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Perceptions of Key Challenges in Non-Conventional Transboundary Crisis Response Management by Public Authorities in Malaysia: A COVID-19 Case Study

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ABSTRACT

Malaysia's response to the COVID-19 pandemic, a non-conventional transboundary crisis, revealed significant inefficiencies, with disproportionately high cases and fatalities compared to similar nations. This study examines the challenges faced by public authorities in managing such crises, focusing on four Malaysian agencies and insights from five senior officials. Through semi-structured interviews, the research identifies six critical barriers: poor leadership, ineffective communication, inadequate IT infrastructure, weak data governance, and rigid policy frameworks. These findings highlight concerns about Malaysia's crisis management system, particularly its limited operational capacity to address complex emergencies. The study offers valuable implications for policymakers, emphasizing the need to strengthen governance structures and address systemic weaknesses to improve future non-conventional transboundary crisis response.

1. Introduction

The COVID-19 pandemic, a non-conventional transboundary crisis officially designated a global crisis by the World Health Organization (WHO) on 11 March 2020 (Cucinotta & Vanelli, 2020), has profoundly reshaped the global landscape. It has inflicted severe losses on both international and national levels, disrupting healthcare systems, economies, and societal structures (Martínez-Córdoba et al., 2021). As of May 6, 2023, over 687 million people worldwide contracted the virus, resulting in nearly 6.9 million deaths. In Malaysia alone, 2.76 million cases and 31,462 fatalities were recorded (Worldometers.info).

A non-conventional transboundary crisis is characterised by its ability to transcend traditional boundaries, be they geographical, institutional, sectoral, or jurisdictional, while defying established crisis typologies and management frameworks. These crises are typically unpredictable, escalate rapidly, and involve a multitude of actors whose roles and responsibilities are often ambiguous, complicating coordination and response efforts. Boin (2019) define a transboundary crisis as "A crisis that effortlessly exceeds geographical, policy, cultural, public-private, and legal boundaries that normally enable public

managers to classify, contain, and manage a crisis. It escalates rapidly and mutates constantly, creating confusion about causes and possible consequences."

Notable examples include the global financial meltdown, volcanic eruptions that disrupt international air travel, climate change and pandemics such as COVID-19. Such events expose the limitations of conventional, bureaucratic, and nation-centric crisis management models, underscoring the urgent need for innovative, adaptive, and cross-sectoral approaches to governance and response (Blondin & Boin, 2020).

Governance, understood as both institutional architecture and operational processes, has emerged as a pivotal force in managing crises. Effective governance ensures coordinated action across sectors and institutions (Christensen et al., 2016; Scott & Nowell, 2020). In the context of COVID-19, robust governance capacity characterised by sound structural design, strategic resource allocation, and efficient implementation has been directly linked to lower mortality rates and improved containment outcomes (Ansell et al., 2021; Assefa et al., 2022; Christensen & Ma, 2018). Strengthening institutional frameworks and operational mechanisms is therefore essential to mitigating the pandemic's impact (Ali et al., 2021; Mustafa, 2025; Baris & Pelizzo, 2020).

Countries have adopted a wide array of prevention and control strategies, shaped by factors such as healthcare system readiness, demographic profiles, population density, testing capabilities, and sociopolitical contexts (Alanezi et al., 2020; Tripathi et al., 2020; El-Gilany et al., 2022). Before the widespread availability of vaccines, these variables contributed to significant variation in governmental responses. Crucially, the effectiveness of response management hinged on the ability of public authorities to identify and address key governance challenges. Strengthening this capacity is vital to enhancing crisis response outcomes.

To bolster preparation for future crises, it is essential to pursue continuous, structured reform of crisis management systems and promote international collaboration. A reform is particularly urgent in light of emerging transboundary threats such as pandemics and cyber-attacks (Ansell et al., 2010; Boin et al., 2020). Developing a comprehensive, forward-looking governance framework is no longer optional; it is a necessity, as many nations remain vulnerable to unconventional crises, with significant human and financial costs (Clark et al., 2022). A comprehensive framework must focus on every factor that contributes to enhancing effectiveness, as well as to anticipate the challenges ahead that would halt the governance in the implementation process.

This study investigates the key challenges that undermine the effectiveness of COVID-19 response management in Malaysia. Addressing these obstacles is critical to enhancing the country's capacity to manage future transboundary crises, including pandemics.

2. Literature Review

The COVID-19 pandemic severely disrupted Malaysia's key economic sectors, including tourism, travel, manufacturing, construction, mining, and agriculture. Within the first two months of 2020, the country suffered an estimated loss of RM3.37 billion (Dzulkifly, 2020). The forced closure of businesses led to widespread financial strain, with many companies facing permanent shutdowns (Cheng, 2020). This economic downturn resulted in mass layoffs and forced many employees into unpaid leave (Murugiah, 2020), highlighting the pandemic's devastating impact on livelihoods and national productivity.

