worldwide.

(a) **Direct costs.** Local costs range from EC\$20 to EC\$30 per month for having a chequing account: this means a basic annual cost of EC\$240 to EC\$360 merely for having an account. Moreover, cheques incur incremental transactional costs with each use: the cost of cheques ranges from EC\$15 per book of 25 cheques to EC\$60 for a book of 150 cheques; stamp duty of EC\$0.05 applies to each payment. This yields a range of EC\$0.45 to EC\$0.65 per cheque-payment (BOM, 2014)³.

(b) **Other Costs.** Effectively, small transaction-amounts and transaction-volumes are heavily penalised, and the low-income segments of the society are worse affected, whilst high-volume users (e.g., wealthy households and large corporations) have the lowest cost per unit. Studies continue to show that commercial banks are over-charging customers with ever higher and more numerous fees (McCoy, 2016). We found that the same obtains in Montserrat: e.g., RBC Montserrat charges E.C.\$300.00 per year for a savings-account, both RBC Montserrat and BOM charge fees (E.C.\$300.00 and E.C.\$240.00 per year, respectively) for chequing accounts, plus fees for overdrafts on chequing accounts, and fees (e.g., a minimum of E.C.\$30.00 per month) for having a line of credit even when it is not used in a particular month.

The fees on deposit-accounts have more than doubled in the past 3 decades, while the interest-income paid to customers has steadily declined (e.g., most recently, from 3% p.a. to 2% p.a. in the OECS and as low as 0.05% p.a. in other CARICOM States). In some instances, regulators have fined banks for widespread unethical fee-related practices, including banks' charging large fees for their self-serving (i.e., revenue-maximising) ways of handling of hundreds of thousands of customers' accounts and associated transactions (e.g., charging high overdraft-fees to clients who had never opted-in for overdraft-services). All of these facts point to the high and rising costs of

³ <http://www.bankofmontserrat.ms/public-relations/>

traditional cash and cheques, pointing to the increasing advantages of electronic payments, card-payments, and online payments.

29. **Drafts.** As two-party paper, these instruments have higher respectability than personal or commercial cheques (three-party paper). Versions such as banker's drafts and so-called "cashier's cheques" (e.g., issued by a credit-union to a third party on behalf of a customer of that credit-union) (a) represent the good faith of financial institutions, (b) have the same certainty as cash, and (c) are more secure than personal cheques. However, even financial institutions' drafts are no longer convenient as even local drafts are being held for several work-days in a number of Caribbean jurisdictions, notwithstanding the small number of issuing financial institutions and despite the ease of confirming any draft immediately and via multiple person-to-person channels directly between the issuing financial institution and the receiving/encashing financial institution.

- (a) **costs.** In Montserrat, the cost of a draft is EC\$15.00, which is multiples of the cost of a local cheque, though it is much more favourable than the EC\$60.00 to EC\$115.00 charged by local banks for foreign-currency drafts.

30. **Debit-cards.** These electronic instruments allow customers to access their bank-accounts with the ease of instant cash-withdrawals without having to physically visit an automatic teller machine (ATM) or a bank-branch. They also offer greater protection to users than cash or cheques, while offering the vendor or recipient immediate certainty as to the availability of funds for a given purchase or transaction.

- (a) **costs.** There is no annual fee for a debit-card service. Some institutions have a small per-transaction fee for point-of-sale activities. This is basically a very convenient extension of the ATM card, allowing customers to buy items at diverse merchants and shopping locations, with the same convenience of credit-cards. Debit-cards are available for both local payments and for international payments, and provide interest-free access to the consumer's bank-account to the extent of its available balance.

31. **Credit-cards.** The technology of card-payments has evolved through several generations since American Express revolutionised payment-methods more than 50 years ago. Whilst American Express, Visa and MasterCard are the three globally dominant network providers, many other credit card systems and brands exist, including (a) store-cards, Discover, (b) co-branded cards (e.g., by a credit-union, which cannot issue credit cards directly), and (c) corporate

cards. Many additional features and advantages have been added over the past two decades, including (1) discounts with merchants, (2) reward-points, (3) airline miles, (4) cash-refunds up to 5% (Kline, 2017), (5) 24-hour emergency lines, (6) heightened anti-fraud surveillance, (7) automated international currency-exchanges, (8) travel-insurance, (9) life-insurance, (10)



emergency services, (11) rental vehicle insurance, (12) concierge services, (13) travel planning and travel assistance services, (14) purchase-protection (e.g., FirstCaribbean International Bank launched this extra benefit for its customers in the Caribbean in the year 2016) and (15) recourse to challenge and to reverse transactions up to 60 to 90 days afterward (e.g., in cases of fraud, and in cases of vendors that do not deliver the contracted service/goods) (Andriotis, 2017).

32. **Smart cards deter fraud.**

Within the past 2 years, North American banks have followed the leadership of European institutions in providing smart credit cards with dual authentication (i.e., swipe and sign, as well as authentication for sale) (Biersdorfer, 2017). This latter development has almost eliminated credit-card fraud, not least of all because the vulnerability of the historically prevalent swipe-and-sign field interception is no longer possible, owing to the encryption of transactions with the newer smart cards, and owing to the requirement of a personal identification number for each transaction (as opposed to only a signature, which can be copied and/or forged, as is also much more difficult to validate by vendors overseas or at a long distance from the issuing bank) (Hawthorne, 2017; Herrera, 2017). The technologies have evolved beyond traditional plastic cards to wearable medallions (Jolly, 2017).



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leadership of European institutions in providing smart dual authentication (i.e., swipe password protected each transaction at the point of sale) (Biersdorfer, 2017). This latter almost eliminated credit-card fraud, not least of all because the vulnerability of prevalent swipe-and-sign field interception is no longer possible, owing to the encryption of transactions with the newer smart cards, and owing to the requirement of a personal identification number for each transaction (as opposed to only a signature, which can be copied and/or forged, as is also much more difficult to validate by vendors overseas or at a long distance from the issuing bank) (Hawthorne, 2017; Herrera, 2017). The technologies have evolved beyond traditional plastic cards to wearable medallions (Jolly, 2017).

- (a) **costs.** The annual fees for credit-card accounts range from \$0 in some markets to as much as US\$150 for Platinum Visa accounts (e.g. Republic Bank, FirstCaribbean International Bank); however, competition has arisen to lower even the highest fees within the region (e.g., Globe Finance Inc. offers Classic, Gold, and Platinum Visa accounts at annual fees ranging from US\$12.50 to US\$100, respectively) (GFI, 2016) (<http://www.globefinanceinc.com/credit-cards>). Users who choose to defer payments of their transactions have the convenience of paying as little as 3% of their monthly balance. Associated interest-rates are now as low as 12% p.a. within the region (GFI, 2016). However, some banks charge punitive rates and fees for cash-advances and for specific types of transactions (Collinder, 2017) [39].
- (b) **benefits.** Optimally used, however, credit-cards offer unlimited transactions for this fixed fee; all transactional expenses can be avoided once the statement-balance is paid each month on or before the specified date of payment. By extension, this means that one of the unique advantages of credit-cards is interest-free credit up for up to 7 weeks (from the date of the transaction to the subsequent date of the statement on which it first appears to the payment-due date on that statement). Thus, the effective cost per credit-card transaction to the user is much less than that of cheques or drafts, for instance --- ultimately, it

can reduce to zero cost, or, including rebates and other benefits, negative (i.e., net benefits).

33. **E-wallets.** These are the electronic equivalents of cash for transactions and offer even more safety and security than normal debit-cards and credit-cards because they have additional layers of encryption and password-protection between the user and the vendor e.g., for purchases either online or in person. Paypal, for instance, allows the user to connect multiple credit-cards to one account and thereupon to select which one would be used for any particular transaction; however, the credit-cards are never used directly with the vendor (in the case of a regular purchase) or with the donee (in the case of a gift). Therefore, anonymity and security of underlying payment-instruments is highly assured. Such mechanisms have gone far towards advancing electronic commerce, including such scenarios as (1) a customer's doing a transaction with a vendor for the first time, (2) a customer's making an online purchase via an unfamiliar website, and (3) international transactions. The additional recourses and protections provided by the issuers of the underlying credit-cards themselves strengthen the environment of trust and of safety for consumers.

34. **Cash-cards.** These instruments combine the immediacy of cash with the conveniences of electronic cards. Similar to debit-cards and credit-cards, they have revolving utility, which is not possible with cheques or drafts, which remain costly and useful for only one transaction per instrument (generally). A distinct advantage is that no bank-account is required and this feature enables many under-banked and un-banked citizens to become participants in the official financial system. This has enabled many vulnerable and low-income citizens to become efficiently and safely served, including disbursement of welfare-benefits at least cost to Governments (Kelley, 2014).

- (a) **costs.** All of the usual issues of banks' charges and fees are minimised with one simple fee calculated as a small percentage of the cash loaded onto the card. This is usually no more than 1.5%, which is much less than the typical fees incurred (1) for international remittances (which cost low-income workers exorbitant effective rates of fees up to 20% of transaction-amounts) (Peterson, 2016), (2) for drafts (which can cost up to US\$5.00 regardless of how small the amount is), (3) for postal orders, and (4) for credit-cards (e.g., annual fees charged to customers and transactional fees up to 7% charged to the receiving merchants).
- (b) **local notes.** Discussions with survey participants revealed that, even though it provides all of the above-mentioned methods of payment in other markets, including elsewhere in the Caribbean Community, Royal Bank of Canada, in Montserrat, does not provide cash-cards to any of its local customers.

