Pandemic of Novel Coronavirus Disease (COVID-19): Role of the Print Media in Asian Countries

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Keywords: coronavirus1, COVID-192, print media3, editorial4, opinion5, Asia6

Abstract

During all critical incidents, the media frame our understanding and create powerful forces at the individual and societal levels. The mental health of readers and viewers can also be affected by the media after tragic events. Potentially, the media have a proactive role in shaping the actions of the mass population and thereby influencing policy actions. The print media especially are considered a key avenue for taking information to the masses. However, in this information and communications technology (ICT) era, people are increasingly reluctant to carry hard-copy newspapers, instead preferring e-newspapers. At the present time, entire newspapers, and especially opinion sections, are deluged by concerns about the pandemic caused by the novel coronavirus, COVID-19. After China and Japan first encountered COVID-19, other Asian countries began their COVID-19 fight at different times between January and March 2020. All affected countries sought to manage the pandemic in their own way, following lessons learned from China and Japan. Every form of the media in affected countries highlighted concerns as they presented news, perceptions, and opinions related to the pandemic. As opinion sections and editorials are the key sections of e-newspapers to reflect experts’ perceptions and thoughts, this study aims to examine experts’ views in the e-newspapers of five different countries in Asia, in relation to China and Japan. Considering the diversity of socio-economic and geopolitical settings, five countries – South Korea, Singapore, Iran, India, and Bangladesh – are selected, with each represented by one leading English e-newspaper. This study explores how experts’ perceptions in the studied countries present different aspects of life. It also examines which e-newspaper emphasized which aspect of life and in which period of the outbreak. By intensive text mining in each selected e-newspaper, the study found that experts’ opinions addressed diverse issues with regard to COVID-19. These issues are grouped into the following eight aspects: health and drugs; preparedness and awareness; social welfare and humanity; the economy; governance and institutions; politics; the environment and wildlife; and innovation and technology. This pioneering study presents a similar picture of experts’ concerns in five different e-newspapers in Asian countries from January to March 2020 and their roles in shaping responses to health crises, thus contributing to policy actions.

# Introduction

“Preventing journalists from covering unpleasant information reassures a government that hates criticism, but leaves the public less secure”. This assertion clarified the media’s position during the novel coronavirus disease (COVID-19) pandemic (Dudden, 2020). The SARS-CoV-2 respiratory coronavirus was an earlier instance of coronavirus, with the latest coronavirus officially referred to as COVID-19. Studies have claimed that, during the last two decades, the mass media have become a vital part of social, political, economic, and environmental situations. Studies have also argued that the role of the mass media in any crisis or disaster cannot be denied, as the media facilitate access to information for government, policy makers, and citizens to assist with managing the situation (Ghassabi and Zare-Farashbandi, 2015). COVID-19 is a new type of virus, with the virus changing its form, structure, and characteristics through continuous mutation, and rapidly spreading from person to person by close contact. A study conducted by Indian scientists among 3,636 patients across 55 countries has stated that COVID-19 to date has mutated at least 11 times (Biswas and Majumder, 2020). In this pandemic, people worldwide are now relying more and more on credible news media (*Straits Times*, April 2020). People want reliable news about how their lives are changing during lockdown, about the millions of people who have lost their jobs, about the millions who have become infected, and about the hundreds of thousands who have died (Muno, 2020). A recent study by the University of Oxford polled people in Argentina, Germany, South Korea, Spain, the United Kingdom (UK), and the United States (US) and found that people gave the news media greater credibility than social media. The study also claimed that 60% of respondents said that the news media have helped them to understand the pandemic crisis, while 65% supported the view that the news media had explained to them what to do in response to the pandemic (Nielsen et al., 2020).

*Time* magazine, a US weekly news publication published since 1923 and now a news website, is headquartered in the city of New York (*Time* magazine, January 2020). Its January 2020 issue recorded 41,000 English-language articles with the word “coronavirus,” of which 19,000 used the word in the headline. On the other hand, Recode (a technology news website that has focused on the business of Silicon Valley since 2014) (Recode, n.d.) reported on March 17, 2020 that around 1% of published articles on 3,000 high-traffic news sites were related to the coronavirus. Furthermore, news website visitors were found to be reading the news more due to COVID-19, with the total number of article views approximately 30% higher in mid-March 2020 than in mid-March 2019 (Molla, 2020).

Huanan Seafood Market in Wuhan, China is considered to be the epicenter of the COVID-19 outbreak. The first news reports about the outbreak came from Wuhan Municipal Health Commission on December 31, 2020 (Gralinski and Menachery, 2020). Due to COVID-19’s highly infectious nature, in January 2020, different parts of China and different countries in Asia gradually started to report their first cases of COVID-19. Among the many countries in Asia, Japan, Thailand, Vietnam, Singapore, South Korea, India, and the Islamic Republic of Iran (Iran) were on the initial list of countries reporting their first cases of the outbreak. Between January and April 2020, almost every country in the world was fighting against COVID-19. As of April 30, 2020, more than 3,193,886 cases of COVID-19 have been reported in 225 countries and territories, resulting in 227,638 deaths. In addition, 972,719 people have recovered (gisanddata, n.d.). At the moment, the US has the highest level of infection followed by Spain, Italy, Germany, and Britain (Fig. 1).

**[Fig. 1 approximately here]**

In the case of every region and country, from the identification of the first infected case to the gradual spread, the fatalities, and the initiatives to fight COVID-19 are reported in different sorts of media. In every country, from reporting the first case, the government, institutions, and the media have shown their highest levels of concern in addressing and dealing with the pandemic’s different aspects. Chunara, Andrews, and Brownstein, (2012) argued that during infectious disease outbreaks, for initial weeks, it may not be possible to have adequate and appropriate data from health institutions and officials. It may cause hindering early epidemiologic assessment (Chunara et al., 2012), due to this absence of institutional reports and data, all sectors in a country and strata of society rely on the media. Media frames our understanding and creating powerful forces at the individual and societal level during all critical incidents. Media also can negatively affect the mental health of its readers after any tragic events (Hawdon et al., 2014). So it can be said that media has a proactive role in shaping the mass populations' actions and thereby influences policy actions. Especially, print media are considered a crucial factor in taking the information to the mass.

This COVID-19 pandemic has established its association with every aspect of life, ranges from health, society, economy, politics, environment, sports, recitation, arts and culture, media, innovation, and technology. The pandemic has disrupted, postponement or cancellation hundreds of national and international important religious, political, and cultural events, including the Tokyo Olympics (The New York Times, 2020), and widespread shortages of supplies exacerbated by panic buying (CNBC, 2020). Schools, colleges, and universities have closed either on a nationwide or local basis in 197 countries, affecting approximately 91% of the world's student population (UNESCO, 2020). After the initial outbreak of COVID-19, conspiracy theories, misinformation, and disinformation emerged regarding the origin, scale, prevention, treatment, and other aspects of the disease (BBC, 2020). Misinformation and disinformation spread through social media (McDonald, 2020; Kassam, 2020) and text messages (The Financial Times, 2020), as well as the print and broadcast media of countries such as China, Iran, and Turkmenistan (The Jerusalem Post, 2020; Kassam, 2020; The Diplomat, 2020).

In Asia, after China and Japan, different countries started their fights against the COVID-19 outbreak at a different time from January to March. All affected countries came forward to manage the pandemic in their way following lessons learned from China and Japan. Media in every form of affected countries highlight their concern to present news, perceptions, and opinions related to the COVID-19 outbreak. However, in this world of Internet and Social media, there are different forms of media and approaches to conveying and spreading the news. Nevertheless, reliability and trust are not always the same in all media. Research claims that print media are still the most reliable and valued source of information for the public. The print media play a vital role in taking the information to the masses and continue to shape countries’ public opinions (Kuppuswamy, 2017). However, in this ICT era, people are reluctant to carry hard-copy newspapers in preference to e-newspapers. Therefore, readers of online newspapers or e-newspapers, the digital version of print newspapers, are increasing (Hollander et al., 2011; Richardson and Stanyer, 2011). Almost all leading newspapers in different parts of the world have their e-newspapers. These online versions offer faster access and more updates compared to their print counterparts (Bokesoy, 2008). Since online versions or e-newspapers have rapid access, it is spreading and updating the news of COVID-19 in a faster way to large communities of the world. Notably, the English version of e-newspapers of affected countries played a pivotal role in informing the world about the spread and infection, preparedness and awareness situation, institutional efforts, and such other critical issues.

From the literature review, it can be said that media has a proactive role in shaping the mass population's actions and thereby influences policy actions., The print media especially are considered a key factor in taking the information to the mass. The shortage of institutional reporting and COVID-19 results, all industries in a nation and strata of society depend on the media. In the present study, newspapers, and especially their opinion sections, were deluged with concerns about the COVID-19 pandemic. Expert opinions or editorials are the key section of newspapers that reflect experts' perceptions and thoughts, this study aims to examine the experts' views of newspapers of five Asian countries from different regions considering the diversity in socio-economic and geopolitical settings such as South Korea, Singapore, Iran, India, and Bangladesh, having one leading English newspaper of each country, were selected. This paper explores how experts' perceptions in studied countries present different aspects of life. By intensive text mining in each selected newspaper, it found that the experts' opinions addressed diversified issues regarding COVID-19. Different issues were grouped into the following eight categories: health and drugs; preparedness and awareness; social welfare and humanity; the economy; governance and institutions; politics; the environment and wildlife; and innovation and technology. This pioneering study presents a similar picture of experts’ concerns in five different e-newspapers in Asian countries from January to March and their roles in shaping responses to health crises, thus contributing to policy actions.

