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Is this the wright time to talk about Cloud Regions? The contribution of COVID-19 to concepts of Regional Development.

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Abstract

The pandemic wave of the COVID-19 has changed many aspects of people's lives. The effects of pandemic have consequences at health sector, but also have socioeconomic and environmental consequences. As people all over the world practice social distancing in order to avoid the spread of COVID-19, the lockdown is placing pressure on the global economy. We face a serious recession. This recession has changed the balances in many areas of the economy and the society, such as the global supply chains, the wages, the unemployment rates, the labor force, the transportation and the climate change.

In order to restore these balances, the development of the digital era and the transition to this, of work, education and socialization of citizens is considered imperative. The longer the pandemic continues, new ways of operating will emerge, and the digital space is already seeing a major acceleration will increase the speed at which digital transformation of our societies takes place.

In the context of the utilization and the development of digital services in more and more areas of our daily lives, we propose in this note the concept of *Cloud Regions* as a solution to deal with an emergency that has arisen such as pandemic of the Covid-19.

Key words: Digital era, COVID-19, Agenda 2030, Digital growth, Cloud Regions.

Introduction

Since the late 1950s, European integration focused on improving the quality of life in all participating Member States of European Union. However, the opening of the Union's borders, combined with the economic crisis and the phenomenon of globalization, have resulted in strong income inequalities between the Member states of the Union. Today, globalization, rapid development of ICT, increasing role of knowledge and innovation, demographic problems in most Member States of the Union have created great challenges for the European Union.

In the context of dealing with the above problems, the rapid development of Information and Communication Technologies (ICT's) comes as a countermeasure. The internet of things (IoT) and the ICT technologies are transforming our world. The use of new technologies is tailored to all areas of our daily lives in order to achieve higher growth rates. In the context of policy governance, the application of ICT's has resulted in the rapid development of the concept of e-government, which is now applicable at all levels of government (national, regional, local).

Utilization of ICT in conjunction with the awareness of environmental problems has created an urgent need for sustainable development. Sustainable development was identified as important aspect in the Europe 2020 strategy as well as in the Europe 2030 Agenda, which is based on three pillars of growth: Smart growth, Sustainable growth and Inclusive growth.

The Europe 2020 strategy has recognized the enormous importance of the ICT technologies and made the Digital Agenda for Europe one of its seven flagships. It aimed to deliver smart, sustainable and inclusive economic growth, through the implementation of digital services, investment of innovative products and the use of fast internet and functional applications.

The digitalization of Europe was another important aspect in terms of growth and development of European countries. The Digital agenda's aim is not only to get all people online, but to help every citizen to use technology to make everyday life easier. Computers, mobile phones, tablets and digital technologies are in the core of our daily lives and can help the daily challenges we face, such as better public services, utilization of natural resources, safer roads, healthier aging.

The Smart City is an example of this policy and is *“a territory with high capacity for learning and innovation, which is built-in the creativity of their population, their institutions of knowledge creation, and their digital infrastructure for communication and knowledge management”* (Komninos, 2006).

Despite the fact that the concept of Smart City is widespread, there is no report of their implementation at the regional level. This is because regions are associations of regions and cities with different characteristics, different growth rates and different problems, and the creation of a Smart Region to solve their problems without considering the specifics of each region, will result in an unequal development process.

However, the pandemic of the COVID-19 has highlighted the urgent need to create a mental region (Cloud) that will consist of regions with common characteristics and common problems to face and which knows no borders but focuses only on creating the appropriate strategies to deal with a common emergency. The creation of a Cloud Region with boundaries beyond national ones with the use of ICT, as a solution to deal with an emergency such as the COVID-19 pandemic is the subject of this note.