Systems of Payment

35. **Mobile payment-systems.** In many developing countries, mobiles phones and portable digital devices have become ubiquitous (National Bank of Dominica, 2017). This phenomenon, along with (a) wireless telephony, (b) both wired and wireless Internet-services, (c) remote towers, and (d) satellite-arrays, (which obviate the high-cost installation of traditional infrastructure,) has enabled many financial services to become available to the unbanked, the under-banked, and the low-income strata of the citizenry.

36. A particularly important benefit is not only the reduction/elimination of traditional financial-system transactional costs, but the ease of making credit and loan-repayments available at much lower interest-rates, thus adding significantly to financial inclusion, micro-enterprise development, and economic development (Economist, 2013). Especially in rural communities and among low-income populations, electronic payments such as these eliminate the cost and the time of having to travel to distant bank-branches, vendors, stores, and/or relatives in order to deliver purchase-payments, loan-payments, or monetary gifts in person. By eliminating a large part of the traditional opportunity-costs of the conventional financial sector, mobile payments and wireless remittances boost individual efficiency, corporate effectiveness, and national productivity, increasing output while reducing inputs and lowering costs, risks, and expenses. These and other benefits would contribute to the GOM's efficiency, effectiveness, and the value for money to the public, and play an important role in the redevelopment of Montserrat.

37. For the many persons in Montserrat who do not yet have bank-accounts and/or credit-cards, households that adopt mobile payments would save the hours of time normally needed to travel to and from financial institutions and to wait in queues for routine transactions. They could also avoid the relatively high incidence of risks, of errors, and of crimes affecting in-person and cash-based transactions, and are able to spend the extra saved time productively in their jobs and/or micro-enterprises (Economist, 2013). Furthermore, the very existence of e-payments and m-payments has enabled a range of new businesses to emerge and to flourish, owing to lower costs, bigger client-scope, and easier client-access, including communities that were previously inaccessible, and goods or services that were hitherto unprofitable (or even unfeasible) to deliver. By extension, the GOM would achieve lower cost per payment, greater tax-compliance, and wider scope for delivery of public goods and services.

38. **Electronic banking.** Globally, financial institutions have deployed a variety of electronic systems both within their back-office operations and in their customer-facing touch-points, branches, and online channels. For instance, (a) cheques are scanned for the Automated Clearing House within the Eastern Caribbean Currency Union, (b) in other countries, customers can deposit cheques to their bank-accounts via scanning and uploading the image of their cheques with their mobile phones to the issuing financial institutions, (c) self-service channels are provided through Automated Teller Machines, mobile phones, and websites, and (d) clients can have secure online accounts with full transactional capabilities (such as bill-payments, deposits, inter-account transfers, third-party transfers, international electronic remittances, account-histories for 6 to 12

months, et cetera). Some institutions have provided all forms and services in electronic formats, as well as fully online loan-request and appointment-setting functionalities.

39. **Peer-to-peer payment-systems.** Akin to cash-transactions in person, these new systems eliminate the traditional issues of intermediaries and high fees from commercial banks and other remittance-systems (**Stabroek News, 2017**). Added advantages are personal security (e.g., not having to carry cash), speed of transactions, and data-security.

40. **E-commerce platforms.** Huge online market-places have evolved to accommodate millions and even billions of users e.g., Amazon.com, Alibaba, eBay, and Facebook.

41. **Blockchain systems.** This is the vanguard of technological progress in electronic payment systems, enabling frictionless online versions of in-person cash-transactions with no intermediaries required (**Peterson, 2016**). This system has, at last, solved the long-time challenge of how to provide utmost security and reliability alongside desirable attributes such as (1) the ultimate convenience of access, (2) ease of use, (3) transparency of record-keeping, (4) near zero cost, and (5) global utility (**Frisby, 2016**). The elimination of third-party fees and the minimisation of transactional costs to pennies per payment allow citizens multiple new services at a most affordable total cost e.g., micro-loans, micro-payments, small tips, gifts, small international remittances, et cetera.

42. **E-government.** Governments around the world and within the Caribbean have progressively adopted electronic channels for information, for communication, and for payments of taxes, licences, and fees of all kinds. For instance, at the **Inland Revenue Department (IRD)** in Barbados, the extremely bureaucratic systems, reminiscent of the 19th century, including paper-forms, manual processes, and physical submission of documents, were replaced in the year 2008 with an e-portal offering the following key features: (a) requiring 100% online submission of substantiating third-party documents (e.g., from credit-unions, mortgagees, insurers, banks, and employers), (b) allowing taxpayers (both individuals and businesses) to have secure online accounts with the IRD to see their full tax filing history and all third parties documents relating to their accounts, (c) enabling taxpayers to submit their annual returns online, and (d) facilitating the direct deposit of tax refunds to the bank account or the credit union account of the taxpayer's choice (via a comprehensive drop down menu, within the taxpayer's IRD online account, showing every bank branch and every major credit union).

43. This approach to public-sector reform (a) encourages compliance, (b) saves time and money for all stakeholders, (c) provides enhanced value and service to citizens, and (d) allows the Government to serve increasing numbers of people without adding to aggregate headcount. Higher compliance-rates increase aggregate revenues; these, coupled with reduced costs per unit of public good or service, lead to expanded capacity to reinvest savings into high-value enhancements of existing public services, while also providing the sustainable basis for investments in newer technologies and services. All of this accelerates economic growth and

deepens the integration of enabling technologies that bring the public service closer to the persons that it serves.

44. Another major achievement of e-government is the tripartite quest of governance: accountability, transparency, and value for money. The Central Bank of Barbados, the Bank of Canada, the Bank of England, and the Eastern Caribbean Central Bank, among others, illustrate a major shift from paper-based reporting with considerable lags between occurrence and recording, and between recording of data and public reporting thereof. With the advent of the World Wide Web, ubiquitous mobile telephony, and free Internet-services in a growing number of public places, abetted by the progressive improvements in private-sector telecommunications and access even to the poorest citizens, e-government has reached a new pinnacle of possibilities and has accumulated two full decades of recent accomplishments. Accordingly, data and reporting in the public interest (serving both transparency of the Government's activities and structures, and accountability of public-sector units to their stakeholders) now happen in real time, and the staff and the Governors of Central Banks (most notably those of the Central Bank of Barbados) utilise WhatsApp, mobile phones, Skype, Youtube, Facebook, websites, and e-mail to disseminate all manner of news, recordings of speeches, recordings of events, new scholarly publications, new research-reports, national statistics, and their own annual reports.

CHAPTER 4: OUTCOMES & RECOMMENDATIONS

45. As stated in the Introduction chapter of this Report, we limited our review to entities whose expenditure projections equalled or exceeded 4% of the GOM's annual budget for the fiscal year 2015-2016. The entities selected represented 93% of the total budgeted allocations. The following table shows the relevant budgetary allocations for those selected and the few below the threshold.

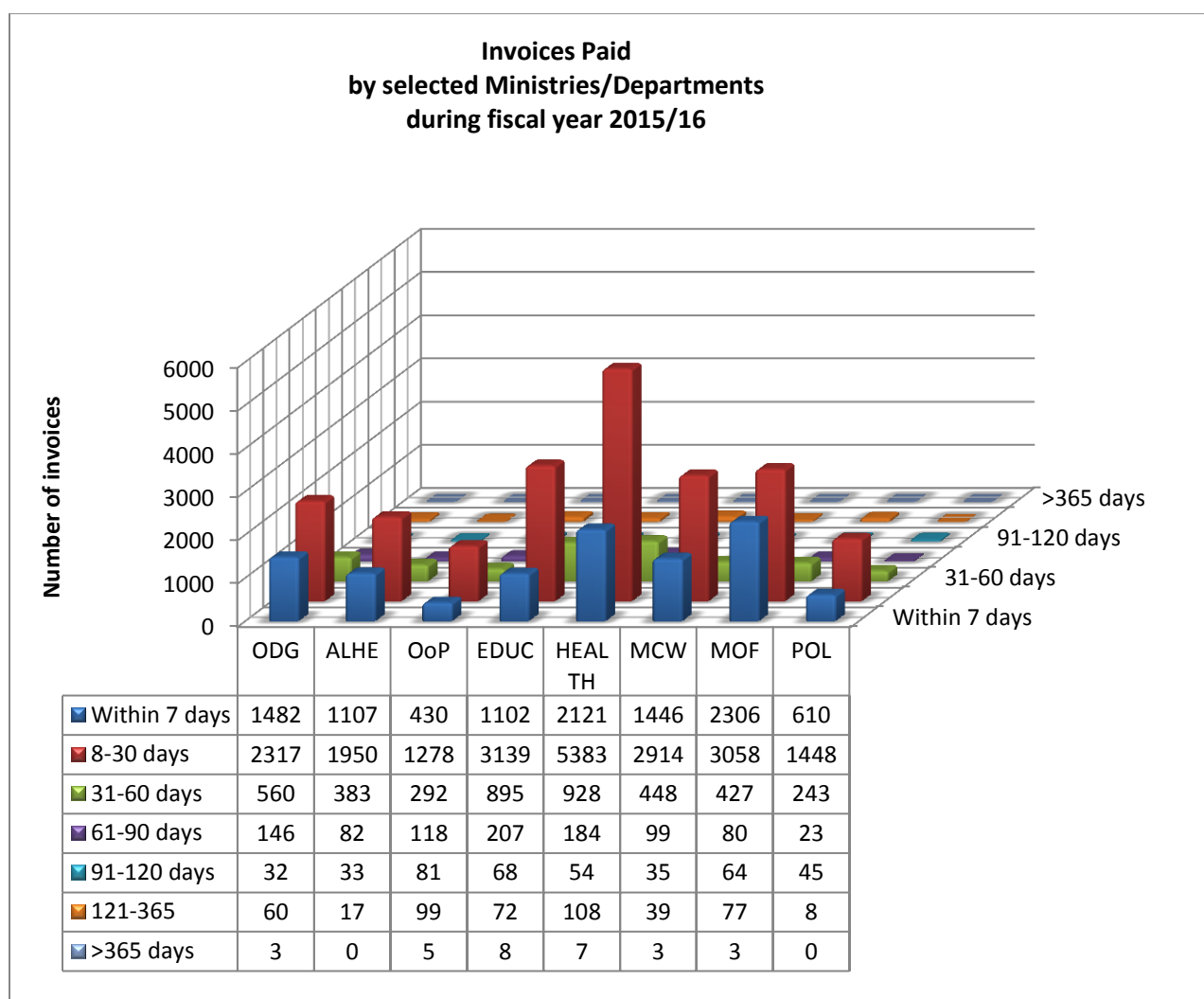
Table 1
Budget Allocations 2015/16 in EC\$

