

WOXSEN WBR BUSINESS REVIEW

An aerial photograph of a busy port. A large container ship is docked at a pier, with several yellow gantry cranes positioned along its length. The ship's deck is covered with stacks of colorful shipping containers. In the water, two smaller tugboats are visible, one on the left and one on the right, both moving towards the ship. The sky is clear and blue.

SUPPLY CHAIN DISRUPTION: The year 2020, coronavirus outbreak was a global shock that had disrupted all the industries and global economy was affected, the spread of virus had led the government to bring reforms in healthcare, providing isolation areas, financial assistance and many more for the world to survive and fight the situation. The pandemic has left such an impact that all the sectors are still trying to cope up and recover.

First Edition
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Preface

Case approach is an effective way to develop management and leadership abilities since students are exposed to real-life applications of ideas learned in class. Case analysis enables students to cope with the same types of decisions and challenges that managers deal on a daily basis.

Woxsen Case Study Centre (CSC) presents the Woxsen Business Review (WBR), an in-house magazine that features cases, whitepapers, and articles about critical management practices used in real-world business scenarios. WBR encompasses many domains, including Marketing, Operations, Finance, Human Resource Management, Organizational Behavior, Innovation and Technology (AI, ML, and many others), and Analytics. It allows students to demonstrate their case development and writing skills, which would help them understand, solve, and make critical decisions for real-life problems encountered across various industries. Through various articles and whitepapers written by students and industry experts, WBR also provides insights into emerging and trending management areas across industries. This also allows students to stay current with emerging fields and be industry ready.

The first issue of WBR is divided in two sub sections where the first section focuses on Case studies related to current management practices while the second section focuses on Sustainability and Sustainable Development Goals (SDGs).

The first section i.e. the case study section highlights the effects of COVID-19 on various industrial sectors and the problems faced by the businesses in those industries. To be specific, it showcases the difficulties faced by construction, hospitality and pharmaceutical industry and makes the audience aware of the on-field complexities faced by business leaders. The objective of these case studies is to intrigue students and develop their critical thinking skills about the real time situations faced by managers. The second section emphasizes the issue of sustainability which is of paramount importance in the current world. Sustainability refers to the balance between the environment, equity and economy. The most quoted definition comes from the UN World Commission on Environment and Development: sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Beyond helping curb global challenges, sustainability also drives business success. Sustainability in businesses refers to doing business without negatively impacting the environment, community, or society as a whole. When making business decisions, sustainable businesses take into account a wide range of environmental, economic, and social factors. These organisations keep a close eye on the impact of their operations to ensure that short-term gains do not turn into long-term liabilities. The current issue discusses some examples of such sustainable practices adopted by various businesses which focus on dealing with societal issues such as pollution, poverty alleviation etc. listed under Sustainable Development Goals (SDGs).

- Dr. Neha Gupta

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1. Case Studies

BLUE DIAMOND: THE HOTEL

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Shashank Raj Gupta, MBA General (2021-23)
Harshitha Kallem, MBA General (2021-23)

THE HOTEL

Blue Diamond hotel, formerly present in the state of Madhya Pradesh in the 1990s until 2000, after which it got divided to Chhattisgarh had been owned by Mr. Harjeet Bhatia (also referred to as Mr. Bhatia) since 1986 in Korba city. Korba, a town of energy- production, was associated with some prestigious companies like SECL, BALCO, NTPC, which brought in quite a good number of high-paying customers into the city. It also had railway connectivity but could only be used by limited passengers for travel and raw material transfer. People had to travel primarily by bus from one city to another.

Mr. Bhatia had been looking after the business till 2015. His son Mr. Sunny Bhatia (also referred to as Mr. Sunny), an MBA graduate from Delhi, took over the working and functioning of the hotel except for the finance department, which was still being handled by his father.

SERVICES

Blue Diamond hotel was initially just a small pantry setup with limited food options for in-room guests and no planned space for guests to come and dine. The people of Korba back in 1986 had this perception that a lodge in the city would serve food for outdoor guests just as we get food now in current generation restaurants.

After the inauguration, during which the hotel saw a large number of people come forward and ask for food and dining options, the owner had an epiphany looking at this situation, and on the very next day, he opened a small eatery in the garden area of the hotel with only four tables and 20 chairs. Food was prepared in the small pantry for the guests and that was how the hotel venture started.

With the passage of time, multiple renovations, changes in business scenarios, and evolving city, today the hotel provides a wide range of services:





- 39 A/C & Non-A/C rooms. Rooms with premium services for high-paying customers.
- Huge banquet area of 3000 sq. ft.
- Restaurant with sitting options in A/C area and alfresco dining area which has a total capacity of 120 chairs.

MARKETING MEDIA

- Communication via word of mouth
- Social Media Marketing- Instagram, Facebook, and LinkedIn
- Internet Marketing

TARGET AUDIENCE

Corporate Executives:

Being a major hub for energy production with coalfields all over Korba, the hotel has a number of executives who come to attend various corporate meetings of companies and industries situated in the Korba district.

These executives usually come from Madhya Pradesh, Maharashtra, and Uttar Pradesh. High-paying customers like them come with an expectation to get at least a small percentage of the hospitality which 3star hotels usually provide. Although Blue Diamond could not be compared with the hotels in Raipur, the capital of Chhattisgarh, it was still quite neat and comfortable for the guests to stay for a few nights and hence these executives were a part of the target audience the hotel focused upon.

Locals:

Because it was a small city with less population and not as many established hotels providing the same kind of amenities, the hotel made sure to provide cuisines similar to the local taste and food preferences. Locally popular dishes which were made only during certain occasions and festivities were also a part of the menu.

