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## Watch and progress strategy: a case study approach of India's Covid-19 pandemic situation

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**Abstract:** The government of India is busy with many development projects, building infrastructures, introducing innovative technologies and expanding roadways that pave the way for future generations. Under these circumstances, the novel Covid-19 pandemic situation outbreak poses many challenges to the largest democratic country. For over 12 months of experiencing the turbulent situation, i.e., from March 2020 to February 2021, India is the second-largest populated country and sixth-largest economy. This novel Covid-19 is new in human history, and hence the knowledge paradigm is exposed to many new twists and turns in the existing knowledge body. The knowledge obtained through holy scripts, wisdom is all in vain. It is the structured knowledge with concrete solutions that lend a helping hand. Based on this case study total interpretive structural modelling (TISM) was applied for model building. Time-series data analysis conducted for empirical analysis, and what could be the exit strategy for the pandemic situation, regional implications and India's implications are discussed.

**Keywords:** strategy; containment; formulation; India; time series; Covid-19.

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## 1 Introduction

Plagues and disease continued to remain as a part of human civilisations. Despite the hardship and perseverance, humankind evolved and progressed through assimilated wisdom and knowledge that made the human race proceed. History records mass burial, war casualties, and ethnic cleansing. The Black Death that happened during 1346–1353 in Afro-Eurasia killed 40–60% of total population (Varlik, 2020). Similarly, the concept of quarantine was date back to 1377 (Gensini et al., 2004). These fatalities never threatened humankind, like the way new pandemic called Covid-19 that consistently challenging the human race. It is rare in history that a nation witnessed 157,000 deaths in a 12 months time duration (WHO, 2021).

India is the second-largest populated country in the world next to china which is a geographically neighbouring country to India. Hence India shares river, mountains, and regional territories with China. Therefore under such circumstances, India is widely exposed to the new Covid-19 pandemic in its densely populated region. It is a democratic country and densely populated geography that believes in the rule of law and drives towards a democratic philosophy. As a unique nation with 18 regional languages and dialects, the cultural diasporas continue to remain a substantial factor in India. Therefore the study focus on how India put sustained effort to tackle the newly emerged Covid-19 pandemic situation.

As a unique nation in the global order, its internal problems and mechanisms too unique in nature. India relies on railways transportation and public sector bus services for mobilising goods and people within the state and interstate communications. The nature of the disease is that it spreads through the air; hence, association and mobilisation of people are greatly affected, which remain a cornerstone for India's business and economic activities. The centralised educational institutes attract deserving students from India's corners to the national capital and other regional metro cities. These metro cities are the central hub for organised and unorganised sector business activities and parallel economic activities. Unlike other townships in India, these metro cities act as regional headquarters for many MNC's activities. India is busy as it can. Under such circumstances, the first spark of wet market syndrome disease broke out in China in December 2019. The second spark came in February 2020, where the whole district got affected by the novel illness, and the media highlighted the potentiality of spreading further. India too started to record a few cases in early February 2020; however, the situation got worst in mid-March 2020 with the sudden rise in death rate. India's government gave an alert message and asked the central institutes and education centre to vacate immediately on 13 March 2020 (Hindustan Times, 2020) and closed until next notice. As an English proverb goes, "the first impression is the best impression"; India's bold initiatives significantly contributed towards strategic advancement in governance mechanism.

## 2 Literature review

According to WHO (2020), "COVID-19 has spread rapidly worldwide, affecting every community directly or indirectly. Stringent public health and social measures (PHSM) have been put in place by all countries to slow the spread of COVID-19. These include limitations on domestic and international travel; stay-at-home orders; closing of schools,

shops, and religious centres; among other measures". This pandemic situation raised heated debate and discussion on policy science, political lineage and decision abilities. Patel (2020) discuss that Covid-19 renewed attention on lack of infrastructure, urban planning and necessary health facilities and the requirement of knowledge-based resources (Xiao, 2017). Urban planning and infrastructure remain a critical element that needs attention along with ethical and economic responsibilities (Neequaye et al., 2019), likewise in the same discussion, Greer et al. (2020) insist on the need for crisis management and the state capacity to address public health despite their political stand because insurgencies lessen the economic opportunities to youth population and that leads to mass migration (Dhakal et al., 2018). In terms of public health, the physical distancing measure is the most effective to contain the spread of Covid-19 (Prem et al., 2020). Similarly, Singh et al. (2020) empirical study show that lockdown, social distancing, and naturopathy are few effective ways to contain the Covid-19 spread. Whereas Bol et al. (2020) explains lockdown containments are vote intentions; further, the relationship between nationalism and the chance of eroding nation-state principle sparked debate during the Covid-19 pandemic (Woods et al., 2020) likewise, Goswami and Agrawal (2020) say that local cultural context is important and such approach in policy science deserves attention under pandemic situation (Weible et al., 2020) and the interaction between stakeholders and institutional influence (Herold et al., 2019) are important because society and economies are always experience tension between competition and cooperation (Rusko, 2015).