In response, the Malaysian government swiftly established a centralised, multi-ministerial coordination body, the COVID-19 Special Meeting. This council was led by the National Security Council (NSC) and advised by the Ministry of Health (MOH), mirroring the structure of a national disaster management committee under NADMA. The council facilitated collaboration with non-governmental organisations and private entities to ensure a coordinated and effective response (Mohd Arif & Choo Ta, 2022). Concurrently, the MOH activated the National Crisis Preparedness and Response Centre (CPRC) in January 2020 to monitor daily infection trends and coordinate healthcare efforts nationwide (Muhammad Nur Amir et al., 2021).

To cushion the economic blow, the government introduced a RM20 billion stimulus package in February 2020, focusing on three key strategies: mitigating the impact of COVID-19, promoting people-

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centric economic growth, and attracting quality investments (Shah et al., 2020). This was followed by a larger RM250 billion packages in March 2020, aimed at strengthening the economy and supporting public health efforts. A significant portion of the budget was allocated to the MOH for purchasing ventilators, personal protective equipment (PPE), and hiring 2,000 nurses on a contract or volunteer basis to reinforce the frontlines (Tang, 2020).

Before vaccines became available, Malaysia relied on non-pharmaceutical interventions to curb the virus's spread. These included social distancing, bans on mass gatherings, mandatory quarantines, and health screenings at all entry points using thermal scanners (Syed Jaafar, 2020). These measures extended to airline crews and MOH personnel (Kaos, 2020). The government also leveraged digital tools to enhance response efficiency, launching four key applications DoctorOnCall, Gerak Malaysia, MySejahtera, and MyTrace, with MySejahtera becoming the most widely adopted platform for public health monitoring (Mohd Arif & Choo Ta, 2022).

To expand healthcare capacity, the government collaborated with the university and the Ministry of Defence hospitals (The Edge Markets, 2022). Temporary facilities were set up at Malaysia Agro Exposition Park Serdang (MAEPS), public halls, and indoor stadiums to treat low-risk patients, ensuring adequate space and resources during peak infection periods.

Faced with rising daily cases, Malaysia enforced a nationwide lockdown beginning 18 March 2020 under the Movement Control Order (MCO). This strict measure continued through seven phases until 31 December 2020, with each phase tailored to the outbreak's severity. The initial phases saw the most stringent restrictions, reflecting the government's commitment to containing the virus (Povera & Harun, 2020).

However, all efforts proved to be futile when Malaysia's decision to hold the Chini by-election and Sabah state election during the COVID-19 pandemic raised serious concerns about the credibility of its crisis governance. These events were linked to a surge in infections and deaths, particularly after the Sabah election in September 2020, which triggered a nationwide spike in 2021 (Lai et al., 2022; Rahman, 2022). Similar trends were observed globally, with most countries experiencing increased cases within the virus's 14-day incubation period following elections (Mathiaparanam, 2020). Evidence suggests that political and business leaders' actions or negligence amplified the spread, ignoring scientific warnings (Wilson, 2020). Inconsistent SOP enforcement and double standards in punishment further eroded public trust, exposing systemic weaknesses in Malaysia's pandemic response (Loong & Wan Usamah, 2022).

El-Gilany et al. (2022) identified several key challenges in managing the COVID-19 crisis. These include the overwhelming burden on healthcare personnel, who were unable to manage the surge in cases (Phua et al., 2020); limited feasibility of conducting epidemiological research due to remote work arrangements that restricted face-to-face interactions (Moraes et al., 2020); and pronounced health disparities both within and across countries, particularly affecting socioeconomically disadvantaged populations (Van Dorn et al., 2020). Moreover, protective measures were often implemented without adequately considering vulnerable groups, such as the underprivileged (Bambra et al., 2020). The crisis was further exacerbated by a lack of comprehensive social, health, and economic data (Reuters, 2020) and by the emergence of an "infodemic", a proliferation of misleading or false information across physical and digital platforms, which undermined public trust in health authorities and weakened public health efforts (Constantinou et al., 2020). Alarmingly, some of this misinformation gained widespread acceptance among the general population (Bhanot et al., 2021).

Other studies emphasise that during such crises, effective governance, particularly the structure and functionality of governance systems, is fundamental to building resilient response mechanisms. Governance, conceptualised as both a structural framework and a dynamic process, is essential for ensuring coordinated institutional action (Christensen et al., 2016; Scott & Nowell, 2020). The dual pillars of capacity and legitimacy are widely recognised as critical to successful crisis management. In the context of COVID-19, enhanced governance capacity defined by robust institutional structures, strategic resource allocation, and effective implementation has been associated with lower mortality rates and improved containment outcomes (Ansell et al., 2021; Assefa et al., 2022; Christensen & Ma, 2018). Strengthening

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institutional systems, structures, and processes is therefore vital to mitigating the pandemic's impact (Ali et al., 2021; Mustafa, 2025; Baris & Pelizzo, 2020).

Further research suggests that national resilience is closely tied to the presence of adaptive and well-integrated governance frameworks (Chien & Lin, 2020; Demiroz, 2017). To enhance preparedness for future crises, crisis management systems must undergo continuous, structured reform and foster international collaboration. This is particularly urgent in the face of emerging transboundary threats such as pandemics and cyber-attacks (Ansell et al., 2010; Boin et al., 2020). The development of a comprehensive, forward-looking governance model is now essential, as many nations remain inadequately equipped to handle unconventional crises—despite the evident human and financial costs (Clark et al., 2022).

