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Smart cities and discrimination

Essay

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Content:

Introduction

With science and technology advancing at the fastest pace in human history, the dawn of so called "smart cities" was inevitable. The idea seems almost utopian in nature; a city with automated processes, where technology is relied on to take care of menial jobs while humans direct their attention towards more intellectually challenging undertakings. A city with efficiency and environmental friendliness as its core values. A city without traffic jams, light pollution or excessive waste. All this thanks to technology.

Naturally, the idea and the reality, at least for the time being, greatly differ. Nevertheless, efforts to make our cities smarter have already begun, whether it is smart recycling bins, improving the cities' self-monitoring capabilities or connectivity, and so on. Moreover, entire urban development projects have been drawn up and at least partly realised with a smart city concept in mind; in other words, attempts to build a smart city "from scratch" have taken place as well, be it the Songdo City in South Korea, Masdar City in Saudi Arabia, PlanITValley in Portugal[1] and others. Vanguards of the smart city concept often emphasize all kinds of advantages, some of which I have mentioned above. Undoubtedly, having a highly efficient, environmentally-friendly city is something we can all agree on being beneficial to our societies; after all, environmental concerns have, despite scepticism of some prominent politicians, been at the forefront of political, as well as wider societal, discussions[2]. As is usually the case with new technological developments and their effects on peoples' lives, potential downsides (e.g. invention of printing press or social media and their subsequent uses to spread misinformation and fake news) have largely been downplayed and discussions about them confined to small groups of experts and other interested people. That is why in this paper I am going to explore the issue of discrimination in various forms in relation to the concept of smart cities.

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[1] BENEDIKT, Olesya. The Valuable Citizens of Smart Cities: The Case of Songdo City. *Graduate Journal of Social Science.* 2016, Vol. 12, No. 2, p. 18 [cited 17. 12. 2018].
[2] See for example: https://www.bbc.com/news/science-environment-46582025

Smart discrimination?

The topic of discrimination, while widely debated in the context of contemporary societies (whether it is gender pay gaps, ethnic minorities, access to services for disabled or elderly, etc.), is something that does not come up in a wider public discourse on smart cities. This fact in unsurprising; as mentioned above, when it comes to ground-breaking innovations, only advantages and upsides are emphasized and highlighted, while their opposites only grab attention when bringing about problems of scandalous proportions. Naturally, this is completely in line with marketing basics; if you want to sell something (regardless of it being a hot dog to a passer-by or a smart city to all of its citizens), you should be emphatic about all its great qualities and positives while downplaying, or better yet, not even mentioning, potential negatives. However, this does not mean these downsides should not be discussed, and in the best-case scenario brought to public attention, as for the citizenry to be able to make an informed choice – well, it must have all the information. So what kind of discrimination are we talking here?

Cities for the elite

The article by Olesia Benedykt describes the story of the Songdo City, which has been developed with the blessing of the South Korean then-government by a joint venture of private companies[3]. As the city is an example of a smart city built from scratch, it naturally had to attract potential citizens. What the author goes on to depict is a picture of a city for the elite, where menial jobs and corresponding work positions are being scrapped and replaced by automated systems, hence making the city only viable for citizens with high degree education and extraordinary credentials (as those are the only ones who can find a job in the city).

While some negative aspects of the above-mentioned story are exacerbated by the specific circumstances of the case (e.g. the city was from the beginning built as a smart city), lessons can still be learned. Undoubtedly, having so many tasks taken over by automated machines

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[3] BENEDIKT, Olesya. The Valuable Citizens of Smart Cities: The Case of Songdo City. *Graduate Journal of Social Science.* 2016, Vol. 12, No. 2, p. 20 [cited 17. 12. 2018].

will increase unemployment, with the less-educated part of society bearing the brunt. After all, this question is being discussed even now, though in the context of industry 4.0, and not smart cities as such. The main argument being used to mollify at-risk employees and their representatives is that while many jobs will be lost, others will be created. This is definitely true, though the problem is the qualitative disparity between old, lost jobs and those newly created; the former requiring a (much) lower level of education. A simple example can help illustrate this: a window cleaner will lose his or her job, and though a position such as "personal internet of things security repair person" may at the same time be created, it is hard to imagine a former window cleaner will have the necessary qualifications to fill that new vacancy. Should the concept of smart cities continue being developed and implemented (which at this point can doubtfully be stopped), this whole process is of course inevitable; ultimately, one of the underlying ideas of smart cities is precisely replacing the need for human labour in areas of menial, routine work.

