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Teaching Case

Rio de Janeiro, the Wonderful City, gets smarter, but for whom?

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Abstract

This teaching case illustrates a dilemma for Gabriel, a young man working as head of Rio de Janeiro's urban planning secretary in early 2022. Gabriel built a successful career at Brazil's most prominent technology company in the private sector. Still, a new challenge that was too big to refuse changed everything – now, starting in the public sector, Gabriel is responsible for a massive project that had the potential to change Rio de Janeiro's downtown and make Rio a leading smart city. The project attracted significant attention from construction companies interested in the benefits they would gain with the contract. Moreover, Gabriel needed the project to be approved by the city council. He was confident about the project and that it was the change Rio's downtown needed. But change for whom? A meeting with Teresa, a councilwoman critical of the project, unveiled the reality of the city center and its population to Gabriel. Teresa was an architect and urbanist, an activist for urban struggles, who had worked previously in urbanization and popular housing projects. Teresa shed light on the overlooked reality of the city: before being "smart," Rio's downtown needed social housing, culture, and security, in other words, basic needs. Now, Gabriel questioned which "change" Rio needed. Could Gabriel understand Rio's needs with his private sector mindset? Or does he have to adopt a new mindset, the mindset of a public manager? Would the stakeholders still fund the project if he embraced Teresa's perspective? What should Gabriel do?

KEYWORDS: Smart City. Inequality. Digital Divide. Global South. Brazil.

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Rio de Janeiro, a Cidade Maravilhosa, se torna inteligente, mas para quem?

Resumo

Este caso de ensino ilustra um dilema para Gabriel, um jovem que trabalha como chefe da secretaria de planejamento urbano da cidade do Rio de Janeiro no início de 2022. Gabriel construiu uma carreira bem-sucedida no setor privado, na empresa de tecnologia mais proeminente do Brasil. No entanto, um novo desafio, grande demais para recusar, mudou tudo – agora, iniciando no setor público, Gabriel é o responsável por um projeto massivo com o potencial de transformar o centro do Rio de Janeiro e tornar a cidade uma referência em cidades inteligentes. O projeto atraiu atenção significativa de empresas de construção interessadas nos benefícios que obteriam com o contrato. Além disso, Gabriel precisa que o projeto seja aprovado pelo conselho municipal. Ele estava confiante no projeto e acreditava que era a mudança necessária para o centro do Rio. Mas seria uma mudança para quem? Uma reunião com Teresa, uma vereadora com várias críticas ao projeto, revelou a realidade do centro da cidade e sua população para Gabriel. Teresa é uma arquiteta e urbanista, ativista de causas urbanas, que já havia trabalhado em projetos de urbanização e habitação popular. Teresa fez Gabriel enxergar o “elefante na sala”, a realidade que ele (e muitos outros) ignoram todos os dias: antes de ser “inteligente”, o centro do Rio precisa de habitação social, cultura e segurança, ou seja, necessidades básicas. Agora, Gabriel questionava qual “mudança” o Rio realmente precisa. Será que Gabriel conseguirá entender as necessidades do Rio com sua mentalidade do setor privado? Ou precisará adotar uma nova mentalidade de gestor público? Mas os financiadores ainda apoiariam o projeto se ele adotasse a perspectiva de Teresa? O que Gabriel deve fazer?

PALAVRAS-CHAVE: Cidade Inteligente. Desigualdade. Fosso Digital. Sul Global. Brasil.

Río de Janeiro, la Ciudad Maravillosa, se vuelve más inteligente, pero ¿para quién?

Resumen

Este caso de enseñanza ilustra el dilema que Gabriel, un joven que trabaja como jefe de la secretaría de planificación urbana de Río de Janeiro, enfrentó a principios de 2022. Gabriel construyó una exitosa carrera en la empresa tecnológica más destacada de Brasil en el sector privado. Sin embargo, un nuevo desafío que era demasiado grande como para rechazarlo cambió todo: ahora, al comenzar en el sector público, Gabriel era el responsable de un proyecto masivo con el potencial de cambiar el centro de Río de Janeiro y convertirlo en una ciudad inteligente líder. El proyecto atrajo la atención significativa de empresas de construcción interesadas en los beneficios que obtendrían con el contrato. Además, Gabriel necesitaba que el proyecto fuera aprobado por el consejo municipal. Estaba seguro del proyecto y creía que era el cambio que el centro de Río necesitaba. Pero, ¿cambio para quién? Una reunión con Teresa, una concejala con varias críticas al proyecto, reveló la realidad del centro de la ciudad y su población a Gabriel. Teresa era arquitecta y urbanista, activista en luchas urbanas, que había trabajado previamente en proyectos de urbanización y vivienda popular. Teresa hizo que Gabriel viera el elefante en la habitación, la realidad que él (y muchos otros) ignoran todos los días: antes de ser “inteligente”, el centro de Río necesitaba viviendas sociales, cultura y seguridad, en otras palabras, necesidades básicas. Ahora, Gabriel cuestionaba qué “cambio” necesitaba Río. ¿Podría Gabriel entender las necesidades de Río con su mentalidad del sector privado? ¿O necesitaría una nueva mentalidad de gestor público? ¿Y los financiadores seguirían apoyando el proyecto si él adoptara la perspectiva de Teresa? ¿Qué debería hacer Gabriel?

PALABRAS CLAVE: Ciudad inteligente. Desigualdad. Brecha digital. Sur global. Brasil.

INTRODUCTION

At his desk, Gabriel is looking through the window. He is a 45-year-old man, who dresses formally, but not that much, as one would expect of a genuine *carioca* (native of Rio de Janeiro). On one side, he observes crowded houses and the green from *Morro da Providência*, Brazil's first favela. On the other side, his eyes follow *Presidente Vargas Avenue*, one of the main thoroughways in the city of Rio de Janeiro. Gabriel could also see the *Central do Brasil* Clock Tower, which was not functioning due to lack of maintenance. "What a shame..." Gabriel thought. In his opinion, such an iconic building should be a priority, but at that moment, workers on the street also wished it was functioning because it used to be their primary reference so they would not miss the train. He can also see Rio's Port and Guanabara Bay (Figure 1). Meanwhile, Gabriel cannot silence his thoughts, as the meeting he had with a councilwoman that morning gave him too much to think about.

FIGURE 1

Gabriel's view of *Morro da Providência* and *Central do Brasil*



Source: Pinho (2022).

