**ANALYSNG THE MARKET CONCENTRATION INDIAN FOOD PROCESSING INDUSTRY**

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(Placeholder1) (htt18) (Tanusondjaja, 2020) (htt19) (htt20)INTRODUCTION:-

India's food processing business is one of the fastest expanding countries, with enormous local consumption and export potential. The sector includes a wide range of activities, from the primary processing of agricultural resources to the manufacturing of packaged food products. Policymakers and investors have paid close attention to the sector in recent years because of its potential to generate economic growth, create jobs, and improve food security. The food processing industry in India has become an essential contributor to the country's economic growth, generating significant employment and foreign exchange earnings. The industry is expected to continue its rapid growth in the coming years, driven by increasing consumer demand, favorable government policies, and technological advancements. In this research article, we will look into the analysis and extent of market concentration by the food processing industry in India.

LITERATURE REVIEW:-

"Food Processing Industry in India: A Review" (2017) by D.S. Deshmukh and S.S. Dhanwate, published in the International Journal of Scientific Research, provides an overview of the growth and development of the food processing industry in India. The authors highlight the potential of the sector, as well as the challenges faced by the industry, and suggest policy measures to support its growth.

"Potential for Growth in India's Food Processing Sector" (2015) by J. Sahoo and R. Dash, published in the Journal of Agricultural Economics, provides an analysis of the growth potential of the food processing industry in India. The authors discuss the advantages and disadvantages of the industry and suggest policies to promote its growth.

"Food Processing Industry in India: Opportunities and Challenges" (2016) by S. Ghosh and D. Mukherjee, published in the Indian Journal of Agricultural Economics, provides an overview of food processing's current status and prospects in India. The authors discuss the opportunities and challenge the sector faces and suggest measures to promote its growth.

"A Study on the Current Scenario of the Food Processing Industry in India" (2015) by V. Sridhar and P.K. Jain, published in the Journal of Business and Management, provides an analysis of the current status of the food processing industry in India. The authors highlight the opportunities and challenge the sector faces and suggest measures to support its growth.

"Challenges and Opportunities in India's Food Processing Industry" (2016) by R.K. Mohanty and P.K. Swain, published in the Indian Journal of Agricultural Economics, provides an overview of the challenges and opportunities faced by the food processing industry in India. The authors suggest measures to address the challenges and promote the sector's growth.

Research gap:-

Inadequate infrastructure: Many sections of India need more modern infrastructure and technology, which might hinder the growth of the food processing industry. Research is required to assess the industry's infrastructure requirements and identify obstacles that must be solved to sustain its expansion.

Low investment levels: Despite the potential of India's food processing industry, investment levels still need to be higher, particularly in rural areas. Research is required to identify investment hurdles and solutions to stimulate additional investment in the area.

Supply chain concerns: The food processing business in India confronts several supply chain challenges, including issues with quality, consistency, and reliability. More research is required to examine these difficulties and find solutions to strengthen the supply chain.

Human resource development: India's food processing industry needs more competent and educated people, which can stifle growth and competitiveness. Research is required to identify the industry's human resource development needs and to design strategies to satisfy these demands.

Lack of standardization: Many components of the food processing business in India, including product quality, safety, and labeling, need to be improved in standardization. Research is required to determine the problem's scope and identify solutions to increase uniformity and promote transparency in the sector.

These are some of the research gaps in the food processing industry in India, and further research is needed to address these gaps and support the growth and competitiveness of the sector.

RESEARCH OBJECTIVES:-

The purpose of this paper is to determine the market concentration of food processing companies in India. When smaller firms account for a large proportion of the total market, the term "market concentration" is used. It quantifies the extent to which one or more firms dominate sales in a specific market. In this paper, the idea of market concentration is calculated with reference to food processing companies by taking four dominant companies in this sector. For calculating, both the concentration ratio and the Herfindahl-Hirschman index are used.

RESEARCH METHODS:-

In this study research, we relied on quantitative methodologies such as calculation measures such as the concentration index and the HHI index to analyze the level of market concentration in the food processing industry in India and for such an index. Secondary data from various credible sources for the past ten years, such as the net sales variables, were used to analyze and interpret the data using quantitative indexes to arrive at conclusions. One major limitation was that data for companies that were not publicly traded were unavailable.

ANALYSIS AND INTERPRETATION:-

CONCENTRATION INDEX:-

Below are the analysis and interpretation done using the concentration index,

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| YEAR | Nestle (cr) | Britannia(crs) | Mondelez(Cadbury) | LT food(cr) | C4 total | Total sales | Market concerntration |
| 2020 | 12,642.77 | 10,820.57 | 8,038 | 2,342.28 | 33,843.62 | 73304 | 0.4616885845 |
| 2019 | 11,656.70 | 10,389.49 | 7,278 | 2,185.85 | 31,510.04 | 67656 | 0.4657390328 |
| 2018 | 10,507.50 | 9,205.93 | 6120 | 2,130.85 | 27,964.28 | 63188 | 0.4425568146 |
| 2017 | 9472.4 | 8,311.53 | 5750 | 2,044.40 | 25578.33 | 61658 | 0.4148420319 |
| 2016 | 8,753.08 | 7,651.64 | 5,698 | 1,806.49 | 23,909.21 | 53711 | 0.4451455009 |
| 2015 | 7,794.91 | 7,100.46 | 6,562.00 | 1,808.81 | 23,266.18 | 49135 | 0.4735154167 |
| 2014 | 9,485.32 | 6,232.09 | 6510 | 1,740.93 | 23,968.34 | 44563 | 0.5378529273 |
| 2013 | 8,753.74 | 5,564.38 | 4,627 | 1,616.20 | 20,561.32 | 40921 | 0.5024637717 |
| 2012 | 8,156.19 | 4,947.04 | 4099 | 984.2 | 18,186.43 | 38276 | 0.4751392518 |
| 2011 | 7,277.79 | 4,219.97 | 3,359 | 822.93 | 15,679.69 | 34611 | 0.4530262055 |
| 2010 | 6,376.58 | 3,416.60 | 2,503 | 690.76 | 12,986.94 | 32788 | 0.396088203 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | Avg |
|  |  |  |  |  |  |  | 0.4607325219 |