# Asia’s Coronavirus Situation: Particular Focus on Studied E-Newspapers in Represented Countries

The World Health Organization (WHO, 2020a) declared the outbreak of a "Public Health Emergency of International Concern" on January 30, 2020, and a "Pandemic" on March 11. Data related to the COVID-19 compiled from the 'Coronavirus disease (COVID-2019) situation reports' of WHO (https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports), 'COVID-19 pandemic' of Wikipedia (https://en.wikipedia.org/wiki/COVID-19\_pandemic), and 'Coronavirus Resource Center' of Johns Hopkins University (https://coronavirus.jhu.edu/map.html) to present the exact number of confirmed cases, recovered cases, and a death toll in each country in this article. Table 1 shows the information related to the date of the first confirmed case, the total number of confirmed cases, recovered cases, and deaths as well as the mode of transmission in the selected five Asian countries. On the other hand, Table 2 presented the cumulative affected cases and deaths by months from January to March in the selected five Asian countries.

**[Table 1 approximately here]**

The first confirmed case of the pandemic of COVID-19 in South Korea announced on January 20, 2020. South Korea introduced what was considered one of the most extensive and best-organized epidemic control programs in the world as a result up to April 30; the country has only 10,765 confirmed cases with 247 deaths. The first case of COVID-19 in Singapore confirmed on January 23. Like South Korea, Singapore also took strict measures to spread the COVID-19; thus, up to April 30, they have only 15,641 confirmed cases along with 14 deaths. On the other hand, Bangladesh and India are the developing countries where almost half of the population lives below the poverty line. The first case was reported on March 7 in Bangladesh and January 30 in India. Up to April 30 both the countries have 7,103 and 33,050 confirmed cases. Experts criticized the low number of tests conducted in Bangladesh that has a population of over 160 million. Newspaper reports and social media continued to report about additional deaths of patients with COVID-19 symptoms.

On the other hand, experts suggested the number of infections could be much higher as India's testing rates are among the lowest in the world in comparison to the second-most populous country in the world with 1.35 billion people. Furthermore, Iran reported its first confirmed cases of COVID-19 infections on February 19, 2020. The number of confirmed cases is 93,657 up to April 30, with 5,957 deaths. Because of the government's accusation of cover-ups, censorship, and mismanagement, some external estimates of COVID-19 death numbers are much higher than those from government sources.

**[Table 2 approximately here]**

# Materials and Methods

Since every part of the world, about 213 countries and territories, and every aspects of life are now associated with the pandemic COVID-19, all sorts of media are highlighting the news, opinion, and concerns related to COVID-19. How different countries in Asia and their printing media are shaping the concerns and worries related to the outbreak are explored by this study. As the approach of this study selection of the countries, the selection of the newspapers and issues covered for the study were presented in Fig. 2.

## Selection of Countries

Since it would be too wide to focus all over the world at a time, here in this paper, only five countries such as South Korea, Singapore, Bangladesh, India and Iran from four regions of Asia were selected. Since most of the Asian countries were firstly affected by the COVID-19 outbreak, thus Asian countries were considered as the central zone of the study focus. The COVID-19 pandemic began in Asia in Wuhan of China, and has spread widely through the continent. Among the earliest countries in Asia to report COVID-19 cases after the outbreak in China were Japan, South Korea, Singapore, Taiwan, and Vietnam. So after China and Japan, South Korea and Singapore received more attention from the media about COVID-19 outbreak, society, health, and economy, controlling measures, and government's initiatives, etc.

The coronavirus epidemic in South Korea once seemed terrible, with frequent new cases skyrocketing and a large cluster of illnesses, rendering it the hardest affected outside China. In South Korea, on February 18, the epidemic unexpectedly spread. Over two weeks, the caseload rose 180 times, with 909 over daily cases on February 29. But the chaos soon turned off. South Korea began reporting reduced numbers of new evidence on March 6, with rises to hundreds per day. Compare to many other countries in the world, Korea takes a better side to control and minimize the risks of COVID-19. For example, in the U.S. on January 20 – the same day as South Korea – where the first outbreak found, the overall incidence on March 31 reached 163,000, including at least 2,860 deaths. Spain and Italy also failed to minimize the spread. That led the current study to consider South Korea as a study area and to evaluate the facts through online media analysis. Furthermore, South Korea has proven that another way can be used to contain the disease. Businesses have carried on as normal, and no town has been shut down. Life in South Korea is back to normal, with new cases declining.

According to the WHO, outside China, Singapore has the strongest contact with Wuhan and it is estimated that 3.4 million people travel between Wuhan and Singapore annually. These travellers had the greatest potential existential threat due to COVID-19 (WHO, 2020b). However, inspite of such threat, interesting to note that the rate of coronavirus infection spread in Singapore has been one of the slowest worldwide (Kuguyo, Kengne,. and Dandara, 2020). Singapore, very early on, had its first case of the new coronavirus. It was a Chinese tourist who arrived on January 23 from Wuhan, putting the virus epicenter in total lockdown on the same day to ensure safety. However, the alarming exponential rise after two weeks of the first case around the migrant worker population of Singapore-the hundreds of thousands of men from developing countries are working in manufacturing, shipping, and maintenance. Singapore is total dependent on these workers to keep their economy functioning, and they do the jobs where social distancing is impossible. Besides, the workers are required by law to live in dormitories-private facilities that house up to 12 men per room, with shared bathroom facilities, cooking facilities, and social facilities. It seems almost inevitable that these dorms would become clusters, and they did. One facility alone accounts for 15% of all national cases. With a robust legal framework and political strategy control the pandemic for this island nation. Therefore Singapore has become a key state to study to understand the application of regulations to control the COVID-19 pandemic.

**[Fig. 2 approximately here]**

Bangladesh and India were received attention from both print and social media because these two countries are the most populous and developing countries in the world. It was very popular for the media to report how the governments in two countries were handling the COVID-19 situation as well as tackling the health, employment, and economic crises that have arisen during pandemic. On the other hand, Iran is considered a unique country in terms of its geographical location, religion, economy, technology, and government aspects in Asia, facing long-term sanctions from international societies. Therefore, considering these diversified geographical, social, cultural, economic and political backgrounds, South Korea, Singapore, Bangladesh, India and Iran were selected purposively for this study. Present study will review and report the role of printing media about COVID-19 in these five countries. Only expert opinions and columns under the "Opinion" section of five top circulated English newspapers from these five countries were selected for the study.

## Selection of Newspapers

Considering the reputation, position, and daily print circulation, five English daily newspapers from five selected countries considered for this study. The Korean Herald newspaper selected from South Korea, The Straits Times selected from Singapore, The Daily Star selected from Bangladesh, Hindustan Times selected from India, and the Tehran Times selected from Iran. All the newspaper has both print and online versions, have pages/accounts in different social media including Facebook, Twitter, YouTube, LinkedIn and Instagram as well as have apps in 'Google Play Store' and 'App Store' for Android and Apple mobile phone users (Table 3).

**[Table 3 approximately here]**

## Text Mining from Opinion Sections

Instead of regular news items, this study analysed guest authors (experts and scholars) opinion related to the recent outbreak of COVID-19 in the selected five Asian countries. All the selected newspapers published the opinion, thoughts, concerns, advice, and suggestions of experts and Editors all over the world in their 'Opinion' section. However, these opinions also called 'Editorial' (statements made by Editor on behalf of the newspaper itself), 'Viewpoint', and 'Opinion' in these selected newspapers. From the various sources, an Opinion can define as an article, usually published in a newspaper or magazine, that mainly reflects the author's opinion about a subject or the recent issue that does not claim objectivity. The opinion is meant to supplement the news portion and provide for an exchange of ideas. On the other hand, text mining, which referred to as text data mining, or text analytics, is the prime approach of this research to gather critical concerns and focus on experts' perceptions and opinions from the text. The fundamental virtue of the text-mining approach is its timeliness; information from online text sources can easily be collected and readily available for various uses promptly (Pyo and Kim, 2019).

### Text mining issues

### To our best knowledge, this is the first study that applies text mining analysis to the COVID-19 studies. In contrast with the increasing importance of the text mining approach in the COVID-19 literature, except Jahanbin and Rahmanian (2020), no similar study has been completed for the COVID-19 in Asian region as well as for rest of the world. Present study grouped all diversified discussions and highlighted them into following eight prime issues. In order to examine experts' opinion related to COVID-19 and how those are guiding societies, text mining was done considering these issues. Each issue was investigated by key word searching and after the key word search, that key word related concerns were gone through carefully and tried to explore why and how the experts have expressed their concerns related to the keywords. These broad eight categories were:( i) health and drugs; (ii) preparedness and awareness; (iii) social welfare; (iv) governance and institutions; (v) politics; (vi) the economy; vii) the environment and wildlife; and viii) innovation and technology (Table 4). This study aims to analyze how editors and experts' perceptions and features related to COVID-19 were trying to highlighted and shaped these critical issues in people's life and livelihoods in selected five countries.

**[Table 4 approximately here]**

## Period of Study

Since after the emergence of COVID-19 in China, printing media all around the had started to focused on it from the mid-January 2020. Therefore, the present study collected data from the published Opinion section from selected five English daily newspapers from five Asian countries between January 20 to March 31, 2020.