Gen Z:

Because the younger generation is more in touch with technology, providing delivery services both by the hotel and through other delivery apps (Swiggy & Zomato) would help grab their attention easily and thus also create more awareness about the hotel. Younger generation was the most targeted audience as this brought in more profits.

IDEOLOGY OF THE BUSINESS



One day while Mr. Sunny sat with his father and spoke about the business, he curiously enquired him about the strategy which they would have to use to deal with their rivals in the same city. To which his father gave an alluring reply. He said, "Son, we should not believe in the word 'Rivals'; we should instead consider every new project in the city as a healthy competition. After all, we are in the service industry, and our level of service should always be different than what others can offer; we need to focus on our own strengths and make sure that our services are better than what others are offering. Then, a consumer will not be able to compare us to anybody else, and if somebody does compare, he or she would be comparing apples to oranges. I hope you realize the difference and accept it. It's good to see you being interested in the business; I appreciate that".

REVIEWS AND COMPENSATION

Blue diamond believes mainly in customer support and compensation. They took into consideration each and every customer's opinion and feedback. If any customer had an unpleasant experience, the hotel reached out to the customer personally, apologized, and tried to offer them benefits for their next visit either in the form of some discounts or free dinner for the day.

And for the customers who came forward with false accusations on services provided or on the staff's behaviour, hotel managers ignored them as wasting time and resources weren't considered worth it. They needed to fill the real-time loopholes.

<p>10 months ago on Google</p> <p>Good food quality and quantity is decent ... Prices are neither too nominal nor too pricy ... Aura and vibes are good and cozi but services are sometimes gets pathetic ...</p> <p>Response from the owner 10 months ago</p> <p>Thanks for the feedback. We will work harder to give a better service experience.</p>	<p>Akshat Joshi 2 years ago on Google 4/5</p> <p>One of the Finest Restaurant in town for foodies. Excellent taste, Great service & pure hygienic. Only reason for 4 stars is during peak time service becomes a bit slow. For Veg & Paneer lovers, try their Panner Labawdaar, Subz seenk masala & blue diamond special for main course. You'll love it. ...</p> <p>Response from the owner a year ago</p> <p>Dear Guest, Greetings from The Blue Diamond The Hotel, Korba Thank you for a Good score, 4 star rating just lights up our day and motivates us to work harder towards ensuring our guests have a good experience. We greatly value your patronage and look forward to welcoming you back to Blue Diamond soon. With best regards.</p>
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PRESENT-DAY

It's 2020. The situations and challenges now are very different. The Covid-19 pandemic had led to huge losses; the hotel industry was severely hit because of nationwide lockdowns and travel restrictions. This period saw many of the hotels and lodges close down. Mr. Sunny's hotel was running out of resources, and they had to survive on their savings to stay in business. They were very few customers on whom they could now rely on. The hotel always ran with a customer and employee-centric approach, and the owner didn't want to lose his loyal employees and hence made sure that they were getting at least some money to sustain themselves in these dire times. Survival of business was a challenge. And one of the challenges was handling the miscommunications and fake news circulating around town in social media.

CHANGE IN MARKET TREND

Market in Korba has seen a significant turn since its inception, but the problem arose when a market shift seemed to take place in the city. After functioning for long in a monopolistic environment, Blue Diamond was now facing difficulty due to market shift. A railway crossing between the city breaks the city into two parts, one side has large open areas and is under development whereas on the other side, we can see new hotels, restaurants and fast-food places coming up like Pizza- Hut, Dominos and Burger King etc. Brand new hotels and restaurants seem to be interested in investing and occupying the area to start their business. And this has ultimately forced the old businesses to push further back down and was making their survival difficult.

CURRENT ISSUE

One day Mr. Sunny received a call from Mr. Bhatia regarding an issue which took place a week ago. Mr. Bhatia started explaining from scratch that an IT company employee named Mr. Arun from Bangalore, enquired about staying at the hotel.

Mr. Arun was a resident of the same town, and he wanted to isolate himself at the hotel before heading to his home to ensure the safety of his family members. He called up Mr. Sunny for a reservation at his hotel and inquired if it was okay to stay in the hotel for 14 days. Mr. Sunny, after confirming his health and making sure that he did not have any symptoms as per protocols and local govt. guidelines accepted his request and confirmed his stay at the hotel.

Post his arrival at the hotel, Arun wanted to be sure about his health condition and hence asked for help from Mr. Sunny to get tested. Mr. Sunny gave him the local government helpline number for getting an RTPCR test. Arun then went ahead and called the municipality government hospital and asked to get tested. This was where all the miscommunication took place. The person at the other end misheard Mr. Arun and assumed that he was suffering from COVID-19 and thus was requesting treatment. Soon a team of doctors



and health workers arrived at the doors of the hotel in an ambulance with a blaring siren. This was a time when the ambulance's horn was dreaded by everyone. Pandemic was far from over, and there was a stigma attached to a covid patient. The siren from the ambulance scared many people, which created a lot of chaos near the bus stop. The situation had gotten totally out of hand when within half an hour, the press had gathered and started doing live coverage. Everybody in the vicinity and in the hotel had gotten anxious and gathered outside the hotel.

The local press and public wanted strict action from the government and appealed to seal the hotel premises and shut it down for harboring a covid patient. This was a very unexpected and dreadful situation which Mr. Sunny has never though could ever happen. The pandemic was already making it hard for the business to survive and this miscommunication had now completely led to shutting down the hotel and was damaging its reputation.