Vote	Details	Recurrent Expenditure	Development Expenditure	Total Expenditure	Percentage of total Budget
05	Police	6,051,200		6,051,200	4%
07	Legal Department	1,682,700		1,682,700	1%
08	Magistrate's Court	330,900		330,900	0%
09	Supreme Court	690,300		690,300	0%
10	Legislature	2,773,200		2,773,200	2%
12	Office of the Deputy Governor	31,739,100		31,739,100	18%
13	Public Prosecution	629,700		629,700	0%
15	Office of the Premier	12,465,000	7,930,000	20,395,000	12%
20	Ministry of Finance & Economic Management	14,218,300	25,509,200	39,727,500	23%
30	Ministry of Agriculture, Lands, Housing & Environment	6,003,800	2,707,600	8,711,400	5%
35	Ministry of Communications, Works & Labour	20,710,900	7,275,000	27,985,900	16%
40	Ministry of Education, Youth Affairs and Sports	9,977,000		9,977,000	6%
45	Ministry of Health and Social Services	20,966,200		20,966,200	12%
		128,238,300	43,421,800	171,660,100	100%

Findings of the Audit

46. **Tardiness persists.** Generally, the MPS is paying its bills, but not always promptly. In many cases, public-sector clients are given privileges with credit-terms that are not customarily extended to other clients e.g., up to 30 days of credit versus 7 to 14 days of credit or, most commonly, cash on delivery for most other customers. Nevertheless, despite these favourable terms, some Departments of the GOM are well known for tardy payments to various suppliers and merchants. According to several interviewees, a significant number of private enterprises are reluctant to serve MPS clients; some reportedly no longer do business with GOM or MPS clients.

47. The diagram below provides a pictorial view of how invoices were processed and cleared within the SMARTSTREAM accounting system.



48. **Average lag is 3 weeks.** Detailed evidence (e.g., comprehensive data-sets for all payments made during the year, as well as a full listing of all past due invoices) gathered from the **Ministry of Finance's** own records showed that for the previous fiscal year (April 2015 to March 2016), the average lag in payments was 20 days⁴ (approximately 3 weeks) versus a standard expectation (both within the public-sector units and on the part of payees) of 1 to 5 business-days. However, whilst most payments were made within 7 to 30 days (which is still considerably later than most payees' expectations), a surprising number of instances existed of payments made 60 days, 90 days, 180 days, and even more than 365 days after the invoice date.

49. **Lack of monitoring.** From the evidence that we found, there is no system that is documented for checking, for monitoring, or for reviewing overdue payments on the part of GOM Ministries and Departments. The two exceptions that we discovered were (a) the Ministry of Finance itself, which commenced a recent initiative to arrive at a comprehensive listing of all payments by aging-categories for the most recent fiscal year (April 1, 2016, to March 30, 2017) and (2) the Treasury Department's advising Ministries/Departments, in the final quarter of the 2016/17 fiscal year, of instances where action needed to be taken by Accounting Officers to facilitate completion of payment of overdue invoices.

50. **Recurring complaints about delayed tax-refunds & assessments.** Unchanged from previous years' focus-group findings, recurring complaints are still being widely made about tax-payers' experiences of protracted delays in getting tax-refunds or even income-tax assessments (both personal and corporate) up to 7 years after the year of income to which they related. Early submission of tax-returns (e.g., in January or February) makes no difference for the taxpayer's outcome, since IRD still waits until March even to begin reviewing returns received. The **Inland Revenue Department** and the **Montserrat Customs & Revenue Department (MCRS)**, for instance, are quick to impose penalties and interest for late payments by citizens and by firms. By contrast, tax-payers who are owed tax-refunds find themselves routinely left waiting for months or even for years and with zero compensation for such protracted lateness. In turn, these delays in payment pose large risks, inconveniences, economic losses, and opportunity-costs to the incomes of households and to the cash-flows and profitability (or even the viability itself) of entrepreneurs and corporations. This inequitable asymmetry of treatment for citizens and the lack of respect for tax-payers' legitimate expectations and rights --- e.g., [1] the provisions of the **Income and Corporation Tax Act** for online filing, and [2] the mandate for promptest disbursement per the **Public Finance (Management and Accountability) Regulations 2009** --- both demand urgent redress legislatively and procedurally.

51. **Direct deposits vs. cheque-payments.** The bulk of GOM's employee-payments are done via direct deposits to bank-accounts, but most other local payments (numbering thousands per year) are still being done by cheques. As a vestige of the 20th century, this paper-

⁴ The lag was calculated as the difference between the payment-request date (invoice date) and the payment-reference date (i.e., the cheque-printing date).

based, labour-intensive payment-system is both cumbersome and expensive to the GOM itself; it also tends to be slow, frustrating, and inefficient in the eyes of payees. With bureaucracy come various measurable deficiencies in service-related delivery and attitudes. For example, too many complaints persist about the prevalent lack of communication with payees: e.g., (a) to let them know exactly what is the status of their payments and/or (b) to inform them by some means to let them know when a cheque is ready to be collected and/or (c) to alert them whether and when a deposit has been processed directly to their bank-account. With the ubiquitous availability of text-messages, free electronic mail, free WhatsApp, landlines, and mobile telephones, all GOM payees and beneficiaries could receive prompt payment-alerts and cheque-availability alerts, which could also be automated.

52. **Very few online payments yet.** Small progress has been made towards the institutionalisation of online payments and debit-card/credit-card payments within the MPS in a few isolated instances. So far, (1) the new **ferry-service**, inaugurated in December, 2016, offers the facility whereby Montserrat-to-Antigua ferry-reservations can be made online via card-payments (although, perversely, there is no provision whatsoever for card-payments to be made at the port-cashiers in person), and (2) the **MOVA** service is entirely electronic from applications to payments; however, (3) the e-commerce website for the GIS is currently unavailable. Clearly, there are no technical or technological impediments to having modern card-payment infrastructure and online payments throughout the MPS, as interviews with the Director of **DITES** also confirmed.

53. **Widespread non-use of SmartStream cashiering module.** It is encouraging to find that the current functionalities within the **Smart Stream** software, which is being used across the MPS (and also across the Caribbean public sectors in neighbouring islands), is fully capable of allowing each and every unit, department, and Ministry of the GOM, as well as every statutory corporation, to be completely integrated in real time, both for data-entry, information, and communication, on the one hand, and for payments/receipts, on the other hand. Furthermore, it was confirmed that each department in the MPS has access to a cashiering module within **Smart Stream** that could empower each unit of the GOM not only to accelerate its own collections/receipts, but also to accept payments from citizens, businesses, and visitors alike, for every other fee, licence, tax, or payment otherwise due to any *other* departments of the GOM. This would greatly improve the range of touch-points for customers, while enhancing the speed and the effectiveness of revenue-collections of all types.

Analysis of the Findings

54. **Payroll is largely electronic.** The current system has improved from an all-cash and manual-process historical basis in the 20th century towards substantial use of electronic data-entry, of electronic accounting, and of electronic approval and processing of cheque-payments, coupled with increasing use of direct deposits to bank-accounts. Payroll-cycles within the MPS

perfectly illustrate this historical trend: from 100% cash or cheques, a generation ago, to nearly 100% direct electronic fund-deposits to employees' bank-accounts (the major exceptions being (i) casual workers, (ii) short-term employees, and (iii) contract-employees). The availability of online banking enables real-time confirmation and viewing of transactions by employees as well as all suppliers or payees interacting with the GOM in any capacity.

