

# CONDUCTING THE SMART WAY OF LIFE: CAN INCREASED ORDER BE CONSIDERED EQUIVALENT TO INCREASED QUALITY? A FOUCAULT-INSPIRED DISCOURSE ANALYSIS OF THE SMART CITY RHETORIC

## Abstract

Smart cities offer a way of maximizing the performance of city space. Despite critics questioning the benevolence of smart technology, the smart city solutionist rhetoric continues to gain popularity and investment across the world. Explicit challenges highlight the lack of empirical and case-specific investigation, and the corporate driving force in their implementation. In response, this paper investigates the discursive frames shaping life in the Singaporean Smart Nation, selected as an example of an intelligent technology-focused urban environment. Foucault-inspired qualitative and quantitative discourse analysis is used to tease out the expectations placed upon inhabitants through a tripartite structure considering normalisation, responsabilisation and population axes. This paper argues that the techno-social process of development creates the potential for new and deeper means of ensuring compliance in smart cities, which may not be beneficial to those populations. The Singaporean case also highlights the significant need for contextualized analysis of smart city projects.

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Smart cities, Foucault, governmentality, Singapore

## Introduction

Smart buildings and cities are examples of a big data-focused approach to urban planning and architecture, promising efficiency, participatory governance, economic imperative, and increased quality of life (Cardullo & Kitchin, 2018; Townsend, 2013). However, the driving business interests (Nochta et al., 2019), wide ranging forms of implementation, and varied context of smart solutions have resulted in both a lack of a unified definition for 'smart,' and their positioning as largely utopian and benevolent in nature (Kitchin, 2014; Vanolo, 2014). With increasing implementation of smart solutions, the underlying rationales and consequences of these need to be understood to ensure responsible development.

While smart is an approach to the design of the built environment, the impact and reach goes beyond the physical to the liminal in its influence on behavior. The incorporation of 'real-time' data analytics into spatial practice and the narrative surrounding the implementation impact the produced spatial imaginary (Lefebvre, 1991) and resultant experience of the city. In the first instance, data is not neutral: From collection to use, there are possibilities for bias (Gabrys, 2014; Lyon, 2014). These biases then reinforce current socio-political systems, such as the dominance of corporate interests in the smart city. This paper argues that the use of data itself, coupled with a solutionist rhetoric which positions the use of this data as self-evident and neutral, obfuscate the political nature of data and city life.

To understand this phenomena, the paper first draws on Foucault's concept of governmentality to undertake a discourse analysis of government documents outlining the foundations of the Singaporean smart project and the truths established by the rhetoric. Through identifying the truths created, the logic of control can be questioned and future research can unpick the longer term impact of these living conditions on the ability of the inhabitants to flourish. The next section outlines the analytical framework for this paper and justification for the Singaporean case study, followed by an explanation of the methodology. Following the results of the study, it is concluded that the truths created within Singaporean rhetoric demonstrate clear neoliberal logic. This paper not only develops Foucault's theory into the technological city, but also aligns with critical literature of smart urbanism. It follows authors such as Cardullo and Kitchin (2018), by focussing on neoliberal-governmentality, in addition to researchers such as Kitchin (2014, 2015) and Townsend (2013), who argue for more empirical and contextualized analysis of smart urban projects by extending critical research into Singapore.

## Theoretical Development

Foucault's contribution to spatial understanding is traditionally linked to his analysis of Bentham's panopticon and conceptualization of disciplinary power, which is inherently negative. However, his later work and lectures at the Collège de France in the 1970s provide a more nuanced understanding of power as the "conduct of conduct" (Foucault, 2004) and its ability to be productive. There are many parallels that can be drawn between Foucault's understanding of neoliberal-governmentality and the complexity of smart urban environments. This paper is interested in the construction of discrete powers: not power in general, but the process of truth becoming truth and the conditions under which this happens. This allows for investigation into the complexity of the reality to be governed, through highlighting the crosscutting, historical, contextual, and normative rationalities which inform the modes of control (Foucault & Moore, 2008). In other words, by tracing the areas which encourage the active participation of individuals in their own governance, the forms of control engendered by smart solutions can be identified.