**3.5 Data Analysis**

The study employed a qualitative data collection technique with a checklist used to collect data from the Opinion section of five newspapers. Checklist was developed in the eight broad issues and data (text mining) were arranged into these issues for further analysis. Before data compilation, checklists thoroughly checked and edited after that data was interpreted by following the content analysis. During content analysis and interpretation to some extent it was tried to conceptualize some theories related to media, press and socio-cultural aspects.

**3.5.1 Media theories and theories of the press**

Initially this study was motivated by Media Richness Theory (MRT). This theory was introduced by Richard L. Daft and Robert H. Lengel in 1986. MRT is mainly used to rank and evaluate the richness of different types of communication media. But in this study rather going to rank or evaluate different types of media, here comparative perspectives of different newspapers of different countries were addressed. Since the basic idea behind MRT is that media can be better or worse in transmitting social cues, in resolving ambiguity, or in providing immediate feedback (Hoof and Boell, 2019), this study attempted to evaluate how different newspapers presenting experts` concerns in transmitting different aspects related to pandemic and how they are resolving ambiguity.

Different theories of the press argue that state systems, ownership, politics and economics also shape the concern of the media (Ostini, 2002). Though this study was not oriented to the media theory based analysis of the newspapers` concerns, it tried to understand how these issues shaped the thoughts published in different newspapers.

**3.5.2 Hofstede's cultural dimensions theory**

Furthermore, during this analysis of experts’ views published in selected newspapers of five selected countries, the relationship between the cultural differences of the countries and the effect on the broad eight issues are tried to explore. Hofstede model is used to explore the cultural differences of the selected countries. Hofstede's cultural dimensions theory is a framework for cross-cultural communication, developed by Geert Hofstede at the end of the 1970s (Hofstede, 1984). The theory was one of the first quantifiable theories that could be used to explain observed differences between cultures (Hofstede, 1991). Hofstede model consists of six dimensions of cultures such as: power distance, uncertainty avoidance, individualism vs. collectivism, masculinity vs. femininity, long-term orientation vs. short-term orientation, and indulgence vs. restraint (Hofstede et al., 2010). Using Hofstede’s model, the similarities and dissimilarities among highlights of the different countries’ newspapers were examined. Selected countries have different scores in these six dimensions of cultures and those scores added some explanations regarding the priority and focus of an issue in a country.

# Results

In this study experts` concerns related to COVID-19 pandemic were tried to analyse. Editorial thoughts published in five leading digital newspapers of five Asian countries in initial three months of the pandemic were analysed and presented in this results section. Results of this study is organized into eight different issues associated with COVID-19 pandemic under the following sub-headings.

**4.1 How the Print Media of Asia Shapes the Pandemic COVID-19 Situation**

“At times of crisis, we turn to experts — but news outlets and social media must be careful about the information they share, particularly informally” (Llewellyn, 2020), famous journalist of BBC has advised to all media by stating this request. His statement indicates how important it is to shape the news during this kind of health crisis and what should be the role of media. In this study, it noticed that different newspapers representing different countries have their approach and focus on highlighting different aspects of life associated with COVID-19. Study shows that different countries took dramatically different approaches in managing the pandemic. The variation marked by prior experience and preparation, early reinforcement of strict vigilance, testing and isolation, late enforcement, strong vs. weak public awareness , self-restraint, commitments and other factors (Djalante et al., 2020). These different approaches reflected in the analysis and concerns of experts in leading newspapers of studied five countries. These variations in experts’ opinions and concerns are discussed in Section 5.

**4.2.1 Print Media in South Korea: *The Korean Herald* (Daily)**

As one of the global manufacturing giants, South Korea is more concerned about North and South Politics and "try to avoid panicking" at whatever point Pyongyang takes steps to transform Seoul into an "ocean of fire." That same South Korea is now taking the lead and try not to panic to face COVID-19. Minimize the death toll and stop spreading to affect the whole nation. The first confirmed case of COVID-19 in South Korea found on 20 January; despite a gradual rise, it was under control (Dudden and Marks, 2020). Nevertheless, the whole scenario changed on February 18 with the patient no. 31 in Daegu. Within two weeks, the total number of infected people increased from 31 to 3000 residents.

The first COVID-19 infected patient identified in Korean was 35 years old Chinese women on January 20, as addressed by the Korean Centres for Diseases Control and Prevention (KCDC). However, the Government and KCDC were not prepared enough to respond immediately. Therefore, the whole situation turned into an epidemic when the 31st Covied-19 positive patients attend some social gathering. Since then, the news media start tracking COVID-19 and all related issues, including prevention, protection, isolation, economy, education, politics, and social affairs. The following Table 5 shows the critical editorials published from January 20 to March 31 in the Korean Herald addressing different issues associated with COVID-19. However, at different periods, the editorial focus shifted from health to economy to politics.

**[Table 5 approximately here]**

***Health and protection***

Editorials published in early February in the Korean Herald addressed the precautions against the community-based transmission threats. The experts advised the authorities to recognize the possibility of community spread and concentrate on the early detection of infections, efforts for symptom relief, and the prevention of further. On January 22, an editorial published in the Korean Herald addressed that the virus could be present in saliva and spread by airborne particles from coughing or sneezing. So it was wise to take simple preventions such as wearing masks and washing hands. Furthermore, the authorities raised the alert level for infectious diseases from "attention" to "caution," following the first confirmed case of the virus.

Editorials in mid-February and later clearly indicate the limitations of the local and federal governments of South Korea to control the spread of COVID-19. The cases were increasing sharply in Deggu and nearby North Gyeongsang Province. The rapid increase in the number of COVID-19 patients stretched the capacity of the nation's epidemiological investigators. They numbered about 140 cases, fueling fear that the situation may be turning into a pandemic. Experts warned early on that it would be hard to control the spread of the virus in the community and called on the government to take proactive measures, including a temporary entry ban on visitors from all parts of China. However, the government turned a deaf ear and followed the business as usual strategy, which turned down the whole COVID-19 scenario in South Korea. Experts in editors addressed that limited understanding of the government and fare of trade and economic relation with China cause such a sharp impact.

***The economy and industry***

The epidemic, which originated in the central Chinese, began to affect the South Korean economy from consumption to production and the financial market since its outbreak. Editorial published in the *Korean Herald* on February 4, marked that with rising concerns over local infections, the spread of the epidemic expected to reduce domestic consumption by 0.3–0.4 percentage point this year.

Within the initial ten days from February 1-10, Korea's stock prices tumbled 7.28%, the second-steepest drop after Hong Kong among Asian markets, excluding mainland China.

Editorials published in early March (March 2) indicated that government officials warned the government over the potential negative impact of the spreading virus on the economy. The editorial section addressed that the Finance Minister of South Korea mentioned virus could significantly weigh on Korea's economy unless the government addresses it quickly. To overcome the economic shortage and to protect the low-and middle-income group and domestic market the President Moon Jae-in's administration proposed an extra budget worth 11.7 trillion won ($9.86 billion) to help deal with the mass outbreak of the COVID-19. For this year, the Bank of Korea slashed its growth outlook from 2.3% at the beginning of the year to 2.1%.

The national debt-to-gross domestic product (GDP) ratio was projected to exceed 45% of a per capita basic income. In the same section, experts proposed to focus on offering a range of specific support measures tailored for more vulnerable people, including small business owners, small manufacturing industries, and domestic help. Experts advised that it would be more realistic and efficient if the government push for an across-the-board cut in taxes at least temporarily, which would bring the same effect of putting more cash into consumers' pockets and help ease mounting difficulties faced by companies.

Furthermore, the unemployment issue raised in the editorial section as an outcome of the COVID-19. South Korea faces an unemployment surge due to the COVID-19 crisis and the job situation is rapidly worsening. Even before the outbreak, the employment situation was already in bad shape. Fiscally created part-time jobs barely buttressed employment growth for those aged 60 or older. Jobs for those in their 40s were on the decline. Manufacturing kept shedding jobs for 21 straight months through December.

***Isolation and treatment***

In early March, the number of confirmed cases of COVID-19 topped 3,000 on February 29 and 4,000 on March 2. In terms of the number of confirmed cases per one million people, the nation has reportedly surpassed China, where the virus originated. With a surge of infections of the COVID-19, South Korea has reached the pitiful state where it treated as a "second Wuhan" in the international community addressed on February 25 on the *Korean Herald* editorial. Countries like Hong Kong, the Philippines, the USA, Morocco, and Taiwan closed their border with South Korea isolate South Koreans. Some apartment buildings in Beijing reportedly insisted that Koreans quarantine themselves for 14 days before entering. Experts addressed that the root cause of Koreans being shunned was that the government did not stop the influx of the virus from China.

To provide the best treatment, the government declared that it will quarantine people with mild and moderate cases of the COVID-19, in public facilities, in a bid to focus on the treatment of severe cases in hospitals as addressed in the Editorial section on March 2. However, experts and the common people thought that decision should have taken long ago to reach this pick.

Although South Korea had about 1,000 unfavorable pressure rooms needed to treat COVID-19 patients, the number of confirmed cases topped 3,000 on February 29, and 4,000 on March 1. In terms of the number of confirmed cases per one million people, the nation had reportedly surpassed China, where the virus originated. Furthermore, the Minister of Health said the government would not hospitalize everyone with a confirmed case. Patients will be stratified into four groups depending on the severity of their illness. Only those in the two most serious categories will be admitted to hospitals for treatment, while those with less severe cases will receive medical help in other public facilities.

