

ENTREPRENEURIAL UNIVERSITIES IN TIMES OF CRISIS: CASE OF COVID-19 PANDEMIC

Hiroko Kawamorita ¹; Salamzadeh, Aidin ¹; Kursat Demiryurek ¹; Mahyar Ghajarzadeh ²

¹ Ondokuz Mayıs University, Samsun, Turkey

² Shahid Beheshti University, Tehran, Iran

E-mail: hiroko.kawamorita@omu.edu.tr

Received April 2020; accepted June 2020

Abstract

Entrepreneurial universities are at the centre of innovation ecosystems, and play a critical role in improving them. The concept of the quintuple helix, which deals with the interrelations between universities, industries, governments, societies and environments is highly sensitive to the role of entrepreneurial universities which could pave the way for their success. During the COVID-19 pandemic, they faced several challenges, and the ecosystem needed their attention to a greater extent. This research highlights the main challenges faced by entrepreneurial universities and their responses to those challenges. Hence, qualitative research was conducted by interviewing twenty-five experts from different countries in the Middle East, including Iran, Turkey, Iraq, United Arab Emirates, Oman, Jordan, Kuwait, and Lebanon. The respondents were engaged in five online focus group sessions, and the findings were coded. The findings revealed the main challenges faced by entrepreneurial universities as well as their relevant potential responses.

Research paper

Keywords: The Middle East; Entrepreneurial universities; Quintuple helix; Covid-19; Crisis

Reference to this paper should be made as follows: Kawamorita, H., Salamzadeh, A., Demiryurek, K., & Ghajarzadeh, M. (2020). Entrepreneurial Universities in Times of Crisis: Case of Covid-19 Pandemic, *Journal of Entrepreneurship, Business and Economics*, 8(1), 77–88.

Introduction

Entrepreneurial universities are key players of the innovation ecosystems in both developed and developing countries (Farsi et al., 2014; Salamzadeh, 2018). However, the extent to which they could affect the ecosystem depends on their potential to play as key players (Guerrero et al., 2014, 2015). In fact, these could be more effective as their involvement is highlighted to a greater extent especially in more developed countries (Kawamorita et al., 2013, 2016; Salamzadeh, 2015; Salamzadeh et al., 2013 a, b, 2014, 2015, 2016). Despite this fact, these entities could be more effective in times of crisis since they could provide other players with diverse information, reliable reports and analyses. Governments could ask them to provide with policy implications. Industries could invite them to propose effective proposals to face the crises (Mirzadeh et al., 2017). Societies could follow their instructions to handle their daily issues. Finally, the environment could be affected by their advice and suggestions.

During the coronavirus pandemic (Covid-19), all the players were shocked by unpredicted events, which were unique in type and in recent history. Therefore, previous prescriptions might be so limited, and entrepreneurial universities should get more involved in handling this tragedy-which could be translated to a series of entrepreneurial opportunities, especially in the Middle Eastern countries. Those countries are facing more challenging issues and problems as their infrastructure is limited to face this pandemic. Nevertheless, several entrepreneurial universities have emerged in this region during the past decade. Therefore, this research tried to shed

light on the main challenges as well as the substantial answers to those challenges by entrepreneurial universities as its principal theoretical contribution (Salamzadeh, 2020).

The structure of the manuscript is as follows. First, the literature was reviewed by authors, and then the research methodology was discussed. Afterwards, the main findings were proposed, and the paper concluded with some remarks on how entrepreneurial universities could help the innovation ecosystems to manage this Covid-19 challenge, as well as to identify, evaluate and exploit the resulted entrepreneurial opportunities.

Literature review

As mentioned by the United Nations: *“The economic impact of the current crisis is quite significant. The UN Department of Economic and Social Affairs (UN DESA) estimates that COVID-19 may cause the global economy to shrink by nearly 1% by the end of 2020, while the International Labour Organization (ILO) projects an increase in global unemployment of between 5.3 million and 24.7 million, and the World Trade Organization (WTO) projects a 13% to 32% global trade decline this year”* (United Nations, 2020). Nevertheless, it is noteworthy that the literature in this domain is minimal (Treviño, 2020; Strielkowski & Wang, 2020) and therefore, this paper points out some of the main issues from the reports and online databases as well. According to our investigations, entrepreneurial universities have faced two types of challenges, namely (i) internal or indigenous challenges, and (ii) external or exogenous challenges.