55. **Payment-system is very inefficient.** However, inefficiencies plague the current system, which is centralised at the **Treasury Department** for most outward payments from the GOM and across all Ministries. Most Permanent Secretaries and Heads of Department expressed the desire to have direct control over their payments to suppliers versus the current status of approving payments at the departmental level and then having delays and uncertainties at the Treasury, where the actual disbursements are centrally made in most cases. This separates the disbursements and their location from the entity that initiated and authorised the transactions, and creates gaps in communication along the entire process: [a] from data-entry, [b] to certification, [c] to approval, [d] to final approval at The Treasury, [e] to cheque-/payment-processing, and [f] finally, to communication with payees of all types.

56. **Overseas suppliers require credit-card payments.** A recurring theme among Permanent Secretaries and Heads of Department was the great inconvenience of having to deal with overseas suppliers without having a GOM credit-card facility for this purpose. In some cases, officers are compelled to resort to using their personal credit-cards. In other cases, not having credit-card facilities for MPS-requested purchases and prepayments (e.g., for hotel-reservations, airfares, conference-fees, and most suppliers of imported goods) requires the use of much more expensive methods of payment (e.g., drafts or international interbank funds-transfers).

57. **Poor interdepartmental communication.** Likewise, in some cases, more than one Ministry or Department is sharing some aspect of approval or implementation of the same matter and suppliers receive conflicting instructions: e.g., travel-agencies sometimes get reservations from one unit of the public sector, but another entity is said to be the one that will actually pay for the invoices. Also noted were instances of reservations that were either made or cancelled by one department, but later queried by another department/entity, wondering what was the status of invoices or travel-arrangements for shared parties (e.g., where two or more departments share a resource-person). All of these issues create inefficiencies, confusion, and incur delays, extra costs, and significant risks (e.g., cancellation-fees, re-reservations at higher prices, lost bookings, missed connections, et cetera).

Discussion & Conclusions

58. **Many opportunities for improvement.** Clearly, there is much room for improvement within both the methods of payment available and in the overall efficiency and

effectiveness of public-sector payments of all types. Both the GOM itself and citizens will save considerable amounts of time, of effort, and of cost through 24/7 access to online payments for all manner of public-sector fees, taxes, and duties. This is especially important for the large overseas constituency of expatriate Montserratians (which is much greater than the on-island population), as well as foreign visitors, tourists, expatriate residents, investors, international businesses, importing local enterprises, cruise-ships, and ferry-passengers. Airlines and ships have 24-hour-a-day schedules across all time-zones, and, correspondingly, modern consumers expect to have the convenience of (nearly) 100% up-time for all utilities (e.g., water, power, lighting, fuel, telecommunication, and Internet-service, including mobile and wireless connectivities), systems, websites, payment-methods, and channels for e-commerce, including e-Government. The Government of Canada, for instance, has declared that broadband Internet-service is a right of all citizens, and is committed with providing this utility even within remote and rural communities, which have historically been neglected or excluded from many public-sector initiatives and unserved or, at the least, under-served by many banks, retailers, and other service-providers.

59. **High impact of delays.** Any delays in public-sector payments to employees, to contractors, to suppliers, and, by extension, to their creditors, cause a series of undesirable ramifications throughout the society, the financial sector, the business-sector, and the rest of the economy. Firms and individuals with late-paid salaries or invoices will, in turn, have difficulties in honouring their commitments to third parties, who will then have similar effects and challenges. Lateness incurs both explicit fees and interest expenses, as well as opportunity-costs (e.g., time lost, productivity-impairments, lost income, missed returns on funds, and foregone purchases or investment-opportunities) many of which are irretrievable and irreplaceable (since time cannot be stopped, recouped, or stored).

60. **Impaired procurement.** The GOM also incurs major reputational risks leading to a diminishing pool of willing and qualified suppliers for bidding rounds on larger contracts and projects, and even for the obtaining of routine goods and services in every-day procurement. This is the exact opposite of what the **National Vision** seeks to achieve. Arising from years of unpleasant experiences, several businesses have evolved a self-protecting policy of not doing business with any GOM or MPS entity/client and/or require payment **in advance** (e.g., this is a universal pattern among overseas suppliers). Over time, this amounts to a hidden (and growing) economic tax on all citizens, raising the expenses of businesses and the cost of living in Montserrat. By corollary, these defensive and precautionary private-sector dynamics serve, among other consequences, (a) to reduce the size of the economy well below its potential capacity, (b) to limit the opportunities for effective competition, and (c) to retard the quest for greater efficiencies within public-sector units.

Recommendations

61. **Promptest payments.** Implement the full provisions of the existing regulations with respect to electronic payments, including the requirement in Part XIII, paragraph 69, of the *Public Finance (Management and Accountability) Regulations 2009* that stipulates “All payments due shall be made as soon as possible to the persons entitled to receive them.”, and establish clear standards for the timely payment of all employees, contractors, creditors, and suppliers throughout the G.O.M. and each M.P.S. payment-entity.

62. **Accelerate tax-assessments and tax-refunds.** Given our findings that tax-assessments are chronically delayed for up to the statutory maximum of 7 years, it is imperative to equip the IRD with adequate resources, including number of tax-assessors, compliance-staff, business-facilitation unit, public-relations unit, taxpayer-assistance unit, and a comprehensive planned programme of in-house training and refresher-courses for IRD officers at all levels to ensure both the appropriate level of skills for a modern tax-system, and the most effective staffing of the tax-collection agencies of GOM. Greater accountability is required in assessing IRD’s staff in relation to objective metrics: e.g., (1) the number of tax-returns processed; (2) the incremental tax-revenues arising from assessments, reviews, and audits; (3) the timeliness of disbursements of tax-refunds; and (4) the timeliness in responding satisfactorily to clients’ inquiries and requests.

63. **Budget adequately for IRD’s staffing and tax-refunds.** Comparative figures from the U.S.A. show that (a) *revenue-officers* (also known as tax-collectors), with an average salary of \$50,485, collect \$2.5 million each per year, (b) *tax-auditors* (who audit individual tax-returns), with an average salary of \$75,577, collect an extra \$1 million each per year, and (c) *specialist tax-auditors* (who focus on the biggest corporations and most complex tax-returns), with an average salary of \$150,000, each collect an average of \$19 million extra in taxes per year (Johnston, 2013). Clearly, well trained taxation-officers are able to collect, on average, 50 to 150 times their direct costs to the Government. What is also clear is that the better trained they are, the higher is the return to the Government for every dollar invested in their recruitment, in specialist-training, and in continuing professional development. It is also essential to provide adequate funding in the GOM’s annual budget to ensure that the IRD can function optimally as well as provide prompt tax-refunds to all persons and businesses that qualify for them.

64. **Co-ordinate taxes payable and taxes receivable.** It is also highly recommended to institutionalise GOM-wide tax-monitoring and tax-compliance systems that are integrated across all MPS units so that all receivables and all payables between the GOM and any given citizen, resident, or business can be netted for the maximum of efficiency. This would greatly help (a) to reduce existing arrears (which are already in the tens of millions of dollars for IRD alone), (b) to prevent avoidable increases in arrears, (c) to improve relations with taxpayers, (d) to relieve the burden on those who are in a net receivable position with the GOM (and especially cash-flow-sensitive small businesses and low-income taxpayers), (e) to enhance compliance by ensuring that those who have payables to GOM are not simultaneously receiving

tax-refunds, and (f) to improve the cash-management of the GOM by significantly reducing net refunds from the prevailing levels.

65. **Monitoring and review mechanisms.** Given the pervasive absence of documented evidence of any actively implemented MPS systems for identifying, for monitoring, and for taking timely remedial action regarding overdue payments, it is essential that every GOM Ministry and Department Head establish a standard template for weekly and monthly reporting of aged payables. In line with best practices, and in compliance with the established laws and regulations, including the ***Public Finance Regulations 2009***, all reasonable efforts ought to be exerted to ensure that exceptional items are highlighted promptly for the soonest redress of (i) any disputes with vendors/payees, (ii) documentary deficiencies, and (iii) service-quality issues. Where an issue affects only a part of a payment-amount or invoice-amount, it is fair to pay promptly the undisputed portion(s), and to avoid all-or-nothing scenarios that create adversarial dynamics internally and externally, impairing the G.O.M.'s image, and affecting future relations with payees/suppliers.

66. **Business-facilitation.** As 8 years have elapsed since the effective date of this law, The Ministry of Finance must urgently implement, as soon as it will be practicable, the **e-Business Advisory Council**, as mandated by the Electronic Transactions Act 2009. This can be the mechanism for value-added interface with the **OECS Business Council** and the related business-acilitation unit of the **Eastern Caribbean Central Bank**, as well as the MCC, and various other private-sector entities and public-sector agencies that are focused on business-related initiatives: e.g., (a) internships, (b) work-attachments, (c) micro-enterprise development, (d) financing of start-up ventures, (e) export-promotion, (f) e-commerce, (g) website-development, and (h) young-entrepreneur networks, training, and supporting ecosystems.

67. **Regular performance-reporting.** With leadership by Permanent Secretaries and Heads of Department, all supported by **DITES**, Heads of Department must entrench ICT related best practices throughout the public sector with clear accountability for efficiency, for effectiveness, and for value for money. A Balanced Scorecard paradigm can provide a framework for creating managerial dashboards and high-quality quarterly and annual performance-reports at all levels of the GOM, including high transaction volume State-owned enterprises such as MUL, which is systemically important for all stakeholders, including GOM, businesses, and households.

