

# ISAS Insights

No. 498 – 25 June 2018

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## **Moving Forward: Bilateral Exchanges on E-governance between Singapore and India**

*Indian Prime Minister Narendra Modi's visit to Singapore from 31 May to 2 June 2018 saw India and Singapore signing various business and skills-related memoranda of understanding (MoUs). What was less focused on, but increasingly relevant, appears to be India's union-level endorsement of a MoU between India and Singapore on cooperation in the field of personnel management and public administration. As both countries increasingly focus on the development of a digital-driven society and economy through the centralisation, exchange and analysis of data, this paper discusses the two governments' strength in digital public service delivery and management for future exchange gains under Singapore-India bilateral relations.*

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The visit by Indian Prime Minister Narendra Modi to Singapore from 31 May to 2 June 2018 served yet another imperative for India-Singapore bilateral relations, as witnessed by his attendance in a series of business community engagements and the signing of bilateral memoranda of understanding (MoUs), ranging from skills development to financial technology. Nonetheless, a less noted, but increasingly relevant, development was to be the formal endorsement of a MoU between India and Singapore on cooperation in the field of

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personnel management and public administration, by India's Union Cabinet, a week prior to Modi's visit to Singapore. Both countries are increasingly focusing on developing a digital-driven society and economy through the centralisation, exchange and analysis of data. This paper discusses both governments' strength in digital public service delivery and management. It also highlights some limitations in these areas.

## **Cooperation in Personnel Management and Public Administration**

Previously, under Dr Manmohan Singh's government, both India and Singapore signed a MoU on cooperation in the field of personnel management and public administration on 11 November 2011.<sup>2</sup> According to the Indian government's Department of Administrative Reforms and Public Grievances, this bilateral area of cooperation comprised (i) capacity building and skills upgrading; (ii) improved systems of public service; (iii) human resources management; (iv) public-sector reform; and (v) leadership/talent development. Both sides then convened a Joint Working Group on Public Administration in March 2012 to adopt a Plan of Action for exchange and cooperation in the specified areas of interest under the MoU.<sup>3</sup> As of 2017, the MoU has had some effectiveness. Five of India's ministries and statutory boards, namely, the Department of Personnel and Training, the Lal Bahadur Shastri National Academy of Administration, the Ministry of Finance, the Nagpur National Academy of Direct Taxes and the Sardar Vallabhbhai Patel National Police Academy, have secured partnership with the Singapore Civil Service College in personnel training.<sup>4</sup> They are expected to have benefitted in stronger traditional management capabilities, audit processing, co-ordination and information exchange among themselves.

Further, on 23 May 2018, the Union Cabinet's Press Information Bureau announced that the Union Cabinet, chaired by Modi, approved the signing of the MoU between India and Singapore on cooperation in the field of personnel management and public administration.<sup>5</sup>

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<sup>2</sup> International Exchange and Cooperation, Department of Administrative Reforms and Public Grievances, Government of India. [https://darpg.gov.in/sites/default/files/IE%26C\\_Brief.pdf](https://darpg.gov.in/sites/default/files/IE%26C_Brief.pdf). Accessed on 31 May 2018.

<sup>3</sup> Ibid.

<sup>4</sup> Civil Service College Annual Report for this year ended 31 March 2017. <https://www.csc.gov.sg/docs/default-source/default-document-library/csc-annual-report-fy16.pdf>. Accessed on 31 May 2018.

<sup>5</sup> Press Information Bureau, Government of India, Cabinet, Cabinet approves MoU between India and Singapore on Cooperation in the field of Personnel Management and Public Administration. <http://pib.nic.in/newsite/PrintRelease.aspx?relid=179486>. Accessed on 31 May 2018.

While this MoU is not new, what appears revised in this version is the mention of strengthening the exchanges in e-governance/digital government.<sup>6</sup> As both countries are increasingly stepping up the development of the Smart Nation (Singapore) and Smart Cities Initiatives (India), the constant upgrading and innovation of e-governance becomes an increasingly relevant and long-term agenda, particularly in areas such as digital payments and content verification. This agenda, therefore, should be seen as a new area of cooperation between both countries.

