International Journal of Commerce and Management Research
www.managejournal.com
ISSN: 2455-1627
Received: 05-07-2022, Accepted: 20-07-2022, Published: 02-08-2022
Volume 8, Issue 4, 2022, Page No. 23-26

Indian cement industry–Resource utilization and its effects on products pricing

Mohd Sahid[1], Nisha Bansal[2]
[1] Assistant Professor, Faculty of Commerce, Maulana Azad University, Jodhpur, Rajasthan, India
[2] Assistant Professor, Department of EAFM, Govt. College Sumerpur, Pali, Rajasthan, India

Abstract
Cement industry of India is completive and inclusive industry. It has play vital role in construction and deployment of infrastructure. The study conducted through secondary data of reports of Statista. Researcher makes some relationships with installed production capacity, real production, consumption and price of cement products in India. Descriptive study and Pearson Correlation (2-tailed) Analysis has used for analysis of data. Study resulted as installed capacity of cement industry hasn't high-quality effects on price reducing. Production and utilization of existing installed capacity is more beneficial for industry to reduce price of products. Cement Industry of India is having lower cost efficiency to utilize its existing capacity of production.

Keywords: cement industry, installed capacity, production, consumption and price

Introduction
Indian cement industry play worldwide role in cement production. India is the second largest cement producer in the world and accounted for over 7% of the global installed capacity (IBEF, 2022). In Indian Market cement demand is increasing as well production of cement increases year on year.
Cement is one of the core industries which plays a vital role in the growth and expansion of a nation's Infrastructure. Cement is an indispensable substance for edifice of infrastructure, without cement imagination of infrastructural facility ineffectual. To meet up with necessitate of infrastructural facility cement production in required quantity and quality on efficient pricing is a duty of government. The demand for cement primarily depends on the pace of activities in the business, financial market, and real estate & infrastructure sectors of the economy. Cement is considered preferred building material and is used worldwide for all construction works such as housing and industrial construction, as well as for creation of infrastructures like ports, roads, power plants, etc. Cement products are basically a mixture of compounds, consisting mainly of silicates and aluminates of calcium, formed out of calcium oxide, silica, aluminum oxide and iron oxide.
In year 1914, First Cement plant installed in India and it began its journey with a single plant of 1000 tonnes per annum capacity at Porbandar in Gujarat. Since then, Indian cement industry has seen several development, technological changes and competitive segment. Excellent atmosphere and availability of raw material was an opportunity to industry for flourish in prefect manner in country. In present, India has emerged as the world's second largest cement producing country after China. Competitive environment attract business houses and tycoon to deploy it. Therefore, in India more than 80 cement companies with around more than 200 major cement plants and a total capacity of about 500+ million tonnes. Besides, there are mini and tiny cement plants, which have an estimated capacity of about 10 million tonnes. The Indian cement industry's existence for the last 100 years is marked by the roller coaster ride it underwent ever since its inception in 1914.

Review of Literature
Demand of cement is essentially depending on construction. As construction of houses, bridges and roads amplify in nation, it absolutely have an effect on cement demand. Pandey (2017) [7] find that cement is an important part of industrial infrastructure. In last two three decades demand of cement increases in India due to higher construction of infrastructure and industrial development as well construction of houses on large scale. To meet with larger demand of cement Indian cement companies are regularly ended their labors to meet with stipulate. Increasing number of cement plants, production capacity, production and technology advances in cement industry are evidence of it.
In present competitive era Indian cement industry is regularly focus on pricing, technology and capability utilization to meet exact and lowering cost of cement products. Pricing of cement affects with extent of demand in market. In this view, Arora & Sarkar (2002) find in his study that the boom in the real estate and construction industry in India has caused for a sudden and sharp increase in the price of cement 17 per cent in a single month. After two decades that pricing trend of industry not changed. Industry is not able to unwavering pricing on standard approach over the demand in market. Naidu (2022) [6] reported in his report "Cement prices rise just as demand grows" cement prices in India rose by over 10% and becomes Rs 395 per 50 kg bag as of March, 2022, on a month-on-month basis. Furthermore, it grew by 11% based on the year-on-year comparison.

Direct relationship with demand and pricing not changed as required with increasing number of companies and production capacity of plants. It raises question over production techniques of plants. Plants are trying to increases optimum utilization of its capacity. Kumar, John, & Senith (2013) Capacity utilization in terms percentage improved slowly (CGR = 0.53%) with inter year ups and downs. Improvement in capacity utilization is not ideal. Lower capacity utilization leads to over cost of products in business. Cement industry capacity utilization is not that which can give advance in cut the cost of cement products. Batra, Mittal, Kumar, & Chhangani, (2005) suggested in his report that cement industry can minimize cost by optimum capacity utilization furthermore, in his study they find that lower the cost of production is a continuous basis in a cement plant. These measures include high capacity utilization, reducing down time, saving in energy consumption, minimizing maintenance cost, advanced Automation level and waste control.

