

COVID-19 Pandemic: Management emergencies response and lesson learned from the Globe

Mufti Agung Wibowo^{1, 2, *}, Widodo¹, Aris Sugiarto², Estri Aurorina², Endah Sri Lestari², Laila Erni Yusnita²

¹Sultan Agung Islamic University (UNISSULA), Faculty of Economics, Department of Management, Semarang, Indonesia.

²Department of Health, Central Java Province, Indonesia

*Corresponding author

Received: 19 Oct 2021; Received in revised form: 25 Nov 2021; Accepted: 06 Dec 2021; Available online: 14 Dec 2021

Abstract— WHO released the COVID-19 Pandemic that hit at least 223 countries and territories and global confirmed cases reached nearly 103,631,793 people and 2.17% of them died. Countries such as China, America, Europe, Belgium, Taiwan and Brunei Darussalam, have made various ways and efforts to fight the COVID-19 pandemic, which can be taken as potential practices and lessons. This literature review aims to investigate best practices that can be learned in emergency response and handling of the COVID-19 pandemic from various global countries that can be taken as learning and common good. This study method is a literature review, by accessing several peer-reviewed literature articles between 2020 and 2021 related to emergency response and lessons learned of the COVID-19 Pandemic. Based on the literature review that has been analysed, practices and lessons learned in overcoming the COVID-19 pandemic can be identified, including: extensive public health infrastructure, establishment of temporary hospitals, effective isolation methods, increased social distancing, surveillance systems with digital technology, community involvement, and lock-down as a last alternative to inhibit the spread, as well as a crisis management approach from an Islamic perspective. It can be concluded that emergency response in decision making and policy is a very influential factor in the success of controlling the COVID-19 pandemic.

Keywords— lesson learned, COVID-19, emergency response, Islamic risk management.

I. BACKGROUND

In the past year, the world has been made helpless by the outbreak of the corona virus or known as the COVID-19 pandemic, which has spread in at least 226 countries and territories with the number of global positive confirmed cases of nearly 259,502,031 people and approximately 5,183,003 people died (www.covid19.go.id, Nov 28, 2021). The COVID-19 pandemic has opened up views that have so far not been thought of or done regarding aspects of health, social, economy, culture, defence and security, education, technology, human resource management, to the consequences of risk management.

As with best-practice from Wuhan, transmission from person to person is largely driven by interactions with anyone, which can differ by age and location of contact

(such as home, community, office and school). Under the context of the ongoing large-scale outbreaks, the contact patterns will extremely shift from their baseline conditions. In Wuhan's outbreak, physical and social distancing measures are not limited to closing schools, workplaces, public places, but health promotion also encourages the general public to avoid crowded places, which changes the mixed social interaction pattern in controlling the spread of the COVID-19 epidemic (Prem et al., 2020).

This article explores the emergency response from various global countries with a variety of ways, methods, responses, investigates best practices and lessons that can be learned in overcoming the COVID-19 pandemic, which can be taken as learning and common good, as well as crisis management approaches from an Islamic perspective.

II. METHODOLOGY

This type of research is a literature review, by accessing several peer-reviewed literatures in the period 2020-2021, books and other articles in English, related to emergency response and lessons learned from the COVID-19 Pandemic.

III. LITERATURE REVIEW

Referring to best practices or lessons learned from insufficient risk assessments regarding the narrow reporting of the virus, and the emergency situation in China has, in part, led to the wide spread of COVID-19 across to neighbouring countries, mainland China, and miles abroad. Compared to SARS and MERS, COVID-19 has spread faster, partly due to the focus of the epidemic and increasing globalization (Peeri et al., 2020). The world is joining hands in various ways and efforts to fight and stop the transmission of the COVID-19 virus. Potential best practices and lessons learned from different parts of the world can be taken as lessons learned and actions that may be applicable to almost similar situations and conditions.

Research Gharavi, Nazemi, and Dadgostari (2020) in a case study in six states of the United States through early detection of outbreaks for energetic crisis management using Twitter, it shows that Twitter data can be used as an early warning system to raise public awareness by providing a pandemic assessment that is close to the time of the outbreak. It perhaps be used as a policy support system for decision makers to respond to emergency, preventive and mitigation measures quickly and on time.

