

BARCELONA'S CORONAVIRUS- MAKERS: CO-PRODUCING LOCAL SOLUTIONS TO A GLOBAL PANDEMIC



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Barcelona's response to COVID-19 has included innovative processes of co-producing public services. This has involved civil society, experts and local government, and has focused on urgent necessities like the creation and distribution of protective gear. The driving force behind this bottom-up, non-profit initiative has been the city's "maker" community. Much can be learned from these emerging modes of co-production in our efforts to create more resilient and sustainable cities.

A highly transmissible disease like COVID-19 tends to hit areas with larger populations hardest. Barcelona, one of Europe's most densely populated cities, has been particularly affected. However, while urban density accelerates the spread of infectious agents like the coronavirus, the clustering of people, knowledge and economic assets in cities also provides opportunities for effective responses. Even in times of social distancing, the concentration of people fosters collaboration and propels innovation, meaning cities and their innovation ecosystems can play a leading role in tackling the new global pandemic.

As part of its response to the coronavirus, Barcelona has witnessed a particularly innovative process of co-production of public goods and services. This has involved civil society, experts and local government, and has focused on urgent necessities like the creation and distribution of protective gear for hospitals, social services and retirement homes. The driving force behind this bottom-up, non-profit initiative has been the city's "maker" community, self-organising groups of people who experiment with digital technologies and low-cost resources to design gadgets that address all sorts of problems. A great deal can be learned from these emerging modes of co-production in our efforts to create more resilient and sustainable cities in the medium to long term.

The civic response of makers: between global connectivity and hyper-local collaboration

All around the world makers have organised to help mitigate the COVID-19 outbreak. One of the first initiatives was the global Facebook group Open Source Medical Supplies created at the beginning of March.¹ By the middle of the same month, a number of makers from across Spain had launched the open source platform CoronavirusMakers to share knowledge and collaborate on the design and production of emergency relief protective gear using 3D printers (Fernández, 2020; García, 2020).²

TRANSNATIONAL MAKER NETWORKS PROMOTED BY SOLIDARITY HAVE GIVEN RISE TO CITIZEN- LED HEALTH AND CITY DIPLOMACY.

Sharing knowledge across borders has been key to the effectiveness of the makers' response. Transnational maker networks promoted by solidarity have given rise to citizen-led health and city diplomacy. Barcelona's maker community has been in an ongoing dialogue with groups in Latin American cities, especially in Argentina and Colombia. While these exchanges have primarily been about sharing open-source designs and the best production and distribution practices,

they have also involved public authorities that are eager to learn from one another about how to collaborate with their local maker community, and how to up-scale these communities' DIY solutions.

Yet, at the same time, the makers mode of operating is hyper-local. It is about convening and connecting local actors and value chains by mobilising the talent and tools that have evolved around actual physical maker spaces. In Barcelona, one of Europe's capitals for digital and social innovation, the group of voluntary collaborators – including not only makers but also doctors, engineers, courier drivers, civil society organisations and public institutions – grew from around 50 to around 2,500 in just one month. The majority contribute by producing protective equipment using personal 3D printers in their homes. The type and quantity of protective gear produced is adapted to the needs of Barcelona's hospitals and social services offices (the primary equipment produced by the city's makers are protective face shields that have been approved by the Catalan health service, FFP2 masks, door openers to reduce contact with door handles, and ear protectors for elastic-strap face masks).

1. <https://www.facebook.com/groups/opensourcecovid19medicalsupsplies/about/>

2. <https://www.coronavirusmakers.org>

With the rapid growth of the movement in Barcelona various coordination nodes have been created at the city-district level. Individuals send the materials they produce at home to these nodes where they are assembled, disinfected and packed for transportation. The first batch of equipment was delivered to hospitals on March 22nd, seven days after the state of emergency was imposed in Spain. While national and regional governments were still debating who would buy what protective gear and how to distribute it, civil society was already acting.