Gabriel's is the current urban planning secretary in Rio de Janeiro; and is passionate about his job and has come along a successful career path to achieve his dream position. Gabriel likes to have lunch in the port area near Rio de Janeiro's downtown, revitalized by the government to host the 2016

Olympic Games. While Gabriel admired Kobra's massive mural on the Olympic Boulevard, which is the biggest world's graffiti panel, he liked to imagine that his legacy would be to keep up with the changes and the renovation initiated by last governments. Even better, he wanted to make Rio smarter. Usually, his Mondays were all the same: meetings in the morning and bureaucratic work during the afternoon; however, this time, it was different. Even though he had plenty of work, he could not stop thinking about what Teresa had discussed earlier that morning.

In Gabriel's mind, it was all about innovation. He was passionate about making Rio de Janeiro one of the most prominent smart cities in the world. This passion guided him while heading the *Reviver Centro* project. All that focus on innovation, which was much supported by the city hall, left not much to consider regarding the population of that area, mainly composed of marginalized individuals. However, it is not like Gabriel spent much time thinking about that. He was hired to change Rio's downtown and knew how he would do that; all his experience in the technology sector made him the right man to make Rio "smarter."

But during the meeting, Teresa definitely opened his eyes and pointed out the change the city center needed. The councilwoman questioned Gabriel on how much the new project differed from those proposed by the mayor during his last mandate, less than a decade ago; she referred to the Porto Maravilha project, created by the mayor Eduardo Paes during his previous government in 2011. Teresa criticized the project and how much it lacked in guaranteeing dignity to the homes of those who live in Rio's downtown. Finally, she pointed out that former projects aiming to revitalize the city center had promised the construction of 10,000 new homes, which were never delivered. Teresa punched Gabriel right in the stomach; at least, that was what he felt with her final question, "why do the changes always for the rich ones? Why don't you include the poor on your list of priorities?"

A vital part of Gabriel's position was to be head of *Reviver Centro*, a recovery plan for the central region of Rio that suffered from the COVID-19 pandemic with issues such as unemployment, hunger, inequality, and vacancy. His plans for Rio were huge; just starting in the public sector, Gabriel planned to use all his technology experience to implement solutions that would make Rio rise as a smart city. But Teresa was talking about different solutions for problems Gabriel had never considered. And why would he? He was concerned about the violence workers faced when going to work downtown. He was concerned about the economic loss the pandemic meant for the region. Now, Teresa just gave him a new one to think about, and at the end of the day, he knew that dignity should come first.

However, things were complex. Gabriel could not just discard a project that the team spent many months working on and had many construction companies interested in, companies that would fund most of the execution of the project. On the other hand, Teresa was ready to oppose the project when it arrived at the city council. Gabriel spent his entire career in private companies. He understood that the issues concerning the poor in the city center would not impact the stakeholders as much as the concerns of companies and white-collar workers. What should Gabriel do?

GABRIEL'S STORY

Gabriel, the only son of two physicians, had dark blond hair and green eyes, the “perfect mix of his parents”, as his family told him since he was a child. He grew up in Leblon, the most expensive neighborhood in Rio. The penthouse apartment near the beach allowed him to live the best life in Rio. Gabriel practiced sports at the beach, and after, he used to drink “*mate*” and eat “*biscoito Globo*”, Rio’s classic version of iced tea and manioc flour snack. He always felt like a legit carioca, or *carioca da gema*, as they would say in Brazil.

He studied from an early age in the best school money could afford. Parallel to it, he went to English and French courses, did all sports he wanted, and never needed to worry about anything other than his studies. His parents were focused on giving their son all the tools required to excel in his career. After all, they dreamed of having a son in med school, just like his parents.

Even though Gabriel believed he knew Rio like no one else, he grew up in what many would call a “bubble.” The city’s violence did not mean a thing to him; it would never reach him in the penthouse apartment or in the yacht club where he and his family spent most of the weekends. Gabriel grew up surrounded by all those privileges and was convinced that there was not a thing he could not do.

One could imagine the high expectations his parents had of him. For this reason, probably the most challenging moment of Gabriel’s life was telling his parents he did not want to attend med school. Gabriel could not imagine himself inside a clinic as his parents were. He could not stand the thought of dealing with sick people, their families, and all the emotional burden of being a physician. In his head, the dynamic of companies suited his personality and aspirations much better. After the initial disappointment, his parents accepted that Gabriel wanted to study Business and pursue a career with more possibilities; as he said, “it was the moment to explore.” It did not take long before they started imagining Gabriel in big companies. Therefore, the family plan for Gabriel changed. They decided that it would be best for him to spend a year in England studying English and then return to Brazil to the best private university in Business.

While at university, Gabriel made friends very quickly; he was among young people just like him; they studied in similar schools, had similar international experiences, and lived close to each other. Every day was like an exhibition of brands and technological accessories, and Gabriel joined it effortlessly. Nevertheless, it did not stop Gabriel from being one of the best students in his class, joining initiatives, and being well-regarded by his professors and peers. It was expected that Gabriel would get the best internship in big companies, as he did.

After experiencing two internships in leading global companies, Gabriel finished college working in a technology company, where he became an analyst in the area responsible for providing solutions to the public sector. The most important client was Rio’s city hall. It was a promising area, full of innovation and opportunities. Later, Gabriel became responsible for the city hall account, and had an MBA, followed by an executive master paid by the company. Just like that, he spent 15 years in that company. Then, finally, the invitation to work in the government came.

While working with the city hall, Gabriel’s main contact point was Bruno, who was heading a big project of Rio’s new administration, the Reviver Centro. He had done many projects for the city hall at this point, so he knew it was something big. However, Gabriel was not expecting the invitation to assume Bruno’s position as urban planning secretary of Rio and, most importantly, head of the Reviver Centro project. Bruno was leaving the secretary to run for congressman, and his last duty was to name someone to assume his position.

Gabriel was astonished by the news. Not because it was unusual for individuals like Bruno to make a move like that but because it was rare for someone from the corporate world to take his place. Bruno had good arguments; he believed Gabriel understood enough of the project and of how things worked in that specific sector. Moreover, the team was great, and the project was advanced; the main point was to prepare it to be voted in by the city council. Afterward, the job would be easy for Gabriel to execute it.

Even though Gabriel believed he was developing a solid career at the company, the challenge was seductive. He would no longer provide the tools; he would be responsible for making it happen, signing every project. Gabriel's wife, Carolina, was very supportive, she was excited about the idea of her husband in such an important position, but most importantly, she knew him well enough to know that Gabriel needed a new challenge. Finally, he accepted the job.

Now, Gabriel has been the secretary for two months. As a man "from the marked," as some colleagues would call him, much of the public administration was unknown to him. Mainly due to the pressure of multiple stakeholders, very different from the ones that he used to deal with before.

