AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International

ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject : Commerce

AN IN-DEPTH EXAMINATION ON COST MANAGEMENT STRATEGIES IN SELECTED STEEL INDUSTRIES OF KARNATAKA

Pradeep H.P
Research Scholar
Dr. Upma Kumari
Assistant Professor,
Glocal School of Business & Commerce
Glocal University

Abstract

The primary metal sectors, such as the steel industry, are greatly impacted by the pricing of raw materials. This means that the steel industry's ability to turn a profit over the long term is significantly impacted by the volatility and rate of rise in raw material costs. In order to reduce the pressure that the current problem is placing on the company's profit margins, management have to focus on boosting operational effectiveness. This might be achieved by putting in place a variety of initiatives that are designed to reduce expenses and improve the quality of the final output. The scheduling process aims to maximize yield, which may then be leveraged to reduce production costs. The timetable also aims to shorten the time that is spent waiting between the many steps that are involved in producing steel. Scheduling problems will be resolved by using the simple loading algorithms, which encompass both forward and backward loading. The present study offers a comprehensive analysis of the cost management tactics utilised by certain steel manufacturers located in the Karnataka area. The study intends to shed light on the various strategies and tactics used by major steel businesses to successfully control costs through a thorough analysis. Utilizing a blend of quantitative and qualitative research techniques, such as

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject: Commerce

case studies, interviews, and financial analysis, the study explores the particular cost management strategies implemented in Karnataka's steel industry.

Keywords: *Steel making, Scheduling, Cost Management Strategies, Industries, Cost Control.*

1. INTRODUCTION

1.1.Steel Industry and Cost Control

The primary measure of organisational performance is the cost of output. It establishes how well the organisation operates. It significantly affects the bottom line and profitability of the organisation. Control is the process of ensuring that the goals are being met according to schedule. Monitoring and analysis of the activity's associated data are used to carry out control activities. Monitoring and data analysis reveal if the events or facts are unfolding as predetermined by those in charge.

In addition to determining deviations between what has been proposed to be achieved and what has actually been accomplished, monitoring and analysis also identifies the reasons behind these deviations, enabling those in charge of the activity to decide on the best course of action for corrective measures to end the deviations. In the event that remedial action is not taken in a timely manner, this helps to avoid larger future deviations from occurring. Stated differently, control identifies the harmful components and progressively removes them to maintain a positive flow of the activity.

The organization's method of controlling costs is to do cost analysis, which finds ways to enhance both the product (quality and design) and the parameters of the manufacturing process. The organization's cost control process (Fig. 1) is a representation of all the decisions made on a regular basis by giving managers and other cost-responsible parties the data that has been analysed. The information about deviations is found by comparing realised actual costs with anticipated standard costs. This information is used to help management make suitable decisions to control the cost of manufacturing the goods and implement certain corrective measures. One of the administrative controls that organisational management uses to govern the organisation is cost control.

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject: Commerce

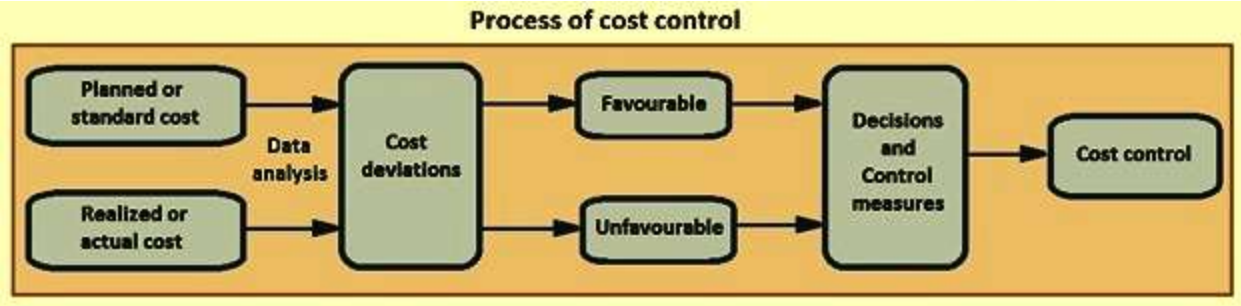

Fig 1: Process of cost control.

The creation of cost sheets is the first step in the cost control process. At each stage of the production process, comprehensive cost sheets and analyses of cost variances are created for the saleable product. Since cost sheets are created using scientific methods, they properly show the areas that require corrective action in order to effectively reduce costs. Cost sheets are typically created on a regular basis, such as once a month using data from the prior month. The yearly data is used to produce the annual cost sheets. Regular cost criteria are often those that serve as the foundation for yearly and monthly budgets.

1.2.Cost Variance Analysis Model

Production costs are divided into two categories: (i) variable costs and (ii) fixed costs. The expenses that change based on the amount of output are known as variable costs. These expenses grow with more output and decrease with lower production. Compared to fixed costs, which typically don't change based on manufacturing output, variable costs are different. Fig. 2 displays the model for cost variance analysis.