Four significant players in the indian food processing industry were chosen - nestle, britannia, mondelez, and LT foods were chosen inorder to arrive at the market concentration index results. Initially, all the net sales of C4 were collected, added, and divided by the total sales of that particular year. The process was done for the past ten years, from 2020 to 2010. By following the above methods, we received an average concentration index of 0.46, i.e., 46 percent was derived. A market concentration of more than 40% in India's food processing industry means that a single firm or a small group of enterprises controls a significant percentage of the market (40% or more). This means that these corporations control the supply, prices, and distribution of food processing items in the market. This concentration level can result in lower competition and potential entrance obstacles for smaller businesses.

An oligopoly is a market concentration of more than 40% in India's food processing industry. An oligopoly is a market structure in which a few major enterprises dominate and have great market power. Firms are interdependent in an oligopolistic market and have the power to significantly affect the market through collective activities such as setting pricing and determining production levels. Thus, more than 40% of the market concentration in India's food processing industry is compatible with the characteristics of an oligopolistic market structure.

MCI solely evaluates market share concentration among the top few firms and does not account for the market share of smaller firms or new entrants. it takes into account that the average of top C4 and when one firm constitutes the majority - that is not reflected in the MCI value. Data sources might be limited, and data accuracy varies based on the industry and data source used. MCI is normally calculated using data from a given period and might be influenced by market fluctuations.

THE HERFINDAHL INDEX (HHI):

The Herfindahl-Hirschman Index (HHI) is a popular market concentration metric that is used to assess market competitiveness.The index assesses the size of companies in relation to the size of the industry in which they operate, as well as the level of competitiveness.It can range from 0 to 10,000, with lower values indicating a less concentrated market.The greater the concentration of a market, the closer it gets to a monopoly (and the lower its competition). If an industry had only one firm, that firm would have 100% market share and the HHI would be 10,000, suggesting a monopoly. If thousands of companies competed, each would have around 0% market share and the HHI would be close to zero, signifying practically perfect competition.

If ,

HHI<.01 then it is highly competitive

HHI<0.15 or (1500) then it is unconcentrated

HHI(.15-.25)or (1500-2500) then it is moderate concentration

HHI>.25 (2500) then it is high concentration

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
| year | nestle (cr) | Britannia(crs) | Mondelez(Cadbury) | LT food(cr) | Total sales (crs) | HHI |
| 2020 | 12,642.77 | 10,820.57 | 8,038 | 2,342.28 | 73304 | 0.2131563491 |
| 2019 | 11,656.70 | 10,389.49 | 7,278 | 2,185.85 | 67656 | 0.2169128466 |
| 2018 | 10,507.50 | 9,205.93 | 6120 | 2,130.85 | 63188 | 0.1958565341 |
| 2017 | 9472.4 | 8,311.53 | 5750 | 2,044.40 | 61658 | 0.1720939114 |
| 2016 | 8,753.08 | 7,651.64 | 5,698 | 1,806.49 | 53711 | 0.198154517 |
| 2015 | 7,794.91 | 7,100.46 | 6,562.00 | 1,808.81 | 49135 | 0.2242168499 |
| 2014 | 9,485.32 | 6,232.09 | 6510 | 1,740.93 | 44563 | 0.2892857714 |
| 2013 | 8,753.74 | 5,564.38 | 4,627 | 1,616.20 | 40921 | 0.2524698418 |
| 2012 | 8,156.19 | 4,947.04 | 4099 | 984.2 | 38276 | 0.2257573086 |
| 2011 | 7,277.79 | 4,219.97 | 3,359 | 822.93 | 34611 | 0.2052327429 |
| 2010 | 6,376.58 | 3,416.60 | 2,503 | 690.76 | 32788 | 0.1568858646 |

Nestle, Britannia, Cadbury, and LT Food are four prominent players in the food processing sector used to calculate the HHI index here.

For the years 2010, 2011, 2012, 2015, 2016, 2017, 2018, 2019, and 2020, HHI is between 0.15 and 0.25, indicating that these companies had a moderate market concentration. These companies had a high market concentration in 2013 and 2014. During this time, these four companies had some market control. After 2015, we can observe a decrease in HHI value . Nestle's product controversy in 2015 impacted its sales, resulting in the entry of other companies into the market, reducing their market concentration.During 2019, the HHI value has increased slightly.The food processing sector is one of the most competitive. This industry has a large number of participants. As a result, the above-mentioned companies have only moderate market concentration.

CONCLUSION

The preceding section was intended to pinpoint market concentration trends from 2010 to 2020. Concentration ratio and HHI were used to calculate market concentration in the food processing industry. Food processing is a large industry with a large number of players. The study discovered that prominent market players such as Nestle, Britannia, Cadbury, and LT foods have a moderate market concentration. The concentration ratio was close to 40%, and the HHI values was almost between.15 and.25.

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