Based on Daegu and North Gyeongsang Province experience experts warned the Seoul local government that the slightest slip, the situation in the Seoul area could get much worse. Seoul is a cosmopolitan city, and more than 25,000 people use Guro Station every day, while about 100,000 go in and out of Sindorim Station. Some seven million people ride the Seoul subway every day. Most subway trains are crowded at rush hour, and countless buses stop near subway stations. Understanding the urgency, the government ought to draw up proactive measures to encourage work from home, flexible work schedules, and increased distance between workers. The Korea Centers for Disease Control and Prevention (KCDC) stepped up their efforts and set up a system of working from home to minimize community infection.

From March 22, editorials were focusing on better treatment and control, as South Korea's COVID-19 situation is still uneasy, although it is showing signs of calming down. However, experts advised that if the authorities fail to control overseas travel and entry into Korea effectively, the country can suffer a second round of COVID-19 outbreak similar to what hit Daegu and North Gyeongsang Province.

***Politics***

With a rapid increase of CVID-19 infection during March, the US State Department raised the travel advisory for Daegu to Level 4. It warned its citizens to "not travel" to the southeastern city of Korea. It was suspected that if Washington bars entry to travelers from Korea, other countries will likely follow suit. US-Korea trade will shrink, putting the domestic economy in a big crunch. Korea countered Japan's effective entry ban with reciprocal measures, but an emotional battle or extreme confrontation will be only detrimental to both sides. The fundamental solution is to contain the diffusion of the COVID-19 outbreak as quickly as possible.

However, Japan began to restrict the entry of visitors from China. Korea still kept its doors open to China except for Hubei. Some say it is meaningless, and too late, as Japan did now because the number of confirmed infections has already topped 7,000. Concerns about being isolated have not abated. Something went wrong from the beginning.

***Recovery***

The important thing is that the Korea Centers for Disease Control and Prevention assessed the situation precisely and make decisions before the virus does, with swift follow-up and execution by the government. Those were the critical discussion feature about prevention and disease control. The expert addressed the proactive role of the Korean government helps to contain COVID-19. Otherwise, if the government waited until sickbeds had run out and did not make the mass scale quarantine decision, it would be the worst in Korean history and for the economy.

All manufacturing industries in South Korea took a complete U-turn, while the government injected more than US$13 billion in emergency funds to stoke economic activities sapped by the fast-spreading COVID-19 and to balance international trade with neighboring economies (Yoon and Wong, 2020). Furthermore, the current ruling party considers the 11.7 trillion won (US$9.6 billion) extra budget bill, which was submitted to the parliament earlier in March, as insufficient to help with the fight against the COVID-19 and to minimize its economic impact.

**4.2.2 Print Media in Singapore: *The Straits Times***

On January 23, 2020, the first imported SARS-CoV-2 infection in Singapore detected in a visitor from Wuhan (Young et al., 2020). Right after that, different news media started to focus on the news and experts` opinion related to the outbreak. *The Straits Times*, considered one of Singapore’s leading English newspapers (based on the number of readers and circulation), started to publish regular concerns and perspectives of scholars. These perspectives comprised a wide range of issues. However, the economy, social welfare, humanity, and politics received the highest priorities linked to COVID-19. Preparedness and awareness generation and focusing governance and institutional efforts also got attention. However, the environment, technology, and innovation get minimum attention. Nevertheless, priorities were not the same from January to March (Table 6).

**[Table 6 approximately here]**

Since January is the starting of the outbreak of coronavirus, January's editorial started with preparedness and awareness and then institutional efforts. Naturally, January last week, when the first case identified in Singapore, was not the time to be concerned about issues like economy, politics, and social welfare. So all these critical and important issues received attention from February, and March got the highest focus. How different aspects of life received the attention of experts from January to March analyzed hereunder this section.

***Health and drugs***

Novel COVID-19 outbreak treated as a global health concern (Wang et al., 2020). This health concern now extended and affected all aspects of life. So despite not having any direct opinion or concerns relate to health and drugs in Singapore's leading newspaper's editorials, it is implied in all aspects of their concerns and perceptions.

***Preparedness and awareness***

Preparedness and awareness considered as one of the vital issues of controlling and managing any risk and hazard. Scholars advised for institutional and healthcare system's preparedness to prevent any outbreaks (Jeon and Kim, 2016). Singapore reported its first case of the COVID-19 infection on January 23. Since after that, the country praised different preparedness and awareness initiatives. However, Singapore has the highest affected cases in Asia except for China, and it is 15,641 as of April 30 (https://covidsitrep.moh.gov.sg/).

Along with the institutional efforts, experts` attention to the preparedness and awareness generation also reflected in *The Straits Times*, the leading newspapers of Singapore. In February, some perceptions of experts tried to make the citizen aware by focusing on authorities' recommendations on frequent washing of hands with soap and water might serve as a better safeguard. At the same time, experts also attempted to make the government prepared by urging that Singaporeans need to play an essential role in minimizing the risks of spread locally. It emphasized that the virus knows no borders and that distance does not matter in the age of globalization and air travel. After February, when the number of cases was overwhelmed in March, the newspaper's editorials imposed the warning that COVID-19 will not be the last pandemic. Therefore, experts advised that states can and should plan now on how to meet the next challenge. Editorial extended its concern by stating that healthcare systems are in danger of being overwhelmed in some countries that never imagined they would face with a crisis of such proportions.

***Social welfare and humanity***

In early February, *The Straits Times* started to urge social welfare and humanity related issues associated with the outbreak of COVID-19. In fact, from early February, people in different parts of the world started to express their hates and discriminating attitudes to the Chinese people, since Wuhan city of China was the epicenter of the virus. Editorials published in leading Singaporean newspapers considered this sensitive issue, and they warned at the very early stage of the outbreak that "creeping discrimination in Singapore is in danger of feeding into a malevolent international pattern. Sentiments against citizens of China have emerged among some groups (*Straits Times*, February 5, 2020)," Editorials appreciated different forms of public supports. The support of GrabCare helped healthcare workers to travel to and from healthcare facilities, donations of different forms such as Courage Fund, etc., with all are mentioned in the editorial to highlight and appreciate the humanitarian efforts of people and organizations.

From March, along with different approaches of donation and supports to the front line workers dealing with the outbreaks and for the general people, there were humanitarian initiatives from the Singapore government too. The government initiated to take a one-month pay cut to show solidarity with Singaporeans coping with the COVID-19 outbreak. At the same time, public officers on the front line got up to one extra month of special bonus in recognition of their efforts in battling the COVID-19 disease. Newspaper editorials have urged social responsibility to safeguard public health and have warned that fear and panic has also led to selfish acts of self-protection. In the last part of March, *The Straits Times* experts also initiated to raise hope to readers by stating how people and neighbors in different parts of the world were extending mental supports to each other.

***Governance and institutions***

Just after the detection of the first case of COVID-19 in Singapore, the Government and different institutional initiatives started to emerge. The study already pointed out that the Singapore Ministry of Health issued a health alert that patients with pneumonia and recent travel to Hubei Province should screen for SARS-CoV-2 (COVID-19) infection, and all suspected individuals were isolated. Extensive contact tracing has been undertaken followed by the quarantine of asymptomatic contacts, and hospital isolation and screening of symptomatic contacts with all strictly enforced (Young et al., 2020).

In January, the editorial of *The Straits Times* expressed its first opinion regarding COVID-19 and governance by advising all institutions that fear of infection is understandable. However, discrimination against people was out of sync with both the moral imperatives and practical needs of Singapore, where foreigners are an integral part of its globalized economy. It also highlighted China's institutional efforts. By referring to the comment whom Chief and the study of Harvard University study experts focused on Singapore's efforts in February. It highlighted that Singapore's approach to the COVID-19 outbreak was the "gold standard." In March, news editorials gave attention to the strict rules of the Government to control the outbreak of the virus. In mid-March, when over 160,000 people stricken by the COVID-19 across 118 nations, experts' views were addressing the efforts of different governments over the past three months to keep the virus and its rapid spread under control. Countries' efforts such as tightened border controls, expanded flight restrictions, and banned travelers from regions were mentioned in editorial discussions. In the last part of March, newspaper concern reflected as government order to the Singapore residents or long-term pass holders who insist on leaving the country, despite advice not to do so. Editorial reminded government instruction and mention that these residents would have to pay full hospital charges if they are admitted for coronavirus-related treatment when they return.

Though Singapore praised for its institutional initiatives and government's active efforts to control the outbreak, editorial concerned not much oriented to those specific institutional issues, and institutional attempts are also not criticized by any thought or perspective.

***Politics***

As political issues, no concern reflected in January. From February, *The Straits Times* started to criticize authorities in China for the country’s initial paralysis and lack of transparency about the severity of the situation. After discovery of the highly infectious virus in December, it was then allowed to spread to the far corners of the vast country and to at least 28 other countries and territories. Experts urged also reflected in February by emphasizing that the world's two most powerful nations (China and the US) must pause in their rivalry for primacy and join hands against COVID-19.

Singapore's general election date was a key focus of editorial in March. It shows it worries related to the possibility of delay of the election and mentioned the concern of Prime Minister to hold the election till the Covid-19 outbreak situation gets better of making it earlier before the situation gets the worst. World politics also received attention from the experts. Mostly it criticized the United States president Trump's delayed response to take initiatives to be prepared and manage the outbreak. During this Pandemic time blame game between China and the United States was also criticized by experts.