While existing research has broadly examined COVID-19 crisis management, providing governments with valuable insights for future response strategies, a critical gap remains. These studies often focus on general crisis management challenges without sufficiently addressing the structural and institutional limitations within governance systems themselves. A deeper understanding of these internal governance challenges is necessary to strengthen future crisis response frameworks.

3. Methodology

This research adopted a qualitative case study methodology, relying primarily on interviews to investigate governance aspects of Malaysia's COVID-19 response. Informed by the methodological frameworks of Stake (2000), Yin (2003), and Denzin & Lincoln (2005), the study employed a descriptive, narrative-based design that facilitated a deep exploration of particular events within their real-life settings (Lichtman, 2010; Creswell, 2003, 2009). Between 2021 and 2023, interviews were conducted with five informants across four key public agencies, offering rich, contextual insights into structural and procedural strategies employed during the crisis. These agencies include the National Disaster Management Agency (NADMA), the Ministry of Health (MOH), the National Security Council (NSC), and the Prime Minister's Department (PMD).

The informants are all public officials possessed between six and twenty-five years of experience in crisis management, encompassing areas such as flood response, haze mitigation, and public health emergencies. Their extensive backgrounds provided valuable perspectives on the operational and governance-related dimensions of pandemic response.

During the interviews, participants were asked to reflect on the concept of good governance in the context of COVID-19 response management, as well as to identify specific challenges that impeded effective implementation. The central interview question was:

- What are the main barriers to effective governance in COVID-19 response management? Based on your professional experience, what do you consider the key challenges that hinder a successful response?

This study employs purposeful sampling, a strategy designed to deliberately select participants who can offer deep insights into the research problem and central phenomenon (Creswell, 2013). According to Miles and Huberman (1994), this approach identifies individuals best positioned to answer the research questions, while Patton (2015) emphasises the importance of selecting information-rich cases. The sampling focused on a clearly defined unit of analysis: key authorities involved in managing the COVID-19 response. The goal was not to generalise findings to a broader population, but rather to explain, describe, and interpret the phenomenon in depth (Maxwell, 2013). Thus, the emphasis was placed on information richness rather than representativeness. As Morse and Field (1995) assert, appropriateness and adequacy are critical in qualitative sampling.

Determining the appropriate sample size in qualitative research is often guided by judgment and experience, particularly in assessing the quality of information relative to its intended use (Sandelowski, 1995, p.183). Creswell (2013) outlines sample size recommendations across five qualitative approaches:

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narrative research, phenomenology, grounded theory, ethnography, and case study, suggesting that the case study approach typically involves no more than four to five participants.
Given the absence of strict guidelines for sample size in qualitative studies using purposeful sampling (Guest et al., 2006; Merriam, 2009; Hennink & Kaiser, 2022), this research adopted data saturation as the benchmark for adequacy. Following Creswell's (2013) guidance, the study included five informants, with saturation serving as the justification for this number.

Achieving saturation is a vital element of qualitative research and is often highlighted as a means to ensure research rigour (Morse, 2015). This study has achieved data saturation during the process of data collection. Data was collected through individual interviews, starting with the agency that coordinated the first COVID-19 Special Meeting. Each interview involved transcription, member checking, initial coding, and follow-up discussions to ensure clarity and depth. This process was consistently applied to all five informants. Saturation, where no new themes emerged, was reached after the fourth interview, yet the fifth was conducted as planned and confirmed saturation. The uniformity among informants, all crisis managers focused on mitigating COVID-19's impact, contributed to this outcome.

Case studies offer a powerful means of analysing processes within distinct social contexts, with their rich narratives enhancing the reliability of findings (Gustafsson, 2017). The data analysis for this study followed a meticulous procedure of tagging, coding, and theming interview transcripts using ATLAS.ti, enabling structured integration of viewpoints and revealing key factors related to climate and effectiveness that shaped a framework for handling complex, transnational crises such as COVID-19.

4. Results

Several factors impeded the effectiveness of non-conventional transboundary crisis response management, particularly in the case of COVID-19. Addressing these barriers, whether explicitly recognised or not, was essential. The crisis response did not consistently align with the principles of good governance, underscoring the need for enhanced governmental capacity and interorganizational collaboration (Demiroz, 2017). Most informants acknowledged that substantial improvements were needed in both areas.

Despite these challenges, interviews revealed several positive aspects of Malaysia's COVID-19 response. Notably, the government demonstrated an adaptive approach, leveraging existing governance structures even though these frameworks were not originally designed to manage non-conventional transboundary crises such as pandemics. Nevertheless, informants consistently identified key obstacles that hindered effective response management, including poor leadership, inefficient communication, ambiguous policies, deficiencies in information technology, weak data governance, and inflexible policy frameworks.

COVID-19 presented an unprecedented challenge, requiring leaders to make critical decisions with limited data and uncertain outcomes. In contexts marked by poor leadership, the absence of clear goals and strategic vision often led to ineffective crisis management (van Diggele et al., 2020). Competent leadership was essential to mitigate the crisis and prevent further complications. However, internal conflicts among leaders of key agencies frequently obstruct responsive and accurate decision-making. A strong, decisive leadership presence could have significantly improved the situation.