## **Adoption of E-governance for Public Service Delivery**

According to the World Bank's definition, e-governance involves applying information and communication technologies (ICTs) to transform the efficiency, effectiveness, transparency and accountability of information and transactional exchanges within and between government agencies, citizens and business entities.<sup>7</sup> This would include government-to-government (G2G), government-to-business (G2B) and government-to-citizens (G2C) dealings. Specifically, public goods and service delivery fall into the category of G2C, whereby citizens are empowered through access and use of ICT to request and receive public goods and services. Intrinsically, in an increasingly digitalised economy, there is parallel between this concept of digital public service delivery and a digital customer experience transformation in the private-sector domain which is evident. Both aim at process transformation (automation), channel transformation (increasing self-help portals), data transformation (usage strategy) and organisation culture transformation (building digital culture).<sup>8</sup> The process of building e-governance appears to be two-fold: intra-government coordination, followed by public-service deliverance.

According to the latest United Nations E-government survey 2016, more countries have stepped up efforts to provide public services through one-stop platforms. In 2003, only 45

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<sup>6</sup> Press Information Bureau, Government of India, Cabinet, Cabinet approves MoU between India and Singapore on Cooperation in the field of Personnel Management and Public Administration. <http://pib.nic.in/newsite/PrintRelease.aspx?relid=179486>. Accessed on 31 May 2018.

<sup>7</sup> Gudauskas, Renaldas (2003). Lithuania: Knowledge Management in e-Government. The World Bank. [http://info.worldbank.org/etools/docs/library/114235/vilnius/vilnius\\_pdfs/gudauskas.ppt#256S](http://info.worldbank.org/etools/docs/library/114235/vilnius/vilnius_pdfs/gudauskas.ppt#256S). Accessed on 29 May 2018.

<sup>8</sup> India 2015. Publications Division, Ministry of Information & Broadcasting, 2015.

countries had a one-stop platform.<sup>9</sup> By 2016, the number of those countries offering one or more single entry portals on public information or online services, or both, had risen to 90.<sup>10</sup> There are certain widely-accredited benefits for e-governance adoption. One of these is the strengthening of the whole-of-government (WoG) approach, which involves fitting inter-agency structures and capabilities, for shared responses to specific issues, across organisational portfolio boundaries.<sup>11</sup> As a result of the data centralisation in the provision of public services, ranging from ministries such as health to transport, the identification and cost of resolving collective action problems that individual agencies would otherwise have to solely undertake can be significantly reduced.

With such centralisation of information exchange, the potential to identify and remove duplicate roles and functions across agencies, in terms of public service delivery, can become exponential. In addition, the data-driven processes allow timely and transparent feedback and subsequent improvements to be made across these agencies, thereby further facilitating the process of cross-departmental audits and monitoring of key performance indicators. Hence, on the domestic front, e-governance can serve as a form of G2C e-consultation and e-participatory channel, which presents citizens with real time and official policy information and feedback.<sup>12</sup> On the international front, the scope and expansion of e-governance can also constantly improve through cross-country comparison and consultation in general e-governance formation consisting of online services, telecommunication infrastructure and human capital.<sup>13</sup>

## **Development of E-governance in Singapore**

Singapore is considered to be one of the forerunners of e-governance implementation in the region. Its implementation of e-governance can be traced back to 1981 when a National Computerisation Plan (1980-1986) initiated the Civil Service Computerisation Programme

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<sup>9</sup> United Nations E-Government Survey 2016. <http://workspace.unpan.org/sites/Internet/Documents/UNPAN97453.pdf>. Accessed on 31 May 2018.

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

<sup>12</sup> Cortés-Cediel, M. E., Cantador, I., & Gil, O. (2017). Recommender systems for e-governance in smart cities: State of the art and research opportunities.

<sup>13</sup> Benchmark Global e-Government Development – 2018 UN e-Government Survey. <http://workspace.unpan.org/sites/Internet/Documents/UNPAN97854.pdf>. Accessed on 31 May 2018.