A BRIEF REVIEW OF RIO DE JANEIRO CITY CENTER

After the COVID-19 pandemic, the city center of Rio de Janeiro is living through one of its worst phases. Empty buildings, homeless people, destroyed historical heritage, and economic crises are some of the most frequent problems (CENTRO..., 2021). At the end of 2020, 45% of the stores, commercial establishments, and offices were vacant (CENTRO..., 2021). The popularization of the home office has reduced movement in the main commercial regions of the country (BACCARINI, 2021). However, the history of Rio's city center is full of challenges and paradoxes even before COVID-19. This session will briefly review the Rio de Janeiro city center, focusing on numerous projects to "revive" the region.

During the colonial time in Brazil, ships came from Africa and docked at Rio's Port, bringing people to be enslaved. Between 1800 and 1840, approximately 600,000 enslaved African men and women landed in the city of Rio de Janeiro, of which half came from West Central Africa, from regions such as northern Angola and the North Congo (BISPO NETO, 2022). With time, economic activities were being displaced to other places, and the Port region lost its relevance. The center zone was increasingly occupied mainly by low-income populations, the majority were black people that were liberated after the 1888's law that abolished slavery in Brazil after three centuries of forced work. Those people moved to airless dwellings known as *cortiços*, and later lived in poor communities named *favelas* or occupied empty and abandoned properties. Thus, the abolition of slavery set people free but also abandoned them. All in all, the promise of proper housing in the central area is not new. At least since the early 1900s, projects have been presented to "requalify," "revitalize," and now "revive" the city center.

In the first half of the twentieth century, mayor Francisco Pereira Passos was responsible for a time of significant urban reforms in Rio. The reform was inspired by Paris, with grand avenues surrounded by impressive public buildings, to demonstrate the increasing importance of Rio on the international scene. During this period, *cortiços* were demolished to eliminate epidemic diseases. Moreover, large-scale urban interventions were being done, such as opening essential avenues, for instance, *Avenida Central* and *Avenida Rio Branco*. Another mark of Rio's urbanization process

is demolishing of the historical hill named *Morro do Castelo*, where one of the city's earliest and poorest communities laid. The mayor at the time, Carlos Sampaio (from 1920 to 1922), wanted to continue the redesign of Rio's center by Pereira Passos.

As a matter of fact, many poor houses were demolished during this process of widening streets and avenues. Although three thousand dwellings were destroyed (FINEP, 1985), the reform presented few alternatives to the people that lost their homes. The solution for these people was to move to the city's main hills located in the city center, giving rise to the favelas. *Morro da Providência*, located in the region, was the first favela in Brazil. The history of the community began in 1883, when the government tried to clean up the city, mainly by tearing down the *Cortiços*. Moreover, the first residents of *Morro da Providência* had to share the place with ex-combatants of the *Canudos* War, an armed conflict involving the Brazilian Army and residents of the interior of Brazil. When they returned to Rio de Janeiro, those soldiers found themselves without support or employment and moved to the favela of *Providência*.

In the following decades, the opening of the *Presidente Vargas* Avenue, which was part of the Agache Plan, led to the destruction of five hundred historic buildings. The plan failed as the city hall did not have financial resources. From 1930 to 1960, the city's population increased considerably, going from 1,8 million inhabitants in 1940 to 3,3 million in 1960 (IBGE, 2020). During those years, the city began to grow uncontrollably and disorderly. In 1960, the national automotive industry was born, impacting the urban design policies in Rio as the city became crowded with cars. Until the 70s, urban public interventions were practically reduced to road construction.

This option to prioritize cars had taken the streets from the pedestrian and turned the public spaces into distressing experiences. According to Brandão (2006, p. 49), "During the 1970s and 1980s, Rio lived through a period of uncertainty concerning urban policy, leading the city into an urban crisis whose consequences are manifested through the deterioration of its urban spaces. Several successive administrations neglected the city's public life, both in its social aspect and physical and spatial dimension". Moreover, the enormous gap between the richest and the poorest, which worsens urban violence, has transformed the public space into "unsafe urban spaces of high social tension" (BRANDÃO, 2006, p. 43). Consequently, middle-class citizens started to prefer a safe indoor life, protected by great walls and security. The city expanded towards the south during this time while slums and low-income communities proliferated.

Launched in 2009 by Mayor Eduardo Paes because of the 2016 Rio Olympic Games, the Porto Maravilha¹ project was the most recent initiative until Reviver Centro. The port region of Rio de Janeiro, close to the city center, is a natural space for downtown expansion. According to their site (SHLUGER and DANOWSKI, 2014), "revitalization appears as an opportunity to restate and reinforce the dynamic role of the downtown area by attracting new residential and commercial enterprises to occupy the region while recovering the importance of its memory and identity." Also, the revitalization of the port (PORTO MARAVILHA, 2022) "will reintegrate it with the city center as an example of sustainable urban development and productive social inclusion." However, none of those urbanizations reforms and projects to improve Rio's downtown have focused on the marginalized populations of the region, with proper housing, transportation, and dignity being denied to them since the first ships came to the coast.

¹ Meaning Wonderful Port in English.

REVIVER CENTRO

In this context, 12 years later, the project Reviver Centro² aims at revitalizing Rio de Janeiro's city center, giving it a residential vocation. The initiative provides new legislation that encourages the transformation and retrofit of empty buildings. The goal is to attract new residents to the region, accelerating the social and economic movement. The project could combat the emptiness accelerated by the COVID-19 Pandemic by attracting people to the area. Reviver Centro seeks to take advantage of existing buildings and land that have been empty for decades. Moreover, the project also takes special care with the historical heritage, offering benefits to property owners interested in their recovery and includes a program to restore monuments in the region. The project also includes creating new green areas, stimulating clean urban mobility, and awakening the public space through art.

At the same time, the project is viewed with suspicion and is criticized by experts. Smaller buildings could be demolished, and the concern is that low-income residents will be kept away from the region. However, those responsible for designing the project deny that low-income residents will be removed to more distant neighborhoods, arguing that Reviver Centro considers the social issues. For instance, the program includes tax and urban benefits for entrepreneurs who embrace the idea of making social housing.

RIO SMART CITY

Digital initiatives are transforming Rio de Janeiro into an example of using technology to tackle urban problems. In November 2013, the municipality was elected Smart City of the Year at the Smart City Expo World Congress, a fair on smart cities held in Barcelona, Spain (MAGNI, 2013). After some years outside the main rankings, in 2021, Rio de Janeiro gained (PREFEITURA DO RIO DE JANEIRO, 2021a) the first position in the Technology and Innovation Axis and seventh position in the General Ranking of Connect Smart City, a national event that connects businesses, entities, and government. Also, in 2021, the city was recognized as one of the three top Latin-American smart cities by the Latam Smart City Award (PREFEITURA DO RIO DE JANEIRO, 2021b), developing projects of Digital Transformation and Economic reconstruction.

