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UNDERSTANDING THE TRIPLE HELIX RESPONSES TO COVID-19 GLOBAL CRISIS: A COMPARATIVE ANALYSIS THROUGH THE EYES OF THE SCIENCE AND TECHNOLOGY PARKS

Academic paper

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Abstract text:

1. Purpose

This research aims to address the challenge posed in the statement above by exploring the roles and the dynamic of the triple helix agents' interactions in response to the COVID-19 crisis in local innovation ecosystems in Latin America.

This exploratory research will form the basis to the development of a robust methodological approach to analyse and compare the responses of local innovation ecosystems (LoIEs) around the world. It employs the triple helix paradigm to identify the LoIEs agents (Etzkowitz and Leydesdorff, 2000) and the knowledge based urban development paradigm (Sarimin and Yigitcanlar, 2012; Knight, 1995) to analyse the dimensions of the responses provided by the LoIEs.

2. Originality and value

Other crisis already hit LoIEs in the past 50 years (such as the 2008 financial crisis and other recent health crisis – e.g. Ebola, SARS) but not with the depth and systemic impact brought by COVID-19, such as the interruption in global supply chains, and mandatory policies of social distancing (e.g. quarantine, lock down, partial release).

The understanding of the context and the agile and innovative responses (actions) by the LoIEs to the crisis become critical to contribute to the elaboration of policies that are able to generate rapid recovery of the economy, while considering the impacts on the health system and level of contamination.

3. Design and methodology

This research has a qualitative and exploratory approach, making use of multiple case studies of LoIEs in order to understand the "how" and "why" questions about a phenomenon that is still in course in several parts of the world (Yin, 2018). The multiple case studies will be conducted in five Latin American LoIEs, represented by the city or microregion, yet impacts from other levels of government (national, regional, etc) will be considered.

Latin America was the region chosen to run a first approach to the phenomenon considering that: (a) there are countries that adopted different measures to tackle the crisis, with distinctive outcomes regarding to flattening of curve of COVID-19 contamination; (b) as countries in development, all of them face high pressure to reopen the economy; and (c) they were hit by the crisis after Asia and

Europe, providing them a possibility of adopting policies already tested in other countries (however for a small period of time).

The Science and Technology parks and Areas of Innovation (STPs) – organizations that are usually the result of the interaction of TH agents – located in this LoIEs will be employed as channels to identify the challenges faced and actions promoted. Thus, the cases and the STPs related are:

- a) Panamá City/ Panamá: Ciudad del Saber;
- b) Medellín/Colombia: Ruta N;
- c) Porto Alegre/ Brazil: Tecnopuc;
- d) Pando/Uruguay: Parque Científico y Tecnológico de Pando; and
- e) Buenos Aires/Argentina: Parque de Innovación.

The actions carried as responses for the crisis will be the unit of the analysis of the role and dynamic of interaction between the TH agents, considering four dimensions:

1. Social and health;
2. Economic;
3. Environment and urban; and
4. Governance and public policy.

Four periods of analysis for each of the cases will be considered:

1. Pre-COVID: before any policy adopted by any level of government or before the first death;
2. COVID-shock: the period when the policies of social distance were put in place;
3. Post-shock: period when responses were planned and adopted to tackle the challenges posed by COVID;
4. Post-COVID: the actions taken to prepare for the consequences of the crisis and to create a safety net in the case of another crisis happen.

4. Results and findings

For each case, the study presents the actions carried in the COVID-19 crisis timeline, considering the four periods [(1) Pre-COVID, (2) COVID-shock, (3) Post-Shock, (4) Post-COVID], in the four dimensions [(1) Social and health, (2) Economic, (3) Sustainability and urban, (4) Governance and public policy], analyzing the roles and dynamic of interaction of the Triple Helix agents including the outputs in each particular context. In order to compare the cases, the timeline of the four periods in every place will be employed as the normaliser for the analysis of the actions and its implementation.

5. Limitations and implications

This is a qualitative research in Latin American countries through the eyes of the STPs. After this work, a quantitative research could be developed analyzing STPs in all the world (using the International Association of Science Parks and Areas of Innovation). STPs are key actors in the Ecosystems of Innovation, but future studies can consider other perspectives (Regional or National) or other theoretical frameworks (National Innovation Systems or Regional Innovation Systems).

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