## *2.1 Theoretical background*

Society as a structure has many subunits that facilitate the holistic development of the social institutions as such. Under this structure, change, growth and development are unavoidable and vice-versa. When a disturbing factor penetrates the social structure, an unstable situation arises that bring social change. For example, Coser (1957), when discussing the theory of social change, he says that a black death within the system may bring a considerable difference in the social structure and leads to the emergence of a new system. Change agent factors cannot necessarily be a class struggle as occurred in the industrial era, and it can be any change agent or element that is novel and groundbreaking. Likewise, social identity theory coined by Stets and Burke (2000) says that relatively stable components are essential for a structured society. Culture is a necessary aspect of social identity theory, where people identify themselves with similar groups, and they expect standard behaviour. When a culture in society fades, then the social identity fades among the group; hence those particular social groups become fragile and more exposed to external components or elements. However, for analysing purpose, Jarzabkowski (2003) states the interaction and interpretation between actors and collective structure remains essential for practical activity. National interest and domestic identity are some of the regional variable identified by Hameiri (2013). Another significant actor is the political agent as a dynamics of political coalitions that are very much internal in nature (Hannan and Freeman, 1984). There can be influential actors, moderate players, and determinant factors or agents of the societal structure directly associated with decision making. As Coser (1957) pointed that, conflict leads to progress that cannot avoid change factor. According to Walder (2009), opportunity structures imply the orientation of movement in political process models. Societies are dynamic in nature, and they move towards series of developmental phases, as Myrdal (1957)

explained the spread effect, where the labour and goods move towards developing regions that require safe access to transportation and social security; therefore, regional inequalities expected to be higher in developing countries than developed countries (Fan, 1997).

### **3 The methodology of the study**

The study follows a single case study methodology towards India's strategic response in handling the Covid-19 pandemic situation. For model building, total interpretive structural modelling (TISM) applied. The factors identified from the case study, and along with constructs, transitive links placed. For empirical analysis, time-series data collected from the available online source for 12 months, such as from 21 March 2020 to 21 February 2021. The three elements of time series, such as situationality, trend and unexpected events, are discussed. Finally, the implications are analysed. The reports are the government of India issued circulars shown in Table 2, and the data collected from JHU CSSE is available online.

#### *3.1 Total interpretive structural modelling*

The matrix and the digraph are essential in the problem-solving technique, and the construction of a matrix is vital for a complex system (Warfield, 1973). Any problem-solving method requires a holistic approach towards specific issues. And those interpretive techniques have nodes and links. Sandbhor and Botre (2014) say that total interpretive structural modelling (TISM) is developed through the interpretive structural modelling (ISM) technique that facilitates the graphical representation of complex systems and through the system overall structure is extracted. In terms of links and nodes, total interpretive structural modelling differs from interpretive structural modelling. The links are not exhibited in interpretive structural modelling (ISM), whereas the nodes hierarchically explained in ISM; therefore, ISM further iterated to TISM (Rajesh, 2017).

#### *3.2 Time series analysis*

Time-series analysis intended to study the past sequence and identify the future consequences. Time series data collected for 12 months for both infection rate and death rate in India for a time period of March 2020 to February 2021 forms a total of twelve cycles of study. According to Parzen (1961), "in term of the spectrum and for many purposes, it is preferable to opt for time series, rather than co-relation function". This analysis gives the idea of the behaviour of the dynamic linear system, "and it helps in calculating the contribution of various frequency of the cycle" (Anderson et al., 1984).

### **4 Case study background**

According to WHO (2021), India reported 11,124,527 confirmed cases. And a total of 157,248 deaths have been reported. India, being the second largest populated country globally, Indian railways are the fourth largest public enterprise and the fifth largest economy in the world. Hence India is more active in post-liberalisation (after 1999) than

in the pre-liberalisation period. According to an economic survey (2020–2021), “the Covid-19 pandemic engendered a once-in-a-century global crisis in 2020 – a unique recession was 90 per cent of countries expected to experience a contraction in GDP per capita”. Faced with unprecedented uncertainty at the onset of the pandemic, India focused on saving lives and livelihoods by its willingness to take short-term pain for long term gain. India’s response stemmed from the humane principle advocated eloquently in the Mahabharata that “saving a life that is in jeopardy is the origin of dharma. India imposed the most stringent lockdown at the very onset of the pandemic”. This study focuses on handling and containing the pandemic situation and the possible strategy to restrict the spread of Covid-19. The state-wise data of Covid-19 cases and the death rate are in Table 1 and lockdown details and act in Table 2.