68. **Card-payments inward.** Within 6 to 8 weeks, the Ministry of Finance ought to enhance the GOM's entire payments infrastructure, as a high priority, including installing wired/wireless card-reading machines at every touchpoint in the MPS. For the twin purposes (a) of revenue maximisation to the GOM and (b) of optimal value for money to stakeholders, the deployment of credit-card/debit-card payment-facilities both in person, at cashiers, and online, ought to follow the sequence of the relative magnitudes of revenues at stake: e.g., starting with high-volume client-facing locations such as the airport, the ferry port, **MUL**, and the **Treasury**

Department in the first wave of implementation. In the secondary phase of implementation, all other Ministries, Departments, statutory corporations, and public-service agencies would follow.

69. **Card-payments outward.** Issue all Permanent Secretaries and Heads of Department with GOM credit-cards for regular purchases of goods and services from overseas suppliers (essential requirement in modern business-practices), as well as for purchases from those local merchants that accept card-payments. This will avoid the perennial inconvenience reported by many interviewees in having to use personal credit-cards and/or to use much more expensive forms of international payment, which have become significantly more expensive and take longer since, like several other indigenous Caribbean banks, Bank of Montserrat lost its correspondent-banking relationship with Bank of America in August, 2016 (**Kaiteur News, 2016 [38]; Kaiteur News, 2017 [37]; Rijock, 2017 [40]**).

70. **Tourism & travel.** Every year, the observed realities of large numbers of visitors to the island in December and in March, in particular, show the importance and the urgency of making Montserrat a place that is truly modern and much easier to do business, to make online reservations, and to pay all manner of fees, taxes, duties, and purchases online. This requires that all of the **St. Patrick's Festival** committees, organisers of events, and related tourism and hospitality stakeholders enable (a) online reservations, (b) online purchases of tickets, and (c) full disclosure of event schedules, with special notes of any events that have an admission-fee.

71. **Hospitality and entertainment-venues.** In turn, in-person card-payments at specified cashiers as well as at the venues of public events (e.g., the Montserrat Cultural Centre) urgently require facilitation to accommodate e-payments both (a) by local expatriates resident on the island, as well as middle-income and high-income Montserratians (all of whom are accustomed to such services in other countries, including in neighbouring ECCU territories, most notably Antigua which is the vital gateway for all travellers to and from Montserrat), and (b) by the many categories of visitors to Montserrat (e.g., long-stay tourists, day-trip visitors, cruise-ship visitors, business-travellers, dignitaries, diplomatic personnel, private yachts, private jets, potential investors, et cetera). This will boost the convenience of all patrons, will increase the attendance by persons who either did not know about certain events prior to arrival and/or who make last-day decisions about venues to visit and events to patronise.

72. **ATM Services.** Another related recommendation is to have fully functional ATM services and/or multi-currency cambio-services in major venues on the island, commencing with the high-volume revenue-points: e.g., the airport, the ferry port, the Cultural Centre, and the Treasury Department (versus the unacceptable status quo that there is only one ATM to handle international card-payments on the island). These services can be provided through strategic partnerships with local financial service-providers and/or with regional firms that specialise in these areas.

73. **Annual employee-surveys.** Each Ministry and each Department must perform annual surveys of employees in each civil-service unit that handles receipts/payments, to assess (a) attitudes to ICT, (b) the scope, the scale, and the intensity of usage of ICT, (c) new failures or successes in service delivery, and (d) remaining performance gaps, with ensuing personalised plans for human resource development at the department level and, in turn, at the personal level with objective metrics for successful outcomes.

74. **Annual customer-surveys.** Each Ministry and each Department must perform annual surveys of customers of every civil-service unit that handles receipts/payments, to assess (a) public attitudes to ICT, (b) citizens' usage of e-Government ICT, (c) stakeholders' perceptions of new failures or successes in service-delivery, and (d) remaining performance-gaps (e.g., citizens' actual service-experiences versus citizens' emerging needs, preferences, and expectations), with ensuing personalised plans for H.R. development and ICT enhancements towards optimisation within each civil service unit (Jones, Hackney, & Irani, 2007)[86].

75. **International accountability.** Audited entities are encouraged (a) to publish widely the results of their performance-audits, and (b) to hold public fora (at least annually). This will afford optimal engagement of the citizens in discussing and improving matters that affect their quality of life in interacting with the public sector. It will also offer greater accountability for tax-dollars, and particularly given that most expenditure is still being funded by grants, by **Her Majesty's Foreign and Commonwealth Office (FCO)** and the **UK Department for International Development (DFID)**, by other foreign/external types of aid, and by concessionary multilateral agencies (such as the Caribbean Development Bank).

76. **Public-sector accountability.** Each Ministry and each Department ought to use the annual post-audit progress-reviews as opportunities for accountability within the public sector, including criteria for (a) individual officers' performance-appraisals, (b) merit-based increments, and (c) deserved promotions. It is essential to put the emphasis on the level, the quality, and the standards of service within the public service (Gummigle, Brewster, & Morley, 1994).

77. **Private-sector accountability.** Each Ministry and each Department ought to use the annual post-audit progress-reviews as opportunities for informing the public about:

(a) Improvements implemented and

(b) Achievements of faster, better service-delivery e.g.,

(i) Higher transaction-volumes of receipts/payments;

(ii) Reduction in the average speed of payment-processing;

(iii) Shortened time-frames for payment of tax-refunds of all types (and especially via the

Inland Revenue Department, where millions of dollars of refunds per year are at stake and where public-sector receivables are also at their highest); and

(iv) Reductions of costs per transaction and/or in aggregate per public-sector unit that is handling receipts/payments.

78. **E-Government.** Provide a central e-Government portal to enable online registration of all tax payers so that stakeholders can view all of their public-sector payments, obligations, and/or refunds receivable in one consolidated account in a secure electronic environment. This will be especially helpful in achieving the highest possible rate of compliance with the large percentage of stakeholders in the Montserratian Diaspora worldwide (e.g., income-taxes and property-taxes).

79. **Reliable utilities and cyber-security.** In light of (1) the several deficiencies identified during previous audits of DITES, and (2) the widespread, multiple, and frequently recurring unscheduled losses of power, Internet-services, and/or telephone-services during the period of November, 2016, to April, 2017, it is vital to implement and to maintain the following:

- (i) Robust, multi-layered power-sources,
- (ii) Enhanced resilient and electricity-failure-proof cyber-security mechanisms that are functioning 24/7, and
- (iii) System-redundancy for all departments of GOM.

80. One simple example of this is to have one or two solar panels for each public building for daytime lighting during peak-demand hours. Another low-cost recommendation is to have uninterruptible power-supplies for every computer and work-station in the MPS so that, in the event of power failure by MUL, each unit, Ministry, and Department can maintain productivity for at least 2 to 4 extra hours. The staggering loss of public-sector productivity during the past 6 months has ramifications for the entire society and economy of Montserrat, and could easily be prevented.

81. **System-availability and standards of performance.** The entire e-commerce and e-Government ecosystems require a very high standard of connectivity (e.g., best practice is at least 99.99% year-round availability of computer-systems, e-Government websites and portals, and all electronic payment-systems) and uninterrupted power-sources. Feasible solutions for this recommendation include these:

- (a) Installing uninterruptible power-supplies for each work-station (e.g., ensuring at least 2 to 4 hours of productivity per MPS employee in the event of failure of the electricity-supply);
- (b) Installing at least one or two solar photovoltaic panels on each public-sector building to ensure reliable lighting in the event of power-failure;
- (c) Installing a generator for emergencies in the event that the normal electricity-service fails and/or the solar photovoltaic arrays are insufficient, at any point in time, to supply the peak-demand during work-hours;
- (d) It is extremely important to have routine checks, maintenance and practice-periods (e.g., monthly or quarterly) to ensure that all generators and back-up systems are still working satisfactorily;

- (e) It is also vital to ensure that adequate supplies, parts, fuel, and replacements are constantly in inventory, in the event of the failure or malfunctioning of any generator, stand-by system, back-up mechanism, or other power-source.

82. **Cloud-computing platform(s).** As a further enhancement of systemic resilience, of disaster-preparedness, and of business-continuity planning, DITES can move towards phased migration to one (or more than one) of the available world-class cloud-computing platforms (e.g., Google, Microsoft, or Amazon Web Services). These initiatives will offer such benefits as these:

- (a) Minimising of disruptions to service,
- (b) Accommodation of scalability of all end-user services with unprecedented flexibility,
- (c) Continuous automatic updates to the latest versions of all hardware and software,
- (d) Obviation of the traditional high-cost approach to ICT procurement, and
- (e) Achieving of much lower per-unit costs for the GOM overall, with positive budgetary ramifications for every MPS unit (Alsin, 2016)[15].

83. Whilst each of these leading cloud-computing platforms is well able to accommodate every conceivable scale and type of GOM use, a portfolio-approach (e.g., using one provider-platform for some services, and another platform for other services) can further reduce risks and diversify probable contingencies' impacts (Hardy, 2017) [50].

CHAPTER 5: MANAGEMENT RESPONSE

84. Below are the comments made by the Financial Secretary regarding the listed recommendations (from Chapter 4 above):

(1) Recommendation 61. Promptest payments.

Comment: Treasury will establish a clear standard for payments for GOM.

(2) Recommendation 62. Accelerate tax-assessments and tax-refunds.

Comment: This is being addressed through the tax reform programme; a new computerised system is being installed and will be in operation before December 2017 and backlog is being addressed.