Before the development of effective vaccines, Malaysia relied on non-pharmaceutical interventions such as physical distancing, stay-at-home orders, and quarantine protocols. However, widespread non-compliance with these standard operating procedures (SOPs) not only among the public but also among political leaders undermined their effectiveness (Yunus, 2020). During state elections, for example, many politicians gathered in large groups with their supporters, violating basic SOPs such as avoiding mass gatherings, maintaining physical distance, and wearing masks. Although elections were permitted during the pandemic, strict adherence to SOPs was expected from both political figures and the public.

The pandemic also introduced unprecedented levels of uncertainty, fear, and anxiety. For the first time, crisis communication unfolded within the context of an "infodemic", a deluge of information that included fake news, misinformation, and disinformation (Adekoya & Fasae, 2021). Such misinformation

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promoted behaviours that exacerbated the spread of the virus and, in some cases, became widely accepted by the public (Bhanot et al., 2021). The proliferation of misleading information across physical and digital platforms eroded trust in healthcare authorities and weakened public health initiatives (Orso et al., 2020).

In this environment, effective communication between the government and the public was critical to reducing panic, promoting appropriate behaviours, and disseminating accurate information. Timely and transparent communication was essential for building trust, demonstrating empathy, and enhancing institutional capacity (Sauer et al., 2021). The lead crisis agency should have established robust risk communication strategies to convey updates on policies, treatments, vaccines, and other relevant developments. Clear and consistent messaging was also necessary to prevent panic buying and food insecurity resulting from widespread unemployment.

Another major challenge was the ambiguity and complexity of policies, which were often difficult for citizens and even enforcement officers to interpret. Miscommunication among enforcement teams led to inconsistent understanding and implementation of SOPs. Given the unprecedented nature of the crisis, many individuals encountered unfamiliar and complex issues that were difficult to navigate.

Information technology (IT) capacity emerged as a critical factor in enhancing policy effectiveness. However, this aspect was frequently overlooked. One informant noted that although a system was in place, it was largely manual and lacked the efficiency and scalability required during the pandemic. Inadequate computer systems and network infrastructure hindered the ability to compile, analyse, and utilise vast amounts of data for informed decision-making.

Poor data governance further slowed response efforts. A robust and user-friendly data management system was needed to streamline operations and ensure timely access to critical information. Instead, reliance on manual processes and data duplication created inefficiencies that obstructed responsive crisis management.

Bureaucracy, an inherent feature of government agencies, posed additional challenges. While bureaucratic structures characterised by hierarchy, rules, and specialisation function effectively under normal conditions, they proved incompatible with the urgency of the COVID-19 crisis. The procurement of essential health equipment such as gloves, face masks, ventilators, and personal protective equipment (PPE) was vital to reducing transmission and protecting frontline workers (Ranney et al., 2020; Cook, 2020; Chand et al., 2021). Accelerated procurement processes were needed to ensure the timely delivery and deployment of these resources.

Under standard procurement procedures, governments typically pay for goods upon delivery. However, during the pandemic, suppliers demanded upfront payment due to limited production and high global demand. This shift gave financially prepared countries a distinct advantage, as they were better positioned to secure scarce resources in a competitive international market.

5. Discussion and Recommendation

Insights from the interviews indicate that informants were forthcoming in discussing the key challenges within the governance structure of Malaysia's COVID-19 response management. At the same time, their perceptions of governance implementation varied; most acknowledged that the response represented the best effort under the circumstances yet emphasised that there remains substantial room for improvement. A recurring concern among informants was the need to strengthen multiple elements of the governance framework to enhance the effectiveness of future crisis responses.

Challenges such as ineffective leadership, inadequate communication, poor data governance, and deficiencies in information technology were frequently cited. These issues are not unique to pandemic response; they are longstanding concerns in both crisis management and routine public sector operations. However, despite their persistence, they have yet to be adequately addressed. The informants' perspectives, aligned with findings from the literature review, are summarised in Table 1 below.

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Table 1: Critical Governance Challenges in Pandemic Response

No.	Key Challenges	Perceptions
1.	**Poor Leadership**	Effective leadership was essential to managing the COVID-19 crisis and mitigating its impact. A competent leader was expected to navigate the complexities of the situation, make timely decisions, and prevent further complications. However, the anticipated outcomes did not materialize, largely due to significant conflicts among leaders of key agencies. These internal disagreements impeded responsive and accurate decision-making. Informants emphasized that a strong and decisive leadership presence could have significantly improved crisis management outcomes.
2.	**Inefficient Communication**	The pandemic generated widespread uncertainty, fear, and anxiety among the population. In such circumstances, clear and consistent communication was critical to reducing panic and promoting appropriate behavioural responses. Informants noted a lack of anticipation among certain agencies in fulfilling their roles during the emergency, attributing this shortfall to an absence of proactive effort and limited capacity to foresee emerging challenges.
3.	**Ambiguous Policy**	To guide public behaviour during the crisis, a series of special policies were introduced outlining permissible and prohibited actions. However, ineffective communication led to widespread misunderstandings, misapplication of directives, and failure to achieve intended policy outcomes.
4.	**Information Technology Deficiency**	Technological limitations also posed a significant barrier to effective governance. The existing computer systems and network infrastructure were inadequate, hindering the ability to compile, analyse, and utilize vast datasets essential for informed decision-making. Informants highlighted that data played a critical role in shaping policy and operational responses during the pandemic. Yet, reliance on manual data management systems remained a persistent challenge, undermining the efficiency and responsiveness of crisis management efforts.
5.	**Poor Data Governance**	Informants highlighted that data played a critical role in shaping policy and operational responses during the pandemic. Yet, reliance on manual data management systems remained a persistent challenge, undermining the efficiency and responsiveness of crisis management efforts.
6.	**Inflexible Policy**	Policy frameworks particularly standard government procurement procedures struggled to meet the urgent demands of COVID-19 response management. The rigidity of conventional procurement practices proved incompatible with the fast-paced and high-stakes nature of the crisis, necessitating more agile and adaptive approaches.