**Table 1** State-wise Covid-19 cases and death rate

<i>States</i>	<i>Covid-19 Cases</i>	<i>Deaths</i>
Andaman and Nicobar Islands	5,020	62
Andhra Pradesh	890,080	7,169
Arunachal Pradesh	16,838	56
Assam	217,585	1,093
Bihar	262,597	1,541
Chhattisgarh	313,032	3,844
Delhi	639,681	10,911
Diu and Daman	3,408	2
Goa	55,073	796
Gujarat	270,770	4,411
Haryana	271,125	3,052
Himachal Pradesh	58,800	996
Jammu and Kashmir	126,589	1,958
Jharkhand	120,037	1,090
Karnataka	952,037	12,343
Kerala	1,064,279	4,226
Ladakh	9,819	130
Lakshadweep	407	1
Madhya pradesh	262,433	3,865
Maharastra	2,169,330	52,238
Manipur	29,282	373
Meghalaya	13,966	148
Mizoram	4,427	10
Nagaland	12,200	91
Odisha	337,351	1,917
Puducherry	39,763	669
Rajasthan	320,557	2,787
Sikkim	6,147	135

*Source:* <https://github.com/CSSEGISandData/COVID-19> (data source)

**Table 1** State-wise Covid-19 cases and death rate (continued)

<i>States</i>	<i>Covid-19 Cases</i>	<i>Deaths</i>
Tamil Nadu	852,478	12,502
Telangana	299,254	1,635
Tripura	33,420	391
Uttar Pradesh	603,711	8,728
Uttarakhand	97,089	1,692
West Bengal	575,487	10,270

*Source:* <https://github.com/CSSEGISandData/COVID-19> (data source)

**Table 2** India's Government order and detailed provisions

<i>Lockdown and un-lockdown</i>	<i>Provisions</i>	<i>Under act (rule of law)</i>
First lockdown 24-3-2020 to 15-4-2020	Transportation service, educational institutions, hospitality, industrial establishments remain closed. Essential goods shall move.	Ministry of Home Affairs Order No. 40-3-2020D
Second lockdown 15-4-2020 to 31-5-2020	Identification of red, green and orange zones. State has no control over lowering zonal status. Risk assessment. Restaurants allowed for home delivery. Metro services prohibited. Schools and colleges remain closed. State allowed prohibiting activities under assessment.	National Disaster Management Authority in exercise of power under 6(2)(i) of Disaster Management Act 2005
Un-lockdown 1 30-5-2020 to 30-6-2020	Phased reopening approach	
Un-lockdown 2 30-6-2020 to 31-7-2020	Activities permitted outside containment zones <ul style="list-style-type: none"> <li>• schools and colleges shall remain closed</li> <li>• re starting metro rails, political gatherings</li> <li>• training institutions opened from 15 July.</li> </ul> Lockdown extended in red zones	Order No. 40-3-2020 DM-I(A)
Un-lockdown 3 29-7-2020 to 31-8-2020	No restrictions on movement of inter-state, intra-state and border trade.	

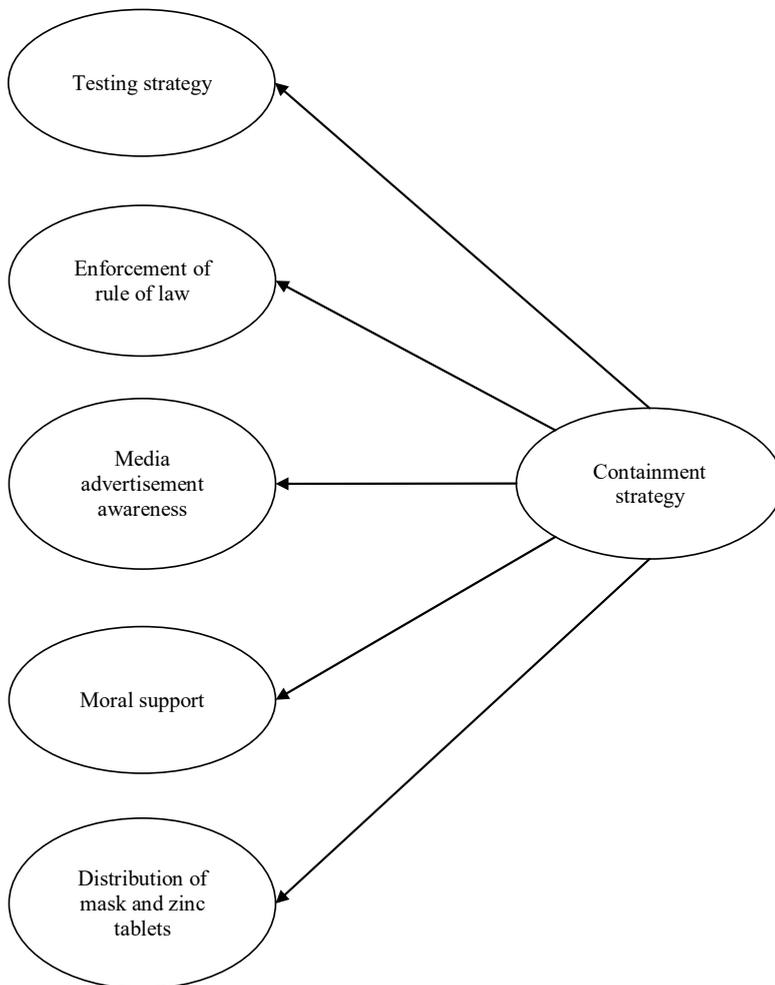
#### 4.1 Watch and careful progress strategy