Among the various digital initiatives, Rio de Janeiro created an environment to centralize data from the different secretariats. This strategic alignment is essential, as well as collaboration through public-private partnerships and citizens' participation. In 2010, the city's data headquarters, Rio Operations Center (ROC), was built in partnership with IBM. ROC is Latin America's largest urban monitoring center (Figure 2). It is possible to monitor traffic jams and minimize the effects of rain and environmental disasters. In July 2021, COR certified a startup that uses artificial intelligence to improve rainfall forecasting. The tool was developed in the ROC Challenge, which aims to attract and foster the creation of 400 new startups by 2024. In 2021, in addition to the ROC, Rio's city hall created a Coordination of Smart Cities, which is responsible for helping all departments to take advantage of the Smart City initiative and become more efficient. Smart City Coordination was

2 More information about Reviver Centro at <https://reviver-centro-pcrj.hub.arcgis.com/>

created as part of the expansion and modernization of ROC. The focus of the new coordination will be the city's sustainable development, aiming at urban planning, mobility, innovation, and technology for the city.

FIGURE 2
ROC Picture



Source: Prefeitura da Cidade do Rio de Janeiro (2014).

THE MORNING MEETING WITH TERESA

When he arrived at the meeting, Gabriel was calm and certain of his expectations of Reviver Centro. The project was so important for the new administration that he would focus almost exclusively on it for the following months. The day before, he had encountered the CEOs of four big construction companies interested in the project. Their financial incentives were unthinkable for any project he had developed in his former job. But Gabriel realized that when it came to the city hall, the proportion of projects in a city like Rio was always like that.

Now, it was time to meet Teresa, a black woman representing the main opposition to the project in the City Council. Teresa was an architect and urbanist, an activist for urban struggles, who had worked previously in urbanization and popular housing projects. He knew that Teresa would have many objections towards Reviver Centro but that her support was indispensable for the project to be approved in the Council once her statement influenced many city councilors.

Gabriel sat in his chair in that meeting room and opened his computer. He glanced at some of the news for that day, he did not pay much attention to it, but some of it could be a prelude to the topics that would be mentioned very soon. Vandalism, food insecurity, and child drug dealing (G1 RIO, 2022) are some of the issues Brazil's leading newspaper noticed when it came to Rio's downtown.

Amanda, the senior analyst of Gabriel's team, was responsible for presenting the project's current version and exposing the main points discussed with the CEOs and how their investment would benefit the project. She began her presentation by explaining what makes Rio one of the smartest cities in the world. She quickly presented some reasons: monitoring the city 24h hours a day, seven days a week, which involves more than 1 thousand video surveillance cameras and 500 professionals; real-time asset tracking, surveillance, and predictability of weather conditions with alarm trigger in the communities that face landslide risk; and the direct contact with the population. She argued that "technology can bring the government closer to citizens" and that smart cities worldwide are "helping the city become more inclusive and providing a better quality of life."

Next, Amanda opened the website Carioca Digital³ to show some digital initiatives for the citizens. Some examples were notifying garbage on the streets, exposing potential developing points of the mosquito *Aedes Aegypti* and report economic activity without a license. After presenting Rio Smart City, she suggested they work together to make Reviver Centro smarter.

Teresa listened patiently and paid attention to everything Amanda was presenting, making several notes, but sometimes she couldn't hide her unpleasantness. She was going to present her worries and criticisms of the Reviver Centro; however, before she started her presentation, she couldn't help but comment on Amanda's presentation. Teresa said: "In my opinion, a smart city is just a beautiful speech. But, at the end of the day, these initiatives keep power in the hands of those already powerful. Smart cities have failed to ensure an inclusive future and focus on the poorest people. And so, I don't believe it's the solution for Reviver Centro". Amanda, Gabriel, and the entire team were silent for a few seconds until each mentioned a few sentences to show Teresa that she was wrong and that this project was different, even though they did not convince her at all.

Teresa's most significant criticism towards Reviver Centro is that the project is biased toward promoting real estate capital, which, as well as previous urban transformation initiatives, is not inclusive of the most precarious income brackets. In addition, she highlights the lack of concrete initiatives or plans for social housing. She goes on by arguing that popular housing in the central area is an old claim of low-income citizens and social movements: "the right to the city and decent housing imposes itself as one of the most important social legacies to be pursued and achieved as a result of public investments in the city" and that we should "avoid losing another opportunity to show that reviving Rio can be more than just big urban operation to generate stratospheric profits for contractors and real estate companies, and actually does about its citizens."

She exemplifies this issue by stating that *Providência* lacks a proper water supply and basic sanitation. Yet, the biggest aquarium in Latin America was launched in 2016 as part of the *Porto Maravilha* redevelopment project. Also, she recalls that the current project does not include some critical areas of the amplified city center, such as *Morro da Providência*, and neighborhoods like *Cajú*, *Santo Cristo*, *Saúde*, and *Gamboa*, nor *São Cristóvão*, *Catumbi*, *Cidade Nova*, and *Morro de São Carlos*. Moreover, to convince the market to invest in the city center, the city hall is selling the idea

³ Available at: <https://home.carioca.rio/>.

of Interlinked Operation: “investing in the center permits those so-called entrepreneurs to construct tall buildings in fancy neighborhoods, such as Copacabana and Ipanema, that legislation usually does not permit.”

She goes forward by saying that today some buildings are occupied by low-income families. Those families need urgent and specific public policy to regulate their housing and reform the buildings. Moreover, Reviver Centro does not mention the old plan presented by the city hall in 2015, which was part of the *Porto Maravilha* (Wonderful Port) Project, which aimed to build 10 thousand habitational units. Instead, Reviver Centro brings other modalities of social housing, such as social rented houses (low rent prioritized by need) and supported housing (for those with additional needs, for example, care homes), without giving enough information on how those units will be built or managed.

In summary, Teresa argued, “considering the huge housing crisis in the city of Rio de Janeiro, which the Coronavirus pandemic has strongly aggravated; and considering that the objective of the project is to encourage the production of housing in the central region as a way of reversing the process of the emptiness of the center aggravated by the COVID-19 pandemic, I believe that the priority of Reviver Centro should be the production of social housing for families from 0 to 3 minimum wages and not bringing new technology which will only amplify the already gigantic inequality in our city”. Moreover, she defended the creation of arts programs and cultural events that promote cultural diversity.