(CSCP) aimed at automating job functions and reduce paperwork in the civil service.<sup>14</sup> The scope of e-governance later expanded beyond the civil service. This included the development of intra-government applications such as the Integrated Land Use System and the One Stop Change of Address Reporting Services.<sup>15</sup> Subsequently, a series of other governmental ICT initiatives were established, such as Trade Net (1989) that served as a single platform for transshipment document processing procedures. Another is the Singapore ONE, a national multimedia broadband network under the IT2000 Masterplan (1992-1999).<sup>16</sup> It was during this phase, the one-step e-citizen portal was also launched in 1999, providing a single point of access of services by the various government ministries and agencies.<sup>17</sup> By 2006, at least 75 per cent of Singaporeans had accessed the e-citizen portal.<sup>18</sup> Furthermore between 2000 and 2006, under the e-Government Action Plan I and II, at least 1,600 e-services were deployed.<sup>19</sup> From 2006 to 2010, the Singapore government intensified its efforts in e-governance with a United Nations-consistent WoG approach.<sup>20</sup> The eGov 2015 Masterplan saw the deployment of a further 300 mobile government services.<sup>21</sup> Singapore's G2C usage achieved early success when at least 75 per cent of Singaporeans had accessed the e-citizen portal by 2006.<sup>22</sup> Along with the Masterplan, the government also rolled out data literacy campaigns, such as the Data Visualisation Challenge in 2014. On the data security front, the Singapore Personal Data Protection Act 2012, which came into effect in 2014, governs the collection of personal data by private organisations.

The cumulative e-governance efforts in Singapore saw the Singapore government being involved in five strategic national projects in the umbrella concept of Smart Nation, namely, National Digital Identity, e-Payments, Smart Nation Sensor Platform, Smart Urban Mobility and Moments of Life. These initiatives reflected a move beyond merely delivering e-services and protections to citizens in the G2C discourse. For example, while National Digital Identity and e-Payments pertain strongly to G2C e-services, the Moments of Life attempt to bundle

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<sup>14</sup> History and Milestones of E-government in Singapore. <https://wiki.nus.edu.sg/display/SPORE/History+and+Milestones+of+E-government+in+Singapore>. Accessed on 31 May 2018.

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Barney Warf. (2016). *E-government in Asia: Origins, Politics, Impacts, Geographies*. Chandos Publishing. 75.

<sup>18</sup> Krisnamurthy Sriramesh, and Milagros Rivera-Sanchez. (2006). *E-government in a corporatist, communitarian society: the case of Singapore*. *New Media Society* 2006, 707(8).

<sup>19</sup> *E-government in Singapore, Presentation to the United Nations*, 4 Sep 2013, Ministry of Finance, Singapore. <http://workspace.unpan.org/sites/Internet/Documents/UNPAN90601.pdf>. Accessed on 31 May 2018.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Krisnamurthy Sriramesh, and Milagros Rivera-Sanchez, *op. cit.*

government services across different agencies for citizens at different points in their lives and purposes.<sup>23</sup> Currently, these projects are co-planned by the Smart Nation and Digital Government Group, and the Smart Nation and Digital Government Office under the Singapore Prime Minister's Office and Government Technology Agency (GovTech).

The Housing Development Board (HDB), a government agency, has also been active in combining its own back-end data based housing planning, the Internet of Things infrastructure and town-councils in its efforts to deliver housing projects and maintenance solutions for HDB residents.<sup>24</sup> Under the latest Digital Readiness Blue Print launched in June 2018, the Singapore government has also included, as its working partner, the private sector to help bridge the digital divide among different segments of the Singapore society.<sup>25</sup> For example, the Monetary Authority of Singapore (MAS) has been tasked to continue working with local banks in ensuring access to 'basic digital enablers'.<sup>26</sup> One of them includes free bank accounts for people with disabilities and the chronically unemployed in order for them to enjoy digital retail, in which a bank account ties together financial and digital integration.<sup>27</sup> Against this backdrop, arrangements will be made to send more than 20,000 public servants for data science training in the next five years. This is so that they are equipped with the skills in tandem with digital industry standards.<sup>28</sup>

The cumulative development of Singapore's e-governance, therefore, appears to tap onto a combination of centralisation of data, technology, intra- and inter-public domain expertise and cooperation, as well as public-private collaboration to constantly innovate on its robust e-governance.

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<sup>23</sup> Smart Nation. <https://www.smartnation.sg/about/Smart-Nation>. Accessed on 31 May 2018.

<sup>24</sup> Govtech – In a truly smart city, the 'smart' part is invisible. <https://www.tech.gov.sg/TechNews/DigitalGov/2018/04/In-a-truly-smart-city-the-smart-part-is-invisible>. Accessed on 31 May 2018.

<sup>25</sup> Digital Readiness Blueprint launches to help every man cross the digital divide. <https://www.straitstimes.com/tech/digital-readiness-blueprint-launches-to-help-every-last-man-cross-the-digital-divide>. Accessed on 31 May 2018.