DILEMMA

A major challenge which Mr. Sunny was facing right now was how to handle the media situation. The miscommunication which took place had to be cleared as soon as possible to ensure damage control. The problem had to be tackled at its roots and it would be wise for the owner himself to hold a meeting or a live press coverage to clear the misunderstanding and let the local public know the truth of the situation.

Change in the market trend and the pandemic had led the hotel into a very precarious situation. Surviving as a business during the pandemic meant using the leftover savings and resources for the sake of the business and the employees. This was already a major downfall for which the owner was trying to come up with a solution. The long-term employees' and other staff's future was now in the hands of Mr. Sunny. Having been a renowned hotel for the past decade, Mr. Sunny was not ready to lose all the effort he had put in, even after he had an opportunity to get a high-salary job with his MBA degree. The hard work which he and his father had put into it had made them get financially and sentimentally attached to the hotel.



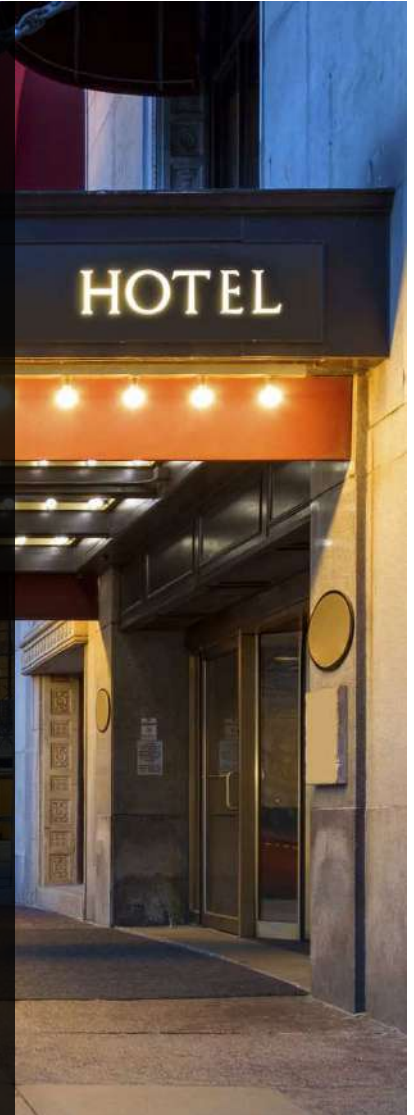
NO. OF OCCUPANTS (FOR THREE FINANCIAL YEARS):

MONTH	2017-18	2018-2019	2019-20	2020-21
April	726	633	614	0
May	753	719	650	0
June	705	802	556	0
july	741	847	752	83
august	703	714	499	112
september	679	617	592	138
october	596	691	624	397
november	710	565	595	287
december	561	604	561	506
january	727	584	527	559
february	452	568	635	627
march	586	526	260	596
Total	7939	7870	6865	3305

Discussion points:

- 1) Was it fine for the restaurant to accept new customers even after knowing about the rising pandemic?
- 2) How do you think big businesses should tackle media so that their business doesn't get affected?
- 3) What kind of competitive advantages did the restaurant have, and what strategies should Mr. Sunny use to tackle this situation?
- 4) What strategies would you suggest to tackle business shifts?

Link: <https://www.bluediamondthehotel.com/>



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SUPPLY CHAIN DISRUPTION IN CONSTRUCTION INDUSTRY

BDK PROJECTS

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Panatula Saisrilakshmi, MBA Fin.Serv (2021-23)
Krisharth Deepak Misra, MBA General (2021-23)
Jay Kumar, MBA General (2021-23)
Parthavi Shastri, MBA AI ML (2021-23)

The year 2020, Coronavirus outbreak was a global shock that had disrupted all the industries and global economy was affected, the spread of virus had led the government to bring reforms in healthcare, providing isolation areas, financial assistance and many more for the world to survive and fight the situation. The pandemic left such an impact where all the sectors are still trying to cope up and recover.

Construction is one of those industries which was affected the most and still trying to recover from the impact of virus. Economic activities, demand for new commercial or industrial buildings were reduced and uncertainty made investments more difficult. Workers are considered heartbeat of every construction project. The subject of wellbeing and security being at front line the specialists ventured down which prompted work deficiency and all the on-going tasks were suspended.

It's possible that things may become worse before they improve. According to PWC's COVID-19 CFO (Chief Financial Officer's) Pulse Survey, 81 percent of CFOs are planning cost cuts in reaction to the crisis, and 60% planned to postpone or cancel investments, notably in areas like facilities and capex, operations, and man power.

It was a horrible period, however fast yet smart activity might help Construction initiative groups to handle the current emergency, settle supply chains, and reinforce their organizations' monetary position so they can rise up out of the emergency on a more grounded balance.

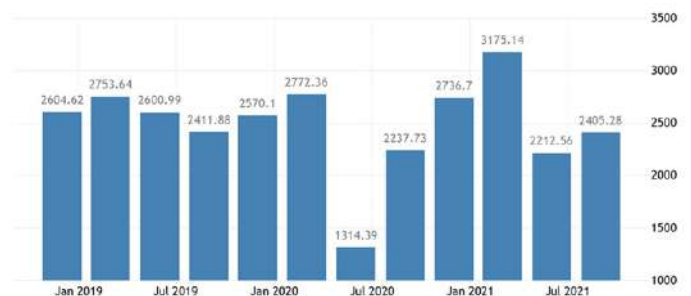


Fig.: Value of Construction to India's GDP (in Billion)

Construction industry is sensitive to India's economy as it employs over approximately 30 million people and produces assets worth over approximately ₹200 Billion and hence is an important

part of the country's economy. [Exhibit 1]

The construction industry in India reached an

all-time high of 3175.14 INR Billion[2] in

the first quarter of the year 2021 and a

record low of 1314.39 INR Billion in

the second quarter of the year 2020.