To enhance the effectiveness of response management for future non-conventional transboundary crises, it is imperative that the government proactively and consistently addresses the weaknesses identified during the COVID-19 pandemic. Strengthening these areas will ensure that all personnel involved in crisis response clearly understand the objectives and can execute implementation processes efficiently.

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Leadership capacity must be reinforced by providing leaders with greater exposure to crisis scenarios, thereby improving their decision-making abilities under pressure.

Moreover, agencies tasked with crisis communication must be adequately prepared to anticipate and respond to the communication demands of similar emergencies. Policies developed during crises should be designed with flexibility and clarity, taking into account diverse scenarios to minimise confusion among both the public and enforcement personnel.

The pandemic has undeniably transformed operational practices, accelerating the integration of technology into public sector workflows (Sein, 2020). In response, the government should prioritise the enhancement of information technology infrastructure, including internet connectivity, computer hardware, and the technical proficiency of personnel responsible for managing these systems. To support data-driven decision-making, a centralised and accessible database system should be established. This system must be available to authorised decision-makers and analysts to facilitate timely and informed responses.

Flexibility in policy implementation, particularly in procurement procedures, is also critical during crises. The ability to adapt procurement policies to meet urgent needs will enable the country to compete effectively in securing essential supplies. Streamlining certain procedures can significantly improve operational efficiency and responsiveness.

Ineffective governance policies and limited governance capacity have hindered performance, leading to the conclusion that disaster response management currently suffers from systemic inefficiencies (Rosmadi et al., 2023). Addressing these structural challenges will enhance the government's ability to manage future non-conventional transboundary crises more effectively.

6. Conclusions

Surveys and studies examining public officials' perceptions of the key challenges in COVID-19 response management offer valuable insights into both the strengths and weaknesses of the crisis response process. As individuals directly engaged in field operations, these officials possess critical experience and perspectives that can inform efforts to enhance the effectiveness of future crisis management. Their views should be periodically revisited to ensure that Malaysia's crisis response mechanisms, especially for non-conventional transboundary crises, continue to evolve and improve in line with emerging challenges and operational realities.

To achieve greater effectiveness, the response management framework must be systematically structured and implemented with consideration for all stakeholders and prevailing issues. Leadership effectiveness should be recognised as a central pillar in managing non-conventional transboundary crises. As Janssen and Van Der Voort (2020) argue, poor decision-making during a crisis can trigger a cascade of additional crises. If leaders are equipped to develop and execute strategic measures, the major obstacles identified can be addressed and mitigated, thereby strengthening the overall resilience of the response system.

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Conflict of interest statement

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References

Adekoya, C. O., & Fasae, J. K. (2021). Social media and the spread of COVID-19 infodemic. *Global Knowledge, Memory and Communication*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/gkmc-11-2020-0165

Agbodzakey, J. (2024). Collaborative Governance and Crisis Management: a focus on COVID-19. In *SpringerBriefs in political science* (pp. 147–157). https://doi.org/10.1007/978-3-031-57373-6_14

Alanezi, F., Aljahdali, A., Alyousef, S. M., Alrashed, H., Mushcab, H., AlThani, B., Alghamedy, F., Alotaibi, H., Saadah, A., & Alanzi, T. (2020). A Comparative Study on the Strategies Adopted by the United Kingdom, India, China, Italy, and Saudi Arabia to Contain the Spread of the COVID-19 Pandemic. *Journal of Healthcare Leadership*, *12*, 117–131. https://doi.org/10.2147/JHL.S266491

Ali, T., Hassan, M., & Hossain, N. (2021). The moral and political economy of the pandemic in Bangladesh: Weak states and strong societies during COVID-19. *World Development*, *131*, 105216. https://doi.org/10.1016/j.worlddev.2020.105216

Ansell, C., Boin, A., & Keller, A. (2010). Managing transboundary crises: Identifying the building blocks of an effective response system. *Journal of Contingencies and Crisis Management*, 18(4), 195–207. https://doi.org/10.1111/j.1468-5973.2010.00620.x

Ansell, C., Sørensen, E., & Torfing, J. (2021). The COVID-19 pandemic as a game changer for public administration and leadership? The need for robust governance responses to turbulent problems. *Public Management Review*, 23(7), 949–960. https://doi.org/10.1080/14719037.2020.1820272