Goniewicz et al. (2020) has conducted research in Europe, conveyed that there is a need for strong coordination, with the availability of resources, political responsibility, the need for capacity building for education and training, especially in infectious diseases, disaster treatment and public health components included in the medical education curriculum, the need for closer collaboration with the military for effective resource distribution and sharing of information on global threats, population-based management and public education is one of the important pillars, as well as building shared awareness as a collaborative effort to overcome crises that involve across countries. Although the size of the application of social distancing strategies varies, this has proven to be the most important element in preventing the spread and reducing deaths from COVID-19.

Further research Jin, Lu, Liu, and Cui (2020) in China, the country of origin for the spread of cases, shows that all countries around the world can learn to find ways to handle the COVID-19 outbreak, through establishing temporary hospitals, strict isolation, increasing social

distancing, expert knowledge of COVID-19, and must be made emergency response system, cooperation and collaboration across countries in the face of a global pandemic.

Wong, Koh, Alikhan, Aziz, and Naing (2020) has conducted research in Brunei Darussalam, identified that the use of digital patient records on the surveillance system in the national health information management system database with nearly 100% penetration, makes it easy to disseminate information and risk communication activities that involve the participation of all components of the nation's children.

Van Den Oord et al. (2020) in the research conducted at the Antwerp Port Authority (APA) Belgium found evidence that the main network within the port community network assists in anticipating and mitigating actions in response to crises.

Furthermore, studies in Taiwan and New Zealand were conducted Summers et al. (2020) identified that in Taiwan, the considerable public health infrastructure established prior to COVID-19 allowed for a rapid coordinated response especially in initial screening, effective methods for quarantine or isolation, use of digital technology to identify suspect cases, and mass use of masks. Strong, timely, and rapid response, allowed Taiwan to avoid lock-down.

Meanwhile the study results Ren (2020) pointed out that the comparison between China, Italy and the US, regardless of their different political systems, the three countries remained on lockdown as a last effort to handle further damage caused by the slowed government response.

On the other hand, research Alves, Lok, Luo, and Hao (2020) regarding crisis management in Small and Medium Enterprises (SMEs) businesses in Macau during the COVID-19 outbreak it was identified that small companies have a high degree of flexibility in reacting to the crisis, given the lower bureaucracy and limited social responsibility, some small businesses have plans and a crisis strategy before the pandemic and is likely to have a longer experience and history in crisis management, as was the case with the COVID-19 pandemic shock of the past year, and need to think about investing in training, capacity building, and learning in crisis management.

Ratten (2020) find entrepreneurial ways to overcome the pandemic that combine several degrees of shared value creation, social innovation policies that incorporate social value creation together with social values, social entrepreneurship and creative strategies.

Study results Collins, Florin, and Renn (2020) presents ten recommendations designed to improve

preparedness to face the COVID-19 crisis, namely: first, addressing the risk at its source to kill the transmission of the COVID-19 virus. Second, immediately follow up on warnings as it is known that the global outbreak has been forecasted but not be sufficiently prepared. First lesson that can be learned is to analyse international and national risk assessments. Second, consider the role of technology. Third, pay attention to the trade-offs of risks, however, steps taken to overcome the risk of pandemics are likely to have unpredictable consequences. Fourth, invest in resilience that focuses on the elements of adaptive management, redundancy, and diversity. Fifth, concentrate on key points in the emergency fund system to provide incentive to influenced parties. Sixth, strengthen the relationship between science and policy. Seventh, building state capacity. Furthermore, establishing communication and risk information units tasked with rapid response once a potential crisis emerges. And finally, taking advantage of today's social disruptions, forcing many organizations and people to experiment with new way of life and work.

In an Islamic perspective, there are at least four main axes that form Islamic management (Al Eid & Arnout, 2020). First, the critical management stage, as in the story of the prophet Noah (QS. Nuh x: x) through actions of warning, awareness, advice, patience, not being lazy, and not giving up. Then crisis management strategies in Islam include: patience, teamwork, isolation, positive outlook, planning ahead. Furthermore, the characteristics of leaders in crisis management, namely personal, mental and social characteristics. And finally, the role of leaders in crisis management in determining the direction of goals, providing information and making policies.

The risk management process is implemented by Nabi Yusuf AS through the stages of risk understanding, evaluation and measurement, and risk management. This is described in the Qur'an, Surat Yusuf: 46-49. (When the servant met Yusuf, he exclaimed): "Yusuf, O very trusted

man, explain to us about the seven fat cows which were eaten by seven skinny cows and seven heads (of wheat) green and (seven) others that are dry so that I will return to the people, that they may know. Yusuf said: "So that you plant seven years (length) as usual; then let it roll out what you reap, except a little for you to eat, and after that there will come seven very difficult years.