The first stream deals with internal or indigenous challenges. According to the recent facts and figures, entrepreneurial universities have faced some significant issues due to their lack of readiness to confront the challenges (Farsi et al., 2011). For instance, their online or virtual learning platforms were limited to handle the regular classes. This made the situation more complicated, as their first mission, i.e. teaching, were profoundly affected. Moreover, the academic staff and professors were not well-educated to use digital technologies (Almanthari et al., 2020; Sun et al., 2020; Bezerra, 2020; Bozkurt & Sharma, 2020). This is not only the case in less developed or developing countries but also in more developed countries like Canada, several universities were closed due to the lack of infrastructure. Moreover, students and staff had faced similar problems in handling their routine tasks (Fernandez, & Shaw, 2020; Radovic Markovic et al., 2019). The second mission, i.e. research, is also affected as their access to labs were limited or banned. Finally, the third mission, i.e. entrepreneurship, was profoundly affected due to limited access to human and social capital.

The second stream includes external or exogenous challenges which create issues like pressure applied by governmental bodies, industries, society and the environmental institutions (Serpa & Sá, 2020). For instance, governmental bodies and industries had difficulties reaching their databases as well as their academics. In addition, industrial firms were dealing with temporary remedies which were mostly creative and exploratory- not based on the existing body of knowledge or what we call “*the shoulders of giants*”. This made the situation more complex (de Oliveira Araújo et al., 2020).

Societies were also asking for reliable solutions to solve their routine and complex problems, including hygiene and non-hygiene needs (Brandenburg, 2020). Finally, the environmental changes revealed that humankind was destroying the environment, and this interval had so many key learnings about the not-to-do list of actions (Doshmanli et al., 2018). These factors also affected the approach of entrepreneurial universities in better handling the existing environmental problems we already face around the Globe (Phelan et al., 2020; Wang et al., 2020).

Research methodology

The authors used an interpretive approach to encounter the challenges and the answers offered by entrepreneurial universities. To gather the relevant data, the authors listed number of experts from selected countries in the Middle East, including Iran, Turkey, Iraq, United Arab Emirates, Oman, Jordan, Kuwait, and Lebanon. Both primary and secondary resources were used in this study (Nejati et al., 2011; Salamzadeh et al., 2017). Purposive sampling was used (Dana & Dana, 2005), considering the following criteria: (i) having relevant expertise or experience, (ii) publishing at least five highly cited publications about the Quintuple Helix, (iii) being well-known in the field of academic entrepreneurship in their country, and (iv) being involved in entrepreneurial policymaking processes in their countries. After asking for their consent to participate in the project, a short summary of the research protocol was sent to them. We contacted the participants through

Skype and Whatsapp first and discussed the research questions. Then, they participated in five online focus group sessions (Groenland & Dana, 2020). The focus group sessions took about three hours each. After the sessions, the findings were coded and sent back to the participants (Dana & Dumez, 2015). They made some minor changes, and finally, the findings were finalized by all participants.

Findings and discussions

The participants in this research were professionals of the selected countries whose information is as follows. Most of the respondents were male (76%). Fewer female respondents were engaged, which might be due to the contextual factors in the investigated countries (Radovic Markovic et al., 2013). All the respondents had PhD degrees or its equivalents, such as DBA. Twenty-eight percent of the respondents were also governmental officials. Most of the respondents had more than twenty years of experience in relevant fields (84%). Seventy-two percent of them were published research papers related to the Triple Helix or Quintuple Helix concepts. All the participants were actively engaged in the process of data gathering as well as analyzing the results. Authors have followed the protocols of prolonged engagement in order to ensure the validity of the findings.

Moreover, reliability was improved by using pre-defined protocols. In the following sections, the findings are presented under three main categories, i.e. (i) general issues, (ii), the challenges, and (iii) the solutions. Entrepreneurial universities are facing several challenges during this pandemic,

most of which might affect their future approaches. In order to classify the main challenges, the authors categorized them according to the Third Mission of entrepreneurial universities. Furthermore, the relevant solutions are also following the same logic. In order to provide a better understanding of these elements, the following table shows these issues.

