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Pandit Deendayal Petroleum Univerisity

Addressing Consumer Demand and Producer Supply constraints during crisis

Karan Doshi	Ankit Bandyopadhyay
Naman Kumar	Surbhi Kumar
Yash Bhatt	

Faculity Mentor

Vipin Shukla

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Abstract

The corona-virus (COVID-19) has led to a once in a generation crisis of an unprecedented magnitude. Not only in terms of deaths or the strain on the healthcare system, this pandemic has dragged the economy and psyche of the people to a breaking point. As more and more of the parts of the world remain under lock down, economies around the world are slowing down to a sloth pace. This report aims to identify the supply and demand side issues arising out of the pandemic as well as examining the role of behavioural and technological solutions using some historical background and macroeconomic analysis.

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1. Introduction

The Coronavirus COVID-19 has threatened to become one of the most difficult tests faced by humanity in history. The spread of this pandemic has not only claimed a disastrous number of lives but also placed tremendous stress on different working sectors that run the known world. This involves the healthcare sector, political divisions, and the geopolitical domain, among others. The International Monetary Fund (IMF) predicts that the global economy faces its worst decline since the Great Depression of 1930. Half a billion people are expected to be plunged into poverty.

Governments all over the world have been forced to take desperate measures, inflicting lockdowns, performing rapid tests, and announcing stimulus packages aimed to save a sustainable economy. In the USA, a \$484 billion (13% of GDP) relief package was approved while the European Union introduced a 540 billion coronavirus aid package. India's Prime Minister Narendra Modi announced a 20L crore (10% of GDP) stimulus package to save the lockdown battered economy.

2. Our Approach

2.1 Economic conditions before the pandemic

In the later sections of the report, we shall discuss more about addressing the demand and supply side issues through macroeconomic as well as behavioral measures. But these measures need to be seen in light of the pre-existing growth slump in global as well as Indian context.

We shall review some macroeconomic parameters which have been used by economists to conclude that there was an economic slowdown before the pandemic hit. In the World Economic Outlook 2019 published by the International Monetary Fund, they have indicated that the world economy has slowed down due to heightened trade and geopolitical issue such as the US-China trade war and Brexit. They estimated that the US-China trade war will lead to a reduction of 0.8 percent in the global GDP by 2020. Growth projection in the emerging markets was reduced to 3.9 percent in 2019 compared to a 4.5 percent in 2018 [1]

The Indian economy has also been in bad shape in 2019. FMCG growth slowed down for a consecutive third quarter helped by volume-growth led reduction. [2]The Indian automotive sector followed the global automobile sector which contracted for the first time since the 2008-09 crisis [1]. Besides this, there has been a drop in private consumption [3] and per capita disposable income [4].

This comes in the wake of global decline in FDI [1]. In addition, govt tax collection revenue is far off the target, lending has reduced and other secondary indicators such as passenger traffic on railways and by air has gone down [5]. India was already facing a demand side problem driven by a drop in net household financial savings [4]. On top of all this, the lowly GDP growth has been driven by government expenditure as the difference between government and non-government GDP has gone up [4]. Hence, the actual slowdown in economic activity must be higher than is directly visible.

All these existing factors need to be taken into account to address sectoral slumps and to finely understand the effect of the pandemic on each sector.

2.2 Sector specific impacts

The COVID-19 pandemic remains a health and humanitarian crisis, but the business impact on organizations is now profound. While some have stronger defences, others will struggle to reset to a normal. Consumer demand patterns have shifted and re-routed the supply chain. Here is an industry-specific look on the revenue/economic impact and likely recovery period:

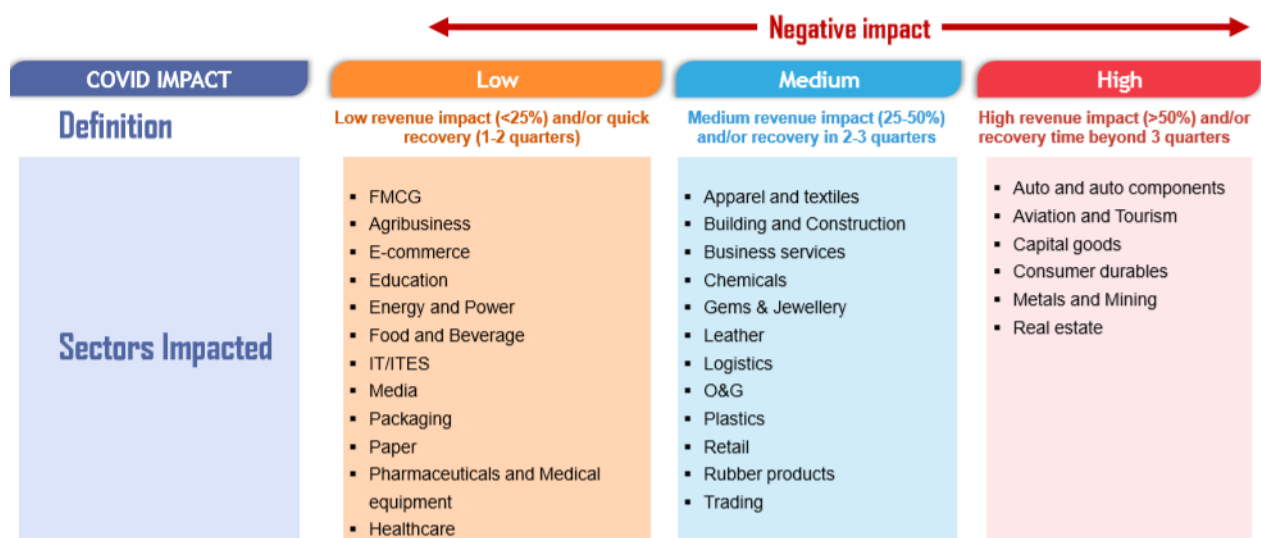


Figure 2.1: Source: Avalon Consulting Research and Analysis

2.2.1 Healthcare

The healthcare sector is at the epicentre of this unprecedented global pandemic challenge. It has affected. The rapidly increasing demand on health facilities and health care workers is leaving health systems overstretched and unable to operate effectively. The sector is facing a twin-burden: (a) Investing additional manpower, equipment, consumables and other resources to ensure 100 per cent preparedness for safety in the hospitals and eventual treatment of patients, if needed. (b) Experiencing a sharp drop in OP footfalls, elective surgeries and international patients.

Whereas the private healthcare sector has been facing witnessing loss of business and this trend is expected to continue for the foreseeable future (at least 3-6 months) India's medical devices industry: The medical devices industry has also taken a hit. The country imports consumables, disposables and capital equipment including orthopaedic implants, gloves, syringes, bandages, computed tomography and magnetic resonance imaging devices from China. Due to the current crisis in China, the medical device manufacturers across India are finding it difficult to source important raw materials and electronic components.

2.2.2 Fast Moving Consumer Goods (FMCG)

Market research firm Nielsen revised its outlook for the growth of the FMCG segment, downgrading it from 9-10% to 5-6% for this year as a consequence of Covid-19 outbreak. This comes in the backdrop of the industry witnessing early signs of recovery in January and February, however, a lockdown following the outbreak of the virus towards the end of March, impacted quarterly growth rates too. Although, Traditional trade saw a huge surge in demand for essential food items followed by snacks, modern trade saw the highest demand for lifestyle items after staples Demand for chocolates and confectionery saw a decline in both outlets.

2.2.3 Oil and Gas

Covid-19 has severely dented the consumption of fuel in the country, with the growth in consumption of petroleum products falling to an abysmal 0.21 per cent to 213,686 thousand tonne (TMT) in 2019-20. The growth in India's petroleum demand last fiscal has been the lowest in at least 10 years. In March 2020 alone consumption fell 18 per cent to 16,083 Thousand Tonne (TMT) as compared to the same month a year ago.

2.2.4 Agriculture

COVID-19 has disrupted some activities in agriculture and supply chains. Preliminary reports show that the non-availability of migrant labour has interrupted harvesting activities, particularly in northwest India where wheat and pulses are being harvested. There are disruptions in supply chains because of transportation problems and other issues. Prices have declined for wheat, vegetables, and other crops, yet consumers are often paying more. Media reports show that the closure of hotels, restaurants, sweet shops, and tea shops during the lockdown is already depressing dairy sales.