***The economy***

In Singapore, experts focused on the economy from the first week of February. They reflected in editorials when oil prices had fallen more than 15% in the peak period for oil demand in most parts of Europe, the US, and a large part of Asia. Apart from the oil price, fall in the tourism industry, reduction of GDP, recession in the global economy, supply chain disruption, all issues were the prime focuses of editorial perceptions in Singapore.

The editorial concerns reflected the downgraded GDP forecast from 0.5% to 2.5% to -0.5% to 1.5% provided by the Ministry of Trade and Industry; it warned of the possibility of a recession. Scholars emphasized government initiatives and budget to support businesses, workers, families, and frontline agencies in the face of the ongoing COVID-19 outbreak by stating that this is not only a public health concern but an economic challenge as well.

***The environment and wildlife, innovation and technology***

While these two issues have a close relationship with the COVID-19 outbreak, the experts in *The Straits Times* only stated both of these crucial issues once in March. From an environmental aspect, experts’ thoughts highlighted the reduction of pollution and the improvement of ecological settings. Their opinions reflected as birds sing without the incessant noise of traffic, murky waters of the fabled canals turned a bright blue-green in the Italian city of Venice. Experts also referred to the outcome of the European Space Agency, which found that the levels of nitrogen dioxide in Asia and Europe were significantly lower than for the same period last year. Experts also alert that this drop in emissions is likely temporary, and when the pandemic ends, and factories reopen, cars go back on the roads, and people start to travel, the carbon emissions will spike. Spread of fake news all over the world and postpone Olympic Games also got attention from the editorials.

**4.2.3 Print Media in Iran: *Tehran Times***

In Iran in 2000, there were 23 Persian dailies, three English dailies, and one Arabic daily (Joel and Kamalipour, 2000). However, between 2000 and 2004, a total of 85 newspapers were closed down (Kokan, 2004). At present, there are six English newspapers in Iran, and among these, considering the daily circulation Tehran Times is one of the leading English newspapers that has an online version. Considering the dominance in the local society and the international world and also considering the online accessibility Tehran Times is selected to analyze the perception and thoughts of the experts relayed to COVID-19 pandemic. In Iran, the first case of coronavirus reported on February 19. However, before the case in early February, Tehran times started to focus on some news related to COVID-19. From January to March 2020, COVID-19 related all thoughts and analyses of scholars diversified. Their concerns focused on health, awareness, economy, society, politics, governance, environment, and technology how experts` concerns shaped different aspects of life associated and disrupted with COVID-19 discussed hereunder (Table 7).

**[Table 7 approximately here]**

***Health and drugs***

Direct health-related opinions and analyses were few in Tehran Times from January to March. In early March, Health-related editorial mainly addressed the emergence and nature of coronavirus type diseases. In mid-March, another health-related article mainly highlighted the world situation of the spread of COVID-19. Editorial warned that the disease is spreading rapidly, from isolated cases to expanding clusters and communities.

***Preparedness and awareness, social welfare***

Iran announced social distancing measures in a bid to minimize the spread of COVID-19. As awareness and preparedness, another editorial of Tehran Times criticized the United States' current situation of armed violence, and it was seeking the answer to the question stated as "Which one is the ultimate winner in the United States, the COVID-19 or armed violence?" It was an approach to make the international world aware of armed forces and prepared for health. In February, as a social welfare type concern, editorial urged to show express the feeling of empathy toward the Chinese.

***Politics***

As a world politics expert's view expressed as Iran's support to China by sending masks. On the other side, the ambas¬sador of the People's Republic of China to Tehran, started a direct communication to reduce the fear among the Iranians via his Twitter account. However, Iran's social media were criticizing Chinese tourists who were spending their New Year holidays in Iran. Iran's President is also criticized by experts and, at the same time, is requested to revise his actions., Chief of the Medical Council of Iran requested to avoid presenting a "semi-normal" picture of the situation in the country as the COVID-19. Editorial also expressed doctors' views where doctors` warned government not to create false sense of security and not to undermine society's psychological health (Theran Times, March 31, 2020). As political issues editorial criticized US President Donald Trump’s "maximum pressure" policy that slapped the harshest ever sanctions in history against Iran.

***Governance and institutions***

In February, Tehran Times experts attempted to justify the delayed announcement of the outbreak of COVID-19 in the central city of Qom. It analyzed government roles and duties and mechanism to announce the outbreak of the virus. Editorial stated that typically, strange incidents similar to epidemic diseases should publicly announce after conducting accurate assessments and detailed probes in order not to create panic in the society.

In March, when COVID-19 was quickly spreading, and it caused a significant number of deaths in Iran as experts on governance issues highlighted the views of the government and recalled the values of public services that are: equity, consistency, sustainability, adaptability, precedent and free public services. By pointing these principles government as well as experts reminded and advised the public service officials to extend their help and act accordingly.

***The economy***

In February, two perspectives related to COVID-19 published in Tehran Times, one article expressed the worries related to the oil market due to the rapid spread of COVID-19 in China. At this time, the WHO declared the accelerated dissemination of COVID-19 as an emergency for global health and it created concerns on the world oil market. After the reflection of worries to the oil market, there were no articles or editorial in Tehran Time till February 23. However, after the report of the first case of coronavirus infection on February 19, there were scholars` thoughts related to the government's role, economy, and world politics. The government's instructions and their role mentioned, and economy-related editorial mainly focused on low oil price, downward indices of U.S stock. It indicated the worries and forecast related to the COVID-19 pressure on oil prices. In March, the Tehran Times published the opinions of scholars that gave high focus to the economy. As concern to the economy, rather job loss or loss due to the shutdown of industries, the main focus was related to the travel market and private theatre. It stated that unlike any previous year, this year, during the pick season travel market faced adverse hit due to the COVID-19 outbreak. Since local and government author¬ities issued severe warnings to limit travel between major cities in order to contain the virus. The government also warned that they might use "force" to limit travel throughout the country if needed. Further, experts addressed the loss of private theaters of Iran and the urge for government support to minimize the loss.

Apart from these experts' views and thoughts, there was a different dimension of news related to COVID-19 in Tehran Times, mostly from February 22There was less focused on the economy, preparedness and governance, and more focus on sports and media. Environment and wildlife, which could be a prime focus, were missing in almost all newspapers.

***The environment and wildlife***

From January to March 2020, environmental issues received the attention of the experts only once in early March. Concern expressed as the future warning and fear related to environmental consequences that the world may bear due to the outbreak of the COVID-19, among countries around the world. Unlike other issues of environment, which indicated the reduction of pollution, an opinion in Tehran Times related to Hazardous waste generation.

***Innovation and technology, the media and sports***

Since the COVID-19 spread and fatalities reached very high in March, the news and editorial focus were more in March. Except for regular news started from February 22, there we a total of 14 scholars` thoughts or perspectives in March. Among these, media and technology received more focus than economic, social, and environmental issues. Coronavirus related fake news; bad news and concern related to the reliability of news sources highlighted in different media-related editorials. Distance learning technology for students during the outbreak of COVID-19 addressed in a persecuting. Sports-related articles primarily discussed the cancellation of different sports events at national and international levels. During mid-March, the expert's worries related to Olympic reflected as the Tokyo 2020 Olympic Games could be postponed from the summer`.

**4.2.4 Print Media in Bangladesh and India: *The Daily Star* and *Hindustan Times***

Since the starting of the outbreak of COVID-19 Bangladesh and India were undergoing a health emergency by the outbreak and experts suspected to, have potential long-term impacts on education, economy, governance, society, health, geopolitics, and mind. It was not only a time to 'stay at home and be safe' but also a crucial time for respective experts, leaders, politicians and media staff to encourage coordinated action plans to resolve the upcoming bad situation through risk management and mitigation strategies by transmitting news through print media. The first case of COVID-19 pandemic in India was reported on January 30 2020 whereas in Bangladesh country's Institute of Epidemiology, Disease Control and Research (IEDCR) confirmed to have spread on March 8 2020.

**[Table 8 approximately here]**

In Bangladesh, *The Daily Star*, a well-circulated newspaper paid sparse editorial attention on COVID-19. However, initially there were very limited editorial consideration on how to tackle the virus and what type of precautionary measures to be taken only in the airport by the foreign migratory. Further, there were a few commentaries on international focus especially China COVID-19 settings and future prediction on death toll and economics (Table 8).

With this contrast, Hindustan Times in India had similar observation like The Daily Star in Bangladesh. But they were more proactive to highlight the news on COVID-19 in China and their activities especially infection, economic analysis to predict slow growth of China in coming decade etc. Apart from these, Hindustan Times had alternative focus to alert Indians through wreck lives and economies by this COVID-19 (Table 9).

**[Table 9 approximately here]**

In February 2020, both *The Daily Star* and *Hindustan Times*, the editors did not notice much on COVID-19 in their editorial dashboard. However, different national and international op-eds published regarding COVID-19 covering the different corners of news. It mentioned worthy that both the national newspaper did not focus much on their country context; instead, the emphasis was on international coverage. Most op-eds covered the death toll and the spread of the virus and limited to preparedness and awareness building, which needed more considerable attention to the humanity of these two nations. The Daily Star tried to find out the pitfalls of the government's preparedness. Though the government's preparation was not negligible, the question was whether they followed the right approach.