The major concern with the

covid-19 impact on the construc-

tion industry dealt with the

labour shortage in the year

2020. Shortage of labour

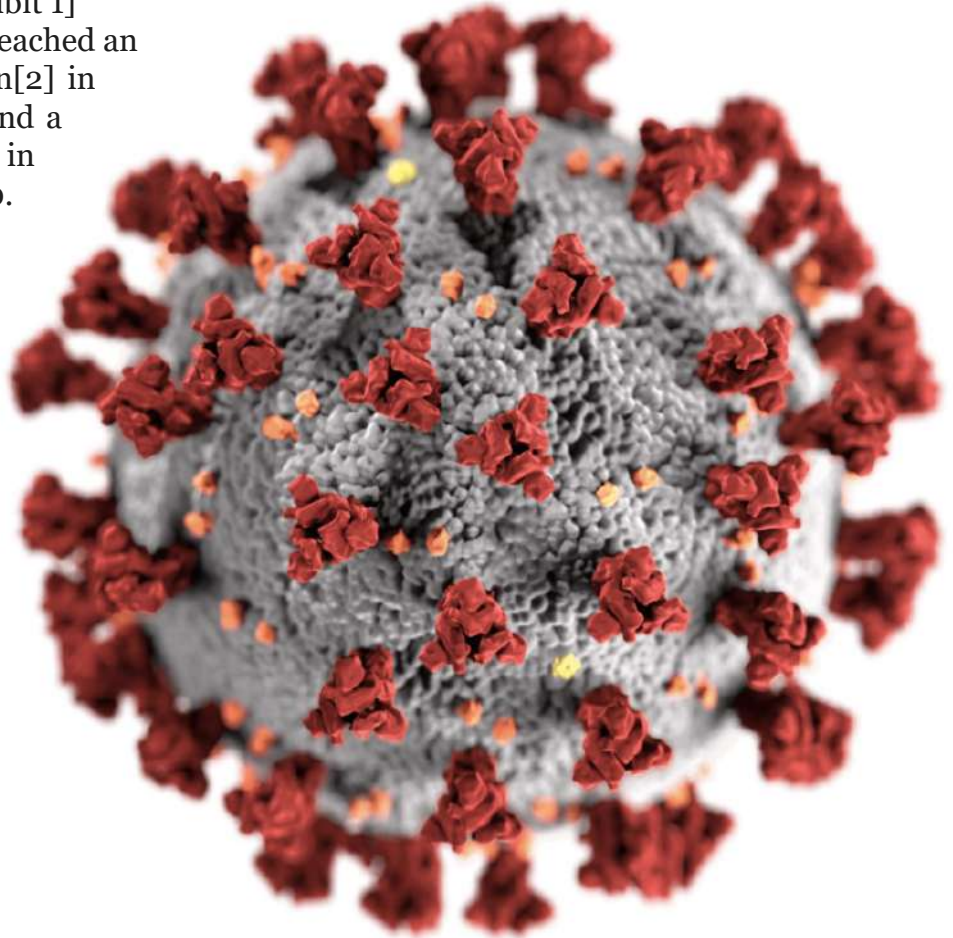
followed by disruption of

supply chain and raw materials

affected the industry pretty

evidently as COVID-19 struck

the nation.



The Indian construction market is highly competitive with key growth drivers being: -

- Urbanization
- Population
- Rise in disposable income
- Industrialization

It is expected to become the 3rd largest construction market in the world by the year 2025. The Indian government has increased its expenditure on infrastructure development by 20.9% with efforts to improve transportation and residential infrastructures.

SUPPLY CHAIN DISRUPTION

BDK PROJECTS, a construction consultancy firm based in Ahmedabad was founded by Deepak D.Misra in the year 2020 to provide best consultancy services in the field of construction. The structure of consultancy is based upon the requirements of the clients which is mostly project-based. The required field of construction is then followed by short-term and long-term goals basis set at the beginnings of a project.

Deepak D. Misra, a civil engineer by profession, understood the problems faced by construction industries in general and started the firm with an objective to run the business ethically, provide honest and assured quality services to change and improve the current status of construction industry in India.

As a newly started firm, BDK PROJECTS had several hurdles to deal with in its initial days specially in relation with the given COVID-19 pandemic and the restrictions it brought down with it. As a newly established firm, the pandemic



unveiled numerous challenges, such as labour shortage and lockdown, for the firm to overcome.

When the firm was established, its soon had to face the oncoming and unforeseen COVID-19. This tested the firms' managerial pillars as they had to deal with unexpected circumstances and affairs. The implementations of advanced rules and restrictions gave rise to multiple challenges that this newly founded firm had to face and overcome successfully in order to retain its repute.

The first problem faced by the firm as soon as the "complete lockdown" was implemented was that the targets of the firm were very heavily affected. Each and every target had to be postponed to an unknown factor of time due to the unpredictability of the lifting of the curfew. This resulted in major financial burdens and resource deficiencies that the firm had to endure as postponement of the targets coincided with the loss of valuable and all types of resources. As construction is a labour-intensive sector, the workers needed to be provided with basic essentials including food which came as a direct unpredicted cost to the firm that had to be incurred due to complete lockdown. Providing the basic resources to the labour, along with the transportation of these resources, was another financial load that the firm had to endure.

