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ARTICLES

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# Areas and dimensions of universities response to COVID-19: Diversity, trends, and evidence from the University Social Responsibility Network

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**Abstract:** The University Social Responsibility Network (USRN) promotes civic engagement in higher education and awareness of the nature of University Social Responsibility (USR), how it functions, and what it means depending on its context. In 2019 the USRN started a collaborative Massive Open Online Course (MOOC) called *Introduction to University Social Responsibility*. The outbreak of COVID-19 affected the production of the course, however this also led to the addition of a *Special Session on Universities' Response* to the MOOC showing how members addressed the challenges of the pandemic. Based on the experiences from 13 universities and the USRN, this article portrays flagship responses of how

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universities in the network tackled some of the challenges presented by the pandemic in range of academic and non-academic initiatives categorized as University Social Responsibility (USR) Areas of Engagement, namely research, education, advisory role, outreach, information management, provision of support, institutional reforms, and extended services. The article discusses broader questions referring to how COVID-19 impacted the understanding of what USR is; therefore, looking into both policy and theoretical implications of how the concept of USR and universities responses can be understood and applied in different contexts and universities.

**Keywords:** University Social Responsibility; university response; civic engagement; COVID-19; disaster and mitigation; higher education; universities.

# I. Introduction: Responses to COVID-19 in the University Social Responsibility Network

University Social Responsibility (USR) denotes universities' contributions to society, communities, and the environment. Traditional views of USR emphasize academic work -teaching and research- but these limited perspectives face increasing criticism as new forms of engagement continue to emerge, challenging the definition of traditional social roles of universities. Higher education reform has also broadened the concept of USR to include more multi-sectoral and multi-layered kinds of engagements that align with universities' identities and aspirations.

Universities played a key role in addressing the challenges brought by COVID-19, in issues like risk management, and avoiding the danger of becoming themselves a source of infection spread (Wang et al 2020, 3). They fostered social innovation through initiatives with far reaching impacts, for example as they promoted diversity and inclusion addressing the absence of legislation in poorly regulated contexts (Palalar Alkan, Ozbilgin, and Kamasak 2022, 719), or as they provided technologies and research on digitalization (Chesbrough and Crowther 2006, 232).

Based on the role universities have as drivers of change and on the strategies they implemented during the COVID-19 pandemic, this article explored how the pandemic influenced the understanding of what USR is and how it is implemented, while looking into policy and theoretical implications of how universities responses related to their contexts and institutional priorities.

The article focused on the accounts from 13 universities on their journeys to address different challenges brought about by the pandemic, shedding light on the diverse approaches they designed and employed to engage socially within and beyond their campuses, through both academic and nonacademic activities that refer to research, education, advisory role, outreach, information management, provision of support, institutional reforms, and extended services.

Stemming from the distinctions above, the article proposed a transversal scheme of analysis to facilitate the categorization of USR activities into areas of engagement. In so doing, the following pages not only describe the role universities had as catalysts of change, but more importantly, they highlighte how universities applied creativity, scalability, responsiveness, glocality, and circularity to their USR strategies and how they brought to life their own institutional priorities.

The article adheres to the USR model established by the Talloires Network, which advocates for principles that promote equitable access to higher education, student engagement, and social responsibility integration in the curriculum. These principles emphasize collaboration among different sectors, policy development for community benefit, fostering a culture of community service and transparency. These guidelines or recommendations aim to guide universities to utilize their resources and knowledge to tackle social, economic, and environmental challenges.

Established in 2015 and inspired by the spirit of the Talloires Network, the University Social Responsibility Network (USRN) promotes understanding of University Social Responsibility (USR) and diversity in civic engagement practices. During the 4<sup>th</sup> Executive Committee Meeting in 2018 the USRN decided to create a joint Massive Open Online Course (MOOC) to introduce and demonstrate how the concept of USR is put into action among its member universities.

Kyoto University and The Hong Kong Polytechnic University as members of edX took the lead producing the MOOC titled *Introduction to University Social Responsibility* (from here on the MOOC), which was structured as a four-module course covering theory and practice of universities social engagement. As the impacts of the pandemic expanded, in July of 2020 the USRN decided to add a module showcasing the response of universities to address COVID-19. Designed as a stand-alone unit, this module sprouted from a mini site created by the USRN Secretariat featuring members' response and was later added to the MOOC. The *Special Session on University Response to COVID-19* (from here on the Special Session) portrays a spectrum of engagements from 13 universities located in Australia, Brazil, Canada, China, Israel, Japan, Kazakhstan, South Africa, the UK, and the USA (Palacio and Sadehvandi 2022, 81).

Based on the experience of the MOOC, the article presents a fresh contribution in several ways: a) showcasing initiatives through which universities responded to the pandemic, b) offering an approach to map initiatives organized in Areas of Engagement, c) proposing an integrated scheme to better understand the meaning and diversity of USR, and d) addressing general questions about how COVID-19 changed the understanding of social responsibility of universities and the policy as well as theoretical implications spurring from it.

Given that this article focuses on the contributions from universities in the context of the USRN, the authors adhere to the definition of USR, as set by the USRN, which refers to a wide-ranging and evolving concept described as the responsibility shared by universities to contribute to social betterment through the integration of social responsibility policies into institutional management, teaching, research, services and public activities (Shek and Hollister 2017, 13).

# II. Literature review: The evolving concept of University Social Responsibility

Corporate Social Responsibility (CSR) and USR refer to the added utilitarian value these organizations offer to society; for corporations, for instance, this refers to contributions spilling over for-profit activities such as creating jobs and opportunities, but also ensuring humane conditions of those jobs; while for universities this added value refers to contributions, they can make that exceed their traditional roles (Huang and Manh-Hoang 2021, 550).

Both concepts, CSR and USR, are evolving and new guiding principles are being revised and created, for example, notions like *creativity*, *scalability*, *responsiveness*, *glocality*, and *circularity* are increasingly embedded in these organizations' management and culture (Sitnikov, Bocean, and Tudor 2017, 251-273). These advancements have deep implications for USR, as universities are called to bring and enact those principles as they implement reforms and policy to address emerging social challenges. Emphasis has typically fallen on academic roles; however, these reforms integrate social responsibility into other functions and result in a new social contract that calls for an education that connects with real world problems, ethically ensured science, and responsible administration (Larrán and Andrades Peña 2017, 302-319).

It is generally accepted that universities act responsibly through how they govern themselves, through the quality of their services, as they apply ethical rules and corruption control, or as they do philanthropic work, as employers when they strive for work balance, when they ensure safety, equality and human rights (Tetřevová and Sabolova 2010, 229). USR relates to how universities put social responsibility into practice, which implies that a variety of perspectives coexist and depend on their contexts. Thus, USR can be defined as the capacity of a university to implement principles in management, teaching, research, and engagement to address social needs (Garde Sánchez, Rodríguez Bolívar, and López-Hernández 2013, 709-746). USR can also refer to the voluntary commitment of universities to incorporate social, labor, ethical, and social concerns into their functions, resulting from the external impacts of their activities (Larrán and Andrades Peña 2017, 302-319). Universities implement policies and programs beyond academia, demonstrating the existence of different understandings of what USR is, and that its interpretations are relative to the context and vision of each university, and how they to go the extra mile (Palacio and Choy 2019, n.p.).

Despite the scale of the calamity, academic contributions have shown a significant increase since 2020 to the global COVID-19 research base (Cai, Fry, and Wagner 2021, 3687), which serves in itself as an indicator of higher education's commitment to social responsibility. The pandemic reaffirmed the importance of universities' social commitment through academic work and by leveraging coalitions to coordinate responses, and to ensure safety and continuity in the provision of their services (Cutter, Nelson, and Abir 2021, 4). However, systematic approaches to how these policies and practices contributed to wider social innovation are still missing in the literature, and that is one of the gaps this article aims to cover.

As governments sought to reduce spread of the virus through social distance and lockdowns (Hale et al 2020, 4), universities responded in ways that were both innovative and socially responsible. Areas of interest where the literature on USR grew rapidly focus, for example, on curricular development and reforms to foster online education to ensure safe educational delivery (Yang and Huang 2021, 121-132), the need for universities to secure continuity and quality of their services by coordinating leadership and management, prioritizing safety, information sharing, and by providing training and support (Samarasekera et al 2020, 3).