Table 1. Challenges and solutions of entrepreneurial universities during the coronavirus pandemic (self elaborated)

Mission	Challenges	Solutions
General issues	<ul style="list-style-type: none"> - Decreased conventional international collaboration opportunities <li style="padding-left: 20px;">- Mass student displacements - Decreasing international mobility - Reduced public and private funding <li style="padding-left: 20px;">- Weak infrastructures and platforms <li style="padding-left: 20px;">- Graduation of the students - Recruiting new students, staff and academics 	<ul style="list-style-type: none"> - Increased chance of exploiting international collaboration opportunities regarding the pandemic - Devising relevant policies to handle displacements - Designing international digital programs - Revising the funding plans such as crowdfunding - Revising the infrastructure management plans - Reviewing and determining the graduation requirement <li style="padding-left: 20px;">- Revising the recruitment criteria
Education (First Mission)	<ul style="list-style-type: none"> - Turning from outdated teaching methods to newer approaches <li style="padding-left: 20px;">- Preparing digital content and teaching materials - Increasing the access of students to online platforms <li style="padding-left: 20px;">- Evaluating the students using traditional methods <li style="padding-left: 20px;">- Offering technical courses for which labs are required <li style="padding-left: 20px;">- Offering courses to society - Protecting data privacy and data 	<ul style="list-style-type: none"> - Using digital technologies to render educational services <li style="padding-left: 20px;">- Using services provided by startups and spin-offs <li style="padding-left: 20px;">- Preparing less demanding platforms <li style="padding-left: 20px;">- Using more complex methods to evaluate the students <li style="padding-left: 20px;">- Using simulators and relevant software such as virtual reality <li style="padding-left: 20px;">- Using social media platforms <li style="padding-left: 20px;">- Signing contracts with rele-

	security	vant institutions
	- Educating the teaching staffs	- Using new platforms for educating the teaching staff
Research (Second Mission)	- Data gathering issues for methods like surveys	- Online data gathering techniques and software
	- Traditional teamwork for handling research projects	- Using team management software
	- Approving MSc theses and PhD dissertations	- Using online group discussions to approve the theses
	- Defending the theses in traditional ways	- Holding online defence sessions
	- Conventional management of the research centres	- Using online software to manage the research centres
	- Decreased/stopped industrial research	- Increased industrial exposure through new channels
Entrepreneurship (Third Mission)	- Hatcheries/incubation centers and co-working spaces	- Replacing online hatcheries/incubation centers
	- Rendering services to spin-offs	- Rendering online services
	- Traditional initiatives	- Creative initiatives
	- Traditional and face-to-face networking	- Online networking and social media platforms
	- Educating potential entrepreneurs through routine and limited methods	- Educating potential entrepreneurs through digital methods
	- Conventional technology transfer offices	- Digital technology transfer platforms
	- Contribution in the socio-economic development of the society	- Contribution to hygiene and non-hygiene needs of the society
	- Developing an entrepreneurial culture in physical settings	- Developing a digital entrepreneurship culture
	- Funding possibilities for entrepreneurial activities	- Exposing the entrepreneurial aspects to funding institutions
	- Managing science and technology parks, startup accelerators and incubators	- Creating virtual incubators, accelerators and even science parks
	-	-

Conclusions and implications

Entrepreneurial universities are facing several challenges in this coronavirus (Covid-19) pandemic, and have initiated a series of plans and activities to face those challenges. This research paper tried to shed light on different aspects of these challenges and opportunities by interviewing experts and holding focus group sessions among the experts in the selected Middle Eastern countries. According to the findings, there were two types of challenges and solutions applicable by entrepreneurial universities, which are: (i) general, and (ii) mission-related ones. This study listed the mentioned topics as a guideline for entrepreneurial universities to actively play their critical role in any innovation ecosystems. Based on the findings, entrepreneurial universities could consider the mentioned solutions to handle their challenges. Moreover, policymakers could enact relevant policies in this regard. Besides, future researchers could measure the impact of the mentioned challenges and solutions on different aspects of the innovation ecosystems and entrepreneurial universities. For instance, their impacts on performance indicators of entrepreneurial universities could be measured and used for proposing more effective and efficient solutions. A significant limitation of the present study was the different actions and policies of the local governments in each of the selected countries.

