Foreword

Making better use of technology is vital to improving the efficiency and effectiveness of public services, and to ensuring the optimal use of limited resources. Harnessing the power of technology can, however, be challenging. Hardware, software and the ways that we connect with technology are all evolving rapidly, plus the opportunities, benefits and pitfalls are often shrouded in technical jargon that can appear confusing for busy managers and decision makers.

This report builds on the CIPFA publication *The Top Ten Tips for Delivering Efficiencies through Technology*, which was published in 2009. This new *Twelve Strategies* report completely updates the original publication. As well as many new examples and new sections, it takes a pan-public-sector approach, including more about central government, healthcare and the wider public sector. It also draws on more international examples in line with CIPFA's wider areas of interest and influence.

In publishing this report we have three main objectives. First, to raise greater awareness of the variety of opportunities that exist to use technology as a catalyst to facilitate greater efficiency in the delivery of public services. Second, as a means of illustrating developments and emerging good practice. And last, to explain in simple terms the concepts and interrelationships that can often be hidden behind technical jargon and hype.

We believe that this report will be of interest and benefit to both the newcomer and more experienced people. We see it as particularly useful to members who want to upskill quickly.

I commend it to you and encourage you to share it widely.

Nigel Hiller
Chair of the CIPFA Financial Management Panel

Contents

EXECUTIVE SUMMARY 1

INTRODUCTION 1

PURPOSE OF REPORT 2

POLICY CONTEXT 2

DIGITAL BY DEFAULT 2

PLANS FOR IMPLEMENTING DIGITAL BY DEFAULT 3

THE TWELVE STRATEGIES 4

SECTION 1: MAXIMISE SELF-SERVICE AND SILENT RUNNING 7

POLICY DRIVERS 7

THE CHALLENGE 7

IMPLEMENTING SELF-SERVICE 9

POLICY AUTOMATION 9

ONLINE AUTOMATED DIGITAL ASSISTANTS 10

PERSONALISATION 11

SILENT RUNNING SYSTEMS 11

SECTION 2: INCREASE STAFF PRODUCTIVITY 13

POLICY DRIVERS 13

CUSTOMER/CITIZEN RELATIONSHIP MANAGEMENT SYSTEMS 13

CASE MANAGEMENT 15

LINKING WITH WORKFLOW AND ELECTRONIC DOCUMENT AND RECORDS MANAGEMENT SYSTEMS 16

ENTERPRISE RESOURCE PLANNING SYSTEMS 17

BUSINESS INTELLIGENCE AND GEOGRAPHIC INFORMATION SYSTEMS TOOLS 18

COLLABORATION TOOLS 18

MOBILE AND FLEXIBLE WORKING 18

BUSINESS PROCESS IMPROVEMENT 18

SECTION 3: SMARTER PROCUREMENT, PAYMENTS AND INCOME COLLECTION 19

POLICY DRIVERS 19

IMPROVING THE EFFICIENCY OF PROCUREMENT AND PAYMENTS 19

INCOME COLLECTION 23

SECTION 4: EXPLOIT FULLY THE OPPORTUNITIES FOR MOBILE GOVERNMENT AND MOBILE WORKING 25

POLICY DRIVERS 25

MOBILE GOVERNMENT 25

APPS 26

SOCIAL MEDIA 27

4G TECHNOLOGY....28
HELPING EMPLOYEES BE MORE EFFICIENT....28
FLEXIBLE WORKING AND REMOTE WORKING....29
MOBILE WORKING....29
BYOD – BRING YOUR OWN DEVICE....31

SECTION 5: INCREASE CUSTOMER INSIGHT AND ENGAGEMENT....33

POLICY DRIVERS....33
BIG DATA....33
CUSTOMER INSIGHT....36
CUSTOMER JOURNEY MAPPING....36
CUSTOMER SEGMENTATION....37
DATA WAREHOUSING AND BUSINESS INTELLIGENCE TOOLS....37
REDUCING AVOIDABLE CONTACT....38
ENGAGING WITH LOCAL PEOPLE AND BUSINESSES....38

SECTION 6: CONTINUOUSLY IMPROVE BUSINESS PROCESSES....41

POLICY DRIVERS....41
BUSINESS PROCESS IMPROVEMENT....41

SECTION 7: IMPROVE COLLABORATION....49

POLICY DRIVERS....49
TYPES OF COLLABORATIVE WORKING....49
COLLABORATION TOOLS....51
MASH-UPS....53
OPEN DATA....53

SECTION 8: RATIONALISE AND OPTIMISE THE USE OF ASSETS....55

POLICY DRIVERS....55
OPTIMISING REAL ESTATE AND OFFICE SPACE....55
ASSISTIVE TECHNOLOGY, TELECARE AND TELEHEALTH....57
INTELLIGENT BUILDINGS....59
THE INTERNET OF THINGS....60

SECTION 9: OPTIMISE THE ICT INFRASTRUCTURE....63

POLICY DRIVERS....63
SCOPE....63
SOURCING STRATEGIES....63
SHARED SERVICES AND OUTSOURCING....64
HOSTING....64
CLOUD COMPUTING....64
G-CLOUD....65
VIRTUALISATION....66
THIN CLIENT COMPUTING....66
SERVICE-ORIENTED ARCHITECTURE....67

VOICE OVER INTERNET PROTOCOL....67
OPEN SOURCE....68
GREEN COMPUTING....69
MANAGING IT CHANGE....70
SECTION 10: IMPROVE SECURITY AND INCREASE TRUST....73
POLICY DRIVERS....73
DATA SHARING....74
CYBER-THREATS....75
THE INTERNET OF THINGS....76
THE UK CYBER SECURITY STRATEGY AND THE HMG SECURITY POLICY FRAMEWORK....76
CLOUD SECURITY....77
THE PUBLIC SERVICES NETWORK....78
MOBILE SECURITY....78
BRING YOUR OWN DEVICE....79
PENETRATION TESTING....79
INFORMATION ASSET REGISTERS....80
THE FIFTH ESTATE....80
TRANSPARENCY....81
SECTION 11: ENCOURAGING INNOVATION....83
POLICY DRIVERS....83
WHAT IS INNOVATION?....83
IDENTIFYING OPPORTUNITIES FOR INNOVATION....85
GENERATION AND EVALUATION....85
IMPLEMENTATION....86
REVIEW AND FEEDBACK....87
SECTION 12: DELIVER THE EXPECTED OUTCOMES....91
POLICY DRIVERS....91
GET THE BASICS RIGHT....91
GOVERNANCE AND OVERSIGHT....91
RISK MANAGEMENT....92
KEY ELEMENTS OF DELIVERING SUCCESSFUL PROJECTS....93
REFERENCES....97