Co-producing solutions at the local scale

In Spain local governments were the first to recognise the potential of the CoronavirusMakers and to collaborate with the movement. In the last week of March, Barcelona City Council declared its network of Ateneus de Fabricació (fab labs that facilitate citizen-led socio-digital innovation)³ to be an essential service that was to remain operative during the state of emergency, in order to help increase the makers' production levels. Along with other municipal maker spaces, the Ateneus de Fabricació have made their staff and over two dozen 3D printers available to produce protective equipment based on the CoronavirusMakers' open-source designs. To assure the best possible distribution of equipment to hospitals and prevent over- or under-supply, the Ateneus de Fabricació and CoronavirusMakers operate with a shared demand and supply list. By the third week of April, they had jointly met demand for protective equipment across all hospitals in the city and metropolitan area.

Barcelona's maker community and the city council's Ateneus de Fabricació were able to partner up so rapidly and successfully because they could build on pre-existing cooperative relations. The Ateneus de Fabricació are not fab labs in the conventional sense of digital innovation labs. As their name implies (which is derived from the Catalan tradition of neighbourhood Athenaeums), they have a strong capacity for social inclusion and innovation. Their mission is to empower all citizens to learn about and use digital technologies, fostering a social and solidary urban economy based on the principles of sharing and providing bottom-up solutions to local problems. Collaboration with the city's maker community is integral to this approach, which is currently showing high levels of resilience.

3. <https://ajuntament.barcelona.cat/digital/en/digital-empowerment/digital-education-and-training/fab-labs>

Another important reason why this public–community partnership has worked so well is that the city council has respected the horizontal network structure and open-source spirit of the CoronavirusMaker movement. It has resisted the impulse to put itself at the head of what began as and continues to be a civic movement, and (at least for now) it has refrained from politicising it for its own ends.

Lessons to be learned

What broader lessons can be learned from this co-production of public goods and services to respond to the local impacts of a global crisis? Firstly, it illustrates how co-production can support fast and innovative solutions

THE CO-PRODUCTION OF LOCAL SOLUTIONS TO TODAY'S GLOBAL CHALLENGES, SUCH AS THE CORONAVIRUS AND CLIMATE CHANGE, DEPEND ON BOTH LOCAL COLLABORATION AND GLOBAL CONNECTIVITY.

to immediate local needs. The civic response to the shortage of protective equipment in Barcelona was far more agile than that of the public sector. Weighed down by bureaucratic legal frameworks, public administrations are often slower to act and supporting more dynamic civic initiatives that are proving effective is one way for them to catch up with events.

But municipal governments can do more to facilitate the co-production of both short- and long-term solutions to enhance their cities' resilience.

Of particular importance is the creation of an enabling environment for innovative cross-sector cooperation. This requires more investment in local talent and knowledge infrastructures. Yet, as the case of the CoronavirusMakers illustrates, investments should not be limited to high-profile research centres with international reach. They should also include facilities such as the Ateneus de Fabricació that are open to anyone and connected with the needs and interests of local communities.

Further, an enabling environment should engage talent more actively in urban governance, and not just in times of crisis and recovery. As the UN 2030 Agenda states, active participation at the local level is the bedrock of the transition to sustainable development pathways. By reaching out to local talent and engaging it in policymaking processes, cities are likely to be better prepared and faster to act when having to adapt to future external shocks. The coronavirus crisis is showing that the sectors of digital and social innovation will be of particular relevance to managing both the immediate impacts of global challenges on cities and their longer-term socio-economic consequences.

A second important lesson to be learned is that the co-production of local solutions to today's global challenges, such as the coronavirus and climate change, depend on both local collaboration and global connectivity. The success of the CoronavirusMakers in Barcelona has rested on hyper-local networks of production and distribution that are intimately intertwined with the city's digital and social innovation ecosystem. However, at the same time, the movement's global connectivity has been essential to accessing open-source designs for protective equipment and tapping into other knowledge platforms. Relations between cities and their maker communities have often facilitated these information flows. They illustrate how city and citizen diplomacy are key to generating the bottom-up momentum and solidarity necessary for the creation of joint and just local solutions to global challenges.

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