CRISIS MANAGEMENT

Post-Lockdown and partial curfew gave rise to other challenges that had to be faced, this time with numerous restrictions. Right off the bat, the firm needed to guarantee the security of its workers and subsequently lead to the demand of testing its representatives. This led to additional expenditure as the organization needed to take all COVID-19 related precautions including tests that is mandated to ensure the wellbeing of labour under control.



Furthermore, a lot of problems arose due to the scarcity of man-power in the industry. Workers started to leave as they wanted to go back home; scarcity of staff due to the pandemic restrictions that limited the assembly of people in the office. These costs directly impacted the financial position of the company. Time restrictions were implemented affecting the overall productivity of the firm as it had to operate with decreased staff followed by lower operating hours.

The material costs of various items used in construction shot up due to the scarcity and decrease in production of these resources. The increased price directly had an impact on the financial management of the firm as the inflated prices gave rise to an overall increase in the expenditure which was unforeseen. To ensure and follow the safety norms set due to Pandemic, sanitization products were used at mass not only in the offices but also at the construction sites. These included sanitization tunnels, masks, sanitisers, gloves, rapid COVID-19 test kits and infrared thermometers to monitor the wellness and safety of all personnel.

With the situation of reverse migration, rising materials prices and scarcity of various resources, these factors made their drastic presence felt, impacting the company with various challenges that still have a resonating impact on the industry. Even though there were various safety nets implanted by the organisations, the restrictions that followed pandemic still continue to affect the construction industry posing multiple challenges that need to be overcome while applying the appropriate measures, strategies and policies.



Discussion points:

- 1) During the pandemic how would you plan to ensure the hygiene and health of workers?
- 2) Imagine yourself in the shoes of Mr. Deepak Misra and explain how would you deal with the crisis?
- 3) Given the limited man power and supply disruption, how would you manage out the activities to be continued?

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Aloha Drugs

Krishna Sai Talupula,
MBA General (2021-23)

Mr. Rahul founded Aloha drugs ingredients private limited. He has vast experience in pharma intermediates and fine chemical businesses from the past 25 years.

Aloha drugs ingredients private limited started in 2014, focusing on large-scale bulk drug intermediates & complete fine chemicals and specialty chemical divisions.



Products

Indole	5-Bromo indole
5-cyano indole	3-formyl indole
5-Nitro indole	5-Amino indole
2-Methyl indole	1-acetylintoline

Research and development

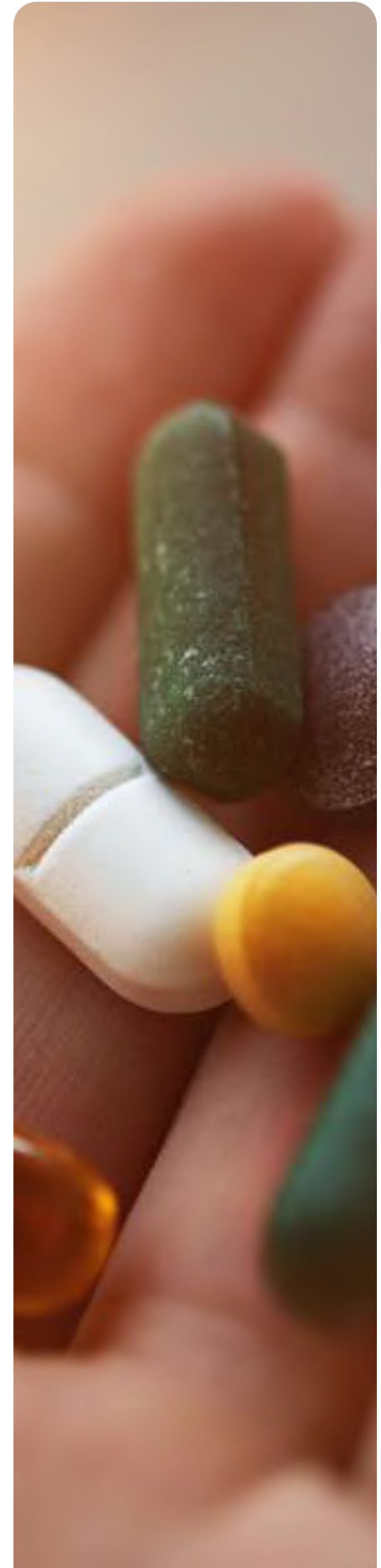
The company has a team of talented personnel, including Ph.D. scientists, engineers, and masters in science—a pool of highly gifted scientific personnel providing efficient solutions at the right time. With its best R&D, the company aims to become an allrounder in providing all kinds of pharma needs, thus benefitting human health and contributing to a healthier society.

Issues

Due to the ongoing pandemic, the company has seen a disruption in its supply chain; this may include various factors like availability of raw materials, shortage of labour, change in demand pattern. The availability of raw materials is affected in many ways during this post-pandemic world.

One of the main aspects affecting is the urgency of creating a cure for the prevention of the coronavirus, which directly impacts the shortage of raw materials as these materials are diverted to create a cure medicine and for making a vaccine that helps protect from this deadly virus.

As these medicines and vaccines are to be manufactured on a large scale in a minimal amount of time, medicines other than those for covid care are seeing a decline in their manufacturing capability. Though these shortages are not yet evident, there are some severe chances that this shortage will impact the company significantly. This will lead to a decline in the company's production capacity, and indeed it will decrease the sales of this company. And the other aspect which is affecting the supply chain of the company is receiving the raw materials from some of the countries hugely impacted by this global pandemic. Let's take the example of China, which supplies a large part of pharma raw materials all over the world, China is the country where the coronavirus case was first registered, and it faced a massive blow due to the spread of this virus in this country. Due to this outbreak, many countries have kept a halt on their imports and exports deals with China, and there was a travel ban on



the flights arriving from China. Due to this, many pharma companies face a short supply of raw materials used to make medicines. In a similar manner to many other companies, Aloha drugs ingredients private limited is also meeting a quick collection of raw materials used to make medical drugs in their company. Even if there is a relaxation in the imports and exports, they will be a massive demand for these drugs all over the world as they have been in short of supply for almost a year, the number of raw materials supplied will fall less for the companies as they will be more demand for these materials.