(3) Recommendation 63. Budget adequately for IRD's staffing and tax-refunds.

Comment: Training requests from MCRS will be considered as part of the normal budget process and budget discussions.

(4) Recommendation 64. Co-ordinate and net taxes payable and taxes receivable.

Comment: This will be addressed through the new computerised system.

(5) Recommendation 65. Monitoring and review mechanisms.

Comment: Centralisation of debt is being considered at this time with debt management falling to the MOFEM. It is planned that this process will be in place from the 1st of April 2018. This will involve proper management of debt and formalised debt policy and procedures.

(6) Recommendation 66. Business-facilitation. As 8 years have elapsed since the effective date of this law, The Ministry of Finance must urgently implement, as soon as it will be practicable, the e-Business Advisory Council, as mandated by the Electronic Transactions Act 2009.

Comment: MOFEM is not aware of this finding and will review the evidence and take the appropriate action before the end of the Financial Year if appropriate.

(7) Recommendation 67. Regular performance-reporting.

Comment: [None received.]

(8) Recommendation 68. Card-payments inward. Within 6 to 8 weeks, the Ministry of Finance ought to enhance the GOM's entire payments infrastructure.

Comment: Touchpoint machines have been procured from the Bank of Montserrat and we are in the process of implementing across Government - this will be completed by the end of the Financial Year at the following locations.

(9) Recommendation 69. Card-payments outward. Issue all Permanent Secretaries and Heads of Department with GOM credit-cards for regular purchases of goods and services from overseas suppliers.

Comment: Recommendation not accepted due to internal issues and risks. Corporate credit card is held in the MOFEM under the Financial Secretary and all PS and HoD have access to the use of the card. Formal process is in place.

(10) Recommendation 70. Tourism & travel. To make online reservations, and to pay all manner of fees, taxes, duties, and purchases online.

Comment: Noted - does not come under the MOFEM - question would need to be put to the relevant Festival Committees.

(11) Recommendation 71. Hospitality and entertainment-venues. In turn, in-person card-payments at specified cashiers as well as at the venues of public events (e.g., the Montserrat Cultural Centre) urgently require facilitation to accommodate e-payments

Comment: Noted - this does not come under MOFEM or GOM and is matter for the Montserrat Cultural Centre and other non-governmental bodies.

(12) Recommendation 72. ATM Services. Another related recommendation is to have fully functional ATM services and/or multi-currency cambio-services in major venues.

Comment: Noted - this does not come under the remit of MOFEM OR GOM and is a question for the Bank of Montserrat.

(13) Recommendation 73. Annual employee-surveys.

Comment: [None received.]

(14) Recommendation 74. Annual customer-surveys.

Comment: [None received.]

(15) Recommendation 75. International accountability. Audited entities are encouraged (a) to publish widely the results of their performance-audits, and (b) to hold public fora (at least annually).

Comment: GOM audited accounts and public documents can be accessed via the internet or provided by MOFEM; furthermore, we provide a Citizens' Guide to the Budget, which is widely available. We have no intention to hold public fora for GOM Financial Statements as these are reviewed in the public arena through the PAC.

(16) Recommendation 76. Public-sector accountability. Each Ministry and each Department ought to use the annual post-audit progress-reviews as opportunities for accountability within the public sector, including criteria for (a) individual officers' performance-appraisals, (b) merit-based increments, and (c) deserved promotions.

Comment: [None received.]

(17) Recommendation 77. Private-sector accountability. Each Ministry and each Department ought to use the annual post-audit progress-reviews as opportunities for informing the public.

Comment: As far as I am aware, all audit reports are public documents which members of the public can obtain from the Audit Office or via the internet. Further reporting will be considered as required.

(18) Recommendation 78. E-Government. Provide a central e-Government portal to enable online registration of all tax-payers so that stakeholders can view all of their public-

sector payments, obligations, and/or refunds receivable in one consolidated account in a secure electronic environment.

Comment: This will be addressed through the new computerised tax system.

(19) Recommendation 79. Reliable utilities and cyber-security.

Comment: DITES is connected to the GOM HQ compound's back-up generator as a back-up system. With the new power station coming on line, we have seen a significant decrease in the number of power cuts during the working day. No further action is planned.

(20) Recommendation 80. One simple example of this is to have one or two solar panels for each public building for daytime lighting during peak-demand hours. Another low-cost recommendation is to have uninterruptible power-supplies for every computer and work-station in the MPS... to maintain productivity for at least 2 to 4 extra hours.

Comment: GOM HQ's compound has a back-up generator as a back-up system. With the new power station coming on line, we have seen a significant decrease in the number of power cuts during the working day. All MOFEM computers have back-up battery-power supplies. No further action is planned. Departments can make requests for additional spend to cover such items if they feel it to be a priority as part of the annual budget process.

(21) Recommendation 81. System-availability and standards of performance. The entire e-commerce and e-Government ecosystems require a very high standard of connectivity (e.g., best practice is at least 99.99% year-round availability of computer-systems, e-Government websites and portals, and all electronic payment-systems) and uninterrupted power-sources.

Comment: Departments can make request for additional spend to cover such items if they feel it to be a priority as part of the annual budget process.

(22) Recommendation 82. Cloud-computing platform(s). As a further enhancement of systemic resilience, of disaster-preparedness, and of business-continuity planning, DITES can move towards phased migration to one (or more than one) of the available world-class cloud-computing platforms.

Comment: [None received.]

- (23) **Recommendation 83.** Whilst each of these leading cloud-computing platforms is well able to accommodate every conceivable scale and type of GOM use, a portfolio-approach (e.g., using one provider-platform for some services, and another platform for other services) can further reduce risks and diversify probable contingencies' impacts.

Comment: [None received.]

CHAPTER 6: OVERALL CONCLUSION

85. **Outdated systems.** The provision and the availability of infrastructure for telecommunications and for information-technology, including the capacity for electronic payments, online transactions, and e-commerce, are widespread, and these services are being widely used and increasingly demanded throughout the economy and the society of Montserrat. Many positive changes have taken place during the past 20-plus post-crisis years, propelling the country into the 21st century technologically.

86. **Unused and under-used technologies.** Too many instances remain where available low-cost approaches are not employed, and/or existing technologies, modalities, and payment-methods are readily feasible, but they are not being utilised fully or at all. Whilst this pattern of non-deployment of technologies and of sub-optimal utilisation has a considerable range across the public sector (e. g., salaries and wages are paid electronically directly to bank-accounts, but most vendors are still being paid by manual processes and paper-cheques), there are obvious opportunities for a transformation of the entire public sector into a much more efficient, fully effective, modern vehicle for accelerating the flow of funds throughout the economy, starting with its own suppliers, contractors, and creditors.

87. **Great opportunities.** In short, in Montserrat, the financial sector is electronically capable, the society is technologically equipped, and the economic actors are crying daily for implementation and for expeditious facilitation, starting with timely payments and tax-refunds. It is now the imperative onus of the GOM to close this increasingly urgent and exceedingly expensive performance-gap throughout the public sector and, thus, to come fully into the 21st century in all of its forms, methods, and systems of payment. Encouragingly for all stakeholders, we note that even small incremental and individual improvements can aggregate to significant economic multiplier-effects. This is a distinctive advantage of small, open, and developing island-States.

88. Finally, as the foregoing recommendations cost significantly less than the status quo, implementation will, very likely, soon pay for itself several times over in terms of costs saved, as well as in terms of the value that will be added (1) to the delivery of public services, and (2) to the quality of service experienced by all stakeholders: e.g., (a) citizens and residents in Montserrat, (b) local businesses, (c) investors on the island, (d) expatriate Montserradians that continue to have tax-obligations, businesses, properties, and/or other interests on the island, (e) returning Montserradians, and (f) by visitors. As an illustration of this, authorities have estimated that every extra dollar invested in the effective functioning (including e-Government aspects) of the Inland Revenue Service greatly boosts compliance-rates and generates an average of \$10.00 of extra revenue-collections for the Government. In practical terms, this means up to 900% return on investment, representing one of the rare instances that an increase in public-sector spending actually increases revenues and reduces deficits (Philips, 2013) [70].

APPENDIX 1: OFFICE OF THE AUDITOR GENERAL

Functions

By force of *The Montserrat Constitution Order 2010*, the O.A.G. is established and upheld in its independence and in its functions within the public sector of Montserrat. The relevant section states as follows below:

“Functions of Auditor-General

103.—(1) **The Auditor-General shall audit and report on the public accounts of Montserrat and of all public offices, including the courts, the central and local government administrations, universities and higher education institutions, and any public corporations or other bodies or organisations established by an Act of the Legislature, and may conduct financial and value for money audits in respect of any project involving public funds.**

(2) The Auditor-General shall submit to the Legislative Assembly **annually a report** of the accounts audited by him or her under subsection (1) for the immediately preceding financial year.

(3) For the purposes of subsection (1) **the Auditor-General and any person authorised by him or her shall have a right of access at all reasonable times to all such documents as appear to him or her to be necessary for the purposes of the audit**, and shall be entitled to require from any person holding or accountable for any such documents such information and explanation as he or she thinks necessary for those purposes.