An integrative overview that brings together the variety of approaches universities took and what they mean in terms of policy and decision making also seems to be missing in the literature, and to address this point this article proposes a framework that can systematically organize USR Areas of Engagement.

The magnitude of the disruptions caused by COVID-19 left the world with a sense of astray, as pressures continued to mount due to the prolonged uncertainty. Before this scenario, universities had to rethink their strategies, preparedness, response, and recovery (Regehr and Goel 2020, 523-539). And they also needed to cope with different attitudes and public moods, medical

and non-medical college students, for example, tended to show positive mindset towards preventing COVID-19 through wearing masks (Amin et al 2020, 2). However, perceptions and attitudes towards government measures and protocols were significantly different, associated with people's own believes of what social responsibilities are and should be (Singkun 2020, 6).

The pandemic put universities before new threats, but also opportunities for new research, education, approaches to management and engagement (Beech and Anseel 2020). The higher education sector has lived an unprecedented momentum to expand and deepen existing scientific knowledge to understand and respond to the current pandemic but also in the future to address similar crisis, and to improve disaster management (Marinoni, Van't Land, and Jensen 2020, 2). In fact, a new global agenda for the sector has been shaped by the pressing demand for action in areas like support and inclusion, pedagogical advancements, new models in management, and approaches to crisis management (Greere 2021, 202).

And yet, broad surveys about the role higher education played during the pandemic remain imperative to better understand the impact of USR on general crisis management, thus, this article aims to shed light on how universities contributed to a wider social change of mind, for example by bridging research output and dissemination with public awareness of the implications of that research.

The literature suggests that universities with USR drive tend to have higher sustainable competitive advantages, stronger strategies for social innovation, and produce creative ideas with social value. COVID-19 created the conditions for universities to carry out research on the disease, to provide affordable or free infrastructure in their facilities, and to foster philanthropism including outreach programs. Thus, allowing universities to demonstrate their will and capacity to enhance their sense of social responsibility and to foster wider social innovations (Adel, Zeinhom, and Younis 2022, 425). However, the relative impact and magnitude of academic and non-academic initiatives remains unexplored. This article intends to provide insight into the significance of various USR initiatives. Often, these initiatives are not given due recognition as they do not fit into the conventional academic contributions made by universities. Therefore, the article seeks to highlight the importance of such initiatives.

In recent years USR has gained relevance as a quantitative approach to the reputation of universities according to their position in various national and international rankings (Baraibar Diez, and Luna Sotorrío 2012, 24). This is evident in the growth of universities' participation in the Quality Standards World University Rankings on Sustainability, or the Times Higher Education Impact Ranking portraying universities' performance against the United Nations' Sustainable Development Goals (SDGs). Which, from the viewpoint of the Institutional Theory, would explain the interest of managers to participate in these rankings not only because of the universities' commitment to real world problems, but also as they seek to make external stakeholders know what contributions from their institutions are, to fulfill the expectations of their communities and to gain and maintain legitimacy.

In line with this, it seems that factors that stimulate universities' interest for USR include open communications with society, creativity of their staff, access to training for students, and the level to which managers care for rankings and funding (Rababah et al 2021, 7). Interestingly, research on the effects the pandemic had on USR motivations suggest that universities with more sense of social responsibility attract motivated students who engage more with e-learning (Ali et al 2021, 4223). On the other hand, it is unknown how social engagement of the universities may influence staff ownership regarding social engagement programming; thus, this article explores issues of this kind by looking at how non classic approaches to USR were implemented.

Existing research on universities responses has already shown that USR exceeds academia, in the spectrum of wider contributions examples include the role libraries had in enhancing online education (Ifijeh and Yusuf 2020, 2), or the role universities had in boosting inclusion and equity and how COVID-19 affected work conditions for women (Nash and Churchill 2020, 833-846), or how universities advanced human rights, addressing stigmatization, and the negative role local governments, social and mass media played in disclosing personal information of patients (Yoshioka and Maeda 2020, 372).

Research has also emerged on a range of other related areas such as whether universities addressed COVID-related concerns among students, and whether there was a correlation between the level of media exposure, associated stress, functional difficulties, and the concerns related to COVID-19 (Schiff et al 2021, 673), or about experiences in virtual environments, highlighting good practices and pitfalls (Telles-Langdon 2020, 108-119). Much research has been done on the effects of the pandemic on teaching strategies and how it became a catalyst for innovation as education became completely remote, leveraging new skills, knowledge, forms of engagement, and level of readiness to use digital means and other technological tools from all stakeholders involved in the learning process (Moorhouse and Wong 2022).

Most of the literature on how the pandemic impacted on the concept of USR, portrays initiatives by universities as palliative or ad hoc activities rather than as the result of previously established USR plans. With this in

mind, this article covers the gap in relation to how programming may have not only been diversified because of the pandemic, but more importantly, looking at ways to solidify this new menu of options into more systematic USR strategies for the future.

To achieve this goal, the article proposes a model of analysis that covers some of the literature gaps identified above by offering a transversal approach to USR, presented as Areas of Engagement. In doing so, the following pages help understand the universities' role as catalysts of change, and how they applied creativity, scalability, responsiveness, glocality, and circularity to their USR strategies.

#### III. Approach and method

#### III.1. Data: Collection process, source, and kinds

Data describes policies and initiatives implemented since the start of the pandemic until December 2020, when the MOOC entered its production phase. Data collection for the Special Session happened in two phases: first, USRN Secretariat requested members to share information on their responses to the pandemic to showcase good practices in a mini site at the portal of the network. Universities were free to submit data they considered most relevant to portray their flagship initiatives in any format. The second stage was a byproduct of the MOOC that was under production, as it was decided that the Special Session would be added to it, the production team reached out to USRN members asking for their responses to the pandemic in more detail, and again, emphasizing on the idea that universities shared what they considered their best practices and USR forte.

Original data came from qualitative accounts of responses from the following 13 universities.

Contributing university	Acronym	Country
Al-Farabi Kazakh National University	AFKNU	Kazakhstan
Beijing Normal University	BNU	China
Kyoto University	КU	Japan
Sichuan University	SU	China
Simon Fraser University	SFU	Canada

Table 1 Contributing universities and their acronyms for this study

Contributing university	Acronym	Country
The Hong Kong Polytechnic University	нкри	China
The University of Manchester	UoM	United Kingdom
Tufts University	TU	United States of America
University of Haifa	UoH	Israel
University of New South Wales	UNSW	Australia
University of Pretoria	UoP	South Africa
University of São Paulo	USP	Brazil
Washington University in St. Louis	WUSL	United States of America

Actual data consisted of reports and materials (videos, websites, fliers, texts) describing measures to address the pandemic, gathered and organized by resource persons in each university, who functioned as contact points as they were in charge of the promotion of the activities in university social responsibility. Data from each institution constituted a stand-alone unit in the Special Session, however when tabulated transversally, the responses from all institutions became a quilt of diverse work; and together these responses formed a comprehensive depiction of all policies and initiatives involved.

Collectively, these responses formed a comprehensive depiction of all the policies involved.

The responses represent a non-probability sample, as all information was based on voluntary contributions presented in the MOOC. The syllabus and all information shared for the Special Session are open to public and available in the MOOC's site in edX.

#### III.2. Data analysis

The Special Session of the MOOC contains all the information universities provided about the policies and initiatives they implemented to respond to the pandemic presented as narratives. These narratives constituted the starting point of the article, which were first approached through qualitative analysis and using thematic analysis to sort the kinds of initiatives described based on their nature and scope.

Then the narratives were divided into blocks of text, and later into items that were quantified to obtain observable trends. Given the novel nature of the kind of data, an original method of analysis was created to interpret and quantify the original data provided by the universities. To quantify the data, narrations from the universities were first consolidated as independent case studies. Then, narratives were divided into blocks of text depending on the nature of the policy or initiative described. Pieces of text with similar information were grouped into what was defined as Areas of Engagement (namely, Research, Education, Advisory Role, Civic Engagement, Information Management, Provision of Support, Structural Reforms, and Extended Services). Each Area was then divided into dimensions and sub dimensions providing more details.

