Global Government Innovation Summit

Innovation in Process Automation

*Singapore’s Public Sector Journey*

Paul Loke
Accountant-General’s Department
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Singapore Government’s digitalisation journey

Automation
1980s
Automation of data, processes and systems

e-Services
2000s
Delivered > 90% services online

Efficiency
2010s
Integrated service delivery, breaking down agency silos

Digitalization
2015 - ongoing
Transformational changes with focus on the citizens
Smart Nation is about using technology to achieve significant transformation

In the areas of …

**Digital Economy**
- Increased business efficacy
- New jobs and opportunities
- Supporting Future Economy

**Digital Government**
- Integrated and seamless Government services
- Greater intelligence for policy making and operations

**Digital Society**
- More convenient and connected lived experience
- Sense of optimism and opportunity
Public Sector Transformation – Ops-Tech Integration

- Support Digital Government thrust and proliferate Ops-Tech capabilities across agencies
- Potential in leveraging RPA to realise tech-enabled productivity and workforce transformation

Tech-Push from the Centre
Bringing Technology to Ops

RPA Pilot Programme

Ops-Pull from the Agencies
Matching the Problem to the right Solution
Public Sector RPA Programme

Test out and implement RPA in public agencies’ business environment

Assess benefits (productivity gains, ROI, scalability to other business processes, etc.) within agency and within the Public Service

Enable capability build-up with dedicated RPA team to propagate RPA and related automation solutions across Public Service
## Wide Representation of Agencies & “Archetype” Processes

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<th>Human Resources</th>
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<td>A-STAR</td>
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<td>MOE</td>
<td>Staff Deployment</td>
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<td>Monthly Expense Reporting</td>
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<td>NEA</td>
<td>Process Purchase Order and Purchase Request</td>
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<td>NLB</td>
<td>Publishing of ITQ in GeBiz</td>
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<td>PUB</td>
<td>Cash Collection Receipting Process</td>
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<td>IMD A</td>
<td>Payment processing of Accounts Payables (AP)</td>
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<td>NRF</td>
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<td>StateCourts</td>
<td>Reconciliation of Budget and Expenditure</td>
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<td>Business/Ops</td>
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<td>HDB</td>
<td>Managing Payment and Billing to Service Providers</td>
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<td>MTI</td>
<td>Tracking of Industry Transformation Maps</td>
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THE AGD EXPERIENCE
Accountant-General’s Department

• A department under the Ministry of Finance

• Manage civil service wide systems including government’s accounting, cash management, payments to vendors, payroll and claims to serving officers, and government pensions

• Service Delivery:
  – Over 100,000 vendors providing Goods & Services to the Government
  – Over 120,000 serving officers and pensioners monthly
Supporting Public Sector Finance Transformation

**MISSION**

*Putting finance at the heart of decision-making*

**VISION**

*A future-ready leader in transforming Public Sector finance*

**Strategic Finance Leader**

“Leader in the Transformation of Public Sector Finance”

- Strengthening policy formulation and implementation through finance
- Transforming systems and processes
- Building capabilities
Financial Analytics

Launched in April 2016

One-Stop Whole-of-Government Financial Analytics System

25 Ministries & Organs of State
Progressive extension to Statutory Boards

200 Users
Finance Officers & Internal Auditors

40,000 Report Access Count
Average of 300 reports per day

END-TO-END Cross-System Analytics
Budgeting, Procurement, Payment, Accounting
Personnel, Payroll, Claims, Accounting

INTEGRATED DATA WAREHOUSE

AGD
Early Exploration

• Small, agile trials with simple use cases
  – Increase awareness of RPA
  – Allow staff to learn and get comfortable with automation
  – Simple use cases that could be implemented with free tools

• First pilot implementation – Daily Update of Exchange Rates into NFS@Gov (Civil Service Finance System)

• Other projects include:
  – Payroll Audits
  – Public Utilities Block Billing (PUBBS) Post Payment Checks
  – Bank Reconciliation
Payroll Audits

RPA allows auditors to review only PB/MI payments that differ from their originally approved quantum.

Accurate PB/MI payments need not be viewed by the auditor.

RPA with minimal human intervention allows the auditors to gain additional insights and look into areas otherwise deemed confidential without compromising the confidentiality of data.
Public Utilities Block Billing (PUBBS) Post Payment Checks

- **RPA reduces the time** taken by staff to check the monthly bills and allows **analysis of the individual line items** to identify outliers / anomalous trends.
- **RPA can be shared with** other government agencies, most of which undertake similar checks for the usage / consumption of public utilities.

1) **Compare billed amount against usage / consumption report at granular level**

1. Bills for public utilities (e.g. telephone bills)
2. Usage / consumption report for public utility
3. RPA allows staff to review only the exceptions
4. Accurate amounts **need not** be validated by the staff
5. Individual line items fed into analytics engine for **outlier identification**
## Other Opportunities

<table>
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<tr>
<th>P#</th>
<th>Process Name</th>
<th>Estimated Benefits (hours per annum)</th>
</tr>
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<tr>
<td>P1</td>
<td>Intermediary Bank Account Reconciliation</td>
<td>672</td>
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<td>P2</td>
<td>Asian Currency Unit Reconciliation</td>
<td>288</td>
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<tr>
<td>P3</td>
<td>Statutory Board Account Reconciliation</td>
<td>384</td>
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<tr>
<td>P4</td>
<td>Daily System Administrator Activity Audit Check</td>
<td>770</td>
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OTHER PUBLIC SECTOR EFFORTS
Land Transport Authority

- About 50 applications for private hire car driver’s vocational licenses daily at LicenseOne Portal
  - Each application has more than 55 fields of information
  - LTA staff subsequently manually transfer this information into legacy system for downstream processing

10 minutes per application  
Average 30 applications per day  
300 minutes or 5 man-hours per day

RPA  
3.5 minutes per application  
More than 50 applications per day  
Time saved by staff spent on more productive work

Other benefits: Error rate reduction, increased reliability and scalability
### VITAL (Government Shared Services)

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<th>Human Resources</th>
<th>Updating of Deployment Transactions</th>
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<tr>
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<td>Updating Leave Transactions</td>
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<tr>
<td>Finance and Procurement</td>
<td>Creation of Deposit Records</td>
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<td></td>
<td>Weekly e-invoice and late payment monitoring</td>
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<td></td>
<td>Raising purchase requests and purchase orders for demand aggregated purchases</td>
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<tr>
<td>Payroll</td>
<td>Updating timesheets of casual employees</td>
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Currently exploring the use of unattended bots for large volume processing without staff intervention, and coordinating the identification and implementation of common tasks/processes for corporate services to facilitate reusability across the Whole of Government.
## Ministry of Home Affairs

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<th>Workflow and Routing</th>
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<td>Routing of certification of PO based e-invoices</td>
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<td>Routing of certification of Direct e-invoices</td>
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<td>Data Entry and Extraction</td>
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<tr>
<td>Preparation of Statement of Receipts and Payments</td>
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<tr>
<td>Deposit Account Reconciliation</td>
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<td>Bank Reconciliation</td>
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<td>Business/Ops</td>
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<td>Creation of asset shells</td>
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THANK YOU

Paul Loke
EM: Paul_Daniel_Loke@agd.gov.sg