It will be difficult for the company to source the required number of raw materials for their production capacity, as the supply of raw materials from China to the company will be less than the requirement they generally used to have before this pandemic.

And another aspect that may affect the company's supply chain is sourcing the raw materials from a single supplier. Generally, any manufacturing company will depend on a supplier from whom their entire sourcing of raw materials for manufacturing the goods happens. Due to this, if there is any problem near the supplier of the raw materials the whole production gets stopped and suppliers may even face issues for transporting the goods due to restrictions imposed in several places all over the world due to covid, some suppliers who are sustained in the countries like China and USA which are the largest producers of pharmaceutical materials(as shown in exhibit 2) have faced a significant impact due to the outbreak of the coronavirus may face difficulties due to the restrictions and travel bans imposed in their countries. As shown in the exhibit 1 there is an increase in cost for sourcing the raw materials required to manufacturing of the company, this is due to

the disruptions in the supply chain caused due to the pandemic.

Dilemma

Although the Aloha drugs ingredients private limited may not have faced any transport or delivery issues from the supplier, there is a severe chance that there will be a massive impact on the company's production if it does. The company has to find a way to handle and overcome the disruptions they face in their supply chain. The company needs to prevent some problems they may face in the supply chain of the goods they produce. These disruptions may lead to a decrease in production capacity. The company should develop an operational strategy for the supply chain problems they are facing in the company's operations.



Exhibit 1

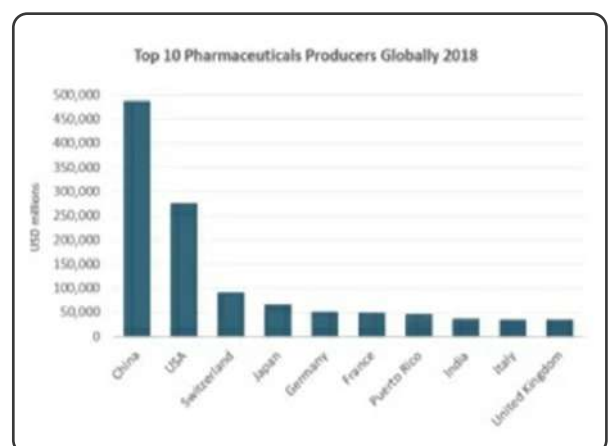
Increase in cost to source the raw materials for the products manufactured by the company

Product	May2020	May2021	Approx. percentage Increase
Indole	Rs.740	Rs.830	12%
5-cyano indole	Rs.10800	Rs.12000	11%
5-Nitro indole	Rs.2800	Rs.3200	14%
2-Methyl indole	Rs.900	Rs.1100	22%
5-Bromo indole	Rs.2340	Rs.2600	11%
3-formyl indole	Rs.7200	Rs.8000	12.5%
5-Amino indole	Rs.400	Rs.500	25%
1-acetylindole	RS.19000	Rs.22000	16%

Discussion points:

1. What is the best way for the organization to deal with the supplier issue? In these difficult times, can they put their faith in a new supplier?
2. What type of strategy the company should come up with to increase its production capacity?
3. With the ongoing problem of trade with China which is one of the largest producers of pharmaceuticals, what should the company do to decrease this problem?
4. Is maintaining a safety stock a good way to deal with these problems? What are the risks that the corporation will face if they keep a safety stock?