To trace the rationales within the Singaporean smart nation rhetoric, and the truths created, three frames which cross the bounds of social, public, and private spheres are considered: normalisation, responsibility, and population. Firstly, norms imply the management of reality through expectations, including the processes of creating and shaping these expectations. Norms are mirrored within machine learning and code as a normal range of values are chosen by technocratic or possibly arbitrary means and are maintained when a deviation begins to occur. The choice of values is usually framed as a neutral and undeniable outcome. Secondly, responsabilization is a crucial means of regulation which drives the unknown complicity of people in their own control. Smart city rhetoric, and the onus put onto populations to keep up, learn new skills, and be part of the development of the space, is indicative of this.

The discourse analysis of the documents will consider word placement and choice around pronouns such as us and we, to identify where expectations are employed on inhabitants. Finally, population is inherently linked to smart technologies through data gathering, which is justified for the efficiency and quality of life gains promised by smart solutions. For Foucault, the concept of population was a cornerstone development of governmentality. The data and knowledge of a group becomes power over them to shape and steer the aggregate populace (Foucault & Moore, 2008). The discourse analysis therefore considers the content and justifications around data gathering as a rationale of smart neoliberal-governmentality.

This tripartite structure is one way of creating an organisational framework, which contributes to the understanding of smart cities and development of Foucault studies into an area he pre-dated. All these categories interact with one another, and while they are treated as discrete for the analytical development of this paper, their interrelationship will be explored in the results section. This paper aims not only to test Foucault's approach, but also to offer a development of his theory in relation to the problematic smart governance.

## Case

The Singaporean case is chosen due to the country's focus and investment in technological innovation (Choo, 1997) and position as a city state. Important to note is the influence of the narrative surrounding Singaporean independence, which has shaped the cultural and historical significance placed upon progress, survival, and meritocracy (Kah Seng et al., 2017). These themes, evident in the discourse, potentially allow the chosen smart narrative greater acceptance within the population due to their historical familiarity.

## Methods

This research employs a Foucault-inspired discourse analysis using two complementary programs, AntConc and NVivo, to undertake qualitative and quantitative methods. AntConc is used to ascertain the co-occurrence of terms and undertake T-score tests (Joss et al., 2017), and NVivo the qualitative coding. An operational category list is formed, through the practice of evolutionary coding based on empirical findings, the theoretical perspective outlined above, and a close reading of secondary literature. Once coded, the structural elements of the texts as well as the linguistic and rhetorical mechanisms are considered. Finally, the truths created by the rhetoric are identified. This method is potentially limited within the chosen epistemological stance of structuralism. The frame of neoliberal-governmentality assumes factors such as homo-economicus are most important to study and focuses on conditions which speak to this conceptualization of the world.

## Data

The documents drawn upon to undertake this research are the suite of three documents published by the Singaporean government outlining their mission and vision for the Smart Nation, covering 131 pages across three pillars: social, economic, and governance (Table 1). This paper presumes the officially published documents are representative of government thought and ideal for a close textual analysis.

Document Title (Date Published)	No. of Pages	Pillar	In-Text Citation	Date Accessed
SDG Framework for Action (21/05/18)	52	Smart Economy	SE 2018	21/05/20
Dgb_book-let_june2018 (18/06/18)	34	Smart Government	SG 2018	21/05/20
MCI Blueprint Report_FINAL (2018)	45	Smart Society	SS 2018	21/05/20

Table 1: Documents Source Information. (Source: Author.)

## Findings

The three truths most evident from the documents were identified as: positive technological determinism, necessity of public-private partnerships, and the national imperative of the smart nation. These were built upon rationales within Singaporean society, such as meritocracy, precarity of survival, and urgency of progress, as well as commonly found smart city promises, such as increasing quality of life, the economic impetus, and increasing human capital. The three identified forms of governmentality, normalization, responsabilization, and population data, underscored all three truths. Figure 1 shows the interactions between all these themes, highlighting their interrelated nature.

## Population Data

Data was particularly important in establishing the 'truth' of technological determinism that posits technology "has reshaped businesses, industries, and economies" (Table 1, SE 2018), with a "digital future for a better quality of life" (Table 1, SE 2018). The 'capability building' potential of digital technologies, such as machine learning, is hailed as altering supply and demand dynamics to ecosystems and removing barriers to entry. While this may be true, the new models are based on obtaining and holding data related to people and habits. The availability of the data, access, and how new barriers to entry are created were not considered in the documents. Neither were questions over privacy. Linked to the national drive for progress, the ambition to occupy the forefront of the 'digital revolution' creates the only acceptable form of progress: behaviors that are within the digital and data driven sphere.