(4) In the exercise of his or her functions, the Auditor-General shall **not be subject to the direction or control of any other person or authority.**” [bold and underlined emphases added throughout]

The independence of both (a) the functioning of the Auditor-General and (b) the budgetary allocations from the Government’s national Consolidated Fund to finance the Office of the Auditor General are clearly stated and emphatically declared as follows below:

“National Audit Office

104.—(1) The Legislature shall by law make provision for the establishment of an independent National Audit Office headed by the Auditor-General.

(2) **The budget** for the National Audit Office shall be charged on and paid out of the Consolidated Fund, and **must at all times be adequate to enable the full performance of the** functions conferred on the **Auditor-General** by this Constitution or any other law.

(3) The accounts of the National Audit Office shall be audited and reported on by an auditor appointed by the Legislative Assembly.” [bold and underlined emphases added throughout]

In line with international standards for public-sector auditors and global best practices for Supreme Audit Authorities, the O.A.G. of Montserrat espouses the following values and priorities:

Our Values

Respect. We seek to build productive professional associations and cordial personal working relationships with colleagues internally as well as with other public servants externally.

Honesty. We tell the truth even when it is unpleasant or embarrassing. Accurate self-assessment is vital for every person and for every unit of Government to acknowledge its strengths and its weaknesses, and to begin to address performance-gaps and shortfalls from relevant policies, from applicable standards, and from currently binding laws and regulations.

Transparency. Our work is in the service of the Government and the people of Montserrat. Therefore, all of our final reports on engagements undertaken are made available to all stakeholders, to the public and to any other interested parties via publication on our website.

Confidentiality. In the course of our duties, we protect the identity of all persons who reveal secret information or private details. Our reports disclose general conclusions and focus on practicable solutions rather than highlighting any person or department directly.

Accountability. By definition, the work of the O.A.G. is to hold accountable all public-sector Ministries, Departments, agencies, public-private partnerships, and State-owned enterprises. In turn, we are accountable (a) to colleagues through quality-control procedures and through peer-review, (b) to local, regional and multinational professional accounting and auditing bodies, and (c) to global standards-setting bodies. Finally, the O.A.G. itself is subject to annual audits by an independent external audit-firm of the highest repute.

Objectivity. Auditors must remain impartial, devoid of partisan bias, without membership of political parties, and otherwise focused on the truth and the facts, rather than personal opinions, emotions, or self-interest. All of our analyses, conclusions and recommendations are based on facts and verifiable and auditable evidence, supported by retained audit-papers and work-in-progress files throughout each and every audit-engagement. Information is gathered solely for the purposes of the official audit and never to be used for personal advantage of either the auditors themselves or of any other person, party, entity, or enterprise.

Independence. Vitally important to the respectability of the O.A.G. is the independence of the Auditor-General and of his/her staff both in appearance and in fact, both in public discourse

and in social intercourse. Auditors must avoid any potentially compromising personal relationships or business activities with any public-sector auditee. Where he/she has (i) any material private indirect interest and/or (ii) any direct financial or other interest in an auditee and/or (iii) in or with any of its employees, suppliers, investors, creditors, or other related parties, an auditor must either refrain from any part of an audit of such entity and/or disclose the nature and the extent of such actually or potentially compromising interest whatsoever it be.

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Internet of Things (IoT) in the Public Sector: Kuwait City

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APPENDIX 4: TERMINOLOGY

The following discussion presents some of the most important terms pertaining to Performance-Audits generally and clarifies [a] the conceptual framework, [b] the mathematical definition, and [c] the practical illustrations and applied examples for each word or phrase. As many terms are used loosely in common speech and/or they are often used quite indistinctly, incorrectly, interchangeably with otherwise separable terms, or altogether inappropriately even in more formal contexts, it is vital for clarity and for shared understanding to explain exactly how and why each term is being used in this document.

Efficiency. This concept is easily defined as the prudent management of costs in producing a desired output, deliverable, or outcome. In practical terms, efficiency is measured as the ratio of inputs per given or desired unit of output. The performance-goal is the minimisation of inputs and/or input-costs per unit of output, subject to the desired quality of that output, and to any applicable standards, regulations, contractual obligations, client-service objectives, or legal requirements.

Productivity. This is the mirror-image of efficiency: This concept is easily defined as the prudent management of activities, personnel, and resources in producing an *actual* output, deliverable, or outcome. In practical terms, efficiency is measured as the ratio of actual units of output per given unit of each input. The performance-goal is the maximisation of output per unit of each input and/or of each input-cost, subject to the desired quality of that output, and to any applicable standards, regulations, contractual obligations, client-service objectives, or legal requirements.

Effectiveness. This concept is easily defined as the prudent management of activities, personnel, and resources in, and towards, producing a *desired* (e.g., planned or budgeted) output, deliverable, or outcome. In practical terms, effectiveness is measured as the ratio of actual units/costs of all outputs to the desired units/costs of output. The short-term performance-goal is the minimisation of the gap between desired output(s) and actual output(s), subject to the desired quality of that output, and to any applicable standards, regulations, contractual obligations, client-service objectives, or legal requirements.

By contrast, the medium-term and/or the long-term performance-goal(s) is (are) the sustainable maximisation of actual output(s) meeting (or, best of all, exceeding) the quality and the amounts of desired output(s), subject to the desired quality of that output, and to any applicable standards, regulations, contractual obligations, client-service objectives, or legal requirements. Essentially, akin to the distinction of operational management from strategic leadership, *efficiency* is about doing things well, whilst *effectiveness* is about doing the right things. The danger frequently confronting public-sector administration (and, moreso, affecting civil-service reform) is that most employees are preoccupied with efficiency within narrow daily parameters, often degrading to *de minimis* compliance with prevailing rules, norms, conventions, and customs.

Ultimately, national leaders must give (i) visionary impetus, (ii) policy-empowerment, and (iii) sustained accountability, both (a) for public servants, on the one side, and (b) for private enterprises, for non-governmental organisations, for households, and for individual citizens, on the other side, to ensure that all activities and resources are being directed towards the achievement of the national strategy for Montserrat's redevelopment. By having (i) clearly enunciated policies, (ii) continually reviewed and relevant laws and regulations, (iii) regular communication with, and engagement of all stakeholders, as well as (iv) precisely defined benchmarks and metrics for efficiency, for effectiveness, and for performance, the Government of Montserrat --- and, by extension, The Crown, its creditors and its development-finance partners, -- - can encourage, measure, reward, and celebrate true progress in all facets of its operations. Certainly, the visionary impetus is readily provided by such governmental proclamations as the **Montserrat Sustainable Development Plan 2008 to 2020: Journey to Sustainable Prosperity** which espouses a national vision of "**A Healthy and Wholesome Montserrat**" [S.D.P., 2010, p. i].

Value for money. This economic concept is easily defined as the prudent management of resources and costs in producing a *desired surplus quantum and/or value of benefits* derived from actual output(s), deliverable(s), or outcome(s). In practical terms, value for money is measured as the consumer's utility or economic surplus: i. e., (1) the actual (and/or user-perceived) value of all benefits of each unit of output, minus (2) the actual costs per unit of each input required to produce that unit of output. The performance-goal is the maximisation of the total value of incremental benefits (minus marginal costs) derived from all units of output (e. g., public services or public goods), subject to the desired quality of that output, and to any applicable standards, regulations, contractual obligations, client-service objectives, or legal requirements.

As a simple example, one computer-system might cost \$10,000 whilst another computer-system might cost only \$5,000; here, the second option is clearly the cheaper (the more efficient) one, but is it the most effective choice? Does it meet all the desired specifications? Even if it is found to be effective, an option must then be evaluated for its value for money. It is entirely possible for an efficient option to be ineffective, and for an effective option to be inefficient, but value for money circumscribes both scenarios as a further check on the rightness of a decision or policy, and, in particular, in the assessment of the value and the benefits of actual behaviours and choices versus their underlying costs, efficiency, effectiveness, and productivity.

To illustrate these four concepts further, value for money would look not merely at the costs alone, but at the ratio and the quantum of benefits derived from outcomes/ outputs versus costs incurred in their achievement. Therefore, a \$10,000 computer-system that produces \$50,000 of benefits per year yields a value for money ratio of 5:1 and an absolute value of \$40,000 per year. By contrast, a \$5,000 computer-system that produces \$10,000 of benefits per year yields a value for money ratio of 2:1 and an absolute value of only \$5,000 per year. Where value-for-money ratios are similar or identical, **preference would usually be given to the option that produces the highest absolute value for money.** E.g., Consider an Option A costing \$500,000 and yielding \$2,500,000 of annual benefits (i.e., value-for-money ratio of 5:1 and absolute value for money of \$2,000,000 p.a.), and an Option B costing \$50,000 and yielding \$300,000 of annual benefits (i.e., value-for-money ratio of 6:1 and absolute value for money of \$250,000 p.a.).

Though it is inferior in terms of value-for-money ratios (i.e., 5:1 versus 6:1), Option A is clearly superior to Option B in terms of its value for money to the country, in absolute terms. In short, *ceteris paribus*, the public is generally much better served when it derives a better value for money overall, even at a higher relative annual cost or initial investment, than when a cheaper and/or less productive option is chosen.

Performance. This concept defines observable behaviours in respect of a specified function or activity. In practical terms, performance is measured as the comparison of *ex post* actual outcomes with *a priori* desired or pre-agreed outcomes. This lends itself very well to objective definition, measurement, monitoring, reporting, feedback, and recommendations for improvement, wherever gaps are identified between (a) desired behaviours and outcomes and (b) actual behaviours and outcomes. For a simple example, an employee who claims no sickness-leave in a given year would be said to have perfect performance vis-à-vis an allowance of 25 work-days per year, whilst an employee who claims 33 days for sickness would be clearly seriously under-performing with respect to that same standard.