Exhibit 2



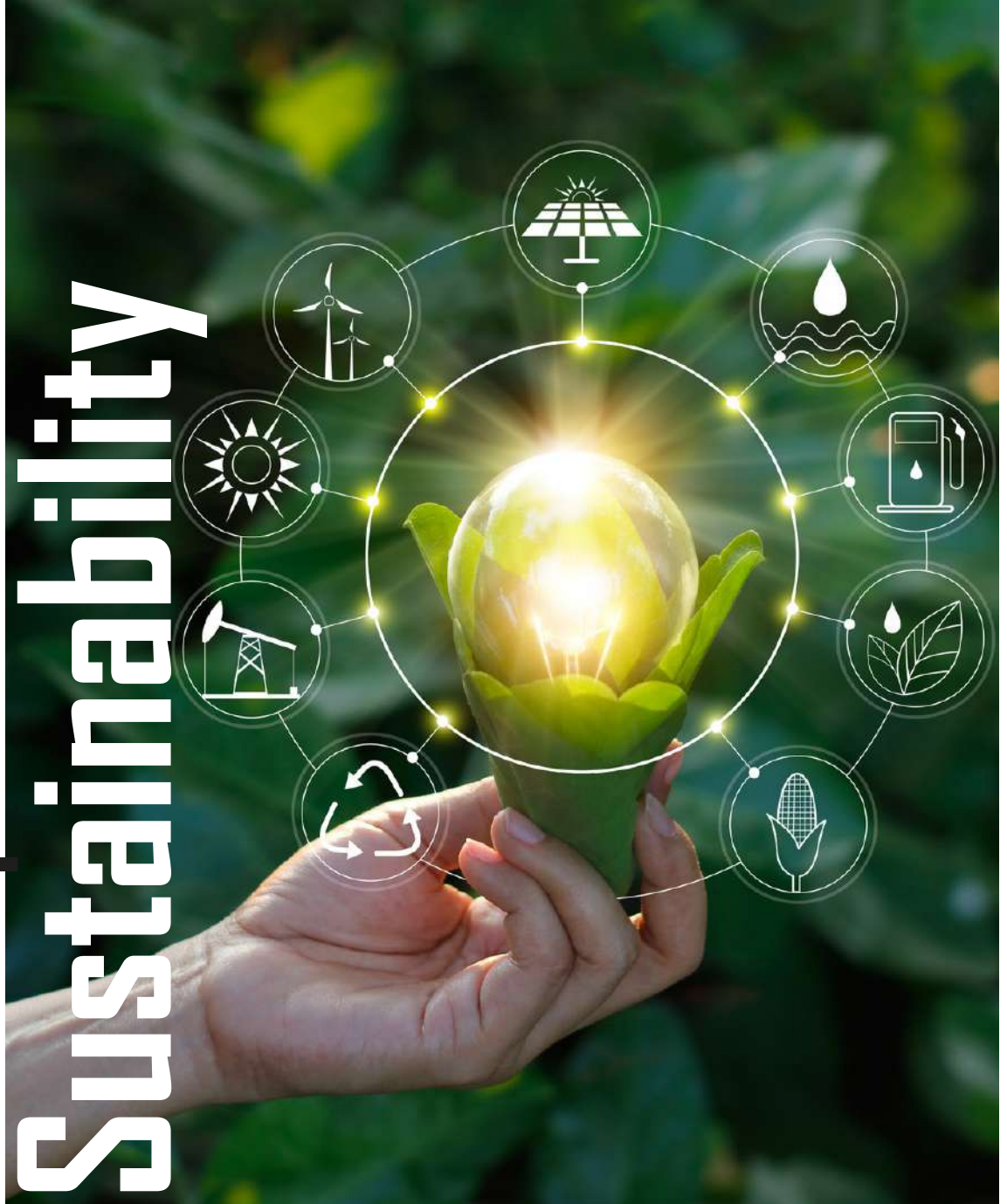
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2.

Sustainability



FARMSol One stop solution for Sustainability



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Dheeraj Anchuri
BBA 2020-2023

What is sustainability? One of the more common definitions of sustainability used worldwide is from the U.N. Brundtland Commission. Sustainable development fulfils current demands without significantly affecting future generations' ability to meet their own. Said, sustainability is about our children and grandchildren. How can we live now to ensure that they flourish and that future generations have a decent life? Our planet has many resources that we depend on for food for housing, and many of those resources can replenish.

The three E's in business is another essential framework we use to talk about sustainability. That is what we refer to as the "triple bottom line." The three legs of the stool, as they are known, are the environment, the economy, and equity.

- If we look at short term economic profit, then it will not end up with a thriving economy in the long term.
- If we focus only on conserving the environment without thinking about economics and understanding how people are making their livelihood, then it will

not end up with a thriving society.

- If we are not focusing on equity, it will end up with few people who have most of the resources.
- So, to be sustainable, there is a need to address all of these issues and understand the interlinkages among them.

Nowadays, there is a significant problem in the food industry (Agriculture supply chain). It is widely pre assumed that human civilisation sustains on vegetation. A total of 849 million tonnes of vegetables and 676.9 million tonnes of fruits are produced globally, but the bitter truth is farmers earn a small fraction of the money we pay for fruits and vegetables, and we are unaware. Most of us follow a healthy diet plan, but are you aware of the presence of harmful preservatives in these fruits and vegetables you consume? Do you know that more than 30% of agricultural production is getting wasted in transit?

This problem has a solution called FARMSol.

- FARMSol proposes to use traditional knowledge from rural India to preserve perishable vegetables and fruits.
- The concept of FARMSol is based on such wisdom about traditional ways of preserving perishable vegetables and fruits using natural ingredients.
- A core component of FARMSol is local sourcing-cum-processing centres to collect fruits and vegetables directly from nearby farms. These centres are run by self-help groups

-cum-processing centres are run by women from rural India. This initiative specifically focuses on women empowerment by recruiting women to run the centers and, in India household providers are primarily the male, whereas, in this situation, women are given the opportunity to be the provider and the authority to run the house.

Third, GOOD HEALTH AND WELL BEING, SDG3 is achieved by providing natural remedies instead of harmful preservatives in food processing.

Fourth, ZERO HUNGER, SDG2, as the increased Shelf life of Agri-produce reduces wastage in the supply chain. So ultimately, sustainability is about understanding how all of this is connected.

formed by local women who preserve vegetables and fruits.

- The self-help groups shall pack the vegetables and fruits after traditionally processing the same.
- This process of using ancient preservatives increases the shelf-life of the vegetables of fruits.

How does FARMSol meet Sustainable Development Goals?

First things first, NO POVERTY, SDG1 as farmers get a better price for their produce because of two reasons:

- Shelf-life of the product is increased from days to months, meaning the product can be sold in off-seasons at a higher price.
- Second, GENDER EQUALITY, WOMEN EMPOWERMENT, SDG5. FARM Sol's sourcing





Responsible consumption and production

-
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Sustainable development goals (SDGs), also known as Global Goals, address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice. The United Nations set these goals to achieve their respective targets by all the UN member states by 2030. The primary purpose of these goals is to achieve a better and more sustainable future for all.



