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Smart Nation & Its Implications: The State in a Hyper-connected Singapore

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Synopsis

As Singapore transforms itself into a Smart Nation, challenges will emerge. Instead of being decentred, the State will in fact become more important in terms of strengthening the nation against the challenges that follow.

Commentary

ANNOUNCED BY Prime Minister Lee Hsien Loong last year, the Smart Nation initiative will see Singapore transforming into the world's first smart nation – a hyper-connected country that uses Internet of Things (IoT) technologies to enhance the quality of life of its people. By connecting "everyone to everything, everywhere, all the time", a hyper-connected Singapore promises to be smarter, cleaner and more efficient.

Wearable technologies that monitor the well-being of patients will be a boon to the healthcare sector. Thanks to them, healthcare professionals will be able to assess, treat and monitor patients remotely while family members will be able to keep a close eye on their loved ones. Soon, wearable technologies will end unnecessary commute to the hospital for many patients.

Other major benefits of Smart Nation

The country's transportation system will be enhanced. With driverless trucks transporting cargo at night, roads will be less congested during the day. And with the aid of specialised apps, commuters will be able to navigate the public transportation system with ease. Indefatigable, driverless buses will also reduce waiting times and crowdedness for commuters.

The country will become more energy-efficient and eco-friendly. Household appliances with sensors embedded will switch off when no one is at home. Smart waste bins that transmit a signal when full will enable town councils to implement a more efficient waste collection regime and reduce the number of cleaners needed.

Undeniably, smart technologies will solve some of the most pressing healthcare, infrastructure and environmental problems facing Singapore today. One might even think that the State will be

decentred as smart technology takes over key public services. Nonetheless, as the country marches toward becoming a smart nation, challenges will emerge.

Unintended consequences of hyper-connectivity

Hackers have yet to actively target smart technologies. However, cyber criminals will surely begin scouring the technology for weakness once the opportunity for significant gains arises. Coordinated cyber attacks on critical sectors can potentially cripple the country and hyper-connectivity will elevate that risk.

Low-skilled workers will be sidelined as Singapore transforms into a smart nation. For examples, smart waste bins and driverless vehicles will eliminate the need for many cleaners and transportation workers respectively. Foreign workers might return to their countries if they are made redundant but local workers will be in a bind since they do not have that option. An unintended consequence of a smart nation might well be a persistently jobless underclass.

Ironically, we have grown more detached from one another at the personal level even as we have become more connected online. As contacts are increasingly intermediated by digital devices and physical interactions are reduced, society as a whole might become less cohesive. The advent of modern information communications technology has already added much coldness to our communications and hyper-connectivity might just make things a lot colder.

Lastly, technical glitches will appear since no system is perfect. From the mundane (smart bins that failed to signal when full) to the deadly (accidents involving driverless vehicles), isolated incidents might not trigger a backlash. But combine a buggy system with a less than cohesive society, hyper-connectivity might just lose its appeal to the very people whose lives it is designed to better.

Policy implications of Smart Nation

Considering the challenges, one might argue for a slower pace of hyper-connectivity. Yet, there are significant first-mover advantages to being the world's first smart nation. The innovations engendered can be used to improve subsequent generations of smart technology and the experience will be invaluable when Singapore shares its knowledge with others. The country will also be in the forefront in terms of attracting foreign investment. With the global economic value-add for IoT technology in 2020 estimated at US$1.9 trillion by leading information technology research firm, Gartner, the sector will be a major growth driver.

If forging ahead with the Smart Nation initiative is the way to go, then addressing the challenges will be vital. Crucially, only the State – with ultimate control over the policy-making process and the nation's resources – has the power to do so effectively.

As recent cyber attacks on major US companies illustrate, even well-resourced companies are ill-equipped to protect their data. To enhance cyber security, Singapore has established new agencies and departments but more needs to be done. The State needs to place tough restrictions on data collection and storage by businesses so as to limit the amount of damage in the event of a cyber breach, while making it mandatory for smart devices to utilise encryption so that even if data were stolen, it cannot be read. To mitigate the impact on low-skilled workers, the State must be prepared to introduce a range of financial aid and skills re-training programmes.

While private charitable organisations can contribute, only the State retains the kind of long-term financial and planning capabilities to prevent the emergence of an underclass. Meanwhile, the State needs to strengthen social cohesion as hyper-connectivity threatens to pull it apart. By facilitating public activities that bring together people from all walks of life, the State can promote a more cohesive society. Finally, despite the best efforts, technical glitches will occur so it will be more practical to build up the country's resilience against these breakdowns. Again, only the State has the capacity to prepare, respond and rebuild when the system fails.

Rather than becoming decentred, the State will actually become more important as Singapore transforms into a smart nation. From strengthening cyber security to social cohesiveness to national resilience, the State must play a central role. Only then will its people truly enjoy a better quality of life.

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