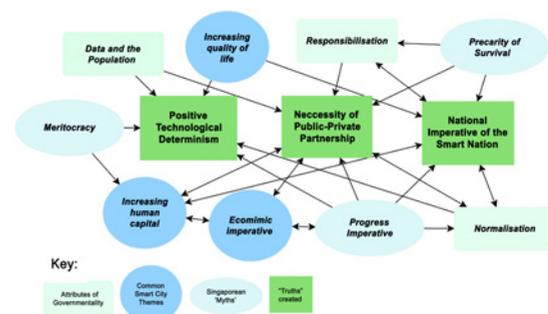


Figure 1: Diagram demonstrating the central truths identified through the analysis and their contingent rationales which are employed to support them. (Source: Author.)

## Responsibilization

Conversely, responsabilization contributed to the necessity of public-private partnership and the imperative of the smart nation. The pressing need for the smart nation is identified throughout all three documents, whether as warning: “The world is changing. Unless we change with it, we will fall behind” (Table 1 SE 2018), or as possibilities “...we can seize new opportunities in an increasingly digital world as a Smart Nation” (Table 1, SG 2018). In these instances, the use of ‘we’ brings the individual inhabitant to the fore, expected to contribute to the digital nation. Moreover, when searching for co-located pairs with ‘Singaporean(s),’ those with the highest T-Score (removing function words such as “the”) were digital and skills, with 4.3 and 2.9 respectively. The combination of shifting responsibility onto the individual and the priority to digitize is highlighted here: “To seize new opportunities afforded in the digital economy, each of us must take action” (Table 1, SE 2018). This exemplifies the potential pressure and expectation placed upon the title of ‘Singaporean.’

Of note is the way the public-private partnership is understood in these documents. Not only are the benefits of working with businesses taken as a truth, through plans to “co-create the solutions and services with them” (Table 1, SG 2018), there is also a cyclical responsibility placed upon individuals to be the digital-homo-economicus to build businesses themselves. Small and medium enterprises (SMEs) and the individuals with technological capabilities are given high priority, with plans to “...groom Digital Leaders across SMEs” (Table 1, SE 2018). SMEs are then counter-positioned as “...well placed to help Singaporeans acquire skills and adopt digital technology” (Table 1, SE 2018). Additionally, resources are provided by the government for digital business development, which businesses are then expected to uptake to be successful. This dynamic therefore creates a systemic preference towards a digital-business orientated life.

## Normalization

Normalization contributes to all three truths created. The path toward digital urbanism is shown as expected and inevitable: “Our journey started over 30 years ago” (Table 1, SG 2018). Where now, the ‘Moments of Life’ initiative, brings the digital into every aspect of being through a centralized app for significant events from birth to death. Evident within all three themes is the use of the founding myths (Kah Seng et al., 2017), which are unique to Singapore and are a foundation for national pride and values. The myths, progress, survival, and meritocracy can be seen in the smart nation rhetoric, co-creating a regime of neoliberal governance and aiding the acceptance of change. The results underscore the significance of contextualizing analysis of smart environments.

## Conclusions

Smart initiatives contribute to the changing control landscape. Building and design methods play a part in this story, creating the physical and digital systems the population acts within. The worldwide push for smart solutions is incrementally creating a new norm of data governance, making an investigation into underlying motivations and resultant impact time sensitive. This study is one method of examining the use of language to communicate intention. It highlights the importance of specific, contextual analysis and the benefits of drawing on Foucault. It illuminates the neoliberal logics identified by critics, to trace these rationales to their everyday facade in Singapore.

The first step to understand impact is identifying the ‘truths’ that the smart rhetoric creates. In Singapore, these are: technological development is inherently positive; a necessity for public private partnerships; and the national imperative of smart solutions. These ‘truths’ are shaping how individuals navigate city life, whether choosing options shown first within an online search, feeling the need to develop digital skills, or relying on technology to retain order. The next step of this research is to understand how these conditions affect the quality of life of inhabitants.

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