The blocks of text were further divided into individual items that identified key elements of each initiative, e.g., goals or targeted audience. These items were then assigned one point each and re-distributed into the Areas of Engagement and their dimensions to observe trends.

Briefly, the methodology can be explained as follows:

- Narratives → broke into blocks → blocks grouped together as Areas of Engagement
- 2. Blocks → broke into items → items grouped helped identify dimensions in each Area
- 3. Items → quantified as points → items assigned to Areas and dimensions to show trends
- 4. Trends  $\rightarrow$  analyzed and explained by Area of Engagement

The following example demonstrates how this was done, showing: source, narrative, points assigned according to Area of Engagement, dimension or sub dimensions between brackets.

HKPU. Researchers designed general use face shields to provide enhanced protection (Research, health, new product  $\rightarrow 1$  point) for the public in their daily lives and working environment (Support. For external communities  $\rightarrow 1$  point).

From the analysis of the data, Areas of Engagement were first identified; then items were quantified and assigned to their respective Areas of Engagement to show the relative magnitude of their impact based on the findings in each Area; and lastly, policy and theoretical implications in relation to the concept of USR were introduced.

## III.3. Limitations and ethical concerns

The trends described in this article have limited potential for generalization because 1) the constant changing nature of policies and initiatives in any university makes it difficult to provide a definite answer on what their responses to other crises might be, and 2) interpretation of the trends found in this article is limited by the fact that the data provided by resource persons in each contributing university represented *examples of flagship initiatives to address the pandemic*, not holistic inventories of projects based on universities' USR priorities or strategies.

Ethical concerns about the data referring to its use and dissemination in this article, were agreed and cleared between the authors and the USRN Secretariat based on the open nature of the data, which is accessible to the public as it is contained in a MOOC.

#### IV. Findings: Defining areas of engagement and their dimensions

The article analyzed how universities responded to the challenges posed by COVID-19 and how the pandemic impacted in the ways they enacted their USR strategies; thus, demonstrating that USR is relative to each university's vision, priorities, and context, and that universities implemented similar and different initiatives depending on their own priorities and willingness to exceed expectation.

To make sense of the universe of policies and initiatives shared in the Special Session of the MOOC, they were sorted based on similar nature first into eight Areas of Engagement that were subdivided in dimensions that offer deeper understanding of each area as follows:

- 1. Research\*: Health impact, and Socio-economic-environmental impact
- 2. Education: Class format, New contents, Training, and Technical aspects
- 3. Advisory role: Risk management in universities, Partnerships, and Inclusion
- 4. Outreach\*\*: Institutional engagement, and Alternative resources
- 5. Information management: Internal sharing, and Communication outside campus
- 6. Support: For students, For staff, and For external communities
- 7. Reforms: New bodies, Risk management, Channel support, and Administration
- 8. Extended services: Library, Museums, Research centers, and Other facilities

Due to the diversity in Research and Outreach, sub dimensions were created as follows:

#### \*1. Research:

Health impact: Development of new products, Mathematical modeling, New technologies, and Mental health

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Socio-economic and environmental impact: Contention of spread, and Economic, social and environmental impacts

#### \*\*4. Outreach

Institutional engagement and partnerships: Production and distribution of medical goods, and Strategic networking, dispatching health and other professionals Tapping on alternative resources: Promotion/organization of volunteer activities, and Fundraising efforts

Next, the blocks were split by core segments of information, or items, with details of policy or initiative according to their nature, goals, or audience. Each item was assigned a single point, that was in turn allocated to one or more dimensions in their respective Areas of Engagement. The identification of these items allowed for a quantitative approach to all the responses shared resulting in a total of 751 individual items.

Based on the quantification of the narratives an analysis of trends was applied, providing relative insights and meanings to the data in relation to the universe of responses, in the Areas of Engagement and their dimensions. Spotting trends in the overall responses in turn, helped interpret the narratives by each university in the context of all contributions.

Although with limitations -because the data consists of a list of example responses, not a comprehensive list of policies and initiatives-, a key contribution from this article lies on its original approach to the qualitative data provided as narratives -responses to the pandemic-, that was quantified by analyzing blocks of texts and breaking them into quantifiable items.

This approach can help university managers in any institution to identify where their priorities lie and reconsider the implications for policy and programming they may wish to include as part of their own USR strategies in the future. Additionally, each Area of Engagement identified can foster theoretical development of concepts used to define USR, for example in theories like Human Capital or Social Capital, Institutional or Institutional Entrepreneurship, Resource Dependence, Stakeholder, Resource-based and Knowledge-based views, or the Critical Theory, which will be further explained in the following sections.

The Special Session showed these universities' social drive as a constant, underscoring the role universities have as social nodes in times of crises, serving as catalysts for social change. The data evidenced that the diversity of approaches universities took resulted from their unique visions and contexts, showing that USR-related policy implications too are relative to each institution and are determined by these factors.



#### Figure 1

Areas of engagement and dimensions: USR facing the COVID-19 pandemic

Figure 1) offers an integrated framework of Areas of Engagement identified and notes the transverse nature of contributions by university hospitals. The scheme highlights four features of USR: 1) policies and initiatives spring from a common source: a university, 2) they materialize the university's institutional vision and mission, 3) social engagements are intrinsically connected and influence each other, and 4) Areas of Engagement offer further in-depth and specialized forms of response. Data from the universities revealed something unusual about how they engage with society through initiatives that exceed traditional academic work and spill as non-academic contributions. The number of non-academic contributions was very telling from the eight Areas of Engagement identified two were academic -research and education-, combined they made up to 31% of the items identified, while the remaining six Areas describing non-academic contributions accounted for the remaining 69% of all items.

A note of caution must be placed here regarding the quantification rule used in this article, as it relied on narratives from university administrative personnel, which could have introduced biases. The 69% figure is only applicable to this article due to the methodology used to obtain information. and because in the MOOC universities selected and shared flagship initiatives not a comprehensive inventory, as outlined in the method. It should also be emphasized that the universities' accounts in Special Session naturally focused on health-related initiatives due to the pandemic's health nature. The fact that 69% of identified items were non-academic is unprecedented and has significant implications for the understanding and practice of USR. Possible explanations for this trend include the traditional under-representation of non-academic staff in the reporting of USR, institutional motivations to improve university rankings, and the need to consider the appropriate balance of civic efforts in response to disasters like COVID-19. This raises important questions about how resources should be allocated and distributed for maximum impact in future crises. Detailed result on each of the areas of engagement are individually presented below along with their dimensions.

# V. In-depth analysis of responses by areas of engagement

To identify trends in the Areas of Engagement in the responses from universities, narratives were divided into blocks and then into items distributed as shown in Table 1: Estimation of Trends by Areas of Engagement and their dimensions.

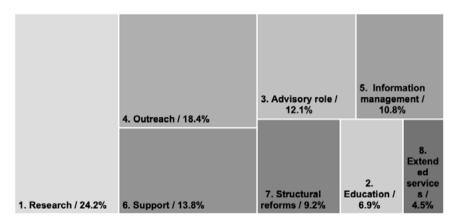
Areas of engagement / total items	Dimensions of engagement	Items per dimension	Trends
1. Research /	1.1 Health impact	86	11.5%
182	1.2 Socio-economic-environmental impact	96	12.8%
	2.1 Online class formats (safety and access)	7	0.9%
2. Education / 52	2.2 New, and in-focus contents	26	3.5%
	2.3 Training for teachers	10	1.3%
	2.4 Technical aspects of moving online	9	1.2%
3. Advisory role / 91	3.1 Risk management internally in the universities	26	3.5%
	3.2 Partnerships with other organizations	48	6.4%
	3.3 Inclusion of minorities and communities at risk	17	2.3%