By extending lockdown through the strict imposition of the rule of law such as 144 and the Disaster Management Act 2005, India's government carefully balanced the economic and commercial activities. The government insisted on social security for the people. In

the later phase, they allowed the relaxation in the containment policy, leading to an increase in new cases and death rates. Due to fewer tools, prolonged lockdown, and reliable approach, the government initiated precautions to contain the situation. Under such circumstances, the rule of law played a significant role.

Mobilisation of goods and people became inevitable to sustain livelihood and commercial activities. Although the government insists on the importance of e-commerce, the availability of internet connectivity and infrastructure remains a hurdle to maximise the chances of business and commercial activities for both market and people. However, this policy design widely helped the townships and metro cities. This lead to the upshot of the emergence of unorganised and parallel economic activities in the developing regions. Such criteria further facilitated the mobilisation of people and goods. People cooperation helped the government to initiate a flexible approach to withstand the pandemic situation.

**Figure 1** Containment strategy initiatives by India’s Government



In the later stage, India's Government allowed states and union territories to share responsibilities in implementing central government orders and monitor mechanism. The state started imposing mandatory RT-PCR test for domestic air passengers for interstate travel purpose in part of the respective state: Cinema halls and other public gatherings allowed with a 50% occupancy rate. For instance, Tamil Nadu is facing its state minister's electorate on 6 April 2021, considering that the state government allowed local transportations a few months earlier and opened schools and colleges. Likewise, Delhi and Maharashtra started their metro services by maintaining social distancing (India Today, 2020; Indian Express, 2020).

The awareness conducted for Covid-19 related issues is through daily paper advertisements and signboards. The central government ministers and civil servants always motivated the crowd and provided moral support through radio speeches and television interviews. However, containing the situation remains challenging; hence the government issued an order for the house to house testing in the red zone areas. Parallel to the test strategy, the government distributing masks and zinc tablets. The containment strategy followed by India is in Figure 1.

#### *4.2 Total interpretive structural modelling methodology*

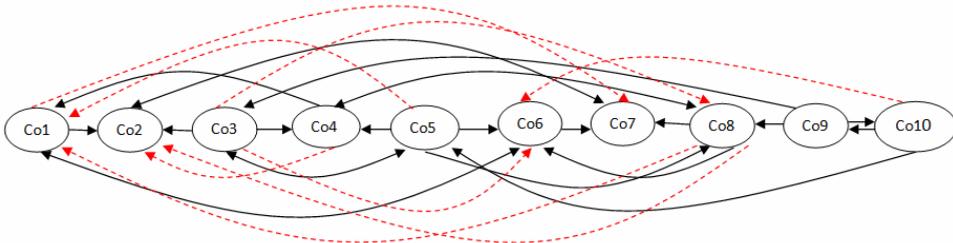
Total interpretive structural modelling (TISM) done with ten significant factors observed from the pandemic situation. Those factors are

- 1 multi-lingual groups
- 2 cultural uniqueness
- 3 leading economy
- 4 market economy
- 5 the rule of law
- 6 centre-state relationship
- 7 less informed crowd
- 8 youth population
- 9 small syndrome
- 10 big brother.

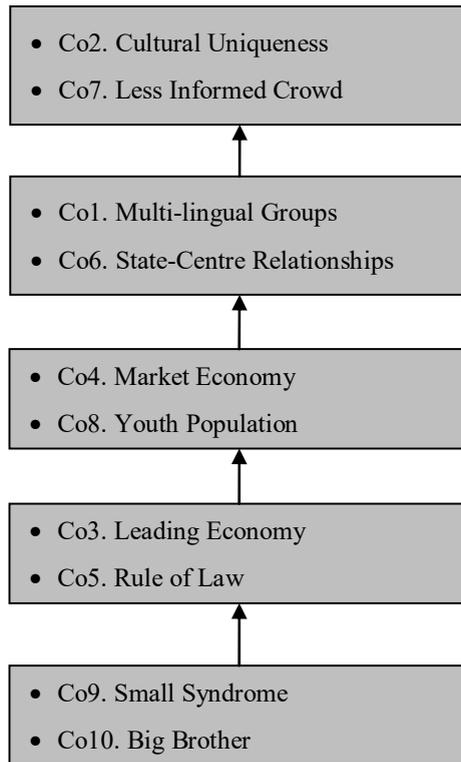
The multi-lingual group shows India's population's diversity settled in various parts of India, and fortune seekers move towards national capital and regional capital cities. These multi-lingual groups include the youth population. Every culture in India is unique in its way, all major living religions are active, and they are participating in economic activities. India is Asia's leading economy. It is home to many multinational companies (MNCs) and has its regional headquarters in India's developed cities. Hence India relies on a market economy that remains a growth engine for India's economic growth. India is the largest democratic country follows a written constitution for governance purpose. The state government has no separate constitutional draft or law complements. Indian form is common for all states and union territories; hence it has to oblige law rule. Such quasi-federal is how the centre-state relationship practices. In international relations, the