<sup>26</sup> Ibid.

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.

## Development of E-governance in India

India, on the other hand, appears to be a late but a quick adopter of e-governance. Under its 2006 National e-Governance Plan, inspired by Singapore ONE, India's e-governance schemes were initially only meant for internal usage by the Ministry of Personnel, Public Grievances & Pensions, a training faculty for Indian civil servants.<sup>29</sup> Several preliminary mission-mode projects that were tabled under the e-governance plan included pension, income tax, banking, insurance, e-courts and electronic data interchanges between government agencies and, accordingly, at different levels – national and state.<sup>30</sup> However, by 2009, the National e-Governance division was established as the caretaker and overall coordinator of the plan, and in providing technical assistance across central ministries and state line departments.

Fast forward to 2015, the Digital India programme was finalised and expanded into a total of nine pillars generally aimed to support the agriculture, manufacturing and tertiary (IT services) industries. Specifically, Pillar 4 (E-governance – reforming government through technology) and Pillar 5 (eKranti – Electronic delivery of services) deal with e-governance and have seen significant developments over the years. The National e-governance plan has been subsumed under eKranti. The merger, however, saw significant increase in e-governance usage. The number of G2C e-transactions, monitored by the Electronic Transaction Aggregation and Analysis Layer, has grown by 2,912 per cent from 2013 to 70.24 billion standing cumulative transactions as at May 2018.<sup>31</sup> Of these transactions, the top five most utilised mission-mode projects are agriculture, public distribution system, commercial taxes, e-courts and land records. Of these, the Unique Identification Authority of India (Aadhaar)<sup>32</sup> and unified payment interface are the commonly utilised functions. Government schemes, such as the Direct Benefit Transfer, where consumers receive subsidies directly into their bank accounts, appear to be an example of utilising both the

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<sup>29</sup> Eleventh Report, Second Administrative Reforms Commission – Promoting e-Governance, The Smart Way Forward. [https://darp.gov.in/sites/default/files/promoting\\_egov11.pdf](https://darp.gov.in/sites/default/files/promoting_egov11.pdf). Accessed on 31 May 2018.

<sup>30</sup> Ibid.

<sup>31</sup> Electronic Transaction Aggregation & Analysis Layer. <https://etaal.gov.in/etaal2/auth/default.aspx>. Accessed on 31 May 2018.

<sup>32</sup> The Aadhaar is a unique 12-digit number issued to every Indian citizen using biometric inputs. In turn, the number can act as their identity verification anywhere without any problem and also help them access Government services seamlessly.

Aadhaar and the digital payment system.<sup>33</sup> These results are partly the result of a more active online population, reflected by some intrinsic indicators, such as the daily duration spent on online activities by mobile internet users (200 minutes in India) and an expected 30 per cent growth (compound annual growth rate) in e-commerce market by 2026.<sup>34</sup>

With the DigiGaon (Digital Village) scheme set to empower digitalisation in 700 villages by the end of 2018, the decentralisation of e-governance appears to be more evident, as initiatives such as the Bharat Net (optical fibre network to connect villages in India), eNAM (online national agricultural market) and the Common Service Centres, which aims to provide digital services to common people in villages, play an increasingly important role.<sup>35</sup> Nonetheless, there remains a digital divide between the various Indian states. Among the number of G2C e-transactions made in the existing mission-mode projects, between 2013 and 2018, the amount of combined transactions made by citizens in Gujarat, Uttar Pradesh and Madhya Pradesh are at least 5.5 times more than the combined amount in Chhattisgarh, Tamil Nadu and Karnataka.<sup>36</sup> Furthermore, the back-end aspect of e-governance appears to be less focused. This includes relevant training for civil servants and a coordinated rate of digitalisation among various government agencies, at the national and state levels.

## **G2G Cooperation on E-governance between India and Singapore**

Given that both India and Singapore have a substantial foundation in e-governance framework and planning, there, however, remain several limitations in bilateral cooperation on e-governance.

First, there are fundamental structural differences between e-governance in both countries. Singapore's e-governance is based on a single national level across various governmental agencies, while India's e-governance is divided by agencies on the union and state levels. The

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<sup>33</sup> E-governance and Digital India, Empowering Indian Citizens Through Technology. <https://www2.deloitte.com/content/dam/Deloitte/in/Documents/technology-media-telecommunications/in-tmt-empowering-indian-citizens-through-technology-noexp.pdf>. Accessed on 31 May 2018.