Table 2 Estimation of trends by areas and dimensions of engagement

Areas of engagement / total items	Dimensions of engagement	Items per dimension	Trends
4. Outreach	4.1 Institutional engagement and partnerships	82	10.9%
/ 138	4.2 Alternative resources: volunteers and fundraising	56	7.5%
5. Information	5.1 Internal mechanisms for information sharing	34	4.5%
management / 81	5.2 Communication with partners outside university	47	6.3%
6. Support / 104	6.1 Alternative relief for students	25	3.3%
	6.2 Alternative relief for staff	21	2.8%
	6.3 Support for external communities	58	7.7%
7. Structural reforms / 69	7.1 New bodies and mechanisms	28	3.7%
	7.2 Risk prevention and crisis management	17	2.3%
	7.3 Channeling support	9	1.2%
	7.4 Administrative bodies to channel external support	15	2.0%
	8.1 Library and academic resources	7	0.9%
8. Extended services / 34	8.2 Museums and cultural facilities	4	0.5%
	8.3 Research centers and related facilities	8	1.1%
	8.4 Other facilities	15	2.0%
Total		751	100.0%

Trends referred to the tendency of universities to produce USR oriented policy or initiatives in an Area of Engagement or related Dimensions in comparison to efforts allocated in other Areas. The analysis of trends highlighted the Areas of Engagement universities were inclined to involve based on how they allocated resources. By identifying the USR areas of interest in each university one can also identify that university's priorities. This explains the complexity of the implications of USR, rendering each approach unique, however when analyzed transversely, as in this article, the data allowed for grouping based on similar criteria of each initiative.

From the items identified, largest contributions took place as Research with 182 items out of the total 751 entries, followed by Outreach (138), Support (104), Advisory role (91), Information management (81), Structural reforms (69), Education (52), and last Extended services (34).



# Figure 2

Trends in universities responses to COVID-19 per area of engagement

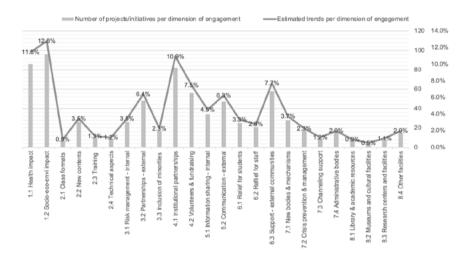
Next, the analysis of trends moved to the dimensions identified in each Area that resulted from sorting blocks of text in the narratives into individual items. These dimensions provided an insight to the contents of the areas, and thus about the institutional priorities.

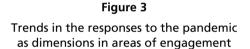
Research in its dimensions -Health impact, and Socio-economic, environmental impact- scored the highest (24%) related to the research oriented nature of these universities and the priority they attach to research as a form of social contribution.

The next score among Areas of Engagement was Outreach, with 18%, which showed the priority universities attached to cooperating with stakeholders within and outside campus. The following was Support (14%), indicating the wide engagement universities had toward internal and external communities through alternative forms of assistance.

Education and its dimensions (Class formats, New contents, Training, and Technical aspects) represented less of a priority as a response with 6.9% of all items, as compared to Outreach with 18.4% in its dimensions (Institutional partnerships, and Volunteers and fundraising), or to Information management with 10.8% in its dimensions (Information sharing - internal, Communication - external).

Trends suggested that responses to COVID-19 by the universities happened quantitatively more often in non-academic areas as compared to education or research.





#### V.1. University hospitals and other health-related facilities

From the 13 universities in the Special Session, 11 mentioned contributions from their hospitals or other health facilities. These narratives described policies and initiatives embedded in other Areas of Engagement, reflecting the transversal nature of the contributions university hospitals made. In Figure 1) this is presented as the belt inside the graph reading:  $\bowtie$  University Hospitals  $\bowtie$ .

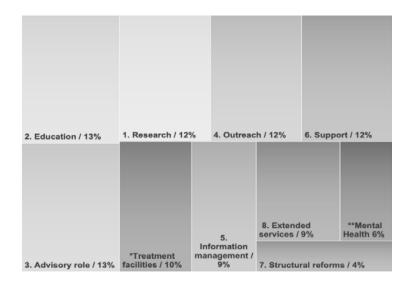
Areas of Engagement as responses by university hospitals in terms of items identified were distributed as shown in Table 2: *University Hospitals as a Transversal Dimensions of Engagement*.

The items referring to activities by hospitals amounted to 12%, whereby Research accounted for 12% of them, Education 13%, Advisory role 13%, Outreach 12%, Information management 9%, Support 12%, Structural reforms 4%, Extended services 9%. Items here also reflected new dimensions related to Treatment Facilities 10%, and Mental Health 6%.

USR engagement areas in university hospitals	Items related to hospitals	Total items per area of engagement
1. Research	11	182
2. Education	12	52
3. Advisory role	12	91
4. Outreach	11	138
5. Information management	8	81
6. Support	11	104
7. Structural reforms	4	69
8. Extended services	8	34
*Treatment facilities	9	-
**Mental Health	5	-
Total	91	751

#### Table 3

University hospitals as a transversal dimension of engagement



# Figure 4

# Transversal situation of university hospitals

Hospitals made important contributions as USR in the form of research and education, however combined they represented only 25% of all the items identified. While their non-academic contributions accounted for the remaining 75% of their responses to COVID-19.

Six universities in this article offer regular services through hospitals or other health facilities that function as educational departments, they provide services like prevention and treatment. In the Special Session of the MOOC, they also shared evidence of alternative social contributions.

These institutions responded to growing numbers of patients with COVID-19, the demand for extra services and ways to alleviate pressures posed by the pandemic and offering support to local healthcare systems and frontline workers. They also shared capabilities and know-how with communities and local hospitals, while continuing regular services.

Responses: 1) new, renovated and functionalized infrastructure like clinics or labs, 2) increased hospital beds and relocation of patients, 3) donating equipment and facilities, 4) coordinating or sharing assets, 5) testing, treating, and researching, 6) coordinating registrations, computing, and sharing data on count of cases and other matters, 7) extending working periods of medical staff, students, and workers, 8) recruiting and dispatching specialists to the frontlines, 9) setting hotlines to assist the distressed, 11) offering virtual training for workers, and 12) developing educational videos on preventative measures. (Source: KU, TU, UoM, UoP, USP. See Table 1 on pages 334-5.)

Policy implications relate to ways to connect academic activities of these institutions with initiatives beyond academia. While research and teaching are likely to remain essential, integrating them with policy related to other forms of engagement are evident, for example, scaling public information management and dissemination, developing partnerships and community outreach, or fostering volunteering with increasing opportunities for service learning.

Data showed that these institutions had a key role in building trust and social networks leading to better strategies to control the pandemic, which, from the perspective of the Social Capital Theory, highlights the role university hospitals and health facilities have in advancing relationships with their local and regional communities.

#### V.2. Area of engagement: Research

One of the Areas of Engagement is research. The collected data showed that universities engaged in research to tackle the challenges of the Covid-19 pandemic. Universities made major contributions through innovative research in several fields; while the growth of cooperative research on the virus and different aspects of the pandemic worldwide has been outstanding as evidenced by these universities connecting among themselves and with external partners to produce new research and effectively disseminate it. As mentioned above Research obtained almost one fourth of all items identified in the data (24%); an aspect that closely relates to the fact that most of these universities are comprehensive and research oriented. Given the complexity of data in this Area of Engagement, two dimensions and several subdimensions were identified.

#### Research on health impact

Although COVID-19 brought about a truly global debacle, with devastating impacts in most areas of life, the detonating factor laid in the impacts the virus had on both the health of millions of individuals and its catastrophic effects on national and local public health systems in all corners of the world. This directly explains why universities with a strong sense of social commitment, such as the members of the USRN, implemented initiatives that could produce the most efficient solutions and positive changes. Fostering research in health-related aspects of the pandemic can be understood as a natural decision by these institutions, particularly in the search for solutions typically materializing as action or applied research.

Research here addressed the need to ensure long-term safety and protection in hospitals, public settings and households, to offer rapid and low-cost supply of protective equipment, while reinforcing the relevance of often neglected aspects such as mental health.