regional powers and SAARC nations consider India a big brother in policy assignments. The literature denotes that India’s neighbours have a small syndrome. Hence it is another notion of extending responsibilities towards small neighbouring countries. Under such an available situation, India has to handle the pandemic. Therefore, ten factors taken for the total interpretive structural modelling and the obtained model in Figure 2. And the obtained reachability and transitivity matrix are in Table 3 and hierarchical partitioning shown as Table 4. Figure 2 showing the decision links and transitive links diagram and Figure 3 is obtained ISM (interpretive structural modelling) and Figure 4 is TISM model.

**Figure 2** Successive pair-wise comparison of both decision and transitive links of obtained model for India’s Covid-19 situation (see online version for colours)



**Figure 3** Interpretive structural modelling of India’s Covid-19 situation



**Table 3** Reachability and transitivity matrix

	Co1	Co2	Co3	Co4	Co5	Co6	Co7	Co8	Co9	Co10
Co1	1	1	0	0	0	1	1*	0	0	0
Co2	0	1	0	0	0	0	1	0	0	0
Co3	1	0	1	1	1	1*	0	1*	0	0
Co4	1	1*	0	1	0	0	0	1	0	0
Co5	1*	0	1	1	1	1	1	1	0	0
Co6	1	0	0	0	0	1	1	0	0	0
Co7	0	1	0	0	0	0	1	0	0	0
Co8	1*	1*	0	1	0	1	1	1	0	0
Co9	0	0	0	0	1	0	0	0	1	1
Co10	0	0	1	0	1	1*	0	0	1	1

Note: 1\* – transitive links.

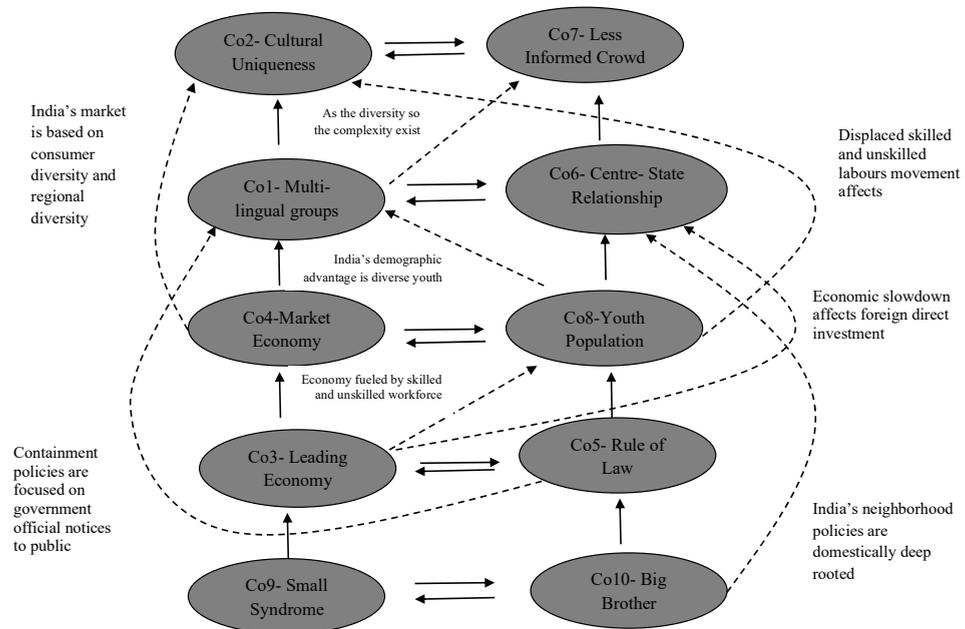
**Table 4** Hierarchical level partitioning obtained from matrix