Risk management is implied in the letter Lukman: 34 "Verily Allah, Only by His side is knowledge of the Day of Judgment; and it is He who makes the rain, and knows what is in the womb. and no one can know (with certainty) what he will work on tomorrow. and no one can know where on earth he will die. Indeed, Allah is All-knowing, Most-Knowing. (Surat Lukman: 34). In the Al-Qur'an chapter Lukman verse 34, Allah SWT expressly states that, no one in this universe can know for sure what he will work on tomorrow or what he will get, so that with this teaching all human beings are ordered to invest as provisions the world and the hereafter. As well as being obliged to strive so that unexpected events do not have an impact on fatal damage to them, this is part of mitigating risk.

In the hadith it is also told, one of the companions of the Prophet Muhammad who left his camel without being tied to anything, such as trees, posts, etc., then left his camel. He asked: "Why don't you tie it?" He replied: "I have put my trust in Allah." Rasulullah SAW could not agree with that person's way of thinking, then said, "Tie it first then put your trust". In short tawakkal without prior effort is wrong and wrong according to the Islamic view. As for the purpose of tawakkal ordered by the religion is to surrender to Allah after trying and trying and working properly. For example, putting a bicycle in front of the house, after locking it properly, then putting a tawakkal. This means that if after being locked it is still missing, for example stolen, then in the view of religion that person is not guilty, because he has done an effort so that he does not lose it. The meaning of tawakal is defined as risk management.

Table 1. Review of lessons learned articles and best practices in handling COVID-19.

Researcher Name, Year	Research Title	Research purposes	Result
Gharavi et al. (2020)	Crisis and disaster management in the light of the Islamic approach: COVID-19 pandemic crisis as a model	To observe Twitter posts related to the COVID-19 pandemic discloses common symptoms of COVID-19 including fever and cough, located in the US.	Tweet posts that contain common symptoms of COVID-19 have a strong correlation with the official CDC data, where the trend of tweets provides a closely real-time assessment of the outbreak. This can be used as an early warning system to increase public awareness, and can be used as decision-making system as information for policy makers to take timely mitigation and prevention actions.

Goniewicz et al. (2020)	Current Response and Management Decisions of the European Union to the COVID-19 Outbreak: A Review	It focuses on the early response of the European Union to the COVID-19 outbreak, how did the European processing and analyse global information arising from China, followed by population-based treatment, covering a tight social-physical distancing strategy, contact tracing and testing, antigens and antibodies testing, isolation, and finally vaccines.	Strong leadership capable of making quick and accurate decisions based on limited information is an essential part of disaster management, and is required at all levels of management from local to national and international. Decisions must be made for the sake of public health, not because of political or economic interests. Although the measures of social distancing strategies vary, are inconsistent, and are late in many circumstances, these SDS have proven to be the most important element in preventing the spread and reducing mortality.
Jin et al. (2020)	COVID-19 emergencies around the globe: China's experience in controlling COVID-19 and lessons learned.	What actions has China taken to contain the pandemic? What lessons has China learned through this pandemic?	Experience from China, that building emergency hospitals, tight isolation, provide experts who have knowledge of COVID-19, and promote measures to improve social-physical distancing are the keys to dealing with the pandemic. Furthermore, each country must be established an early warning system. It is believed that by working hand-by-hand together, the current difficulties can be overcome together.
Wong et al. (2020)	Responding to COVID-19 in Brunei Darussalam: Lessons for small countries	It reviews Brunei's responses on three thematic areas and proposes lessons for other small countries.	Recommends that small countries take advantage of the ease of information dissemination and investing in risk communication that involves the whole community. Brunei has succeeded in leveraging its small population for effective incident management, surveillance and testing and communications strategies.
Van Den Oord et al. (2020)	Network of networks: preliminary lessons from the Antwerp Port Authority on crisis management and network governance to deal with the COVID - 19 pandemic.	Findings regarding network governance and crisis management for review on current network design and governance in organizations affected by the COVID-19 pandemic.	Evidence was found that the management of the Belgian Port Authority (APA) main network in the port community network is helping to deal with anticipatory and mitigating actions in response to the crisis.
Summers et al. (2020)	Potential lessons from the Taiwan and New Zealand health responses to the COVID-19 pandemic.	Examining the success of two jurisdictions: Taiwan and New Zealand in eradicating COVID-19 in the approach period to August 2020.	The success of Taiwan's response in handling COVID-19 reflects pre-COVID-19 preparation for the outbreaks with an infrastructure and national public health agency dedicated to supporting the coordination of key functions. The coordinated rapid response is mainly in initial screening, effective methods for quarantine or isolation, use of digital