The key to avoid the scenario of Songdo City is education. Educational programmes need to be developed which would encompass not only current and future students, but also people who are already economically active, or even retired. Advantages of smart cities must be available to everyone, including those whose jobs will gradually disappear in the future. Only through well-developed and well-implemented educational programmes and courses may we ensure that everyone will have the necessary skills to not only enjoy all the perks of a smart city, but also that those nowadays occupying at-risk job positions will be able to find a new occupation once their current jobs disappear. In other words, and coming back to marketing basics, to successfully sell something (in this case a smart city to the citizenry), you must ensure the buyer knows how to use and take advantage of it. And in the case of smart cities, this is even more important; not only to ensure the general acceptance of the smart city concept being implemented, but also to prevent social unrest (stemming for example from sudden rise of unemployment and homelessness rates), which such implementation without properly educated citizenry may cause.

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Protecting the vulnerable

Studies have shown that women experience cities differently from men[4]; while men usually travel from home to work and back, occasionally taking a detour to a gym or a bar, women spend much more time roaming the city streets. This is due to obligations such as shopping (e.g. groceries), childcare and others typically being taken care of by women. Arguably, this has been (at least in Europe and North America) gradually changing, the burden being shared more by male counterparts as well. Even so, it is undoubtedly true that women are still targets of harassment, or even violence, in public much more often than men.

This is an issue of great concern even now, and the dawn of smart cities may just compound the whole problem. With automation set to eradicate certain kinds of jobs, few seem to have realised how this will impact women and their feeling of safety in the city. For example, street vendors have been proven to make women feel safer (especially in evening and night hours) in the streets, as, simply put, they are someone who may potentially help if something bad were to happen. The same goes for public transport, or taxi drivers; there is always that another person, be it a tram conductor or a taxi driver, who is there to help (at least in theory). And what about smart street lamps, which, in the name of power efficiency, either dim or turn themselves off when there are few or no pedestrians; such streets surely will not add to the feeling of safety for anyone. And we are just talking about modern cities; less developed cities and urban areas around the world are even less inviting to women.

These observations of course apply not only to women, but other vulnerable groups as well, be it children, the disabled or the elderly. Hence designing cities with considerations of the specific needs of these groups is paramount, as smart cities (or any type of cities for that matter) must accommodate the needs of every citizen.

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[4] https://www.theguardian.com/global-development-professionals-network/2016/oct/13/why-arent-we-designing-cities-that-work-for-women-not-just-men

Behave, or else…

Not being discriminatory in itself, yet potentially leading to discrimination, is an issue of public shaming. As hinted at above, for a city to be "smart", it must have wide-ranging self-monitoring abilities, as otherwise it would not be able to manage itself (semi)autonomously and provide its citizens with the much-craved efficiency. Naturally, such monitoring can be used for various purposes, one of them being public shaming.

Currently, the most prominent instance of public shaming comes from China, where in some cities faces of jaywalkers are being displayed publicly in order to "shame" them[5]. Such shaming, or even stigmatization, is of course being carried out in the name of "order"; should you want to avoid it, just follow the rules (e.g. do not cross the street when there is traffic). And while this in itself is rather an honourable cause (we all want people to follow laws and rules), it may have some serious consequences, which can be discriminatory in nature.