Element no.	Antecedent	Reachability	Intersection	Level
Co1	1, 2, 6, 7	1, 3, 4, 5, 6, 8	1, 6	
Co2	2, 7	1, 2, 4, 7, 8	2, 7	I
Co3	1, 3, 4, 5, 6, 8	3, 5, 10	3, 5	
Co4	1, 2, 4, 8	3, 4, 5, 8	4, 8	
Co5	1, 3, 5, 7, 8	3, 5, 9, 10	3, 5	
Co6	1, 6, 7	1, 3, 5, 6, 8, 10	1, 6	
Co7	2, 7	1, 2, 5, 6, 7, 8	2, 7	I
Co8	1, 2, 4, 6, 7, 8	3, 4, 5, 8	4, 8	
Co9	5, 9, 10	4, 9, 10	9, 10	
Co10	3, 5, 9, 10	6, 9, 10	9, 10	
Co1	1, 6	1, 3, 4, 5, 6, 8	1, 6	II
Co3	1, 3, 4, 5, 6, 8	3, 5, 10	3, 5	
Co4	1, 4, 8	3, 4, 5, 8	4, 8	
Co5	1, 3, 5, 8	3, 5, 9, 10	3, 5	
Co6	1, 6	1, 3, 5, 6, 8, 10	1, 6	II
Co8	1, 4, 6, 8	3, 4, 5, 8	4, 8	
Co9	5, 9, 10	4, 9, 10	9, 10	
Co10	3, 5, 9, 10	6, 9, 10	9, 10	
Co3	3, 4, 5, 8	3, 5, 10	3, 5	
Co4	4, 8	3, 4, 5, 8	4, 8	III
Co5	3, 5, 8	3, 5, 9, 10	3, 5	
Co8	4, 8	3, 4, 5, 8	4, 8	III
Co9	5, 9, 10	4, 9, 10	9, 10	
Co10	3, 5, 9, 10	6, 9, 10	9, 10	
Co3	3, 5	3, 5	3, 5	IV
Co5	3, 5	3, 5	3, 5	IV
Co9	5, 9, 10	4, 9, 10	9, 10	
Co10	3, 5, 9, 10	6, 9, 10	9, 10	
Co9	9, 10	9, 10	9, 10	V
Co10	9, 10	9, 10	9, 10	V

The model shows that cultural uniqueness (Co2) and the less informed crowd (Co7) remain a high-intensity factor in the pandemic situation. The small syndrome (Co9) and big brother (Co10) remain as driving factor. The linkage factor remains as multi-lingual groups (Co1) and centre-state relationships (Co6). The multi-lingual groups show a transitive connection towards less informed crowds (Co7). Various ethnic groups with multiple languages show the cultural-lingual diversity is a significant component in dealing with the pandemic situation.

The mediating factors are the market economy (Co4) and youth population (Co8). Both these factors show a transitive link towards cultural uniqueness (Co2). The migrated population searching for fortune from the rural areas is widely active in townships, the national capital and metro cities. These populations facilitate the market economy through the movement of goods and resources. Again the youth population (Co8) provides a transitive link to multi-lingual groups (Co1); although they migrate for fortunes communication, barriers continue to exist.

**Figure 4** Total interpretive structural modelling of India’s Covid-19 pandemic situations



Leading economy (Co3) and the rule of law (Co5) remain a second immediate driving factor that shows the governance aspect remains a pushing factor and business and commercial activities. The leading economy shows a transitive link towards centre-state relationships (Co6) that provides insight into the state responsible for the earlier commitments made by the central government towards the MNCs and other special economic zones. The rules of law continue to facilitate such activities through balancing governance and business activities.

### 4.3 Time series data analysis

According to Parzen (1961) “A set of observations arranged chronologically is called time series”. The time-series data collected for one year comprise 12 months for both new cases and death of Covid-19 pandemic. Every month 21st date is taken for analysis throughout 2020–2021, and the range falls from 21 March 2020 to 21 February 2021. The data is in Table 5.

#### 1 *Situationality*

The data clearly shows the existence of situationality between August and September 2020, where both new cases and death rates are high.

#### 2 *Trend*

There was a gradual rise in new cases and death from April to November, and the graph shows a declining trend because the government once again scrutinised the house to house test in the red zone areas.

#### 3 *Unexpected event*

Although there is no previous record of such a pandemic situation, as per the data analysis, the expected event could be due to further relaxing the containment policy that never followed in the previous months of September 2020. Relaxing containment policies suddenly led to the hike in new cases and death rate.

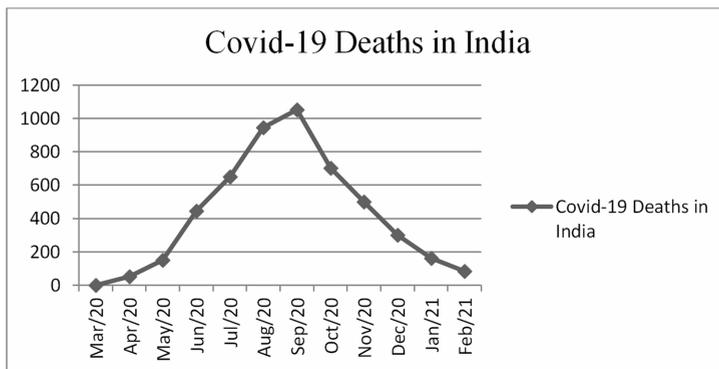
Such data analysis shows a need for an exit strategy from the near situation insisted on time series data. Situationality and trend is in Figure 5 and 6.