3. Future Progress

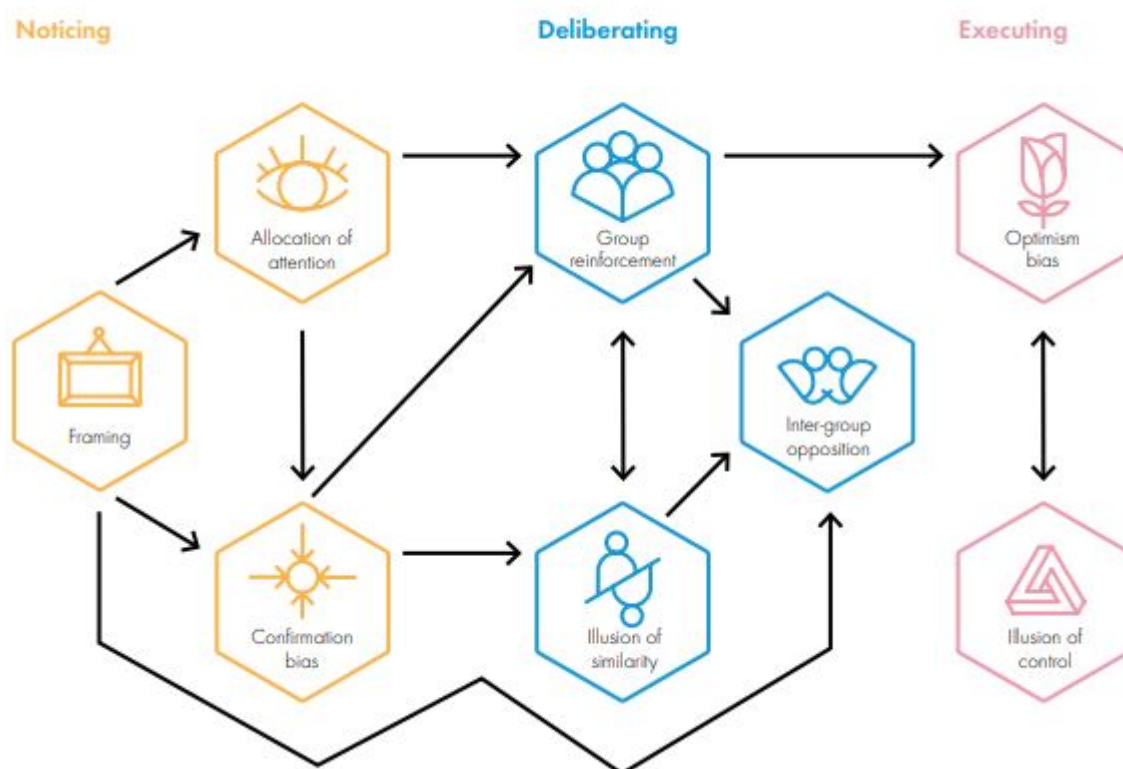
‘Our imagination is the only limit to what we can hope to have in the future.’

— Charles F. Kettering

Future work concerns deeper analysis of particular approaches. New proposals to try different methods, or simply curiosity. With the advent of AI and behavioral sciences we will be exploring the solution through these methods for more rational decisions keeping in mind human constraints and limitations.

3.1 Behavioral Side of looking things

Governments are increasingly using behavioural insights to design, enhance and reassess their policies and services. Applying these insights means governments adopt a more realistic view of human behaviour than they have done in the past and may achieve better outcomes as a result. To do this, we will be focusing on three core activities of policy making from behavioral side to assess the pattern: noticing, deliberating and executing.



Behavioral economics (BE) challenges the rationality assumption – approaching a decision by evaluating a set of alternatives and then selecting the one alternative based on a systematic process – inherent in traditional decision-making models. BE integrates the fields of

psychology, sociology, and neuroscience, and has flourished in recent years. Herbert Simon, often touted as the field's founder of BE, proposed a key cornerstone of BE, the concept of bounded rationality. Within the rational decision-making context, decision-makers often revert to heuristics, an approach more useful when decisions are routine and the environment is predictable than when there are time, complexity, and unfamiliarity constraints. However, time, complexity, and lack of familiarity constrain the rational model. BE scholars recognize the importance of the human element and that most decisions are made in less-than-ideal situations. Rather, decision-making is fraught with emotion, bias, and inconsistency [6]. A two-system approach to bounded rationality developed by Stanovich and West [7] and elaborated by Kahneman [8] sheds light on this conundrum. System 1 is based on intuition and encompasses rapid, routine, and habitual decisions, whereas system 2 is based on reasoning, encompassing slower, more deliberate decisions. The amount of effort required is a key distinguishing factor between the two systems. Whereas the system 1 process is largely emotional, effortless, and slow-learning, the system 2 process requires greater effort, is governed by rules, and is more flexible. Crisis decision-making challenges decision-makers because effectiveness requires both the speed of system 1 and the flexibility of system 2. In the upcoming weeks we intent to examine 13 BE concepts and operationalize them in the crisis planning, crisis action, and post-crisis stages of the Crisis Management process. The resulting framework amends the traditional rational decision-making process, whereby crisis threats are formally identified, alternatives are evaluated systematically, and the decision is based on the most logical choice of action.