Assefa, Y., Woldeyohannes, S., Cullerton, K., Gilks, C. F., Reid, S., & Van Damme, W. (2022). Attributes of national governance for an effective response to public health emergencies: Lessons from the response to the COVID-19 pandemic. *Journal of Global Health*, 12. https://doi.org/10.7189/jogh.12.05021

Bambra, C., Riordan, R., Ford, J., & Matthews, F. (2020). The COVID-19 pandemic and health inequalities. *Journal of Epidemiology and Community Health*, *74*(11), 964–968. https://doi.org/10.1136/jech-2020-214401

Baris, O. F., & Pelizzo, R. (2020). Research note: Governance indicators explain discrepancies in COVID-19 data. *World Affairs*, 183(3), 216–234. https://doi.org/10.1177/0043820020945683

Bhanot, D., Singh, T., Verma, S. K., & Sharad, S. (2021). Stigma and Discrimination During COVID-19 Pandemic. *Frontiers in Public Health*, *8*(8). https://doi.org/10.3389/fpubh.2020.577018

Blondin, D., & Boin, A. (2020). Cooperation in the Face of Transboundary Crisis: A Framework for Analysis. Perspectives on Public Management and Governance, 3(3). https://doi.org/10.1093/ppmgov/gvz031

Boin, A. (2019). The Transboundary Crisis: Why We Are Unprepared and the Road Ahead. Journal of Contingencies and Crisis Management, 27(1), 94–99. https://doi.org/10.1111/1468-5973.12241

Boin, A., Lodge, M., & Luesink, M. (2020). Learning from the COVID-19 crisis: an initial analysis of national responses. *Policy Design and Practice*, 3(3), 189–204. https://doi.org/10.1080/25741292.2020.1823670

Chand, A. A., Lal, P. P., Prasad, K. A., & Mamun, K. A. (2021). Practice, benefits, and impact of personal protective equipment (PPE) during COVID-19 pandemic: Envisioning the UN sustainable development goals (SDGs) through the lens of clean water sanitation, life below water, and life on land in Fiji. *Annals of Medicine and Surgery*, 70, 102763. https://doi.org/10.1016/j.amsu.2021.102763

Cheng, C. (2020, March 26). COVID-19 in Malaysia: Economic Impacts & Fiscal Responses - Institute of Strategic and International Studies (ISIS) Malaysia. https://www.isis.org.my/2020/03/26/covid-19-in-malaysia-economic-impacts-fiscal-responses/

Chien, L., & Lin, R. (2020). COVID-19 outbreak, mitigation, and governance in high prevalent countries. *Annals of Global Health*, 86(1), 119. https://doi.org/10.5334/aogh.3011

Christensen, T., Lægreid, P., & Rykkja, L. H. (2016). Organizing for Crisis Management: Building governance capacity and legitimacy. *Public Administration Review*, 76(6), 887–897. https://doi.org/10.1111/puar.12558

Christensen, T., & Ma, L. (2018). Coordination Structures and Mechanisms for Crisis Management in China: challenges of complexity. *Public Organization Review*, 20(1), 19–36. https://doi.org/10.1007/s11115-018-0423-9

Clark, H., Cárdenas, M., Dybul, M., Kazatchkine, M., Liu, J., Miliband, D., ... & Sirleaf, E. J. (2022). Transforming or tinkering: the world remains unprepared for the next pandemic threat. *The Lancet*, 399(10340), 1995-1999. https://doi.org/10.1016/s0140-6736(22)00929-1

Constantinou, M., Kagialis, A., & Karekla, M. (2020). Is science failing to pass its message to people? Reasons and risks behind conspiracy theories and myths regarding COVID-19. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3577662

Cook, T. M. (2020). Personal protective equipment during the coronavirus disease (COVID) 2019 pandemic–a narrative review. *Anaesthesia*, 75(7), 920-927.

Creswell, J.W. (2003) Research Design Qualitative Quantitative and Mixed Methods Approaches. Sage, Thousand Oaks, 3-26.

Creswell, J. W. (2013). Qualitative inquiry & research design: choosing among five approaches. In *Sage eBooks*. http://ci.nii.ac.jp/ncid/BB09168370

Creswell, J. W., & Clark, V. L. P. (2017). Designing and Conducting Mixed Methods Research. Thousand Oaks, CA: Sage Publications.

Cucinotta, D., & Vanelli, M. (2020). WHO declares COVID-19 a pandemic. *PubMed*, 91(1), 157–160. https://doi.org/10.23750/abm.v91i1.9397

Demiroz, F. (2017). Governance in crisis management. In Springer eBooks (pp. 1–5). https://doi.org/10.1007/978-3-319-31816-5_2893-1

Denzin, N. K., & Lincoln, Y. S. (2005). Introduction: The Discipline and Practice of Qualitative Research. In N. K. Denzin & Y. S. Lincoln (Eds.), The Sage handbook of qualitative research (3rd ed., pp. 1–32). Sage Publications Ltd.