<sup>34</sup> KPMG #IndiaTrends2018: Trends shaping Digital India. <http://www.nasscom.in/system/files/secure-pdf/NASSCOM-IndiaTrends2018-Trends-shaping-Digital-India-Internet-2018.pdf>. Accessed on 31 May 2018.

<sup>35</sup> <http://pib.nic.in/newsite/PrintRelease.aspx?relid=158376>.

<sup>36</sup> Electronic Transaction Aggregation & Analysis Layer. <https://etaal.gov.in/etaal2/auth/default.aspx>. Accessed on 31 May 2018.



result and effectiveness of Singapore's cooperation with, for instance the Andhra Pradesh and Tamil Nadu, states can therefore be different, given their varying ICT resources and adoption rate.

The second potential limitation pertains to the sensitivity of information and data. This is given since government data and technologies are classified at different levels and are used for different purposes, including national security and defence. For instance, in India and Singapore's case, the Aadhaar and National Digital Identity respectively remain the base for different layers of G2C transactions, including banking, taxation and legal proceedings. In India's case, the current Information Technology Act 2000, under the Ministry of Electronics & Information Technology, further limits cross-border data exchange unless an individual's consent is obtained.<sup>37</sup> Singapore look towards allowing certified organisations to exchange personal data with other certified organisations in participating Asia-Pacific Economic Cooperation (APEC) economies, under Singapore's participation of the APEC Cross-Border Privacy Rules (CBPR) and Privacy Recognition for Processors systems.<sup>38</sup> Currently, Singapore is the sixth APEC economy to have joined the CBPR system alongside the United States, Mexico, Canada, Japan and the Republic of Korea.<sup>39</sup>

Nonetheless, in spite of the limitations, there are areas in which cross-border cooperation in e-governance remains more crucial and beneficial to both sides. These include areas such as cross-border digital payments and taxation. Already, in November 2017, Singapore's NETS and India's National Payments Corporation have been working towards facilitating cross-border electronic payments between both countries. An MoU between the MAS and the Government of Maharashtra was also been signed in February 2018 to set norms and framework for cross-border exchanges in Fintech elements and big data.<sup>40</sup> Both countries also possess a monitoring e-governance authority, namely, the Smart Nation and Digital

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<sup>37</sup> Joshua P Meltzer, and Peter Lovelock. (2018). Global Economy & Development Working Paper 113, "Regulating for A Digital Economy, Understanding The Importance of Cross-Border Data Flows in Asia". [http://trpc.biz/wp-content/uploads/digital-economy\\_meltzer\\_lovelock\\_web.pdf](http://trpc.biz/wp-content/uploads/digital-economy_meltzer_lovelock_web.pdf). Accessed on 31 May 2018.

<sup>38</sup> Ministry of Communications and Information – Singapore Joins APEC Cross-Border Privacy Rules and Privacy Recognition for Processors Systems. <https://www.mci.gov.sg/~media/mcicorp/images/budget%20workplan/cos%202018/factsheets/factsheet%20-%20singapore%20joins%20apec%20cross-border%20privacy%20rules%20and%20privacy%20recognition%20for%20processors%20systems.pdf?la=en>. Accessed on 31 May 2018.

<sup>39</sup> Ibid.

<sup>40</sup> Chan Jia Hao. (2018). ISAS Insights No. 493 - ASEAN-India Cooperation in Information and Communications Technology. <https://www.isas.nus.edu.sg/wp-content/uploads/2018/05/ISAS-Insights-No.-493-ASEAN-India-Cooperation-in-Information-and-Communication-Technology.pdf>. Accessed on 31 May 2018.

Government Group in Singapore and the Monitoring Committee on Digital India under the Chairpersonship of the Prime Minister of India.

Finally, on Singapore's end, the recent launching of the Digital Government Blueprint is seen as a boost, anchoring and strengthening of its public ICT policy. This is given that the specifics of initiatives and time-frame are listed out clearly. As Singapore's digital collaborative partners, this appears to be a timely occasion for India to re-calibrate and set a future course of action based on the benchmark that Singapore has provided. In the long run, this can further boost e-governance cooperation between both sides.

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