**Table 5** India’s Covid-19 situation data

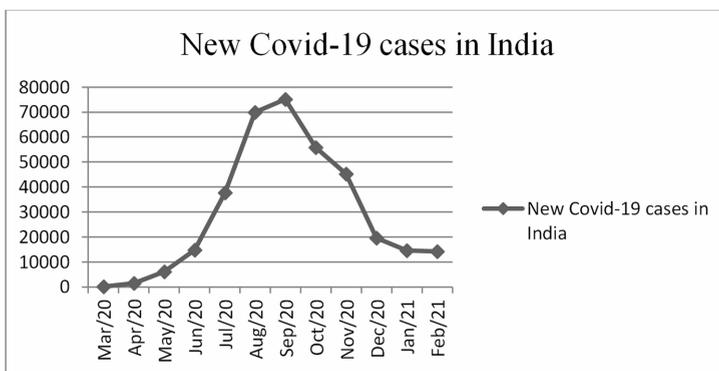
<i>Months (2020–2021)</i>	<i>New Covid-19 cases in India</i>	<i>Covid-19 deaths in India</i>
21-03-2020	86	0
21-04-2020	1,541	53
21-05-2020	6,198	150
21-06-2020	14,831	445
21-07-2020	37,740	650
21-08-2020	69,876	945
21-09-2020	75,083	1,053
21-10-2020	55,839	702
21-11-2020	45,209	501
21-12-2020	19,556	301
21-01-2021	14,545	163
21-02-2021	14,199	83

*Source:* <https://github.com/CSSEGISandData/COVID-19> (data source)

**Figure 5** Situation and trend in the time series data of death rate in India



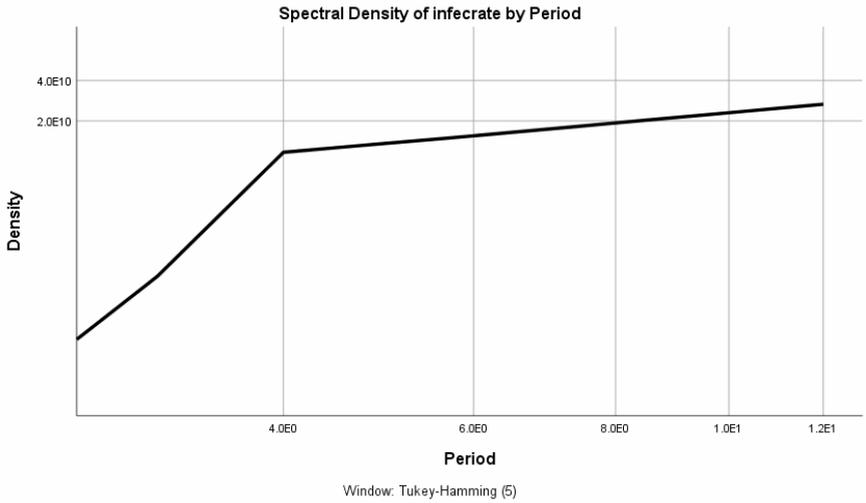
**Figure 6** Situation and trend in the time series data of new case rate in India



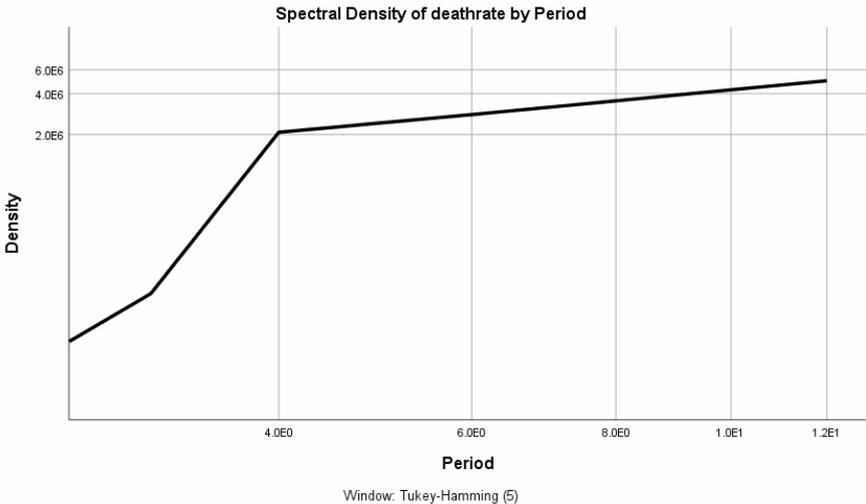
#### 4.4 Result: spectral analysis

The three components of time series analysis, such as seasonality, trend, and unexpected event, were discussed. SPSS version 25 used both variables, namely infection rate and death rate, to study forecasting methods. Separately, each variable has twelve complete cycles, and spectral analysis conducted. Over the observation time, the amplitude is significantly increasing for both infection and death rate that shows immediate future has no significant lowering tendency. Such amplitude in the spectral density is the consequences of earlier quarter policy tendency. Since the cycle is continuous and particularly further amplifying in death rate is something alarming signal, and that requires an exit strategy. The spectral density analysis are shown as Figure 7 and 8.