In March, both the newspaper editorials received massive coverage on COVID-19 when it was already declared pandemic by the World Health Organization (WHO). However, it anticipated that, at last, both the editors played a supportive role for the government why they were failing to take necessary preparatory and precautionary steps to stop the health risk of the whole nation. They also focused on the economic growth pattern, employment and displacement trend, and good governance and innovative technology for testing and drug in both countries.

Last but not least, national op-eds and reader commentary covered preparedness and response measures for COVID-19, including surveillance and contact tracing, lockdown scenario, laboratory diagnosis, risk communications, and community engagement, social distancing, hospital preparedness, infection prevention and control, and implementation of containment plan. Furthermore, various aspects of life, and livelihood options received the attention of experts, scholars from January to March are analyzed and summarized under the following sub-headings.

***Health and drugs***

Health and appropriate treatment are some of the basic needs according to the constitution both in Bangladesh and India. Hence, emergency efforts were underway to find target medical products to prevent widespread infection and diagnose and treat victims during the COVID-19 pandemic. Production and supply chains for COVID-19 candidate drugs (such as chloroquine and hydroxychloroquine), and many other essential medical products, were being impaired by this crisis (Newton and Bond, 2020). Effective and efficient interventions are needed globally to ensure access to safe, quality-assured, and effective medical products on which the world's population will depend (Gawande, 2020). Nevertheless, both the newspaper mainly discussed the death toll slightly less, taking into account health emergency or progress of candidate drug availability issues. Price hikes of medicine and reduced availability of testing kits, personal protection equipment (PPE), health care facilities, intensive care unit (ICU) facilities, unequipped isolation rooms also received priority news coverage in both the newspapers.

***Preparedness and awareness***

Prevention is better than cure is a well-known proverb got much attention in both newspapers, considering the country context. From the very beginning of the outbreak of COVID-19, preparedness received the highest priorities in editorials, commentary, and readers' opinions. The Daily Star and Hindustan Times tried to aware of mass people regarding the devastation of this new disease and how awareness and preparedness activities especially, social distancing, stay, and work at home, can reduce the widespread of this virus. Both the government also planned to take stern action against rumormongers and urged people not to be panicked as the government directed all departments concerned to get prepared for successfully handling the disease. Editorials and commentary from newspapers also paid great awareness-raising write-up for concerned authority to conduct widespread testing, which was hoped to give the real picture of transmission.

***Social welfare***

Bangladesh and India are not new to disasters or significant humanitarian crises. Considering the Covid-19 pandemic, The Daily Star published in the period of late January and February had less pinpoint news regarding the social welfare activities and its necessities for the people who are below the poverty line or depending on their daily wage. However, the commentary tried to alarm the government in the middle of March to increase the social safety-net activities and coverage for the hand to mouth workers who stayed at home due to this pandemic situation. On the contrary, Hindustan Times showed the opposite direction of editorial and commentary. The newspaper paid more focus on social welfare and humanitarian concerns in January, but it shifted its focus on other issues in March.

***Governance and institutions***

Good governance and reliable institutional mechanism are analogous to combat any crisis. Again, a comprehensive, multi-sectoral, and pro-active communication strategy is crucial for effective governance during pandemic situation via i) official communication during outbreak, response and control activities; ii) scientific communications among scientists and officials; iii) mass communications using media, inter-personal communication, announcement, advertisements, etc (MHFW, 2020). With this contrast, both newspapers had a pivotal role in monitoring the governance mechanism and its execution during this pandemic situation. At this point, both The Daily Star and Hindustan Times had a similar focus on governance and institutional operation. However, both countries had the capacity for sentinel-based, event-based, community-based, web-based, and cell phone-based surveillance.

***The economy***

The COVID-19 is a crisis of an entirely different level of magnitude and one that will require a response of an unprecedented scale. The government alone cannot accomplish the fight against COVID-19. It will require an unprecedented level of coordination between the public and private at the local and international level (World Economic Forum, 2020). Bangladesh's and Indian leaders in the public and private sectors must come together to respond to the immediate threats to health systems and the long-term effects on the country's economy. Considering editorials and commentary, economy received 2nd highest priority in The Daily Star, whereas Hindustan Times got 3rd priority issues. The Daily Star in Bangladesh, editorials, commentary, and expert opinions' gave greater emphasis on the country's economy and probable outreach program to counter this pandemic situation from the beginning of February. They also mentioned and calculate the growth of GDP this year and next year too. Editorials and expert opinion has also recommended some probable solutions and pathways to tackle this situation. They also provided information on market analysis. On the other hand, Hindustan Times mentioned that Covid-19 is bound to impact the global economy severely. Businesses across the globe are temporarily halting production, and many may even face bankruptcy. Global supply chains are critically dependent on imported intermediary inputs from China and other countries currently under lockdown. This will create a recession in India.

***Politics***

Politics is part and parcel in the south Asian race. However, in this pandemic condition, politics got very less attention in both the newspapers. *The Daily Star* only focused on nation political opinions and on the contrary, *Hindustan Times* focused on geopolitical tension due to the statement of US President (Donald Trump) and secrecy of China’s government on COVID-19.

***The environment and wildlife***

The *Hindustan Times* provided only single expert opinion, both February and March, on the environment as this pandemic gave a pose to the earth to breathe itself. This is a real breakthrough for the environment as its load-bearing capacity with nature already overburdened.

***Innovation, technology, and the media***

Innovative technology is crucial at this present COVID-19 pandemic. However, from January to March, 2020, very little news was available on this topic. Only rapid test kit development issues received any emphasis.

**5. Discussion**

Considering all the findings and results of this study it is attempted to conduct an analytical discussion. This discussion is mainly oriented to the comparative analysis of the issues highlighted in newspapers on the basis of Hofstede’s model of cultural differentiation in different representing countries. Discussion tried to explore how cultural differences influenced the news media to shape responses to the pandemic in different countries. Furthermore, in discussion it was aimed to relate the priorities of the newspapers with the socio-economic and even political structures of a country, which are built on the theories of the press.

**5.1 Comparative Analysis of Studied Newspapers: Focus on Hofstede’s Model of Cultural Differentiation in Different Countries**

Scholar`s claim that despite the occurrence of a concrete event, crises are highly influenced by the communicative actions taken to define, describe, and solve them (Hearit and Courtright, 2004). Other study also claimed about cultural and political influences in crisis communication (Huang, Wu, and Cheng, 2016). Therefore, this section is an attempt to depict comparative pictures of five different newspapers representing five different countries that have variations in socio-cultural and political settings. It shows the percentage distribution of the issues that are highlighted from January to March. Results denote that among these five newspapers have some similarities and also have wide dissimilarities. Tables starting from Table 5 to Table 9 show overwhelming concentration of scholars` thoughts were in March, though the first case of the outbreak reported in January in Korea and Singapore. As summary findings and comparative picture Table 10 reveals that economy and political issue received more attention in March in all studied newspapers. However it is natural that all countries started to highlight health, preparedness and social issues from January and from the begging of the outbreak in the country. From January to March all newspapers gave the least priority to the issues like environment and wildlife, innovation, technology and media.

**[Table 10 approximately here]**

In the case of scholars’ concerns published in newspapers, some similarities were found between two South Asian countries, Bangladesh and India. However, these two countries reported their first case in two different months. Socio-economic, demographic, cultural, and even geographical similarities may have shaped the thoughts of the scholars during this pandemic. Both India and Bangladesh have the highest focus on health, preparedness, and awareness, and these issues comprise about half of the editorials published in the two leading newspapers of these two countries. Social and political issues also received similar priorities by experts' concerns presented in newspapers of both countries. Among all studied countries, health infrastructures, services, and facilities are the worst in India and Bangladesh. Further, a highly dense population with poor health and hygiene conditions has influenced the focus and priorities of health, preparedness, and awareness issues in the editorials of newspapers in both countries.

Hofstede's cultural dimensions scores of India and Bangladesh show similar scores in case of most of the dimensions and that can explain the reason of similarities in newspapers focus. In case indulgence (the extent to which people try to control their desires and impulses) dimension, Hofstede insights indicate a very low score for India (26) and Bangladesh (20). This low score denotes that there remains a culture of restraint and culture of being guided by social norms and regulations. This culture influenced the editorials to instruct people and guide them and aware of them. Further, India and Bangladesh have high scores in the dimension of power distance (77 and 80 respectively) (https://www.hofstede-insights.com/country-comparison) that denote the top-down or bossy approach, which guided the editorial concerns.

Analyzing the Hofstede's cultural dimensions scores of all five studied countries, it is noticed that except India and Iran, all other countries have individualism scores within 20 and India and Iran have scored around 40. So, since all the countries still have collective societies, social issues did not get much priority in newspapers` editorials. However, since Singapore is a multiracial country that is dominated by Chinese and there was a risk of discrimination and violence to the Chinese ethnicity after the COVID-19 outbreak, social issues get more focus in Singapore's newspaper. In addition to the social issue, governance and politics received the highest attention from the newspaper of Singapore. The general election of Singapore was due on July 10, 2020 and it is one of the probable reasons for such concern by the editorials.

In the case of an economic issue, South Korea shows the highest concerns in the form of newspaper editorials. South Korea has a booming economy and developing faster. However, COVID-19 imposed a sharp declining trend in its stock prices. After the COVID-19 outbreak, the initial ten days from February 1-10, Korea's stock prices tumbled 7.28%. Further, Hofstede's cultural dimensions can explain such high focus to the economic issue by South Korean newspaper. Among all five countries, South Korea has the highest score in long-term orientation (100) and uncertainty avoidance (85). These two high scores can explain why South Korean newspapers and experts are highly concerned about the economy.