Territorial impact of the Covid-19 crisis

The Corona virus epidemic has a strong territorial dimension. First of all, the crisis has a very different regional and local distribution and very asymmetric within countries. As in all pandemics, COVID-19 has a spatial dimension that needs to be managed (McCoy, 2020). Some regions have been harder affected than others, at least in the early stage of the pandemic. For example, in Republic of China, as of March 2020, 83% of confirmed cases were concentrated in Hubei province. As of 31 March 2020, in Italy, the country's north was hardest hit, and one of the wealthiest regions in Europe, Lombardy, registered the highest number of cases (43,208, around 41% of total cases in Italy). In France, the regions of Île-deFrance (37% of cases) and Grand Est (29%) were the most affected as of 31 March. In Spain, all Autonomous Communities are now affected by Covid-19, with Madrid (30% of all Spanish cases) as the most affected region, as of 31 March 2020. In the United States, the state of New York has the highest proportion of COVID-19 cases (40%) (OECD, 2020).

The Coronavirus outbreak could not leave unaffected the entire European Union. National, regional and local communities are on the frontline in countering the disease. The Member States must take action to contain the spread of the virus and mitigate its impact to prevent straining public healthcare while reinforcing the responsiveness of their systems and to mitigate the considerable knock on effects on their economies.

Regions and municipalities are called upon to cope with this global situation as they are responsible for critical aspects of contention measures, health care, social services, economic development and public investment. Because such responsibilities are shared among levels of government, effective coordination mechanisms are essential. "Strong coordination between all actors in charge of the response at central and regional levels is the basis of an effective response" (World Health Organisation, February 2020).

Digital Services as a response to Covid-19 crisis: The Greek Digital Regions

How the regions and the communities choose to respond to this outbreak will differ from a community that has a different set of conditions such as higher levels of concentrated poverty and depending on their exposure to tradable sectors, exposure to global value chains and type of specialization, such as tourism. (OECD, 2020).

Local and regional governments are responsible for tackling this unprecedented global crisis because no one knows the health or economic needs of their communities better than them. In addition, regional governments have key responsibilities in the areas of health, education and social services, which are particularly affected by the COVID-19 crisis, including the care of the elderly, children, people with disabilities and other vulnerable groups. In addition, regional governments must ensure the continuity of basic public services, such as water distribution and sewerage, waste collection and treatment, street cleaning and sanitation, public transport, public order and security, and basic administrative services, while the public sector must continue to operate, but it has the potential of telework to protect its staff. Finally, the region and local governments through the police, which plays a strong role in the context of incarceration, ensure security, safety and rescue.

The measures that the Greek Government took to prevent the corona virus spread, are among the most proactive and strictest in Europe and have been credited internationally for having slowed the spread of the disease and having kept the number of deaths among the lowest in Europe. The Greek government ban circumcision as a precautionary measure to reduce the spread of the virus, regional governments had to deal with the government measures without restricting benefits to citizens.

In this context, the implementation of digital regional services has been a one-way street for regional governments. Only the police, the waste collection, the street cleaning and sanitation, hospitals, supermarkets and pharmacies remained in operation. All public services continued to operate smoothly through teleworking, enabling citizens to obtain any official documents electronically. While telework is typically used for limited periods, normally one or two days per week, many workers are now teleworking full-time to cut down the risk of contracting the virus.

In this context, one of the first things that Greece did, was to limit people's movement outside their homes by allowing them to receive prescriptions on their phones. That saved 250,000 citizens from visiting the doctor within 20 days, as Greece's minister of digital governance, Kyriakos Pierrakakis, told the Guardian¹.

“Administrations can avoid unnecessary burdens for citizens, businesses and other stakeholders by enabling the use of digital instruments such as mobile applications – as was done in Greece from the start, and more recently adopted in France” – rather than paper forms, and avoiding procedures altogether if these do not demonstrably help address contagion risks,” OECD says.²

One of the most important digital applications of a digital region is e-government. E-government can provide high-quality and low-cost public services, while enhancing the relationship of self-government with citizens by providing access to information and online services. It is one of the most important features of a modern and efficient administration with positive effects on the economic development, competitiveness and well-being of the community.

Through digital services, it was possible to conduct primary and secondary education daily, as well as the education of country's higher education institutions and universities. People from different geographical areas can take lessons and share experiences and can see the unknown areas digitally.