Indian cement industry is facing challenges in decision making cement companies are not able to deploy resources in better way. Choudhary, Tripathi, & Shankar (2019) [1] find in their study of selected Indian cement companies that 17 percent plants are underutilized due to maintenance-related problems and 15 percent plants underutilized cause of management-related problems. Cement industry is regularly making efforts to resolve it to minimize cost. Indian cement industry players are regularly revisiting their strategies for optimum utilization of capacity to minimize cost (Shankar, Agarwal, Geol, & Jha, 2011) [9].

Objectives of the Study

1. To reveal production capacity, production, consumption and price of cement industry of India.
2. To find out relationship among production capacity, production, consumption and price of cement industry of India.
3. To endow with a few suggestions to industry.

Hypothesis

Ho: There is no significant relationship among production capacity, production, consumption and price of cement industry of India.

Research Methodology

This research is used secondary data for the research purpose. These data collected from the reports of Statista. Data arranged in that form which can help researcher to conclude research to find relations and results for suggestions to Indian cement industry.

The analysis of data collected through reports using correlation test hypothesis of study.

Analysis of Indian Cement Industry

An analysis is a tool to test hypothesis of study, find out result of study. A study cannot conclude without analysis of presented data.

Production Capacity, Production, Consumption and Price of Indian Cement Industry

Production capacity of Indian cement industry taken as installed cement production capacity of cement plants in India in a specific year. Production and consumption of cement industry represent real production in a year and utilization of cement in a particular year. Production and consumption involves all types of cement products like grey, white and other. In the study price of cement is average price of cement products, pricing of cement represent average price of cement products of 50 Kg. bags. Price of cement is taken in Indian Rupees.

Table 1: Cement Production Capacity, Production, Consumption and Price

Year	Capacity (Million Tonnes)	Production (Million Tonnes)	Consumption (Million Tonnes)	Price (50 Kg. Bag)
2015	402	270	257	224
2016	415	274	272	231
2017	426	273	270	247
2018	455	291	289	225
2019	480	329	328	255
2020	502	329	327	292
2021	540	353	349	292

Sources: Statista

Analysis

Production Installed Capacity

Cement production installed capacity of Indian cement plant was 402 million tonnes in 2015 that increases to 540 million tonnes in 2021. During the study period of 7 years production capacity of Indian cement production increases 43.33%. The installed capacity of plants increases every year during the study period. Post Covid-19 installed capacity increases on advanced speed over previous years of the study.

Production
Genuine production of cement was 270 million tonnes in year 2015 that increases to 353 million tonnes in the study period. The production of cement increases to 30% in the period of study. Production of cement was not on constant rate year on year like installed capacity; production growth trends are not constant. In year 2017, it decreases over previous years on same hand it was constant over previous year in 2020. Cement production was increases in 2019 on higher speed in the study period.

Consumption
Consumption of cement in Indian market was 257 million tonnes in 2015 that increases to 349 million tonnes in 2021. During the study period of 7 years consumption of Indian cement consumption increases 35.79%. The consumption of cement increases every year during the study period but, Covid-19 was an exception for it and it reduces in year 2019. In year 2019, it was increase on advanced speed over previous year.

Price
Price of 50 Kg. bag of cement in Indian market was 224 INR in year 2015 that increases to 292 INR in 2021. During the study period of 7 years price of cement bag in Indian cement increases 30.35%. The price of cement increases every year during the study period but, Covid-19 was an exception for it and it remain constant over previous in 2020. In year 2019, price percentage change was on higher rate during the study period.

The proposed hypothesis testing on correlation
Rule: If the Pearson Correlation value is 1, than the There is perfect relationship and factors are moving in same direction (if it is positive) with constant rate and less than 1 but more than .75 is highly correlated.