Among all five countries, Iran has a unique socio-economic and political situation. In spite of having the highest number of cases (among the studied five countries) within March, The Tehran Times have very less number of experts’ views. International sanctions and restricted diplomatic relation with western world delimit Iranian experts to express their concerns to English newspaper. Among the small number of experts` thoughts, health, preparedness and awareness, economy, innovation, technology and media have the same priorities in Tehran Times. However, compare to other countries` newspapers, the Tehran Times posed more attention to innovation, technology, media, environment, and wildlife.

One prior study has claimed that cultures and social structures of various actors in society influence risk perception, identification, and management (Dressel, 2015). Scholars have also advised that public relations practitioners must consider culture when creating messages (Wertz and Kim, 2010). So, it is evident by the studies that socio-cultural and even political and institutional issues have role to shape crisis communications. In this study variations in different newspapers` concerns in different countries prove such role of socio-cultural influence of a country and thus newspaper to shape the news and crisis of a country.

**5.2 Experts’ Thoughts in E-Newspapers: Shaped by Theories of the Press**

By analyzing five studied newspapers from five Asian countries – South Korea, Singapore, Iran, Bangladesh, and India – it noticed that different newspapers had different priorities. However, in the case of all these five countries, the economy was a key concerning issues. Among all these five countries` newspapers, except India, all newspapers pose the greatest attention to highlight the experts' concerns related to an economic issue. These issues mainly covered employment, job loss, disruption of the supply chain, negative crude oil price, a low forecast level of GDP in all nations. To generate awareness among the mass population and to build preparedness in institutions and communities, editorials also gave attention to preparation and awareness related issues. In order to keep the harmony in the society and to extend help to the others, to show mental support to the frontline workers fighting for COVID-19, experts showed their concerns to the social welfare-related aspect. Among all these, political concerns also received much attention from the experts` opinions. During this devastating time to blame game is going on, and one country is criticizing others. Since including Olympic, several sports events were canceled or postponed; in some countries, sports had attention to some extension. However, the environment and wildlife, which suspected of having a great link to the outbreak, have not widely focused on the experts` opinions. Innovation and technology-related efforts are going on all over the world, but this issue was not highlighted much as editorial concerns.

Experts argue that the socio-economic structure of the country and community has a strong link to the aspects like risk perception, awareness, and response (Djalante, Shaw and Andrew, 2020). Theories of the press also supports that state system, ownership, politics and economics also influence and shape the concerns of the media (Hachten, 1981). Therefore, different countries and their leading print media have shaped different aspects affected by COVID-19 according to their socio-economic and even to their political structures and settings. Analysis with the help of the Hofstede model also denotes this relation between socio-economic and cultural dimensions of a country and their influence to communication behavior.

**5.3 Limitations of Study**

Within the scope of this study five newspapers of five Asian countries have been highlighted. However, China and Japan, which are the initial two countries where pandemic was emerged are not included here. Newspapers of other Asian countries that have different socio-cultural and ethnic settings (e.g. Malaysia, Indonesia) are not included in this study.

This study considered only one leading newspaper from each of the selected countries. However, except the selected newspaper, some other newspapers and medias may have dealt and shape the pandemic situation differently. Due to time and resource limitations, it was very hard to include more countries, and more newspapers and other media.

This study mainly analyzed the editorials of the studied newspapers. There were many other opinions and concerns addressed by other scholars and experts in the op-eds section. However, this paper failed to address all other experts` views, since it would extend the works load and dimensions remarkably.

This study was initiated and motivated by media richness theory (MRT) and theories of the press. Hofstede’s model of cultural differentiation was also incorporated during the analysis. However, intensive analysis based on those theories was not conducted. Analyses and discussions were limited to brief reflections of the theories.

Finally, as a possible limitation, human errors may have occurred when conducting text mining from a large number of editorials. Therefore, despite their sincere efforts, the authors may have missed or duplicated some important observations or concerns addressed in editorials.

**6. Concluding Remarks**

From the emergence of the COVID-19 in late December 2019 to April 2020, the virus not only turned into a pandemic but also created a devastating global problem. The pandemic now shapes almost every sector of every nation. Nevertheless, the situation is not the same in all nations and all sectors. Along with the timing of the outbreak, extend of spread and fatalities, socio-economic and political conditions of a country have to some extent determined the preparedness, institutional efforts, socio-economic condition and measures, and also political debates. All these topics are dealt with and researched by the professionals, and the world's newspapers must learn these analyzes.

From the results and discussions it is understandable that cultural differentiations, socio-, economic, political and even institutional set up of a country and the meadia as well have remarkable influence and role to represent and shape the news and thoughts of a newspaper. However, scholars advised for global standard and protocol for regional and national response in this strongly interconnected world (Djalante, Shaw and Andrew, 2020). In this global world, addressing a global issue may have wider and global impact. Therefore, newspapers also should have decisive judgment and concern to the issues that are not only national need but also need of the world to combat the global crisis such as this pandemic. Avoiding blame games, fake news, exaggeration, and politics newspapers and media should play key role in guiding the mass population and policymakers to face crises and to bounce back better.

# Conflict of Interest

*The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest*.

# 8. Author Contributions

The Author Contributions section is mandatory for all articles, including articles by sole authors. If an appropriate statement is not provided on submission, a standard one will be inserted during the production process. The Author Contributions statement must describe the contributions of individual authors referred to by their initials and, in doing so, all authors agree to be accountable for the content of the work. Please see [here](http://home.frontiersin.org/about/author-guidelines#AuthorandContributors) for full authorship criteria.

# Funding

Details of all funding sources should be provided, including grant numbers if applicable. Please ensure to add all necessary funding information, as after publication this is no longer possible.

# Acknowledgments

This is a short text to acknowledge the contributions of specific colleagues, institutions, or agencies that aided the efforts of the authors.

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Table 1: Number of people affected by COVID-19 in selected five Asian countries (to April 30, 2020)

| **Country** | **Confirmed casesa** | **Recovered cases** | **Deaths** | **Transmission classificationb** | **Date of first confirmed case** |
| --- | --- | --- | --- | --- | --- |
| South Korea | 10,765 | 9,059 | 247 | Local transmission | 20 January 2020 |
| Singapore | 15,641 | 1,188 | 14 | Local transmission | 23 January 2020 |
| Bangladesh | 7,103 | 150 | 163 | Local transmission | 07 March 2020 |
| India | 33,050 | 8,325 | 1,074 | Local transmission | 30 January 2020 |
| Iran (Islamic Republic of) | 93,657 | 73,791 | 5,957 | Local transmission | 19 February 2020 |
| **Total** | 160,216 | 92,513 | 7,455 |  |  |
| **Global percentage** | **5.02** | **9.51** | **3.27** |  |  |

**Note:** Sources: World Health Organization (WHO), Wikipedia and Johns Hopkins University;

aNumbers include both domestic and repatriated cases;

bLocal transmission indicates locations where the source of infection is within the reporting location.

Table 2: Compilation of the data of the number of people affected by novel COVID-19 in the selected Asian countries

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Country** | **Affected by month** | | | **Deaths by month** | | |
| **January** | **February** | **March** | **January** | **February** | **March** |
| South Korea | 11 | 3,150 | 9,887 | - | 17 | 165 |
| Singapore | 16 | 102 | 926 | - | - | 3 |
| Bangladesh | - | - | 51 | - | - | 5 |
| India | 1 | 3 | 1,397 | - | - | 35 |
| Iran | - | 593 | 44,606 | - | 43 | 2,898 |
| **Total** | **11,836** | **83,911** | **140,599** | **243** | **2,935** | **6,475** |

**Sources:** Compiled from the existing data sources of World Health Organization (WHO), Wikipedia and Johns Hopkins University.

Table 3: Details of the study areas and English-language dailies searched to conduct the study

| **Country** | **Geographical region** | **Name of the newspaper** | **First published** | **Daily print circulation (approx.)** | **Version** | **Position in the countrya** | **Social media** | **Registered online users (approx.)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| South Korea | East Asia | The Korea Herald | August 1953 | 35,000 | Both print and online | First | Facebook, Twitter, YouTube, Instagram | Data defficient |
| Singapore | Southeast Asia | The Straits Times | July 15 1845 | 968,000 | Both print and online | First | Facebook, Twitter, LinkedIn, Instagram | 370,000 |
| Bangladesh | South Asia | The Daily Star | January 14 1991 | 55,000 | Both print and online | First | Facebook, Twitter, YouTube, Instagram, Pinterest | Data defficient |
| India | South Asia | Hindustan Times | September 26 1924 | 945,221 | Both print and online | Second | Facebook, Twitter, YouTube, Instagram, LinkedIn, news feed | 2,800,000 |
| Iran (Islamic Republic of) | West Asia | Tehran Times | May 21 1979 | 100,000 | Both print and online | First | Facebook, Twitter, Instagram, news feed | Data defficient |

**Source:** All the information collected from the websites of each newspaper: aPosition in the country based on daily print circulation of English dailies.