12 RESPONSIBLE CONSUMPTION AND PRODUCTION

SDG 12 focuses on responsible consumption and production; we have become more sustainable in the last couple of decades, for example, from incandescent light bulbs to LEDs, from cathode ray tube tv to flatscreen, more efficient engines compared to the 1990s. Despite these developments, the environmental impact of our consumption is the same because the increase in technology efficiency and affordability has led to the rise in consumption, so there is no real improvement in our eco-efficiency, a substantial increase in eco-efficiency is needed to ensure sustainable consumption and production. The main objective of SDG 12 is gaining scientific and technological capacity for sustainable consumption and production. Let's take electric cars as an example. A foreground system is the entire life cycle of materials used in the manufacture, and a background system is energy and electricity. Although energy is critical for the operation of the electric vehicle foreground system, this is also generic and used by other product systems such as TVs and cars specifically. When we think about the sustainability of electric vehicles, we need to consider the foreground system and how the foreground system interacts with the background system. The foreground system can have a lower footprint; however, if the supporting background system relies heavily on fossil fuels, the environmental impact shifts from tailpipe emissions to upstream energy supply. Similar exam-

ples can be found in other product systems, such as beverages in plastic bottles such as Coke and Pepsi. In this case, the primary attention has always been on the beverage container and how they should be treated. In reality, the environmental impact hotspot is forming the corn syrup used for making the beverage in the background system. But a lifecycle perspective is not enough to achieve SDG-12 because it ultimately assumes that consumption and production are independent, which is rarely the case. A substantial increase in the eco efficiency of the products and technologies is needed to ensure a sustainable level of environmental impact. But examples like LEDs, TVs and cars illustrate that and focus on eco-efficiency alone is not enough to ensure sustainable consumption and production in the future. There is a need to analyse the overall impact in terms of environmental impact for a product or technology related to the share of the operating space that this product or technology can claim. Considering the size of its market ensures that the improvements lead to the solution that is not just more sustainable than what they replace but sustainable in absolute terms. Solutions are then likely to develop products never to be discarded or to provide the service without owning the product.

This technology alone cannot achieve the United Nations Sustainable Development Goals without considering society and its ever-increasing affluence. As the rebound effect shows, we need environmentally friendly production patterns and need to rethink consumption.



Technocentric approach to reduce soot in the atmosphere.

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Introduction

Air pollution in India is a severe issue, ranked higher than smoking, which causes high blood pressure. Under air pollution, one of the significant hazard causing elements is carbon soot. Incomplete combustion emits carbon soot. Fossil fuels like coal, petroleum and other factory combustibles are one of the significant causes of air pollution.

“India is the fourth highest emitter of carbon emissions globally, accounting for 7 per cent of global emissions in 2017. The sources of air pollution are multiple, vehicular emissions being one of the significant factors, industrial smoke, generation of dust- particularly from construction





sites and poor waste management – all contribute to declining air quality. India is the 5th most polluted country in the world, with an average PM_{2.5} concentration of 50.08.

Most of the soot is emitted from vehicles and combustion or simply burning. Anything that emits smoke mainly carries soot. Soot can penetrate our skins, get into nostrils which later causes various health-related problems. The Indian population has pumped enough soot in the air that India's air quality is degraded to levels that are sometimes just non-breathable.

Multiple instances where heavy smog in the national capital have led to the declaration of public health emergencies, flight cancellations, school closures, and inevitable political acrimony.

Impact of soot on air quality or atmosphere:
 Soot is the primary cause of haze, which severely decreases visibility in many parts of India. Soot poses tremendous harm to public health, mainly because of its size. Particulate matter is so tiny that it can quickly enter your lungs and bloodstream, potentially causing damage in several ways.

Soot is the common term for pollution called

PM 2.5—particulate matter 2.5 micrometres in diameter or smaller. Such fine particles are even smaller than fine dust or approximately 1/30 of the size of human hair. It is composed of various pollutants, including chemicals, acids, metals, soils, and dust, which are suspended in the air after emission. Breathing these tiny toxic particles can cause breathing issues, including asthma, bronchitis and more severe respiratory illnesses that can restrict your ability to carry out everyday activities. Many premature deaths are directly related to soot in the environment. Recycling carbon soot is one way to reduce the soot content in the atmosphere.

Air ink is an innovative company that converts soot into ink. It uses 1 ton of soot to create 10,250 litres of ink.

Environmental Impact

Cities like Kanpur, Delhi, Mumbai and other parts of the country have experienced unbreathable air quality. At the current increasing rates of air pollution, India is not much far from selling clean air. Just imagine the fresh air we all used to breathe freely is now no more accessible. Hoping that the air quality will improve will not help. Knowing what is right is no use if you do not do what is right.

So what can be done?

China, for example, is taking steps in cleaning up smog-choked skies from years of rapid industrial expansion by closing or cancelling coal-fired power plants.

Since India and China share a similar economic structure, the same can be implemented in India. On the other hand, in the U.S., California has been a leader in setting emissions standards to improve air quality. Various measures need to be taken to curb global warming, such as adding more renewable energy and replacing gasoline-fueled cars with zero-emissions vehicles such as electric ones. On a larger scale, governments at all levels should commit to limit emissions. Climate change activists have also suggested that reducing soot is the fastest way to slow climate change.

Above all, air-ink as a technocentric approach is an economical, most affordable and effective method of reducing soot in the atmosphere because this technocentric method directly deals with the primary concern. This method directly extracts soot from the emission source and converts it into a helpful resource like ink. This is what recycling is all about. The ultimate goal of this study is to convey that people of today need to change their lifestyles into more efficient lifestyles and begin to be concerned about the environment.

It all can be achieved by setting up the right mindset. People should start being effective Eccentrics, technocentric, and anthropocentric.



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