Firstly though, we must realise that every punishment is to some extent stigmatising; ultimately, no ones like to admit they received a parking ticket, let alone served a prison sentence. Such effects are mostly desirable, as they add to the deterring aspect of punishments. The problem with public shaming is the scope of publicity accompanying such a punishment (after all, it is called "public" shaming). While traditional punishments such as fines, house arrests, prison sentences and so forth are usually confined to a relatively small group of people (e.g. family, neighbours, local community), public shaming can in theory reach every citizen of any given city. Such a person may subsequently face difficulties in interactions with other people.

Moreover, the law-enforcement aspect of public shaming may be reinforced if combined with the social credit system, which we can once again witness in China[6]. Coming back to the example of jaywalking, such conduct may lead to both public shaming and lowering of the

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[5] https://www.nytimes.com/2018/07/08/business/china-surveillance-technology.html
[6] https://www.businessinsider.com/china-social-credit-system-punishments-and-rewards-explained-2018-4#1-banning-you-from-flying-or-getting-the-train-1

perpetrator's social credit, barring him or her from accessing certain services. This may in turn create a group of people discriminated against based on their past conduct. It is important to realise that for such a discrimination to occur, it must be in the smart city's programming. And so the question is whether it is acceptable in a modern society to penalize people by public shaming and preventing them access to certain services, instead of traditional means of punishment.

As a proponent of restorative justice practices, I would argue that enforcing law via public shaming and social credit systems would only create a fringe group of people, who would be unable to function properly in such a setting and thus disregard it completely. We must not forget that such punishments would inevitably lead to discrimination not only by the city systems, but also by its citizens. People can be rather unforgiving, and it is not hard to imagine they would start avoiding contact with anyone of significantly lower social credit or/and who has been publicly shamed. This in turn may lead to great social divisions, eventually leading to massive social unrests.

Now some might argue a system which includes public shaming and social credit is much more effective in preventing misdemeanours and wrongdoing from occurring, as the deterrence aspect is much more emphasized than with traditional penalties (e.g. fines). It will also be much more efficient, as the whole system will be automated. Moreover, social credit can be considered "restorative" in nature, as it does motivate people to behave "correctly", which in turn improves their credit score (correct behaviour of course being defined as "according to the law"). My main gripe with removing the human aspect from the whole process is the inability of the system to account for any specific circumstances, which is ultimately why for example judges are considered to be irreplaceable by automated systems (for the time being, anyway). A possibility of appealing the "system judgement" may of course be introduced, with the appeal being heard by a human; the damage done in the meantime by being publicly shamed and having social credit lowered may however be irreversible.

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Conclusion

The concept of smart cities is one of great potential, promising to bring about a new era by use of technology. However, it is its very own revolutionary nature that gives rise to some considerable worries and concerns, which have so far unfortunately been absent from the public discourse on the topic.

One of those concerns is the issue of discrimination. With social coherence being one of the main goals of modern societies (which stems from the knowledge that without such coherence no society can survive, or let alone thrive, long-term), we must ensure that implementing the concept of smart cities, whether by building new cities or slowly introducing new features to our existing ones, takes into consideration interests not only of the well-educated, rich, and powerful, but of all the citizens. Ultimately it would be shameful to have a smart city with all its innovations while at the same time facing massive unemployment or streets being unsafe for some vulnerable groups. Therefore, we must learn from history and address all of these concerns in advance and take pre-emptive measures, such as educational reforms or having representatives of women, the elderly, the disabled, and other groups be part of the new cities' design process. Our new cities must work for everyone, not just the few chosen ones.

The issue of public shaming is another one warranting proper attention, as enhanced monitoring capabilities may (and in fact already have) lead to such punishments being implemented.

To conclude this essay, it is worth emphasizing once again that discrimination has no place in modern societies, where everyone is equal, and this should be reflected everywhere; when it comes to smart cities, this has to be kept in mind from the very programming of such a city, as algorithms based on which computers and machines will make decisions must not take into account any discrimination grounds (i.e. race, religion, ethnicity, sex, and so on). To ensure this, transparency and public oversight during the whole process of implementing the smart city concept is required.

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