References

1. Almanthari, A., Maulina, S., & Bruce, S. (2020). Secondary School Mathematics Teachers' Views on E-learning Implementation Barriers during the COVID-19 Pandemic: The Case of Indonesia. *Eurasia Journal of Mathematics, Science and Technology Education*, 16(7), em1860.

2. Bezerra, I. M. P. (2020). State of the art of nursing education and the challenges to use remote technologies in the time of corona virus pandemic. *Journal of Human Growth and Development*, 30(1), 141-147.
3. Bozkurt, A., & Sharma, R. C. (2020). Emergency remote teaching in a time of global crisis due to CoronaVirus pandemic. *Asian Journal of Distance Education*, 15(1).
4. Brandenburg, U. (2020). Internationalization in higher education for society–IHES in the times of corona. *Sociální Pedagogika*, 8(1), 11-24.
5. Dana, L. P., & Dana, T. E. (2005). Expanding the scope of methodologies used in entrepreneurship research. *International Journal of Entrepreneurship & Small Business*, 2(1), 79-88.
6. Dana, L. P., & Dumez, H. (2015). Qualitative research revisited: epistemology of a comprehensive approach. *International Journal of Entrepreneurship and Small Business*, 26(2), 154-170.
7. de Oliveira Araújo, F. J., de Lima, L. S. A., Cidade, P. I. M., Nobre, C. B., & Neto, M. L. R. (2020). Impact of Sars-Cov-2 And Its Reverberation in Global Higher Education and Mental Health. *Psychiatry Research*, 112977.
8. Doshmanli, M., Salamzadeh, Y., & Salamzadeh, A. (2018). Development of SMEs in an emerging economy: does corporate social responsibility matter?. *International Journal of Management and Enterprise Development*, 17(2), 168-191.
9. Farsi, J. Y., Modarresi, M., & Zarea, H. (2011). Obstacles and solutions of commercialization of university research: case study of small businesses development center of University of Tehran. *Journal of Knowledge Management, Economics and Information Technology*, 1(7), 159-182.
10. Farsi, J., Modarresi, M., Motavaseli, M., & Salamzadeh, A. (2014). Institutional factors affecting academic entrepreneurship: The case of university of Tehran. *Economic Analysis*, 47(1-2), 139-159.
11. Fernandez, A. A., & Shaw, G. P. (2020). Academic Leadership in a Time of Crisis: The Coronavirus and COVID-19. *Journal of Leadership Studies*, 14(1), 39-45.
12. Groenland, E., & Dana, L. P. (2020). *Qualitative Methodologies and Data Collection Methods: Toward Increased Rigour in Management Research (Vol. 1)*. World Scientific.
13. Guerrero, M., Urbano, D., & Salamzadeh, A. (2014). *Evolving Entrepreneurial Universities: Experiences and challenges in the Middle Eastern context*. in Fayolle, A. & Redford, D. T. (2014). *Handbook of Researchin Entrepreneurship Education: Entrepreneurial University Handbook Volume 4* Cambridge: Edward Elgar Publishing.