Dzulkifly, D. (Mar 13, 2020). Muhyiddin: Tourism industry hit hardest by Covid-19, faces RM3.37b loss. Malay Mail. https://www.malaymail.com/news/malaysia/2020/03/13/muhyiddin-tourism-industry-hit-hard-by-covid-19-to-lose-rm3.37b-while-gdp-s/1846323

El-Gilany, A.-H., Sameh, E., & Abou-ElWafa, H. (2022). Challenges of COVID–19 prevention and control: A narrative review. *Journal of Acute Disease*, *11*(4), 127. https://doi.org/10.4103/2221-6189.355309

Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report*, *20*(9), 1408–1416. https://doi.org/1, 1408-1416

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, *18*(1), 59–82.

Gustafsson, J. (2017). Single Case Studies vs. Multiple Case Studies: A Comparative Study. Academy of Business, Engineering and Science, Halmstad University.Hale J. E., Dulek R. E., & Hale D. P. (2005). Crisis response communication challenges: Building theory from qualitative data. The Journal of Business Communication, 42, 112–134.

Hennink, M., & Kaiser, B. N. (2022). Sample Sizes for Saturation in Qualitative Research: a Systematic Review of Empirical Tests. Social Science & Medicine, 292(1), 1–10. https://doi.org/10.1016/j.socscimed.2021.114523

Kaos Jr. J. (2020, February 3). Health Minister: Malaysians returning from Wuhan to be quarantined for 14 days. The Star. https://www.thestar.com.my/news/nation/2020/02/03/health-minister-malaysians-returning-from-wuhan-to-be-quarantined-for-14-days

Lai, C. H., Singh, S., Sundram, B. M., Zamri, A. S. S. M., Vei, T. C., Aris, T., Ibrahim, H. M., Abdullah, N. H., Dass, S. C., & Gill, B. S. (2022). The effects of super spreading events and movement control measures on the COVID-19 pandemic in Malaysia. *Scientific Reports*, 12(1). https://doi.org/10.1038/s41598-022-06341-1

Lichtman, M. (2010). Understanding and evaluating qualitative educational research. In SAGE Publications, Inc. eBooks. https://doi.org/10.4135/9781483349435

Loong, Y. S., & Wan Usamah, W. A. (2022). The Malaysian Economy and COVID-19: Policies and Responses from January 2020–April 2021. United Nations, p12. https://unctad.org/system/files/official-document/BRI-Project_RP30_en.pdf

Martínez-Córdoba, P. J., Benito, B., & García-Sánchez, I. M. (2021). Efficiency in the governance of the Covid-19 pandemic: Political and territorial factors. *Globalization and health*, 17, 1-13. https://doi.org/10.1186/s12992-021-00759-4

Maxwell, Joseph A. (2013). *Qualitative research design: An interactive approach* (3rd ed.). Thousand Oaks, CA: Sage.

Merriam, Sharan B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: John Wiley.

Miles, M. and Huberman, A.M. (1994) Qualitative Data Analysis: An Expanded Sourcebook (2nd edn). Thousand Oaks, CA: Sage.

Mohd Arif, M. F. B., & Choo Ta, G. (2022). Covid-19 pandemic management: a review of the digitalisation leap in Malaysia. *Sustainability*, 14(11), 6805. https://doi.org/10.3390/su14116805

Moraes, R. R., Correa, M. B., Queiroz, A. B., Daneris, Â., Lopes, J. P., Pereira-Cenci, T., D'Avila, O. P., Cenci, M. S., Lima, G. S., & Demarco, F. F. (2020). COVID-19 challenges to dentistry in the new pandemic epicenter: Brazil. *PLOS ONE*, *15*(11), e0242251. https://doi.org/10.1371/journal.pone.0242251

Morse, Janice M. & Field, Peggy Anne (1995). *Qualitative research methods for health professionals* (2nd ed.). Thousand Oaks, CA: Sage.

Morse, J. M. (2015). Critical analysis of strategies for determining rigor in qualitative inquiry. *Qualitative Health Research*, *25*(9), 1212–1222. https://doi.org/10.1177/1049732315588501

Muhammad Nur Amir, A. R., Binti Amer Nordin, A., Lim, Y. C., Binti Ahmad Shauki, N. I., & Binti Ibrahim, N. H. (2021). Workforce mobilization from the National Institutes of Health for the Ministry of Health Malaysia: a COVID-19 pandemic response. *Frontiers in Public Health*, 9, 574135. https://doi.org/10.3389/fpubh.2021.574135

Murugiah, S. (2020). COVID-19 to place Malaysian economy into technical recession. https://theedgemalaysia.com/article/covid19-place-malaysian-economy-technical-recession-saysambank

Mustafa, T. (2025). Governance quality vs. stimulus size: fiscal policy effectiveness during the COVID-19 pandemic. *Public Sector Economics*, *49*(2), 251–272. https://doi.org/10.3326/pse.49.2.4

Orso, D., Federici, N., Copetti, R., Vetrugno, L., & Bove, T. (2020). Infodemic and the spread of fake news in the COVID-19-era. *European Journal of Emergency Medicine*, 1. https://doi.org/10.1097/mej.0000000000000713

Patton, Michael Quinn (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Thousand Oaks, CA: Sage.