Teresa’s arguments were a “reality chock,” as a popular Brazilian saying would define it. And Gabriel felt it. Amanda strongly defended the project and the objective of making Rio smarter, and her boss acknowledged her hard work on Reviver Centro. But Teresa’s words, or worst, the facts, echoed in his head. Amanda emphasized that a “smart city is not just a speech” and how much technology can help marginalized populations. Especially nowadays, when technology is everywhere, and everything is connected, the poor must be digitally included: “lack of infrastructure, access to technology, and education will increase the digital exclusion, and the consequences will impact next generations.” She moved forward by recalling that the COR emits rain alerts to protect those living in slums from landslides. “Amanda...” started Teresa, “you are completely correct. But shouldn’t our priority be providing safe housing instead of just alerting them when their houses will no longer be safe?”

Gabriel was astonished by Teresa’s positioning; even though he knew she would be very resistant to the project, Gabriel was not expecting all the criticism raised by the congresswoman. Of course, Rio’s center had problems, and he knew that the COVID pandemic made everything much worse. Nevertheless, it was not usual for him to worry about these topics in his job. He was a specialist in planning to provide for the secretary’s needs, not defining which needs were those. Moreover, he advocated for the use of technology in the government and was not used to such skepticism.

FIGURE 3
Inequality in Rio's downtown



Source: Diário do Porto (2021).

THE WAY FORWARD

Gabriel faced a crossroads now. He received a file from Teresa's office that complemented her speech earlier that day, and he acknowledged that she did her job well. The file not only had several comments throughout the project, but she included additional information regarding violence and the needs of the poor. He faced that project from a different perspective; Gabriel wanted to make innovations in Rio's center, but to do that, he would need to run over several urgent needs of the population.

Additionally, Gabriel knew that the CEOs of the construction companies only cared about the incentives they would receive to build in upscale neighborhoods. It was the condition they presented to invest so much financially in Reviver Centro, and it was the primary funding source of the project. If Gabriel decided on Teresa's project perspective, there was not much he could offer to those CEOs.

That Monday afternoon, Gabriel skipped the bureaucratic work and decided to look in person at Rio's downtown. He asked his assistant whether he could suggest a coffee shop nearby, and he paid closer attention when he heard a shy laugh saying, "this was an easier task before COVID; my favorite places are all closed now." Anyway, there was a place he could go to 10 minutes away from the office.

Gabriel decided to pay attention to the surroundings during his walk. He never worked in the downtown area. He used to work in Barra, an upscale neighborhood where he would drive to, have lunch and coffee in shopping malls, and rarely walk around. He lost count of how many homeless people he saw on his way and had no money to give to any of the beggars, as he used his smartwatch

to pay for everything. Downtown was known for being crowded, and now it felt like a ghost town in the middle of the day. The 10 minutes felt like immersion in Teresa's speech. He was aware of all the issues, but they were never salient to him, never that close. Most importantly, it was the first time Gabriel felt he could do something about it.

There was no clear path to choose. On the one hand, he could pursue the innovative approach of Reviver Centro, stimulating new buildings while implanting exciting smart city initiatives. However, he would face the opposition of Teresa and her allies on the City Council. On the other hand, he could change the face of the project, even inviting Teresa to advise his team's attempt to make downtown clean and safe, a home for those who needed it, and a proper working area for those who worked there. But this would mean discarding a work of several months and developing one in four and a half months without any additional funding from companies. What should Gabriel do?

APPENDIX

EXHIBIT 1

Rio de Janeiro profile (2022)

Total City Population	6.775.561
City land area	1.200,33 km ²
Population density	5.597,55hab./km ²
Country Gross Domestic Product	1.915,9Billion USD
City Gross Operating Budget	7.102.971.856,93 USD
Percentage of the population that are youths (aged 15-24)	15,38%
Percentage of population that are seniors (aged 65+)	10,46%
Total number of households	2.146.340

Socio-economic indicators of Rio de Janeiro City.

Source: Elaborated by authors based on Bright Cities (2022).

EXHIBIT 2

Rio de Janeiro's inequality (2020)

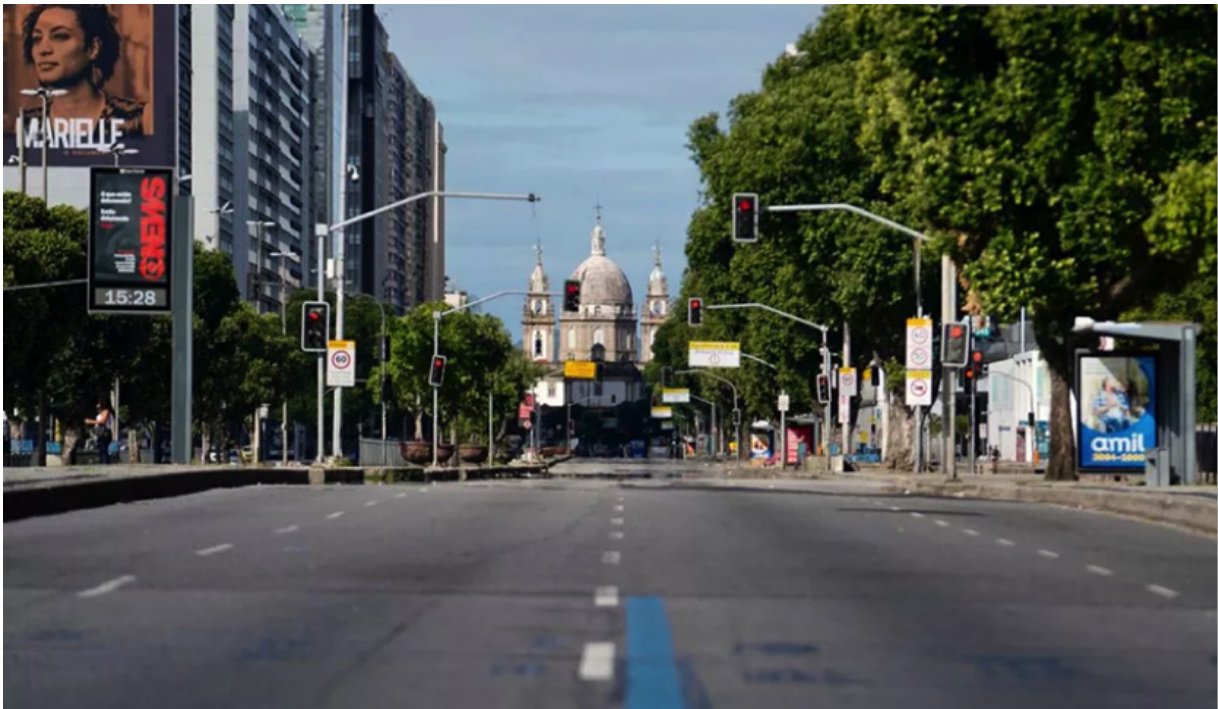
Employment	Percentage of informal jobs	33,9%
Security	Percentage of black people murdered by the police, in relation to the total	81%
Public Administration	Percentage of female councilors in City Councils	13,8%
Pay Gap	Percentage of pay gap between Whites and Blacks	41,9%
Poverty	Percentage of people that live with R\$70,00 per month	1,3%
Education	Percentage of children until 3 years old in daycare	35,7%

Indicators of Rio de Janeiro's inequality in percentage.