University hospitals boosted their work in terms of estimating transmission and fatality rates, prevalence of viral diseases, risk factors for severity, or disparities in severity of COVID-19 related diseases. As that information continued to mount, these institutions made critical inputs for decision making at the political level through informed policy and coordination to minimize impact on health care systems, as they continued to develop ways to improve diagnosis, treatment, and vaccines. Contributions in research identified in the sub-dimensions refer to:

- 1) Development of new products, where research focused on 1.1) new treatments, diagnostics systems, prevention mechanisms, and vaccines,
  - 1.2) antiseptics, decontamination, sterilization, and reusable equipment,
  - 1.3) cost-effective testing kits, and using RNA imaging technology,

1.4) designing and producing 3D-printed shields, and large-scale, fast, and low-cost ventilators. (Source: AFKNU, HKPU, UNSW, USP. See Table 1 on pages 334-5.)

- 2) Mathematical modeling and statistical analysis played a key role in understanding the pandemic. Universities researched on 2.1) modeling trends through applied mathematics to assess risk and forecast virus spread, 2.2) researching on personal and social conditions created through simulators and algorithms, and 2.3) research on public health prevention devices like geospatial maps linking socio economic indicators. (Source: BNU, HKPU. See Table 1 on pages 334-5.)
- 3) Development of technologies: 3.1) artificial intelligence systems for rapid diagnosis of pathogens and computed imaging, 3.2) human genomics research, combining clinical research in biology, medicine, 3.3) epidemiology research on interactions of viruses and hosts, 3.4) research on metabolomics in plasma to reveal infection and indicators of infection, and 3.5) new drugs and related supply chain for distribution. (Source: HKPU, USP, WUSL. See Table 1 on pages 334-5.)
- 4) Boosting the role of mental health and emotional support was a key contribution as a service and as a source of research.

Responses: 4.1) setting hotlines for distressed people, 4.2) creating organisms for emotional support, and 4.3.) dispatching mental health specialists to support staff in the frontlines. (Source: BNU, SFU, SU, UoM. See Table 1 on pages 334-5.)

#### Research on broader areas of impact

Universities also researched social, economic, political and environmental impacts of the pandemic. Research in this dimension focused on ensuring that public response was respectful of human rights, on the impacts social distance had on the political, socio-economic, and environmental realms. Two sub-dimensions were identified: 1) Mechanisms to contain spread (from a social viewpoint), and 2) Economic, social and environmental impacts.

Responses and contributions identified in the sub-dimension of contention of spread include 1.1) developing and implementing cost-effective, rapid scale-up testing in vulnerable or isolated populations, 1.2) frequent and rapid testing in schools, 1.3) new apps to track spread of virus in real-time, 1.4) research on impacts of social distance (Source: KU, SFU, UoM, UNSW. See Table 1 on pages 334-5.) In the sub-dimension of Economic, social and environmental impacts, responses focused on: 2.1) impacts on local and regional economies, 2.2) correlations between pollutants and the spread of the virus, 2.3) political implications of the pandemic, civic duty, and 2.4) socio economic impacts: effects of policy based on demographic differences (Source: SFU, USP, WUSL. See Table 1 on pages 334-5.)

As mentioned in the literature review, much research was done on educational developments, especially on the impacts and challenges of online and remote education due to the social distance aspects of the pandemic. Of interest for this article was the fact that within the information provided by resource persons in the universities in the MOOC there were no direct mentions to research in this area. The data suggest that when choosing and sharing information in this area of research, resource persons focused more on the actionable side and the changes produced by this research, resulting more in educational or administrative reforms, and other major pedagogical innovations that materialized in staff development projects, technical empowering, and effective communication, rather than focusing merely on the number and kinds of publications.

Policy implications from the USR perspective call for stronger engagement among researchers with real world problems and needs, which in turn urges universities to reconsider *what* is researched and *how*, by fostering more inclusive and engaged research methodologies.

Engaged and inclusive research shared by these universities in the Special Session contributed to new pandemic-related knowledge and raised awareness at a societal scale of the need to better coordinate efforts. From the viewpoint of the Resource Dependence Theory, it would be legitimate to argue that because these universities have a strong USR drive, they were able secure more external resources by partnering with government agencies, NGOs, and other organizations. Similarly, from the perspective of the Knowledge-based Theory the USR strategy these universities applied during the pandemic helped motivating and focusing universities' efforts to generate and disseminate knowledge related to social and environmental issues in ways that tend to be less politically charged.

#### V.3. Area of engagement: Education

Education is a fundamental aspect of any university's mandate, including in the USR domain. During the pandemic, universities made efforts to ensure the continuity and quality of their programs, primarily through online programs. Before the start of the pandemic some universities had begun their transitions and introduced online opportunities to their curricula, however in 2020 and 2021 the great majority of universities all around the world were forced to move almost completely to online platforms. Although this meant an overwhelming challenge, universities found new opportunities to reinvent themselves as socially engaged entities. For this Area of Engagement four dimensions were identified.

#### Online formats to ensure safe access to class for all students

Universities faced a significant challenge in ensuring rapid, universal, and safe access to quality education for all students while also enhancing the use of Learning Management Systems (LMS). To address this initial burden, universities adopted an online strategy and implemented measures such as providing students with internet access and promoting the use of flexible approaches to teaching and learning to ensure academic success. They also focused on fostering curricular development and encouraging their communities to engage with LMS through training and effective use of digital tools. (Sources: KU, UoH, UoP. See Table 1 on pages 334-5.)

#### New and in-focus contents

During the pandemic, universities adopted innovative approaches to education, utilizing COVID-19 as a basis to develop new teaching methods and contents. These approaches included addressing the needs of vulnerable communities and providing service-learning opportunities to sensitize students about real-life problems. Education departments also focused on creating new teaching methods for online education, curricular development, class engagement, and alternative forms of evaluation. As a result, new courses were added to existing programs, such as in Public Health, where traditionally excluded subjects like economics and management were now deemed relevant and integrated into the curricula.

Responses: 1) renewed curricula with COVID-19 related approaches and contents, 2) new materials and resources, 3) learning opportunities to conduct and share research on the pandemic, 4) webinars to share knowledge and experiences, and 5) requesting students to use technical skills, for example by retooling equipment such as 3D printing to manufacture shields or engineering students developing touchless door handles. (Source: AFKNU, SFU, UoH. See Table 1 on pages 334-5.)

# Training for teachers

Alongside the mass transition to online education, universities offered pedagogical support and helped teachers better plan and implement their classes.

Responses: 1) staff development on new technologies, for example as online training, 2) supporting national policy to ensure consistency in education for entire countries, and 3) rapid growth of publications describing strategies implemented for online learning at all levels. (Source: BNU, KU, UoP. See Table 1 on pages 334-5.)

#### Technical aspects of moving online

The sudden shift to online education presented a significant challenge, as universities had to organize teaching activities and prepare teachers, students, and non-academic staff for this new approach. This shift also led to a leap in general information literacy, as stakeholders had to learn how to use digital tools and communication platforms, as well as new ways of teaching, learning, and interacting. Universities have played a crucial role in facilitating this transition and imparting these new skills and knowledge not just to their communities, but to society at large.

Responses: 1) online literacy training for students, staff, and communities outside campus 2) generalized use of LMS and other tools, and 3) contracts with private providers of online services. (Source: KU, UoP. See Table 1 on pages 334-5.)

#### Universities provision of Learning Management Services (LMS)

Some universities were well-prepared in the use of LMS, having already owned such services and familiarized their staff and students with them the transition for these institutions was not so traumatic. However, many others were caught off guard and had to acquire contracts with private services at the last minute to meet the demand for communication and information technology literacy, which was a sudden shock for them.

Responses: 1) online support for students and staff, 2) training them to utilize LMS while ensuring quality of teaching and processes, 3) spread of LMS and other tools, and 4) services acquired through new contracts with private providers. (Sources: KU, UoH, UoP. See Table 1 on pages 334-5.)

Policy implications in education resulting from COVID-19 are among the most explored issues in the literature, however data from this article revealed great untapped potential for university managers and academics to improve curricular development. The use of technology for learning purposes raised general concerns about central issues such as ways to ensure accessibility and equity, highlighting the need for strategies to foster general technological literacy, and boosting preparedness for quick changes in pedagogical approaches.