14. Guerrero, M., Urbano, D., & Salamzadeh, A. (2015). Entrepreneurial Transformation in the Middle East: Experiences from Tehran Universities. *Technics Technologies Education Management*, 10(4), 533-537.
15. Kawamorita Kesim, H., Salamzadeh, A., & Demiryürek, K. (2016, February). Academic Entrepreneurship: Some Evidence from a Turkish University. In *The Third International Conference on Entrepreneurship (ICE2016)*, Tehran, Iran.
16. Kawamorita, H., Salamzadeh, A., & Jafari Moghadam, S. (2013, September). Intellectual Capital and Internationalization of Entrepreneurial Universities. In *5th International Conference on International Conference on Intellectual Capital Management: Zanjan: Iran*.
17. Mirzadeh, M. S., Salamzadeh, Y., & Salamzadeh, A. (2017). Identification of factors affecting individual industries, *Economía y Sociedad*, 22(52), 1-20.
18. Nejati, M., Salamzadeh, Y., & Salamzadeh, A. (2011). Ecological purchase behaviour: insights from a Middle Eastern country. *International Journal of Environment and Sustainable Development*, 10(4), 417-432.
19. Phelan, A. L., Katz, R., & Gostin, L. O. (2020). The novel coronavirus originating in Wuhan, China: challenges for global health governance. *Jama*, 323(8), 709-710.
20. Radovic Markovic, M., Salamzadeh, A., & Razavi, M. (2013). Women in business and leadership: critiques and discussions. In *The Second International Scientific Conference on Employment, Education and Entrepreneurship*, Belgrade, Serbia (pp. 19-31).
21. Radovic Markovic, M., Salamzadeh, A., & Vujičić, S. (2019). Selection of organization models and creation of competences of the employed people for the sake of competitiveness growth in global business environment. *International Review*, (1-2), 64-71.
22. Salamzadeh, A. (2015). Innovation accelerators: Emergence of startup companies in Iran. In *60th Annual ICSB World Conference June* (pp. 6-9).
23. Salamzadeh, A. (2018). Start-up Boom in an Emerging Market: A Niche Market Approach. In *Competitiveness in Emerging Markets* (pp. 233-243). Springer, Cham.
24. Salamzadeh, A. (2020). What constitutes a theoretical contribution?, *Journal of Organizational Culture, Communications and Conflicts*, 24(1), 1-2.
25. Salamzadeh, A., Arasti, Z., & Elyasi, G. M. (2017). Creation of ICT-Based Social Start-Ups in Iran: A Multiple Case Study. *Journal of enterprising culture*, 25(1), 97-122.

26. Salamzadeh, A., Azimi, M. A., & Kirby, D. A. (2013 b). Social entrepreneurship education in higher education: insights from a developing country. *International Journal of Entrepreneurship and Small Business*, 20(1), 17-34.
27. Salamzadeh, A., Farjadian, A. A., Amirabadi, M., & Modarresi, M. (2014). Entrepreneurial characteristics: insights from undergraduate students in Iran. *International Journal of Entrepreneurship and Small Business*, 21(2), 165-182.
28. Salamzadeh, A., Farsi, J. Y., Motavasehi, M., Markovic, M. R., & Kesim, H. K. (2015). Institutional factors affecting the transformation of entrepreneurial universities. *International Journal of Business and Globalisation*, 14(3), 271-291.
29. Salamzadeh, A., Farsi, J., & Salamzadeh, Y. (2013 a). Entrepreneurial universities in Iran: a system dynamics model. *International Journal of Entrepreneurship and Small Business*, 20(4), 420-445.
30. Salamzadeh, A., Kesim, H. K., & Salamzadeh, Y. (2016). Entrepreneurial universities and branding: A conceptual model proposal. *World Review of Science, Technology and Sustainable Development*, 12(4), 300-315.
31. Serpa, S., & Sá, M. J. (2020). The Global Crisis Brought about by SARS-CoV-2 and Its Impacts on Education: An Overview of the Portuguese Panorama. *Sci Insig Edu Front*, 5(2), 525-530.
32. Strielkowski, W., & Wang, J. (2020, May). An Introduction: COVID-19 Pandemic and Academic Leadership. In *6th International Conference on Social, economic, and academic leadership (ICSEAL-6-2019)* (pp. 1-4). Atlantis Press.
33. Sun, L., Tang, Y., & Zuo, W. (2020). Coronavirus pushes education online. *Nature Materials*, 1-1.
34. Treviño, L. C. (2020). Culture and university entrepreneurship. *Journal of Evolutionary Studies in Business*, 5(1), 265-283.
35. United Nations, (2020). COVID-19 and Higher Education: Learning to Unlearn to Create Education for the Future. *Last accessed on June 1*, <https://academicimpact.un.org/content/covid-19-and-higher-education-learning-unlearn-create-education-future>
36. Wang, C., Cheng, Z., Yue, X. G., & McAleer, M. (2020). Risk management of COVID-19 by universities in China.