Source: Elaborated by authors based on Casa Fluminense (2020).

EXHIBIT 3

Photos of Rio de Janeiro's city center during the pandemic (2020)



Empty streets in Rio de Janeiro mid-afternoon on a weekday in 2020.

Source: G1 Rio (2021).

EXHIBIT 4

Rio de Janeiro's city center map

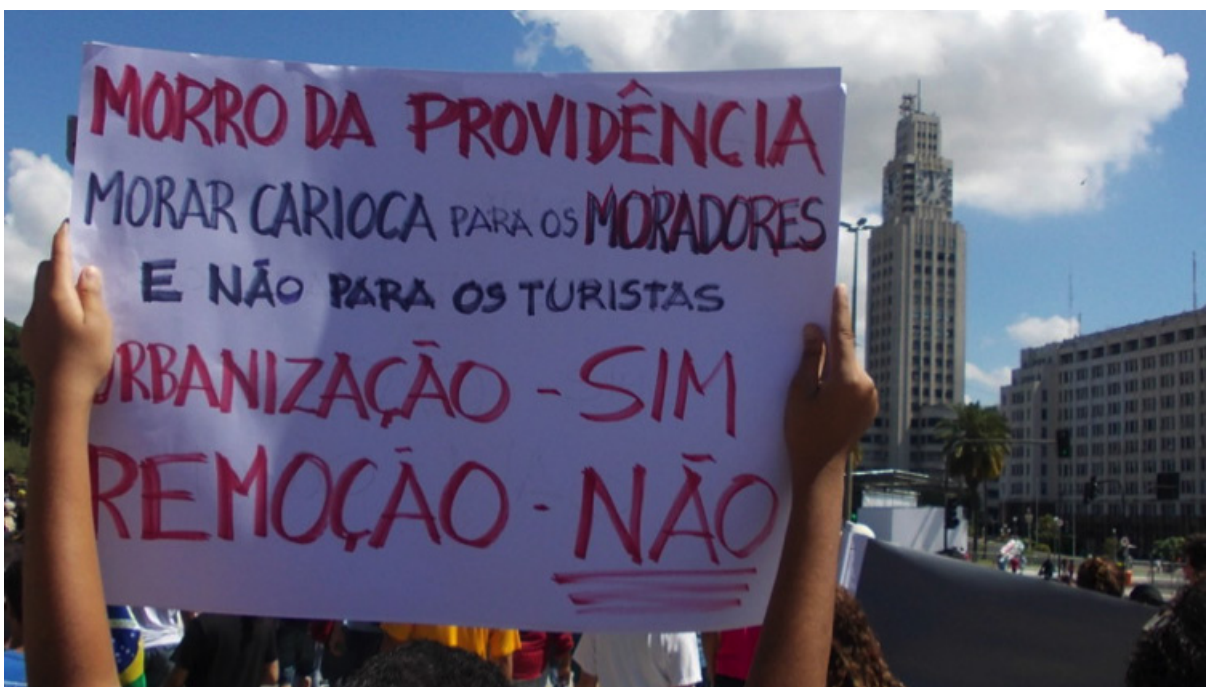


Google screen shot with locations of Porto Maravilha, Reviver Centro, and Morro da Providência.

Source: Elaborated by authors.

EXHIBIT 5

Rio de Janeiro's city center map



Social Movement in Rio's downtown against forced removals in Morro da Providência.

Note: Poster in English: "Morro da Providência, the city for its citizens and not for tourists. Urbanization, yes; Removal, no".

Source: Marinho (2013).

EXHIBIT 6

Homeless people in Rio de Janeiro



People living on the streets of Rio de Janeiro's downtown.

Source: Folha Press (2020).

EXHIBIT 7

Poverty in Rio's downtown



People live and eat in the streets of Rio's downtown during the COVID-19's pandemic.

Source: G1 Rio (2020).

EXHIBIT 8

Museu do Amanhã

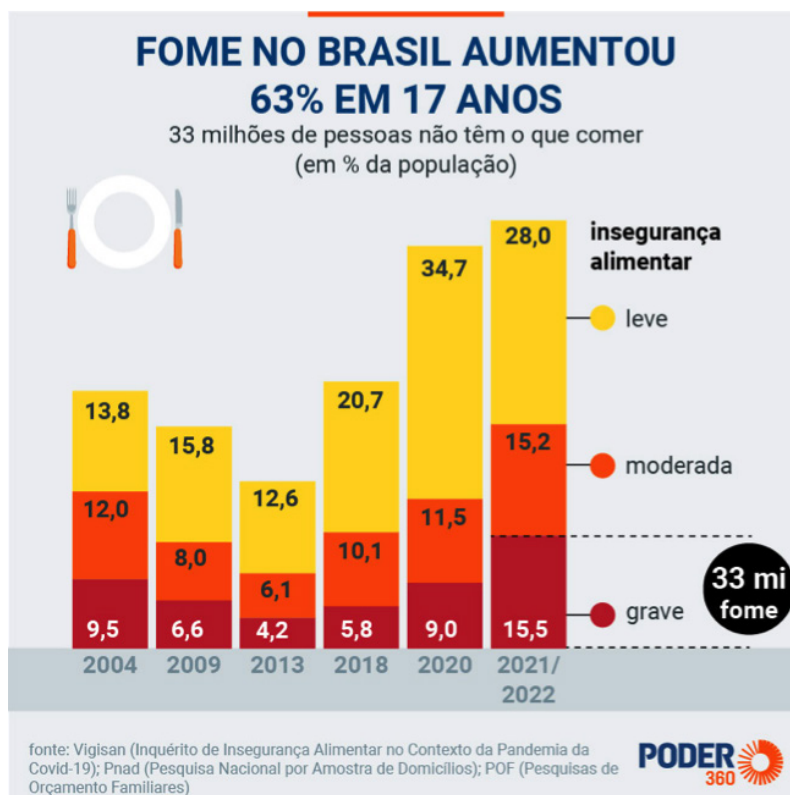


Museu do Amanhã, cultural initiative from the Porto Maravilha project.

Source: Tara (2019).

EXHIBIT 9

Food insecurity from 2004 to 2022 in Brazil



Source: Soares and Lopes (2022, own translation).