**Figure 7** The infection rate of India’s Covid-19 density obtained through spectral analysis



**Figure 8** The death rate of India’s Covid-19 density obtained through spectral analysis



### 4.5 Exit strategy

Globally and regionally, the situation is novel, and humankind never experienced such a pandemic situation. This pandemic situation challenged the conventional human wisdom, health service sectors and decision diasporas. The empirical study shows that the spectral bar is amplifying. Hence it requires an exit strategy. Prolonging economic slowdown, delaying development activities will further affect purchasing power parity and regional peace and stability.

During the month of June 2020, the government of India identified regions as containment zone, red zone and non-containment areas and so on. However, the

government vaccination policy is an age-based approach. From the state government point of view, it accepted and cooperated towards central government impositions on lockdown policies and vaccination policies. The vaccination policy was strictly centralised, and the state government has no said for over five months, i.e., January 2021 to May 2021. In the earlier week of May 2021, a public-private partnership introduced, and the state government was started floating vaccination tender. The vaccination process helps to achieve herd immunity. Therefore an easily accessible and market-friendly approach in vaccination policy will break the amplified cycle of infection and death rates.

#### *4.6 Regress: circularity approach*

For more than one year, India's government conducted trial and error method of lockdown and unlocked down policies in this pandemic situation. Data analysis shows that situation remain troublesome soon. Hence could analyse the exit strategy through the circularity approach. Election polls and political activities are inevitable, and they were significantly affecting the policies. Therefore identifying the floating population and vaccinating them will increase herd immunity. The foolproof testing process and universal standardisation of the testing mechanism will help full in containing the situation. Instead of expanding the testing centre and isolation ward, the rapid vaccination process with public-private partnership (PPP) will reduce the new cases and death rate. Increasing the vaccine availability and public-friendly vaccination approach will further bring down the pandemic situation. Herd vaccination will prepare a shielded crowd through developed immunity to face the pandemic situation. Besides social distancing, alteration in public transportations with reasonable cost will improve the commercial and business activities. Removing social stigma from society and offering alternative options to the isolated ward patients will free them from stress. Attentions towards asymptomatic infections will increase the recovery rate and reduce the death rate among infected people. Insisting on social popular agenda's such as closing the state-owned distilleries and prohibiting alcoholic beverages will reduce the chances of infections among the people. Furthermore, lockdowns and unlock downs will only facilitate the vicious circle to continue. Hence the circularity, as mentioned above approach, will brighten the exit strategy.

## **5 Conclusions**

A good start is a half victory. There can be many reasons and stumbling blocks in framing, executing, designing and altering the policy, particularly in pandemic circumstances. Results show that the infection rate and death rate likely to get the increase to a significant number. The knowledge and wisdom gained in these twelve months of pandemic circumstances will further enlighten the policymakers to carefully direct in the progressive path that leads to India's socio-economic prosperity.

### *5.1 Implications*

- 1 Public, private partnership in vaccination will improve community health and easy access to vaccines.

- 2 Centre-state cooperation will enhance the efficiency in handling the pandemic situation.
- 3 Exit strategy required cultural prism of the decision-making process.

## 5.2 Regional implications

India's role in regional peace and development is something remarkable. India has seven small neighbours geographically surrounded. All those neighbours have an intrinsic relation towards Indian state territories through border trade and cultural exchanges. Hence any policy changes will have a direct impact on seven small neighbouring states. South Asian foreign policy scholars quote this attitude as a big brother attitude. Such border trade activities affect South Asian regional peace and affect the state-centre relationship (Co3–Co6). Therefore responsible attitude towards the pandemic situation in regional development is more crucial for India. The political ideology and the constitutional stability of India continue to remain as a source of confidence towards regional political stability and internal peace. Hence, India initiatives and policy designs will, directly and indirectly, impact domestic and regional stability. According to the I.K. Gujral doctrine, under good faith and trust, India accommodates its neighbours, and all south Asian countries should respect each other's integrity and sovereignty.

## 5.3 Limitation of the study

Data constraints and the availability of records are the limitations of the study.

## 5.4 Future scope of the study

Comparative perspectives, regional analysis in strategic directions are the future scope of the study.

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