Table 2: Correlation between Cement Production Capacity, Production, Consumption and Price

		Capacity	Production	Consumption	Price
Capacity	Pearson Correlation	1	.975**	.976**	.882**
	Sig. (2-tailed)		.000	.000	.009
Production	Pearson Correlation	.975**	1	.994**	.861*
	Sig. (2-tailed)	.000		.000	.013
Consumption	Pearson Correlation	.976**	.994**	1	.857*
	Sig. (2-tailed)	.000	.000		.014
Price	Pearson Correlation	.882**	.861*	.857*	1
	Sig. (2-tailed)	.009	.013	.014	
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

Correlation Analysis
Cement Production installed Capacity, Actual Production, Consumption and Price of cement industry of India has interrelatedness, on Pearson correlation ensures relationship between all. All four are highly correlated to each other, has positive relationship with each other. Consumption and production of cement products has highest relationship between all. On other hand consumption and price of cement product has lower correlation in all. All four are moving in same direction with each other but have different rates to move. Some are moving very close and some are moving strongly but has rate of moving lower than highly correlated.
This relationship clearly pointed to consumption and pricing of cement products has lower relationship than installed capacity to price. Consumption and production has good relationship and highest in all. Production of cement companies not depend on installed capacity it depend on demand and consumption of cement in market.

Limitations of Study
The data collected for study depends on reports of Statista which may incorporate some drawbacks. Cement Production installed Capacity, Actual Production, Consumption and Price of cement industry of India are collected from Statista reports on website.

Remedies and Suggestion
Cement industry of India is installing capacity of production for increasing their sales and meet with demand in market. Indian cement companies are mostly products sale in Indian market and mostly production of cement companies consumed in India. Indian cement companies are not using its installed capacity; there is huge gap in installed capacity and actual production of cement companies. Cement companies are requiring to using installed capacity to minimize cost and price of cement. Inoperative installed capacity of plants is an extra burden on cement companies. To reduce cost of cement product, cement companies be supposed to focuses on production to reduce cost cause it has more effective than increase installed capacity for production.
Indian companies should focus on that technologies which can reduce idle expenses to reduce prices cause price and production of cement companies have good relationship and it seen that when production increases over last year than prices of cement product increases at lower rate on other hand when production decreases prices

increase. It means both affect each other in negative way so companies should requiring increases production on installed capacity. Cement companies are requiring install green and lower cost energy to reduce cost. The cost effective low cost energy have potentials for reducing energy consumption as well as carbon emissions (Schumacher & Sathaye, 1999). Furthermore, cement industry of India facing underutilizing of resources therefore, it requiring using resources in optimum way. In addition, cement industry should focus on manage management related issues for immediate decision making and get cost reducing favored decision.

Conclusion of Study

The study has aimed to Resource utilization and its effects on Products Pricing of Indian cement Industry. Cement industry installed capacity, production consumption and pricing of industry through analyzing the production and Price of products. The study of resource utilization, production, consumption and pricing identify the price and its causes of cement industry products. As far as Price of cement industry products is concerned, as production is an increase price become stable or it increase on lower rate. It is good to minimize cost of cement products and lowering the price. The study brings to a close end result installed capacity and pricing of cent are not have that relationship which have production and pricing for optimum utilization of resources. On other hand, cement industry of India need to optimum utilization of resources instead of installation of further production capacity. Indian cement companies can reduce its cost by utilizing resources that are underutilized or idle.

Hence, we can say that installation of production capacity and price are not cost effective and competitive. Utilization of installed capacity is hopes to cement industry of reduces cost and get new market on horizon outside domestic market of India. Cement companies can use additional way for energy on traditional sources to reduce cost of its products as well utilize its capacity in case of lower energy supply or facing issues in power and coal supply for operation.

References

1. Arora RRS. Detecting Cartles in the Indian cement industry: an analytical Framework. Industrial and Management Engineering Department, IIT, Kanpur, 2002.
2. Batra V, Mittal P, Kumar K, Chhangani PN. Modern Processing Techniques to minimize cost in Cement, 2005.
3. Choudhary D, Tripathi M, Shankar R. Reliability, availability and maintainability analysis of a cement plant: a case study. *International Journal of Quality & Reliability Management, 2019, 36* (3).
4. IBEF. (20222022). Indian Cement Industry Analysis. IBEF report.
5. Kumar PK, John F, Senith. A study on the Progress of Indian Cement Industry. British Journal of Marketing Studies, 2013, 1 (1).
6. Naidu R. Cement prices rise just as demand grows. New Dehli: The Economic Times, 2022.
7. Pandey A. Importance of Cement Industry in India. International Journal of Marketing and Technology,2017:7(8):31-51.
8. Schumacher K, Sathaye J. India's Cement Industry: Productivity, Energy Efficiency and Carbon Emissions. Ernest orlando lawrence berkeley national laboratory, 1999.
9. Shankar R, Agarwal U, Geol P, Jha W. Business Strategies for the Indian Cement Industry. International Conference on Economics, Business and Management. IPEDR. 2. IAC S IT Press, Manila, Philippines, 2011.