One of the most important theoretical implications the pandemic had in relation to education and USR relates to the advancement of Human Capital in situations of crisis. As shown by the data in this article, universities with a strong drive for USR provided evidence of how service learning has not only helped develop the skills and competencies of their students, faculty, and staff, but also contributed to a stronger sense of ownership in the learning process.

# V.4. Area of engagement: Advisory role

Due to their position in the social fabric, universities are usually perceived as politically neutral bodies that can create social synergies and facilitate interactions by sharing accumulated knowledge and know-how, without getting entangled or caught up in thorny and polarizing debates. Three dimensions were identified for this area.

#### Risk management internally in the universities

It is unclear from the data whether all universities had pre-existing frameworks for risk prevention and crisis management before the pandemic started. However, for those who had such schemes in place, their strategic responses showed a marked difference, enabling them to react and organize their response effectively. In contrast, universities without such mechanisms had to create them on the spot and develop their strategies from there. Overall, universities played a crucial role in concerted policy for prevention and safety on campus and beyond.

Responses: 1) frameworks for risk prevention and crisis management, 2) tools to collect and distribute information, 3) comprehensive and easy to update communication platforms, and 4) concerted policy for prevention and safety on campuses and beyond. (Source: KU, SFU, UoH. See Table 1 on pages 334-5.)

#### Partnerships with other organizations

Despite the challenges posed by dispersion and lack of centralized knowledge, universities can maximize their resources by cooperating internally and with other organizations. To do so, they must recognize this potential and proactively enact policies to strengthen existing or form new partnerships. The narratives in the Special Session were very telling about how these universities enhanced their networks through partnerships with governments, health and education institutions, UN agencies like WHO, non-profit organizations, and more.

Responses: 1) partnerships with organizations advising policy based on research, 2) academic staff supporting ministries and strategies for public health, 3) scientists conducting and supporting global coordination, or tracking cross-border measures, and 4) identifying biases on effects and gaps in policy and social interventions. (Source: AFKNU, SFU, TU, UNSW. See Table 1 on pages 334-5.)

#### Inclusion of minorities and communities at risk

As the pandemic hit, universities promoted policies to enhance inclusion. Narratives in the Special Session mentioned ensuring access to support for minorities and vulnerable groups in and outside campus, including individuals and groups with limited access to information due to language barriers, or to alternative services to which they are entitled but are unaware of.

Responses: 1) campaigns to include international students in all forms of support, 2) mobilizing students to provide food in public schools, 3) internships and training opportunities for staff in local governments, 4) interviews on living conditions of marginalized residents, 5) language support as translations and other forms of consultancies of legal issues. (Source: KU, SFU, UNSW, USP. See Table 1 on pages 334-5.)

Policy implications for universities in relation to their role as public advisers relate to ensuring transparency in their communications and deep understanding of their own role as knowledge hubs, so as to ensure an institutional mindset of accountability and civic duty, and the readiness to engage with partners outside campus, the media and other information outlets.

The lens of the Institutional Entrepreneurship theory provides rich insights about how the advisory role universities took during the pandemic can be explored and developed as effective ways to enhance their USR strategies. This article found evidence that some universities challenged existing institutional norms and procedures. Acting as institutional entrepreneurs, universities introduced new practices and ideas that promote social responsibility and contribute to social change and innovation.

#### V.5. Area of engagement: Outreach

University outreach refers to the activities and programs that universities and their staff, faculty, and students engage in to extend their resources, expertise, and knowledge beyond campus and to share them with the broader community. Universities in the Special Session shared different types of outreach responses to the pandemic and had the highest number of items as non-academic responses, resulting in two dimensions for this Area of Engagement.

#### Institutional engagement and partnerships

The narratives in the Special Session proved that different types of outreach and institutional interactions are possible and necessary, particularly non-academic engagements, for instance when universities addressed logistic needs in the production and distribution of goods or services or by mobilizing alternative resources through fund raising activities.

## Production and distribution of medical goods

Universities played a key role in supporting overwhelmed healthcare systems and protecting frontline workers by providing supplies like masks, sanitizers, and artificial ventilators to hospitals and clinics. Moreover, they took steps to vaccinate their staff and the general public. Universities also served as channels of information and sent staff and medical support to communities that were at risk or difficult to reach.

Responses: 1) reusable masks, shields, ventilators, sanitizers, and antiseptics, 2) new technologies to improve the production of those goods, and 3) collection and distribution of personal protective equipment. (Source: AFKNU, BNU, SFU, UoM, UoP. See Table 1 on pages 334-5.)

#### Strategic networking and dispatching health and other professionals

Narratives mentioned addressing the rapid increase in the demand for health personnel in areas beyond the traditional technical and geographical scopes of hospitals; while also having to look at ways to reach out and support communities with limited access to medical care.

Responses: 1) University hospitals treating COVID-19 patients, 2) expanding local and regional areas these hospitals traditionally serve, 3) recruiting, organizing and dispatching medical and technical staff to areas difficult to access; and 4) engaging with local and regional partners to deploy know-how, share information, and coordinate efforts. (Source: AFKNU, KU, SU, UoH, UoM, UoP, USP. See Table 1 on pages 334-5.)

## Tapping on alternative resources

Times of crisis call for creative approaches and new responses. A clear trend to address the pandemic by universities was the promotion of volunteer activities and fundraising efforts.

#### Promotion and organization of volunteer activities

Universities addressed the lack of trained personnel and equipment, through recruiting volunteers, professionals, academic and non-academic personnel, students, individuals, external partners or communities outside campus. Three subdimensions of outreach in relation to volunteering were identified: 1) allowing volunteers on campus, 2) promoting volunteering, and 3) proactive policy to recruit and organize volunteers in their institutional structures.

Responses: 1) mobilizing and organizing groups of students or staff as volunteers, 2) students producing videos showing home-made sanitizers, 3) organizing student sessions to foster and support one another, 4) professors engaging students with local communities in need to offer food, legal advice, and networking with government agencies, 5) students volunteering as nurses, medics, pharmacists, relief for the elderly, and 6) legal representation for marginalized communities in law clinics. (Sources: AFKNU, HKPU, KU, UoH, UoM, UoP, WUSL. See Table 1 on pages 334-5.)

## Fundraising efforts

In response to the limited financial resources, universities connected with audiences and partners to raise funds and support students facing financial hardships due to job loss. In addition to helping students pay their fees and ease their living conditions, universities also lent a helping hand to their partners in their own efforts. The collaborative efforts of universities have played a significant role in synergizing existing, yet disperse, resources to tackle these challenges.

Responses: 1) fundraising campaigns, 2) solidarity funds to support students, 3) partnering with institutions and alumni associations to enhance fundraising capabilities, and 4) university leaders mobilizing their networks and using their influence for fundraising. (Source: AFKNU, BNU, UoM, UoP, UNSW. See Table 1 on pages 334-5.)

Policy implications for outreach have at least two dimensions: institutional engagement and tapping into alternative resources. The challenge lies in institutionalizing these initiatives as policies rather than solely relying on

motivated individuals. Institutional engagement can include producing and distributing medical goods or deploying health professionals on regular bases. Leveraging alternative resources can involve promoting and organizing volunteer activities, as well as fundraising efforts also on more systematic and regular bases.

The Stakeholder theory can be used to analyze the theoretical implications that arise from universities' outreach efforts. This is because the motivations that universities have for improving their USR (University Social Responsibility) strategies emphasize the importance of taking into account the interests of all stakeholders who are connected to the university, both on and off campus. By engaging with diverse partners and stakeholders, universities in this article evidenced not only a will to connect with society at large, but more importantly to better understand and address the needs and priorities of communities outside campus, and to tailor their own activities accordingly.

# V.6. Area of engagements: Information management

All universities had internal mechanisms for communication in place prior to the pandemic, however the strike of COVID-19 brought new challenges due to the fluidity and scope of the situation. As the pandemic unfolded universities faced the complexity and constantly changing loads of information they had to handle. Universities in the Special Session described how they addressed these challenges through information management as a multilayer response; and how they created mechanisms to produce, collect and disseminate information, as well as to communicate with external partners and stakeholders. Responses were classified into two dimensions for this Area of Engagement.