TEACHING NOTES

Case summary

This teaching case portrays a dilemma faced by Gabriel, a secretary of Rio de Janeiro's city hall who has just started his career as a public manager after a long experience in the private sector of technology. However, he realizes that the smart city discourse he always encouraged and wanted to implement in his project regarding Rio's city center overlooked the basic needs of the marginalized population who lived in that area. Moreover, the stakeholders have very different expectations of the project. What should Gabriel do?

Learning objectives

This case was developed to critically address the use of digital technologies to attain socio-economic development and help the marginalized population, for instance, through smart city initiatives. As well as its critics. Discussions about innovation and ICTs in the public sector can also be encouraged. Finally, the critical approach is celebrated here so that students can reflect on the tensions between the hegemonical view in Business Administration courses and a more critical view of the same matter.

Suggested courses

The teaching case is intended for business undergraduate, graduate, and executive education. Courses such as Public Management, Business, and Management, Innovation, Information and Communication Technology, IT & Computer Science, or any that discuss the intersection between public management, ICT, and innovation. This case can also lead to discussions in courses that deal with Urbanization and Society.

Teaching approach

First, the students should read the case, which will take approximately 20 minutes. This activity could be done in class or at home. The Literature Review will also take about 20 minutes to read. Below, we recommend two different approaches to a 90-minutes session. Also, an asynchronous activity is proposed so hybrid or online courses can also work with the case.

Option 1 – 90 minutes

The first teaching approach suggested is role-playing. Initially, the class will be divided into three groups. Each group will be assigned a role. The first group, which should have no more than three participants, will represent Gabriel. The second and third groups will represent Teresa and Amanda, respectively. Each group should discuss the case collectively and prepare arguments to defend the character's point of view. This activity can be done in one class (15 minutes for discussion

in groups), or groups can prepare in advance for it. Then, groups will have 15 minutes to present and defend their side to the entire class. Finally, the three people assigned to represent Gabriel will have 10 minutes to explain their decision; their decision can be collective or individual. After that, the professor may use the last 10 minutes to wrap up the discussion.

Option 2 – 90 minutes

The second teaching approach proposed is the use of the case in an introduction to the debate on the use of technology in the city and the smart city discourse. Before the class, students will be informed to do individual research on the topic of ICT and smart cities; academic literature or news can be encouraged depending on the program. The case should be presented in the classroom to students with 30 minutes to read it. After reading the case, the professor should mediate a debate on the class's topic. The questions below are suggestions; this part should take around 40 minutes. Finally, the remaining time (20 minutes) can be used to conclude the discussion and present more theoretical material on the topic.

Option 3 – 60 minutes

This is a suggestion for an online (synchronous or asynchronous) course. Students will have 30 minutes to read the case and reflect on it. Next, they will have 30 minutes to answer the questions below. In synchronous courses, this process can be done with the entire class together, where the professor mediates the discussion; or students can be assigned to groups (using breakout rooms in Zoom, for instance) and discuss together for 15 minutes, then return to the main room to present their conclusions as a team.

Suggested assignment questions

- 1) What are the advantages and disadvantages of Reviver Centro?
- 2) Are public managers trained to deal with inequalities? How big should their concern with marginalized groups be in their daily decisions?
- 3) In your opinion, are smart cities a possibility, a utopia, or a marketing discourse?
- 4) Based on your research, can the smart city approach benefit developing countries? How?
- 5) What could the city of Rio de Janeiro do to deal with the emptiness caused by the emergence of the home office during the COVID-19 Pandemic while attending to the needs of marginalized populations of the city?
- 6) Considering the case explained above, what should Gabriel do?

Literature review

This brief literature review aims to help discuss the case in the classroom or at home. First, critical management will be introduced. Next, the Smart City concept will be defined. Lastly, a more critical perspective of smart city discourse will be presented.

A quick introduction to critical management

Organizations and cities are critical locations where inequalities are observed and created (ARCHER, 2006). Acker (2006) develops the idea of “inequality regimes,” which are the interlocked practices and processes that result in continuing inequalities in all work organizations. However, while organizations are implicated and affected by the growing inequality, Business Schools have largely neglected the matter (FOTAKI and PRASAD, 2015; REICH, 2014). According to Fotaki and Prasad (2015), this is partly because far too many management educators rely on neoliberal capitalism, which has dominated the curricula and the teaching philosophy of Business Schools. Moreover, as maintained by Mbembe (2016), both our universities and knowledge are ‘westernized’ because the dominant academic model is based on a Eurocentric epistemic canon. We should not assume management practices premised on a westernized neoliberal market economy model as the only right path or as the inevitable patch, as claimed by Nkomo (2015). We need to “create intellectual and practical space for management students to encounter and reflect upon different ways of knowing and understanding their conditions” to find a “decolonial approach” (NKOMO, 2015 p. 254).

Creating something new and different from what has been positioned as universal management knowledge will take work (NKOMO, 2015). The current state of Management and Organization Studies is a state of epistemic coloniality (IBARRA-COLADO, 2006). According to Ibarra-Colado (2006), the notion of the ‘outside’ and ‘otherness’ is vital to understand organizational realities in Latin America. The idiosyncrasies of every local reality should not be eliminated by global inclusion, and we observe that those differences remain and multiply” (IBARRA-COLADO, 2006). As stated by Hanam et al. (2020), we must consider the systematic biases of the north in erasing and imposing a point of view and the south in scapegoating valorizing context too much. However, it is problematic that “those not of the North are obliged to either conform and play the game or not be given entry and voice” (UL-HAQ and WESTWOOD, 2012, p. 243). Moreover, they are seen as always trying to “catch up” with what we see in the United States or Europe; such assimilation may undermine the plurality of global perspectives (HANAM et al., 2020).

Defining smart cities

Despite being a relatively new concept, the smart city has already secured its space as a subject of fundamental importance in discussions about the future of cities (ISMAGILOVA et al., 2019). The concept evolved mainly as an answer to the challenges imposed by urbanization and the development of information and communication technologies (ICTs), as well as demands for a more efficient and sustainable world (CARAGLIU et al., 2011). However, there is no universally accepted definition for a smart city (ALBINO et al., 2015; MARSAL-LLACUNA, 2015; HOLLANDS, 2008; MICHELOTTO and JOIA, 2021). In the first phase, scholars studying smart cities highlighted aspects related to the introduction of ICTs, which became known as the technocentric approach (ALBINO, 2015; BIBRI, 2017). Some years later, this view started to be criticized, and the research brought people and social relations as protagonists of a smart city, which became known as the people-centric approach (ISMAGILOVA, 2019). Finally, in the last years, we are observing a focus on smart city governance (MEIJER and BOLÍVAR, 2016).