Phua, J., Weng, L., Ling, L., Egi, M., Lim, C.-M., Divatia, J. V., Shrestha, B. R., Arabi, Y. M., Ng, J., Gomersall, C. D., Nishimura, M., Koh, Y., & Du, B. (2020). Intensive care management of coronavirus disease 2019 (COVID-19): challenges and recommendations. *The Lancet Respiratory Medicine*, *8*(5), 506–517. https://doi.org/10.1016/s2213-2600(20)30161-2

Povera, A. & Harun, H. N. (2020, October 10), Ismail Sabri explains SOPs for CMCO, EMCO and TEMCO. New Straits Times. https://www.nst.com.my/news/nation/2020/10/631180/ismail-sabri-explains-sops-cmco-emco-and-temco

Rahman, S. (2022). Communicating COVID-19 Effectively in Malaysia. ISEAS Publishing. https://doi.org/10.1355/9789815011326

Ranney, M. L., Griffeth, V., & Jha, A. K. (2020). Critical supply shortages—the need for ventilators and personal protective equipment during the Covid-19 pandemic. *New England Journal of Medicine*, 382(18), e41. https://doi.org/10.1056/nejmp2006141

Reuters. (2020, March 17). *How Sri Petaling tabligh became Southeast Asia's Covid-19 hotspot*. NST Online; New Straits Times. http://www.nst.com.my/news/nation/2020/03/575560/how-sripetaling-tabligh-became-southeast-asias-COVID-19-hotspot

Rosmadi, H. S., Ahmed, M. F., Mokhtar, M. B., & Lim, C. K. (2023). Reviewing challenges of flood risk management in Malaysia. *Water*, 15(13), 2390. https://doi.org/10.3390/w15132390

Sandelowski, Margarete (1995). Sample size in qualitative research. *Research in Nursing and Health*, *18*, 179-183.

Sauer, M. A., Truelove, S., Gerste, A. K., & Limaye, R. J. (2021). A failure to communicate? How public messaging has strained the COVID-19 response in the United States. *Health security*, 19(1), 65-74. https://doi.org/10.1089/hs.2020.0190

Scott, R., & Nowell, B. (2020, September 28). Networks and crisis management. *Oxford Research Encyclopedia of Politics*. https://oxfordre.com/politics/view/10.1093/acrefore/9780190228637.001.0001/acrefore-9780190228637-e-1650

Sein, M. (2020). The serendipitous impact of COVID-19 pandemic: A rare opportunity for research and practice. *International Journal of Information Management*, 55, 102164 - 102164.

Shah, A. U. M., Safri, S. N. A., Thevadas, R., Noordin, N. K., Rahman, A. A., Sekawi, Z., Ideris, A., & Sultan, M. T. H. (2020). COVID-19 outbreak in Malaysia: Actions taken by the Malaysian government. *International Journal of Infectious Diseases*, 97, 108–116. https://doi.org/10.1016/j.ijid.2020.05.093

Stake, R. E. (2000). Case Studies. In N. K. Denzin, & Y. S. Lincoln (Eds.), Handbook of Qualitative Research (pp. 435-453). Thousand Oaks, CA: Sage.

Syed Jaafar, S. (2020). MAHB to upgrade 19 airports with thermal scanners, sneeze guards. The Edge. https://theedgemalaysia.com/article/mahb-upgrade-19-airports-thermal-scanners-sneeze-guards

Tang A. (2020b, March 29). Health Ministry prepared to use training institutes for COVID-19 patients. The Star. https://www.thestar.com.my/news/nation/2020/03/29/health-ministry-prepared-to-use-training-institutes-for-covid-19-patients

The Edge Markets. (2022, March 13). Malaysia bans public events to curb COVID-19 spread. The Edge Markets. https://theedgemalaysia.com/article/malaysia-bans-public-events-curb-covid19-spread

Tripathi, R., Alqahtani, S. S., Albarraq, A. A., Meraya, A. M., Tripathi, P., Banji, D., Alshahrani, S., Ahsan, W., & Alnakhli, F. M. (2020). Awareness and Preparedness of COVID-19 Outbreak Among Healthcare Workers and Other Residents of South-West Saudi Arabia: A Cross-Sectional Survey. *Frontiers in Public Health*, *8*. https://doi.org/10.3389/fpubh.2020.00482

van Diggele, C., Burgess, A., Roberts, C., & Mellis, C. (2020). Leadership in Healthcare Education. *BMC Medical Education*, 20(S2), 456. https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-020-02288-x

Van Dorn, A., Cooney, R. E., & Sabin, M. L. (2020). COVID-19 exacerbating inequalities in the US. *The Lancet*, *395*(10232), 1243–1244. https://doi.org/10.1016/s0140-6736(20)30893-x

Wilson, S. (2020). Pandemic leadership: Lessons from New Zealand's approach to COVID-19. *Leadership*, 16(3), 279–293. https://doi.org/10.1177/1742715020929151

Worldometers. (n.d.). COVID-19 Coronavirus Pandemic Tracker. https://www.worldometers.info/coronavirus/country/malaysia/

Yin, R.K. (2003). Case Study Research: Design and Methods. 3rd Edition, Sage, Thousand Oaks.

Yunus, A. (2020, August 24). Don't expect rakyat to obey SOP if leaders set bad example, says former health minister. New Straits Times. https://www.nst.com.my/news/nation/2020/08/618974/dont-expect-rakyat-obey-sop-if-leaders-set-bad-example-says-former-health