#### Internal mechanisms for information sharing

The pandemic surfaced the need of universities to rely on efficient information management systems to handle large and constantly changing volumes of data and materials, while making that information accessible and understandable to their audiences, and sometimes in various languages. Challenges included the capability of staff to understand the nature of the information, how to sort it, and disseminate it through the most effective channels.

Responses: 1) new or updated websites with information on COVID-19, 2) dissemination tools, like newsletters, magazines, mailing lists, blogs,

hotlines, 3) information about and during events, 4) public requests for donations and support, and 5) training for staff on information management strategies and technical aspects. (Sources: BNU, KU, UoH, UNSW, USP. See Table 1 on pages 334-5.)

# Communication with partners outside the university

Due to their position in the social tissue, universities can bring together different stakeholders and promote consensus in regard to what needs to be done and how. The pandemic made universities re-evaluate their communication strategies and interactions with external entities such as governments, the media, and broader society. The use of SNS as a strategy for information management by university administrators, for example, received a clear new interest from managers and users alike.

Responses: 1) partnerships outside campus to share vital research, medical information, delivering educational programs, and providing expert commentary to the media, 2) online hubs to support and build partnerships to enhance recovery, 3) providing information on funding for academic and non-academic work, and 4) organizing events, like conferences to disseminate information and research, while enhancing synergies outside campus. (Source: SFU, UoM, UoP, USP, WUSL. See Table 1 on pages 334-5.)

Policy implications in relation to information management can be developed in at least two broad dimensions: 1) improving internal mechanisms for information sharing, and 2) communication with external partners. Internally, policies can involve systematic approaches to updating websites, social media, and providing staff training. For effective communication with external partners, universities can establish regular and comprehensive partnership frameworks to share research, medical information, educational programs, and more.

The Stakeholder theory can be used to explain the theoretical implications of Information Management as a type of USR, as universities have reviewed and improved their methods of communication. Data used for this article demonstrated that universities in the USRN were able to produce, gather, simplify, and disseminate large volumes of crucial information related to the pandemic to broad audiences in their communities and beyond through the revision of their communication strategies.

# V.7. Area of engagement: Support

Support is an essential part of the life of any university, abundant literature showcases the support universities offer to communities within and

outside campuses. COVID-19 brought new issues universities had to consider as necessary assistance, new audiences, or alternative ways to deliver that support. Forms of support can be classified using different criteria, however for this article, the following three dimensions were identified based on the audiences they target.

# Support for students

The pandemic had a significant impact on students, and the Special Session revealed that universities developed new forms of support, which included, for example, finding ways to assist students in accessing online education and supporting them in other aspects of their daily lives.

Responses: 1) setting or expanding scholarships, 2) creating or enlarging support funds through donations, 3) reducing fees and expenses, 4) extended permissions to stay in dorms, 5) services in health, mental health, and emotional support, 6) encouraging student participation in class and activities to avoid dropouts, 7) helping international students return to countries where universities are located, 8) addressing flight bans and lockdowns, and 9) offering flexible arrangements for students to take leave of absence and to pay fees. (Source: UoP, KU, UoH. See Table 1 on pages 334-5.)

# Support for staff

To prevent disruptions in their normal functions, universities addressed the new needs of their staff, ensuring their safety and protection while maintaining operations despite restrictions.

Responses: 1) flexible working rules and time distribution, 2) workfrom-home conditions, access and devices, 3) technology infrastructure to ensure continuity, 4) staff development opportunities in communication technology literacy, and 5) alternative means of transportation to avoid crowded places, by offering bicycles or promoting walking-to-work. (Source: KU, UoP. See Table 1 on pages 334-5.)

#### Support for external communities

This is a key dimension for managers to overcome the perception of universities as socially disengaged ivory towers. Universities in the Special Session mentioned a myriad of ways to extend their support to society. Responses examples include: 1) recruiting volunteers, 2) producing goods and offering services to external partners, 3) dispatching personnel to support minorities, and 4) organizing awareness campaigns on issues related prevention and vaccination.

Policy implications from Support as an Area of Engagement call for regular and systematic schemes to furnish institutional assistance to internal and external communities. Examples include programming as preparedness, in the case of support for students this refers to regular plans for financial assistance in crisis, wider and more accessible mental health support, and flexible arrangements for life and education in periods of distress. For staff, examples include flexible work rules, telecommuting, and accessible infrastructure. For external communities, universities may offer support through policy, such as organizing volunteers, offering affordable goods and services to partners, and creating awareness campaigns as forms of preparedness and risk prevention.

Universities in the USRN embodied Critical Theory by providing nonacademic support to vulnerable groups, challenging power imbalances, addressing inclusion of marginalized groups, and promoting social justice. They demonstrated how higher education can advance protection of minorities' interests and challenge traditional structures, offering new safety layers to those overlooked by governments, such as immigrants or international students.

# V.8. Area of engagement: Structural reforms

In the Special Session, universities shared experiences of implementing structural reforms to improve existing or new procedures, which vary in many ways. Three dimensions were identified in this Area of Engagement based on their permanence, with some being merely ad hoc initiatives, and others being set as regular parts of well consolidated programs and policy.

#### New bodies and mechanisms

The urgency and volume of new tasks prompted universities to revise their institutional structures and create mechanisms like working groups or think tanks to address these challenges. For instance, they shared major developments on new student recruitment and enrollment.

Responses: 1) new administrative procedures and academic evaluations to allow new students to enroll in place of traditional entrance exams, 2) working groups connecting with high schools teachers to identify prospective students and facilitate procedures for recommended students, 3) relying on entrance examinations for students close to passing, rather than strict face to face evaluations, 4) exams with limited percentage of students on campus, splitting into groups, and 5) new mechanisms for pedagogic support. (Source: KY, UoH, UoM. See Table 1 on pages 334-5.)

#### Risk prevention and crisis management

As the pandemic unfolded, the urgency for informed decisions on risk prevention and crisis management led universities to establish new and more effective systems. Teams consisting of experts, academic and administrative staff were organized as in-focus committees to foster danger mitigation and disaster control. Some universities formed these bodies on an ad hoc basis, while others made them a permanent part of their organizational structure.

Responses: 1) ad hoc or permanent risk-related bodies, 2) schemes of action and standard guidelines, as easily accessible references, and 3) publishing of leaflets, special sites, newsletters, mailing lists. (Source: KU, TU, UNSW. See Table 1 on pages 334-5.)

# Administrative bodies to channel external support

As governments created financial aid schemes for students, universities established administrative mechanisms to ensure effective and accountable distribution. Some universities created special administrative bodies to channel government support and enhance universities' fundraising capabilities, they also organized donation campaigns to support students.

Responses: 1) supporting the delivery of subsidies and financial aid through databases and administration, 2) ensuring access to information to all students on requirements and procedures. (Source: UK, UoP. See Table 1 on pages 334-5.)

Narratives in the Special Section suggest that these reforms were implemented more as provisional arrangements, rather than as the result of programmatic approaches, that however may remain in place beyond the pandemic. From the reforms observed, policy implications referred to setting new bodies and mechanisms like in-focus committees or think tanks, creating risk prevention and crisis management frameworks, and administrative bodies to channel external support and ensure effective and accountable distribution of aid and donations.

Universities in the Special Session demonstrated resilience and a willingness to adapt by reforming their management and administration. They acted as social entrepreneurs, introducing new practices and procedures that promote socially responsible behaviors. Data in the Structural Reform as an Area of Engagement have significant theoretical implications for the concept of USR, for example, as it can be approached and analyzed through the glasses of the Institutional Theory or Institutional Entrepreneurship Theory to further develop the understanding of how universities give back to society and enhance more circular interactions with their communities.

#### V.9. Area of engagement: Extended services

During the Special Session, universities presented alternative ways in which they contribute to their local communities and society as a whole. This was done by highlighting the provision of valuable extended services that may not always be visible or accounted for as USR.

#### Library and other resources

With social distance protocols and deadlocks in place, most facilities on campus were closed or saw their functions limited, hence universities had to find ways to ensure that access to those resources remained possible and safe.

Responses: 1) alternative ways to provide traditional services, 2) systematic and open online access to collections, archives, journals, and resources, and 3) extended periods of services, or virtual access. (Source: KU. See Table 1 on pages 334-5.)