Performance-audits. Audits are objective, external, and independent reviews of activities, processes, organisations, financial statements, and/or other objects of interest, having explicit regard to such parameters as (i) applicable laws, (ii) external regulations, (iii) internal policies, (iv) internal rules, (v) international treaties, (vi) bilateral or multilateral agreements, (vii) industrial benchmarks, (viii) contracts, (ix) codes of conduct, (xi) ethics, (xii) morals, and/or (xiii) professional standards. Accordingly, performance-audits go well beyond (1) *financial audits* (which assess financial statements and reports against International Financial Reporting Standards) and (2) *internal audits* (which pertain to assessments of an organisation by insiders with a single-entity perspective), for instance, to examine the actual, observable, and measurable behaviours, outputs, efficiency, effectiveness, and value for money of an entity, a programme, an agency, a statutory corporation, or an entire public sector, as the case might be. In this regard, performance-auditing is inherently more far-reaching, more strategic, and more consultative than other types of audit. When it is well executed by the auditor(s), and when, thereafter, its findings are wisely attended and its recommendations expeditiously implemented, a performance-audit in the public sector has the potential to offer the greatest value for money to the Government and, ultimately, to the people of Montserrat. In short, it pays for itself many times over.

APPENDIX 5: AUDIT FIELDWORK

Questionnaire for Interviewees

Following the aforementioned audit-questions, a simplified matrix will be constructed to standardise all interviews and the respondents' data. From this methodology, it will be easy (1) to compare each payment-handling entity's own progress and deficiencies across time, and (2) to compare all payment-handling entities progress and deficiencies at a given point in time (e.g., at the end of each fiscal year).

Invitations were sent in person by courier on Tuesday, December 13, 2016. The next morning, a general announcement was made via e-mail throughout the public sector. On Wednesday, December 27th, 2017, individual letters were addressed to the General Managers of each of the four financial institutions on the island, outlining the performance-audit, its objectives, and inviting them to participate for the greater good, not least of all because they are fundamental units of the infrastructure of the local financial sector and all existing and feasible methods of payment and payment-systems, both for the Government of Montserrat and for all other economic actors (e.g., businesses, organisations, corporations, and citizens).

Public-Sector Interviewees

- (1) The Financial Secretary
- (2) The Deputy Financial Secretary
- (3) The Deputy Governor
- (4) The Head of the Office of the Deputy Governor
- (5) The Comptroller of Inland Revenue
- (6) The Comptroller of Montserrat Customs & Revenue Service
- (7) The Director of Revenue (I.R.D. and M.C.R.S.)
- (8) The Attorney-General
- (9) Permanent Secretary, Ministry of Finance & Economic Management
- (10) Permanent Secretary, Ministry of Communication, Works and Labour
- (11) Permanent Secretary, Ministry of Education, Youth Affairs and Sports
- (12) Assistant Secretary, Ministry of Education, Youth Affairs and Sports
- (13) Permanent Secretary, Ministry of Health and Social Services
- (14) Permanent Secretary, The Office of the Premier
- (15) Permanent Secretary, Ministry of Agriculture, Lands, Housing & Environment
- (16) The Accountant-General, The Treasury
- (17) The Deputy Accountant-General, The Treasury
- (18) Senior Accountant, The Treasury

- (19) The Commissioner of Police (also in charge of Immigration & Fire Service)
- (20) The Deputy Commissioner of Police

Private-Sector Interviewees

- (21) The General Manager, Bank of Montserrat, Brades
- (22) Assistant General Manager, Bank of Montserrat
- (23) Operations Manager, Bank of Montserrat
- (24) The General Manager, Royal Bank of Canada, Brades
- (25) The General Manager, The Montserrat Building Society, Brades
- (26) The General Manager, The St. Patricks Co-operative Credit Union Limited
- (27) Operations Officer, The St. Patricks Co-operative Credit Union Limited
- (28) Senior Officer, Accounting & Finance, St. Patricks Co-op. Credit Union Ltd.
- (29) Managing Director, Aravin's Supermarket
- (30) Managing Director, BBC Radio & TV (department-store & hardware store)
- (31) General Manager, Tropical Mansion Suites (hotel)
- (32) Reservations Manager, Runaway Travel (travel-agency)
- (33) Managing Director, Angelo's Supermarket
- (34) General Manager, Delta Petroleum Services (gasoline, diesel, natural gas)
- (35) Managing Director, Deepak's Enterprises Ltd. (grocery-store)
- (36) General Manager, Monair (St. Vincent Airline)
- (37) General Manager, Olveston House (guest-house and restaurant)
- (38) Manager, A & F Gas-Station
- (39) Assistant Manager, Grand View Bed & Breakfast (hotel)
- (40) General Manager, Fly Montserrat (Montserrat Airways Limited)

APPENDIX 6: LEGAL EXTRACTS

81. The *Public Finance (Management and Accountability) Regulations 2009* gives clarity of procedures with respect to payments in the public sector, as well as to the related accounting and record-retention, all including electronic forms. Part XIII provides for overseas payments by draft as well as by electronic transferral as follows:

“67. (1) Payments of public moneys to persons outside Montserrat shall be made by direct payment to such persons by banker’s draft or otherwise **through the banking system**; and where direct payment is considered to be inappropriate, payment shall be made on the authority of the Accountant General through agents duly appointed for the purpose with the approval of the Financial Secretary.” (p. 32) [emphasis added]

“Payment vouchers or electronic documentation

69. **(1)** All disbursements of public moneys shall be properly vouched on payment vouchers or electronic documentation approved by the Accountant General”

“(5) All payments due shall be made as soon as possible to the persons entitled to receive them.”

Part XVIII permits all public-sector records and accounting to be made by paper-documents as well as by electronic forms, storage, and retrieval as follows:

“Accounting and book keeping in the Public Service

83. **(1)** The approved estimates form the basis of the accounts for the year to which they relate and the analysis and classification of the accounts of revenue and expenditure shall accord with those estimates.

(2) Every entry in the books of accounts shall be supported by a voucher and other approved documents containing the full details and particulars of the item or items to which it relates.

(3) A book, account or record that is required to be kept under the provisions of the Act or these Regulations may be kept or prepared—

(a) by making entries in a bound or loose-leaf book;

(b) by recording or storing the data concerned on electronic or other media by means of a mechanical, electronic or other device;
or

(c) in any other manner approved by the Accountant General.

(4) Notwithstanding sub-regulation (3) of this Regulation, where a book, account or record is to be kept or prepared by a mechanical, electronic or other device or to be stored on electronic or other media—

(a) the data recorded or stored shall be capable, at any time, of being reproduced in a hard copy or any other form approved by the Accountant General; or

(b) a reproduction of the data shall be kept in a hard copy approved by the Accountant General, and the provisions of the Act and these regulations with respect to written records shall, with necessary changes, apply.” (p. 37) [emphasis added]

“Use of computer based accounting systems

84. (1) Where the data recorded or stored on electronic or other material by a mechanical or electronic device forms part of a system of account under the control of an Accounting officer, the prior approval of the Accountant General shall be obtained and any changes to the system shall similarly be approved.

(2) An accounting officer shall take all reasonable precautions to guard against damage to, destruction of, or falsification of or in, and for discovery of falsification of or in, any book, account, record or part of a book, account or record required to be kept by the Act or these Regulations; and in particular shall ensure that all instructions issued by the Accountant General in this respect are implemented and enforced.

(3) An accounting officer shall, in particular, satisfy himself that where the system involves the authorisation, approval, deletion or alteration of any transaction or data by electronic means, or any means other than in writing, an audit trail is provided, which enables the person giving such authorisation or approval or deleting or altering a transaction to be identified beyond reasonable doubt and the nature and, if applicable, the amount of the authorisation, approval, deletion or alteration to be ascertained.

(4) An accounting officer shall also satisfy himself as to— (a) the security of the means of storage and the method of processing of electronic media and its data; (b) the proper documentation of any software involved, and shall implement and enforce any instructions issued by the Accountant General in this respect.

(5) In particular access to data and data processing areas shall be controlled and the method of control documented.

(6) Where passwords are used as a security check for accessing data in a computer based accounting system for whatever purpose, including the authorisation or approval of transactions by electronic means or the alteration or deletion of any data, the passwords shall be kept secret by the person to whom they are allocated.

(7) Any public officer who communicates a password to another public officer and causes loss or damage to the Government shall be liable to disciplinary action.

(8) Proper technical support shall be readily available for both hardware and software; and effective backup and disaster recovery procedures shall be instituted to cater for a partial or complete breakdown or loss of the storage media or processing equipment.

(9) The objective of the requirements of sub-regulation (8) of this Regulation is to ensure that the administration of the Government, and in particular the collection of revenue, is not adversely affected.” (p. 38) [emphasis added]

“Treasury cash books

- 85. The Accountant General and any public officer appointed by him, shall keep in his office a cash book, batch sheets or other records including electronic copies showing the allocation of receipts and payments, journals and ledgers together with such other books and registers as may be necessary for the proper maintenance and production of the accounts.” (p. 38) [emphasis added]**