Finally, it is worth noting at this point that the inclusion of the population to prevent the spread of the virus has jeopardized social isolation and social resilience. However, through digital services, it is possible for the citizens of a region to communicate with each other, see each other to avoid the above phenomena and keep in touch with family and friends.

¹ <https://www.theguardian.com/world/2020/apr/14/how-greece-is-beating-coronavirus-despite-a-decade-of-debt>

² <https://news.gtp.gr/2020/04/27/oecd-highlights-greece-best-practice-covid-19-mobile-app/>

The concept of Cloud Region

Above initiatives must be achieved by the regions through the digital mechanism, since social inclusion must be implemented in order to reduce the spread of the virus. In our case, the concept of “cloud region” is taking shape and its implementation is imperative.

In the last two decades, there has been given a strong emphasis on Smart growth, which was mainly achieved through the transition of cities to the digital era. However, this coronavirus wave, requires actions in terms of digitalization at regional level. Regions in contrast to a city, are associations of more areas or cities with different growth rates, with different spatial development and physical - technological infrastructure and with different needs of citizens. Cloud Regions imply to association of regions that could belong to different countries geographically, but they common characteristics and peculiarities, and share same beliefs, confront same problems, and thus, they develop common strategies that help them to overpass difficulties and become more competitive. Cloud Region project consisting of a grid of modern applications that improve the service of the citizen and the professional and increase the participation of citizens in governance and decision-making.

During this corona virus disease, the concept of Cloud *Regions* as a solution to deal with a global emergency has arisen, utilizing the development of digital services in more and more areas of our daily lives. Areas that face common problems can share good practices against the virus. Good practices for dealing with the daily problems of citizens, methods of communication with the central administration of their countries, problems and ways to solve procurement issues, problems of economic nature, dealing with social problems, problems arising from limited transportations, labor issues, issues of social isolation, environmental problems that mainly concern climate change, etc.

The pandemic of the COVID-19 showed that the concept of the cloud regions can be applied in practice. For example if we take the regions most affected by the virus such as the Hubei region in China, the Lombardian region in Italy and the Madrid region in Spain, and create a cloud region together they will be able to identify common problems, the specifics of each region and will be able to communicate in order to propose the best strategies to deal with the effects of pandemic. There should be a coordinator of the cloud region that will define the terms of operation and coordinate good practices for each participating region.

The creation of an imaginary cloud region is the result of the rapid development of information and communication technologies (ICT's) and the spread of corona virus disease accelerates and makes it imperative to create and implement it for regions around the world that face the same problems and have common characteristics, to develop common strategies that will help them overcome the common problems and get out of them unscathed.

The image below shows how a cloud region could be created in areas that have been most affected by the pandemic of COVID-19.



Conclusions

COVID-19 has a strong regional impact, calling for differentiated governance and policy response. The implementation of regional digital services is crucial at the given time when coronavirus pandemic prevailed. How much can a region be affected by a health pandemic? and how much the digital era can contribute to regional development during the pandemic of coronavirus? This study examines the impact of digital services on regional development amid the pandemic of coronavirus and examines the case of Greek digital regions.

In conclusion, we can say that a global pandemic is causing changes in regional development. But is this connection something new? Our history has shown that urban-regional development was also affected by older pandemics such as the Spanish flu in 1918. We see that there is a correlation between medicine and global epidemics and territorial development.

However, this new global challenge, the COVID-19 crisis, has shown us in practice that a country like Greece, where the percentage of investment in R&D and innovation is much lower than the EU average and which has just begun to recover from a decade of economic crisis, has led to a reduction in the spread of the virus because of the digital services that regional governments has provided.

Digital services may be the “cure” for similar global crises. The concept of “Cloud Regions” as an association of regions that could belong to different countries geographically, but with common characteristics and peculiarities, and sharing the same beliefs, can confront same problems, and thus, develop common strategies that help them to overpass difficulties such a global pandemic as COVID-19 and become more competitive.

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