# Museums and cultural facilities

Facility managers had to innovate to keep their doors open and identify solutions to continue offering cultural services while ensuring easy and safe access through new reservations systems or alternative ways to access to cultural venues, such as museums, and art or science galleries.

Responses: 1) making collections and resources available through virtual tours, 2) attractive online visits, 3) webinars to bring insights from university experts to people's homes, and 4) more efficient reservations systems for those facilities. (Source: KU, UoM. See Table 1 on pages 334-5.)

### Research centers and related facilities

Because of the pandemic, cooperative and international research was halted or fully canceled. Despite these disruptions, researchers remained accountable for their use of resources to their institutions and funding organizations. Universities responded by maintaining ongoing and new research projects while respecting social distancing guidelines, avoiding closure of labs and other research facilities, and minimizing logistical delays.

Research labs and facilities adapted mainly by going online, and by boosting more open policies and mechanisms to promote wider access to their research, their archives and academic resources and facilities through a rapid increase of online joint research, or virtual joint research.

Responses: 1) online services for communication and participation, 2) proactive support from research administrators, and 3) alternative ways to carry out research, for example through virtual fieldwork. (Source: KU. See Table 1 on pages 334-5.)

# Other facilities

Universities offered regular access to other facilities that normally make up for the quality of life on campus and beyond while respecting protocols and social distance. Universities developed new ways to ensure living conditions for students and researchers, for example through alternative housing options.

Responses: 1) reservation systems, time allotments to gyms and facilities, 2) flexible use of dorms, 3) expanding parking spaces to allow for more people to commute by car, 4) sharing facilities for alternative use such as venues for testing or vaccination, 5) identifying residential units to serve as self-quarantine, and 6) assigning places -gyms or parking lots- as venues for drive-through testing centers or field hospitals. (Source: KU, TU, UoH. See Table 1 on pages 334-5.)

The findings of this article indicate that policies related to universities' involvement in extended services call for a more systematic approach from university managers when considering preparedness for crises. Although universities were able to adapt and ensure the provision of their extended services, programmatic approaches and a stronger sense of readiness appears as a necessity when looking into the future of these services.

The Area of Engagement of Extended Services as has profound theoretical implications for the concept of USR and provides fertile ground for research. Institutional Entrepreneurship theory may explain how USR can catalyze universities to adapt institutional rules, procedures, and practices to enhance the social impact of these services. Despite of the pandemic-related challenges, or maybe because of them, universities acted as entrepreneurs, implementing new procedures to promote responsible programming and services. The Resource-based theory can be applied to demonstrate how USR strategies enhanced visibility and competitiveness, allowing universities to differentiate themselves and attract students, faculty, and funding.

# VI. Addressing gaps in the literature and contributions from the article

Organized as an inductive analysis, the article addressed both concrete examples of how universities responded to the pandemic and general questions referring to how COVID-19 impacted the understanding and implications of USR. Observations in the previous pages represent an invitation for action for university managers, academics and staff to reconsider the civic role of their institutions, and more importantly the kind of policy and programming required for USR to become a palpable reality.

The article contributes to the literature by enhancing understanding of USR and its practical applications. It provides a comprehensive overview of university policies and projects, highlighting innovative ways universities responded to the challenges presented by the pandemic, particularly beyond traditional academic work. It demonstrates how through USR related policy making, universities functioned as nodes and triggers for social change; for example, as they fostered awareness of the importance of COVID-19 protocols and vaccination.

The article shows that USR -when envisioned as an institutional strategyworks as a driving force for initiatives of this sort, and how social engagement of universities boosts students' and staff's sense of belonging in relation to their institutions, and their commitment to civil practices. In order to facilitate understanding and programming the article proposed a model of analysis as a transversal approach to USR that encourages future developments in the literature.

Through policymaking for USR, universities become key players as social nodes for public attitude change. Examples sprouting from the article refer to how higher education fostered the development and wider social awareness of COVID-19 protective protocols, vaccination procedures and distribution, and how that boosted understanding affected decision making as a more informed mechanism not only for this pandemic but for other emergencies too.

From the methodological point of view and based on universities' responses to the pandemic, the article offered an original framework of analysis that helps classify USR related initiatives in situations of crises or social distress; at the same time, it proposed an original approach to analyze qualitative data -universities' responses to the pandemic presented as narratives- and to quantify such data -policies and initiatives- to determine trends that reveal universities' priorities.

# VII. Conclusions

COVID-19 served as a new window for universities to revise their social engagements and to be a part of the solutions in the great picture of the calamity of the pandemic. The article offered instances of responses universities in the USRN implemented to address different challenges brought about by this global health emergency. Data confirms that even if USR is relative to each university's mission and priorities, there is also a shared sense of social responsibility among them; and it also corroborates that civic values permeate all aspects in the life of universities.

Although traditional views of USR limit its concept to education and research, the article demonstrates that non-academic responses largely surpassed academic ones in the context of the Special Session on Responses to COVID-19. Combined Education and Research represented 31.1% of all items reported, while remaining responses to the pandemic were classified as non-academic contributions. It is evident that all contributions were the result of a purposely made decisions from university managers and staff in the context of this crisis, they are also indicative of the need for a renewed and expanded understanding of the concept of USR.

The article highlighted the relation between kinds of responses to broaden the implications for universities to allow and cultivate alternative forms of engagement, particularly in areas that transcend academia. The fact that 69% of responses identified were non-academic challenges the traditional role of universities as *solely* giving back to society through education and research. Determining an ideal balance of academic and non-academic contributions is difficult, but the article demonstrates that universities should recognize the value and impact of non-academic engagements and encourage them as an essential part of their USR.

The information shared by universities in the MOOC provided examples of how the concept of USR is continually evolving, as they adapted their policies and responses to comply with principles such as creativity, scalability, responsiveness, glocality, and circularity. These principles are not just theoretical concepts, but are embedded within universities' practices, decision-making processes, management, and institutional culture geared to give back to society.

The article introduced a new framework of analysis to identify universities' Areas of Engagement before disasters. Visually presented as a pie chart, the framework indicated that 1) USR policies and initiatives sprang from every university as a common source; 2) these policies and initiatives were the result from rational decisions of managers to achieve their institutional vision; 3) Areas of Engagement were intrinsically connected and mutually influenced each other; and 4) each Area of Engagement offered possibilities for specialized forms of response.

Given the diversity of Areas of Engagement identified, the article serves as a platform from which to approach the potentials and the complexity of USR; offering valuable insights to managers and practitioners in the higher education sector to re-think ways to foster creativity, scalability, responsiveness, glocality, and circularity to their USR strategies. The article can also be a starting point to apply and further develop theoretical paradigms like the Human and Social Capital theories, the Institutional Entrepreneurship theories, or the Critical theory, among many.

The responses by these universities, interpreted as quantified efforts, provided an approach to understand how those efforts were decided, indicating the institutional priorities behind them. A clear trend in their responses to COVID-19 was the value attached to Research, which obtained the highest score as Area of Engagement (24%), followed by Outreach (18%) highlighting the level of priority given to cooperation with external stakeholders. The third noteworthy Area of Engagement was Support (14%), indicating the high level and wide engagement these universities had toward their internal and external communities and partners.

An important observation from the data was the fact that Areas of Engagement, such as Education, Support, Structural reform, and Extended services, were generated from a relatively small number of narratives, as compared to other areas such as Research, Outreach or Support. This piece of information should be understood in the context of both, the nature of the COVID-19 pandemic, and the kind of responses universities deemed more representative of their social engagements and USR strategies in this particular context.

#### VIII. Future research

Further research may cover but is not limited to areas where USR related approaches can produce social advancements. For example: 1) Development of new frameworks to assess measures to contain the pandemic or other disruptions related to risk management; 2) New responses and approaches from other universities or contexts may bring alternative areas of engagement or dimensions in the future; 3) Development of other frameworks to approach disaster mitigation based on the experience of universities beyond the USRN; and 4) Continue developing deeper and broader insights of the meaning and implications of USR not only as a policy, but also as a form of being.

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