			technology to identify potential cases, and mass use of masks. The prompt, rapid, strong and timely response allowed Taiwan to prevent a national lock-down.
Ren (2020)	Pandemic and lockdown: a territorial approach to COVID-19 in China, Italy and the United States	To compare between China, the US and Italy on how lockdown orders have been implemented.	Despite divergent political systems in Italy, China, and the United States, they remain on lockdown as the last option. They found themselves with no other choice to order public community to stay home.
Alves et al. (2020)	Crisis management for small business during the COVID-19 outbreak: Survival, resilience and renewal strategies of firms in Macau.	Study provides a qualitative analysis of small businesses in Macau, during pandemic of COVID-19.	Small companies have a high degree of flexibility in reacting to crises, given their lower bureaucracy and limited social responsibility, have formal emergency plans and strategies before the outbreak and tend to have an experience, expertise, and long history, in handling crises, as well as the COVID-19 pandemic shock.
Ratten (2020)	Coronavirus and social value co-creation.	To understand how outbreak has resulted in an increase the level of social value creation aimed at generating innovative values for societies.	An entrepreneurial way to overcome the crisis that combines several degrees of shared value creation, social innovation policies that incorporate social value creation together, social entrepreneurship and creative strategies, as a way to understand differences among community around the Globe.
Collins et al. (2020)	COVID 19 risk governance: drivers, responses and lessons to be learned.	Take into account the key factors in the outbreak of a crisis, and the lessons to be adopted from them.	It is immature to determine the practical to be learned from the COVID-19 pandemic. It is time to determine what should be priorities, including: managing risk at its source, following up on warnings, considering the role of technology, paying attention to risk trade-offs, focusing on key points, strengthening the relationship between science and policy, building state capacity, communicating more closely. well, and ponder current social distractions to consider what might be desired in the long term.

IV. CONCLUSION

Practical and learning potential for emergency responses from various global countries such as the United States, Europe, China, Brunei Darussalam, Macau, and Taiwan in handling the COVID-19 pandemic can be learned, such as: first, rapid response in following up early warning of global infectious disease outbreaks which has been predicted by reviewing national and global risk assessments for timely mitigation and prevention. Second, social distancing with varying measures of strategy, inconsistency, and delay in many circumstances, these

Social Distance Strategies have proven to be the most important elements in preventing the spread and reducing cases of death. Third, building emergency hospitals, tight isolation, provide experts who have knowledge of COVID-19, and promote measures to increase social distancing is key to dealing with the COVID-19 pandemic in China. Fourth, effective incident management, testing surveillance, and communication strategies, proved to be effective in low population countries such as Brunei Darussalam. Fifth, coordinated rapid response especially in initial screening, effective methods for quarantine or isolation, use of digital

technology to identify potential cases, and mass use of masks, are key elements in Taiwan. Sixth, lockdown is the last intervention effort that can slow transmission, by ordering residents to stay at home. Seventh, crisis management in the main network in the port community network helps in handling anticipation and mitigation actions in response to crises. Eighth, Small and Medium Enterprises (SMEs) tend to have high flexibility and longer experience in dealing with crises. Furthermore, entrepreneurship efforts can overcome the COVID-19 crisis by combining several degrees of shared value creation including social innovation policies that incorporate social value creation, social entrepreneurship and creative strategies. And finally, from an Islamic perspective, emergency risk response through conscious action, patient, mutual advice, teamwork, isolation, preventive action, positive outlook, advising each other to share information and insight into future planning.

V. AUTHORS CONTRIBUTION

All authors contributed toward data analysis, drafting and revising the paper, and agree to be accountable for all aspects of the work.

ACKNOWLEDGEMENT

Authors would like to acknowledge to thank very much the Central Java provincial government.