3.2 Roadmap

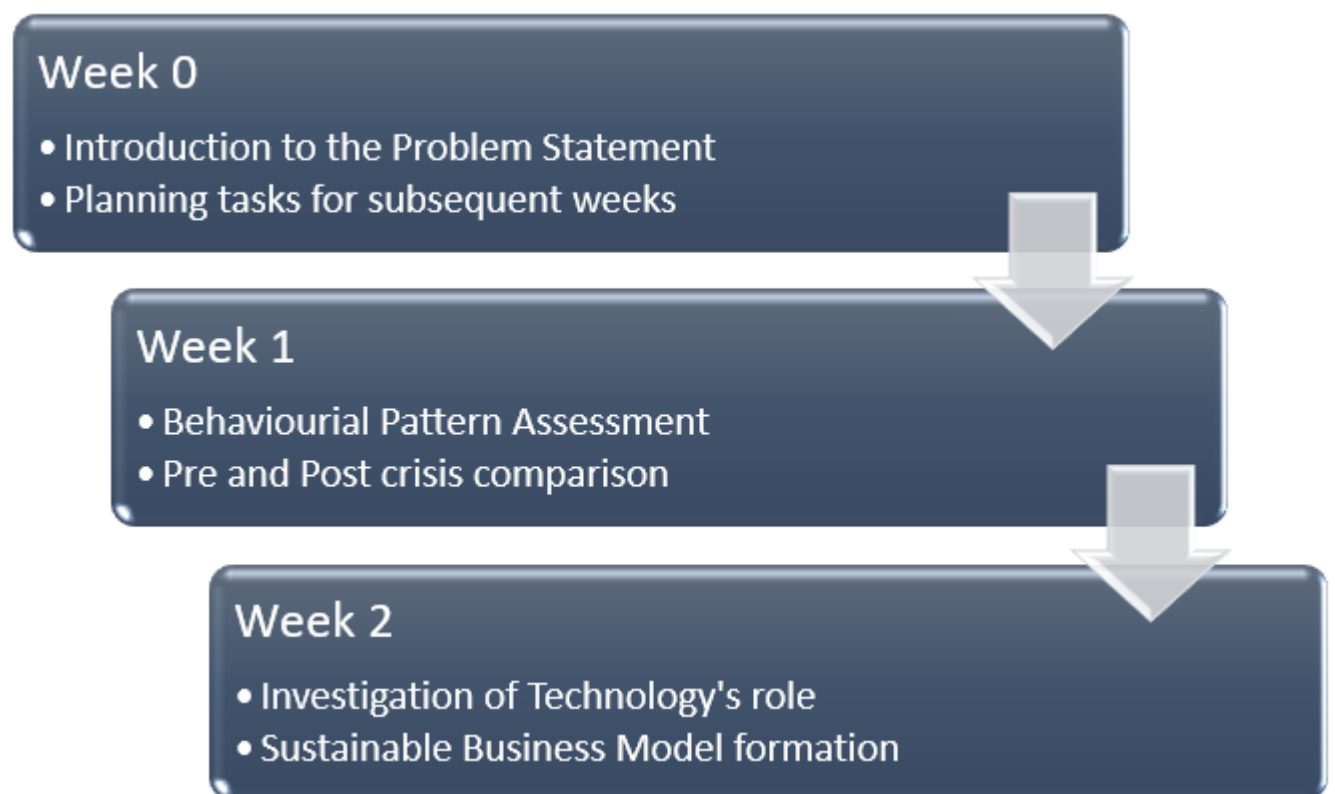


Figure 3.1: Roadmap for final analysis

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