According to Marsal-Llacuna et al. (2015), the term smart city was first used in the 1990s, and the initial focus was on how ICT could help modernize cities. According to Nam and Pardo (2011),

the key components of a smart city are (1) technology, (2) people, and (3) institutions. Connections between these components are critical and distinguished. The city can only be considered smart when investments in human and social capital, together with ICT, encourage sustainable growth and guarantee a better quality of life (AL-NASRAWI et al., 2015). Chourabi et al. (2012), the success factors of a smart city initiative are management and organization, policy context, technology, governance, people and communities, economy, infrastructure, and natural environment. The term smart city is, therefore, an umbrella concept that contains several sub-themes, such as smart urbanism, smart economy, sustainable and smart environment, smart technology, smart energy, smart mobility, smart health, and so on (TRINDADE et al., 2017). In line with this, Box 1 presents some definitions of the smart city proposed over the years by relevant scholars.

BOX 1

Smart city definition

Definition	Source
It is one where investments in human and social capital and traditional (transport) and modern ICT infrastructure fuel sustainable economic growth and high quality of life, with a wise management of natural resources, through participatory governance.	Caragliu et al. (2011, p. 65)
A smart city is defined as the meaning of smartness penetrating the urban context, the role of technologies in making a city smarter, and focal domains (infrastructures and services) that need to be smarter.	Nam and Pardo (2014, p. 2)
Smart cities are using digital technologies to enhance the quality and performance of urban services.	Hussain et al. (2015, p. 253)
A smart city encompasses an efficient, technologically advanced, sustainable, and socially inclusive city.	Pereira et al. (2017, p. 528)
A smart city is an umbrella term for how information and communication technology can help improve the efficiency of a city's operations and its citizens' quality of life while also promoting the local economy.	Gascó-Hernandez (2018, p. 50)

Source: Elaborated by authors based on Ismagilova et al. (2019).

Smart cities, smart utopias, or smart discourses?

Large corporations of ICT devices and services (such as IBM, CISCO, Siemens, and Microsoft) are responsible for constructing the progressive rhetoric of smart cities, where smart technologies are the only solution for the urban problems we face today (ALLAM and NEWMAN, 2018). The dominant speech on the smart city project is built from a neoliberal perspective on urban development, embracing strategies to boost economic growth and efficiency through investments in high

technology and innovation (FAGUNDES and MATIAS, 2018). Current confidence in modernization and scientific-technological innovation update notions of urban utopia committed to developing valid and replicable solutions in any place (Soderstrom et al., 2014). However, constructing a smart city according to neoliberal rationality evokes selective investments concentrated on profit-making (CARDULLO and KITCHIN, 2019; HOLLANDS, 2015). Contradictions in the smart city project reveal a selective socio-spatial distribution of improvements, deepening processes of urban fragmentation and socio-spatial inequality instead of facing existing social processes of exclusion (HOLLANDS, 2008). Is it only a “smart discourse”?

In addition, despite their attempts to clarify the role and importance of smart cities, an increasing skepticism of the smart city has overestimated potential or futuristic so-called “smart utopia” can be seen (ANTHOPOULOS, 2017). Datta (2015) argues that smart cities are the new urban utopias of the 21st century. Along with Datta, Kaika (2017, p. 89) states that “the new call for ‘safe, resilient, sustainable and inclusive cities’ remains path dependent on old methodological tools (indicators), techno-managerial solutions (smart cities), and institutional frameworks of an ecological modernization paradigm that did not work. Pursuing a new urban paradigm within this old framework can only act as immunology: it vaccinates citizens and environments so that they can take larger doses of inequality and degradation in the future; it mediates the effects of global socio-environmental inequality but does little towards alleviating it”. Smart cities and ICT cannot be the solution because they are a big part of the problem, for instance, to afford to become “smarter” some cities are responsible for the destruction of environments and livelihoods in other parts of the world (KAYKA, 2017).

Smart cities must pay more attention to the people who live in them (WEBER, 2019). Scholars from the ICT for Development (ICT4) movement, following the Capability Approach (CA) by Amartya Sen (SEN, 2001), assert that cities should help their citizens to be free to live how they want. According to Harvey (2012, p. 2), “the freedom to make and remake ourselves and our cities are, I want to argue, one of the most precious yet most neglected of our human rights.” Moreover, they argue that the smart city should focus on the poorest people in our society (JOIA and KUHL, 2019). The idea is that instead of improving the lives of those citizens that are already privileged, relevant smart city initiatives should aim at targeting those people that are most in need, namely the world’s four billion poorest people with an income that is too low to sustain a decent life (JOIA and KUHL, 2019). Furthermore, this shift also means acknowledging the significance of the smart city’s intangible benefits, such as empowerment, social cohesion, and self-esteem (GOMEZ and PATHER, 2012).

In fact, despite the enormous spending on smart city initiatives, they still need to meet their initially grounded objectives (ANTHOPOULOS, 2017). Moreover, little evidence exists of how smart cities are helping cities to achieve sustainability goals (YIGITCANLAR et al., 2019; AHVENNIEMI et al., 2017). However, the increasing sophistication of ICT, along with socially conscious policies and strategies, creates an opportunity for smart city research to re-establish itself as a forum of debate on the conditions and policies needed to advance the well-being and prosperity of our societies. According to Harvey (2012, p. 5), “urbanization has always been, [...] a class phenomenon of some sort since surpluses have been extracted from somewhere and from somebody, while control over the use of the surplus typically lies in the hands of a few (such as a religious oligarchy, or big ICT corporations now)”. In this way, an inner connection emerges between the development of capitalism and urbanization. Hardly surprisingly, therefore, the logistical curves of growth of capitalist output

over time are broadly paralleled by the logistical curves of urbanization of the world's population (HARVEY, 2012).

To democratically govern cities so that the population's rights are respected, and the conditions to live in peace and happiness are created is a challenge for humanity, as we observe elevated patterns of concentration of wealth and power made use only by an economic elite. Real smart solutions and real social innovation are to be found not in consensus-building exercises but in these dissensus practices that act as living indicators of what urgently needs to be addressed. The focus must be on who has been silenced in the design and delivery of past sustainable development agendas and goals. Cities are (and will be) more and more the place where our societies' poverty and misery are explicit: millions of people living in slums, in subnormal settlements, or even in the streets. Cities have become, thus, unequal places, the final expression of the contradictions and injustices of our society. Still, the trajectory of the smart city seems more of a marketing language for city 'potentials,' reinforcing neoliberal hegemonic discourse, than providing a meaningful frame for empowerment and progress.

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DATA AVAILABILITY

The entire dataset supporting the results of this study was published in the article itself.

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