REFERENCES

- [1] Al Eid, N. A., & Arnout, B. A. (2020). Crisis and disaster management in the light of the Islamic approach: COVID-19 pandemic crisis as a model (a qualitative study using the grounded theory). *Journal of Public Affairs*, 20(4), e2217.
- [2] Alves, J. C., Lok, T. C., Luo, Y., & Hao, W. (2020). Crisis management for small business during the COVID-19 outbreak: Survival, resilience and renewal strategies of firms in Macau.
- [3] Collins, A., Florin, M.-V., & Renn, O. J. J. o. R. R. (2020). COVID-19 risk governance: drivers, responses and lessons to be learned. 23(7-8), 1073-1082.
- [4] Gharavi, E., Nazemi, N., & Dadgostari, F. J. a. p. a. (2020). Early outbreak detection for proactive crisis management using twitter data: Covid-19 a case study in the us.
- [5] Goniewicz, K., Khorram-Manesh, A., Hertelendy, A. J., Goniewicz, M., Naylor, K., & Burkle, F. M. J. S. (2020). Current response and management decisions of the European Union to the COVID-19 outbreak: a review. 12(9), 3838.
- [6] Jin, H., Lu, L., Liu, J., & Cui, M. J. I. J. f. Q. i. H. C. (2020). COVID-19 emergencies around the globe: China's experience in controlling COVID-19 and lessons learned.
- [7] Peeri, N. C., Shrestha, N., Rahman, M. S., Zaki, R., Tan, Z., Bibi, S., . . . Haque, U. (2020). The SARS, MERS and novel coronavirus (COVID-19) epidemics, the newest and biggest global health threats: what lessons have we learned? *Int J Epidemiol*. doi:10.1093/ije/dyaa033
- [8] Prem, K., Liu, Y., Russell, T. W., Kucharski, A. J., Eggo, R. M., Davies, N., . . . Hellewell, J. (2020). The effect of control strategies to reduce social mixing on outcomes of the COVID-19 epidemic in Wuhan, China: a modelling study. *The Lancet Public Health*. doi:10.1016/s2468-2667(20)30073-6
- [9] Ratten, V. (2020). Coronavirus (covid-19) and social value co-creation. *International Journal of Sociology Social Policy*.
- [10] Ren, X. (2020). Pandemic and lockdown: a territorial approach to COVID-19 in China, Italy and the United States. *Eurasian Geography Economics of Planning*, 61(4-5), 423-434.
- [11] Summers, J., Cheng, H.-Y., Lin, H.-H., Barnard, L. T., Kvalsvig, A., Wilson, N., & Baker, M. G. J. T. L. R. H.-W. P. (2020). Potential lessons from the Taiwan and New Zealand health responses to the COVID-19 pandemic. 100044.
- [12] Van Den Oord, S., Vanlaer, N., Marynissen, H., Bruggemans, B., Van Roey, J., Albers, S., . . . Kenis, P. J. P. A. R. (2020). Network of networks: preliminary lessons from the Antwerp Port Authority on crisis management and network governance to deal with the COVID-19 pandemic. 80(5), 880-894.
- [13] Wong, J., Koh, W. C., Alikhan, M. F., Aziz, A. B. A., & Naing, L. J. J. o. g. h. (2020). Responding to COVID-19 in Brunei Darussalam: Lessons for small countries. 10(1).
- [14] Hellewell, J., Abbott, S., Gimma, A., Bosse, NI, Jarvis, CI, Russell, TW, Van Zandvoort, K. (2020). Feasibility of controlling COVID-19 outbreaks by isolation of cases and contacts. *The Lancet Global Health*. doi: 10.1016 / s2214-109x (20) 30074-7
- [15] Ayebare, RR, Flick, R., Okware, S., Bodo, B., & Lamorde, M. (2020). Adoption of COVID-19 triage strategies for low-income settings. *The Lancet Respiratory Medicine*. doi: 10.1016 / s2213-2600 (20) 30114-4
- [16] Ana Paula Beck da Silva Etges & Marcelo Nogueira Cortimiglia (2017): A systematic review of risk management in innovation-oriented firms, *Journal of Risk Research*, DOI: 10.1080 / 13669877.2017.1382558.
- [17] Max Roser, Hannah Ritchie, Esteban Ortiz-Ospina and Joe Hasell (2020) - "Coronavirus Pandemic (COVID-19)". Published online at OurWorldInData.org. Retrieved from: 'https://ourworldindata.org/coronavirus' [Online Resource]