Table 4: Scope of the study on the role of print media about COVID-19 in five Asian countries

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Selected countries** | **Selected newspapers** | **Section of the newspapers** | **Study duration** | **Key aspects of study focus** |
| * South Korea * Singapore * Bangladesh * India * Iran (Islamic Republic of) | * The Korea Herald * The Straits Times * The Daily Star * Hindustan Times * Tehran Times | * Opinion (Editorial, Viewpoint) * Opinion (ST Editorial) * Opinion (Opinion, Editorial) * Opinion (Opinion, Editorial) * Opinion (Opinion, Editorial) | January -March | * Health and drug * Preparation and awareness * Economy (Employment, Industry, production, and supply * Politics National and World * Governance and Institutional * Social Welfare and Humanity * Sports * Environment and Wildlife * Media and Technology |

Table 5: Issues related to COVID-19 addressed by *The Korean Herald* editorials (January–March) 2020)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Month** | **Health and protection** | **Economy and Industry** | **Isolation and treatment** | **Politics** | **Recovery** | **Total** |
| January | 1 | 2 | N/A | N/A | N/A | 3 |
| February | 5 | 9 | 5 | 2 | 2 | 23 |
| March | 4 | 11 | 3 | 4 | 5 | 27 |
| **Total** | **10** | **22** | **8** | **6** | **7** | **53** |

Source: *The Korean Herald* (January 20–March 31, 2020).

Note: N/A means not available

Table 6: Issues related to COVID-19 addressed by *The Straits Times* editorials (January–March, 2020)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Month** | **Preparation and awareness** | **Social welfare** | **Governance and institutions** | **Politics** | **Economy** | **Environment and Wildlife** | **Innovation and technology and media** | **Total** |
| January | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| February | 3 | 2 | 1 | 3 | 4 | 0 | 1 | 14 |
| March | 2 | 5 | 3 | 4 | 4 | 1 |  | 19 |
| **Total** | **6** | **7** | **5** | **7** | **8** | **1** | **1** | **35** |

Source: https://www.straitstimes.com/opinion/st-editorial?page

Table 7: Issues related to COVID-19 addressed by *Tehran Times* editorials (January–March, 2020)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Month** | **Health and drug** | **Preparation and awareness** | **Social welfare** | **Governance and institutions** | **Politics** | **Economy** | **Environment and Wildlife** | **Innovation and technology** | **Total** |
| January |  |  |  |  |  |  |  |  | 0 |
| February |  |  | 1 | 1 | 1 | 2 |  |  | 5 |
| March | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 4 | 14 |
| **Total** | **2** | **2** | **2** | **2** | **2** | **4** | **1** | **4** | **19** |

**Source:** https://www.tehrantimes.com/archive

Table 8: Issues related to COVID-19 addressed by *The Daily Star* editorials (January–March, 2020)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Month** | **Health and drug** | **Preparation and awareness** | **Social welfare** | **Governance and institutions** | **Politics** | **Economy** | **Innovation and technology and media** | **Total** |
| January | 3 | 2 | 2 |  |  |  |  | 7 |
| February | 4 | 8 | 3 | 4 |  | 7 |  | 26 |
| March | 9 | 21 | 6 | 8 | 5 | 16 | 1 | 66 |
| **Total** | **16** | **31** | **11** | **12** | **5** | **23** | **1** | **99** |

Source: https://www.thedailystar.net/editorial

Table 9: Issues related to COVID-19 addressed by *Hindustan Times* editorials (January–March, 2020)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Month** | **Health and drug** | **Preparation and awareness** | **Social welfare** | **Governance and institutions** | **Politics** | **Economy** | **Environment and Wildlife** | **Innovation and technology and media** | **Total** |
| January | 6 | 1 | 6 | 1 |  | 2 |  |  | 16 |
| February | 8 | 6 | 2 | 1 |  | 3 | 1 | 1 | 22 |
| March | 14 | 17 | 3 | 10 | 5 | 8 | 1 | 2 | 60 |
| **Total** | **28** | **24** | **11** | **12** | **5** | **13** | **2** | **3** | **98** |

**Source:** https://www.hindustantimes.com/editorials/

Table 10: Comparative representation of different aspects focused by different newspapers in five different countries

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Newspapers | Months | % of different broad issues highlighted among all editorials in a newspaper from January to March | | | | | Possible Reasons |
| Health, Preparedness and Awareness | Economy, Industry, Production, Supply, Demand | Social | Governance and Politics | Innovation, Technology, Environment and Wildlife |
| *The Korea Herald* | January (N=3) | 33 | 66 | 0 | 0 | 0 |  |
|  | February (N=23) | 52 | 39 | 0 | 9 | 0 | Domestic consumption reduced, stock prices collapsed 7.28%, |
|  | March (N=27) | 44 | 41 | 15 | 0 | 0 | Proposal of extra budget of $9.86 billion by President's administration, Bank of Korea slashed its outlook from 2.3% to 2.1%, debt to GDP ratio projected to exceed 45%, rising unemployment issue |
|  | Total (N=53) | 47 | 42 | 11 | 0 | 0 |  |
| *The Straits Times* | January (n=2) | 50 | 0 | 0 | 50 | 0 | Highest affected cases in Asia after china and Governmental and institutional initiatives emerged. |
|  | February (N=14) | 21 | 29 | 14 | 29 | 7 | Falling in oil price, tourism industry, reduction of GDP, decline in the global economy, disruption in supply chain |
|  | March (N=19) | 11 | 21 | 26 | 37 | 5 | Due to General Election  and the reasons mentioned in the month of February |
|  | Total (n=35) | 17 | 23 | 20 | 34 | 6 |  |
| *Tehran Times* | January (N=0) | 0 | 0 | 0 |  | 0 |  |
|  | February (N=5) | 0 | 40 | 20 | 40 | 0 | Falling down in oil price |
|  | March (N=14) | 29 | 14 | 7 | 14 | 36 | Shutdown of industries, adverse hit in travel market and theatre |
|  | Total (N=19) | 21 | 21 | 11 | 21 | 26 |  |
| *The Daily Star* | January (N=7) | 71 | 0 | 29 | 0 | 0 | Price hike of medicine and lesser availability of testing kit, PPE, Hospital facilities are not up to mark |
|  | February (N=26) | 46 | 27 | 12 | 15 | 0 | Due to rapid outbreak in several parts of the world as a developing country started to fight against Covid-19 by preparing and creating awareness to the people. |
|  | March (N=66) | 45 | 24 | 9 | 20 | 2 |
|  | Total (N=99) | 47 | 23 | 11 | 17 | 1 |  |
| *Hindustan Times* | January (N=16) | 44 | 13 | 38 | 6 | 0 | Mass populated country, less available facilities to fight against COVID-19, mostly rely on health and drugs, prevention and creating mass awareness. |
|  | February (N=22) | 63 | 14 | 9 | 5 | 9 |
|  | March (N=60) | 52 | 13 | 5 | 25 | 5 |
|  | Total (N=98) | 53 | 13 | 11 | 17 | 5 |  |

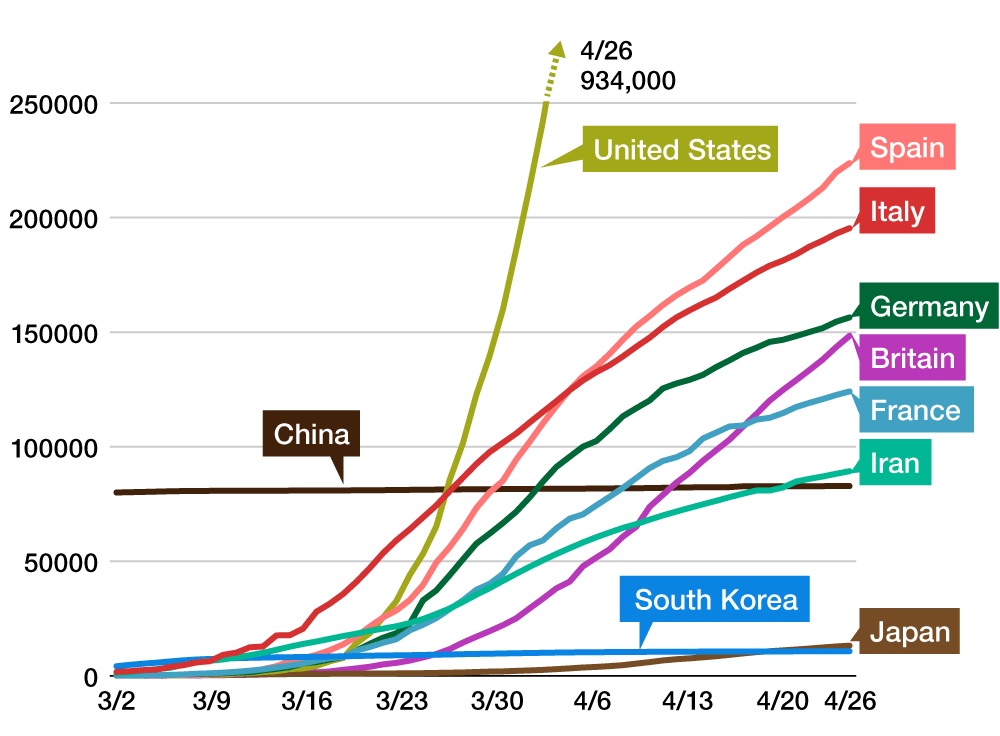


Fig. 1: COVID-19 infections in the top country up to April 26 2020.

(Source: https://www.nippon.com/en/japan-data/h00673/)



Fig. 2: Regions, newspapers, and issues addresses by this study