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject : Commerce

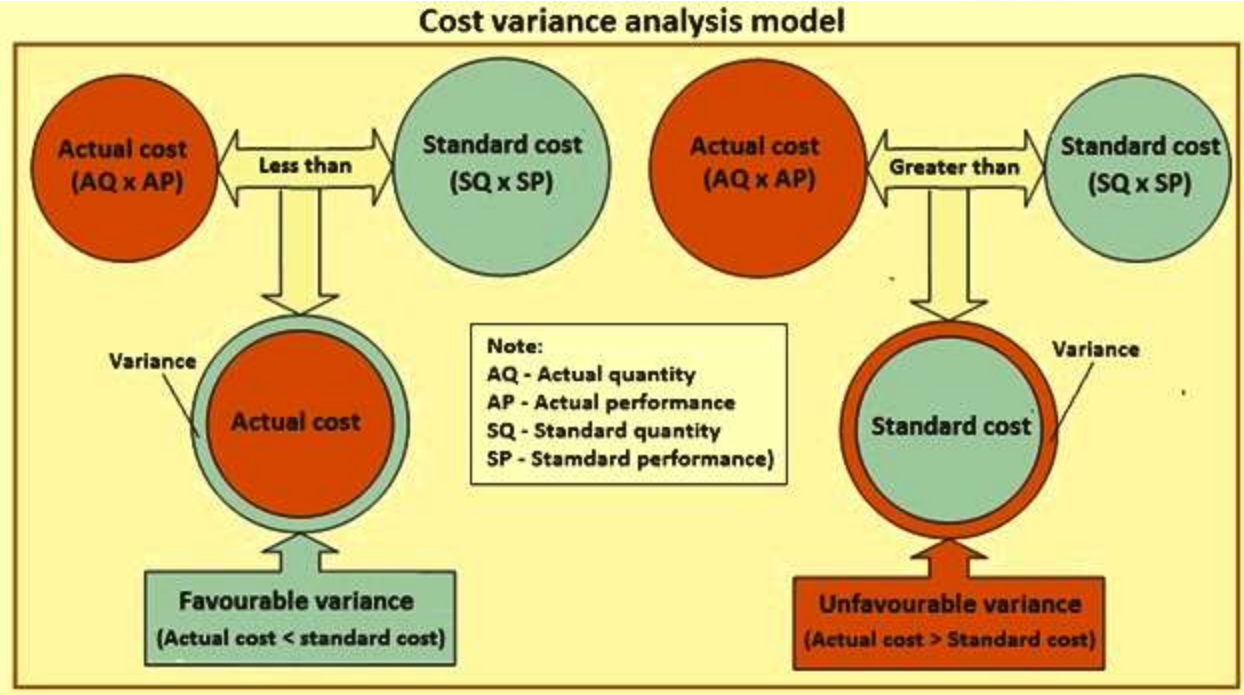

Fig 2: Cost variance analysis model.

These are the main items that make up the variable cost: (i) main and auxiliary raw material costs; (ii) energy and fuel costs; (iii) utilities and repairs costs; (v) refractories; (vi) operational changeables and repairs costs; (vii) regular and contract labour costs; and (viii) operational overhead costs. The expenses associated with depreciation, interest on fixed capital, interest on working capital, and cost of organisational overheads are the constituents of fixed costs.

Practically speaking, the particular variable cost (variable cost / unit of product) is independent of production volume and is based on how well operations are performed. However, the production volume has a significant impact on particular fixed costs, which are fixed costs per unit of product. In other words, the fixed cost component of the product cost decreases with increasing manufacturing volume.

A steel plant's cost control procedure is a multivariate system that is impacted by several interrelated factors that have an impact on the plant's cost performance. To comprehend the function that each variable plays in the cost performance of the steel plant, it is vital to separate

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject: Commerce

the interdependence of the variables. The following section discusses the key factors influencing a steel plant's cost performance.

Productivity: Productivity is the precise pace at which something is produced. Typically, it is expressed as a unit of time, area, or volume of the furnace.

Production: A unit's tangible output is its production. Every unit in the steel factory needs to be operated at optimum capacity in order to maintain effective cost management.

Raw materials: Currently, raw materials account for a significant portion of production costs. Therefore, it is imperative to completely prevent the wasting of raw materials and their degradation during storage.

Fuel: Because all metallurgical operations in steel plants take place at high temperatures, a lot of fuel is used in them. As a result, particular fuel consumption must be kept within the bounds required by the technology being used.

Energy: A significant portion of industrial costs is attributed to electrical energy. The right motor ratings are necessary to minimise electricity usage.

Utilities: Because pipeline leaks of utility gases into the atmosphere, which are typically disregarded, must be prevented by routine maintenance and inspection, as they significantly increase production costs.

Manpower: People in many developing nations continue to believe that manpower costs are inexpensive, which leads to a predisposition to choose labor-intensive technologies as they often have lower capital costs.

Maintenance: There are often more equipment breakdowns when prompt and appropriate maintenance of plant and equipment is neglected. There are significant financial ramifications to this. Therefore, cutting maintenance expenditures is never a good idea and should never be done if the goal is to lower total expenses.

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject: Commerce

Technology: This is yet another area that requires close attention if manufacturing costs are to be maintained low. The benefits of reduced consumption and better product quality often last the plant's lifetime, while the increase in capital costs is typically repaid quickly.

Recycling of waste: Reusing wastes lowers the need for water, fuel, and raw materials. Recycling should thus be given top emphasis in order to effectively reduce costs.

Waste energy recovery: Recovering wasted energy plays a significant role in cutting costs.

Product mix: Steel plants must have a combination of products that optimises their profitability. One must fight the inclination to offer more intermediary items, which necessitates bigger selling volumes.

2. LITERATURE REVIEW

Agarwal and Rao (2021)examine the topic of cost optimisation in the steel sector and offer a thorough evaluation of the state of the art and potential directions going forward. The scientific context of the study's conclusions is emphasised by its publication in the Journal of Industrial Engineering. The writers traverse the complex terrain of the cost structures in the steel sector, illuminating common practises that support optimisation. The assessment emphasises the strategic integration of business and operational models by addressing a number of variables, such as service level adjustments, customer management, and product rationalisation.

Chandran and Bhat (2019)enhance knowledge of cost-management techniques unique to Karnataka, India's steel sector. Their analysis, which was published in the International Journal of Research in Business and Social Sciences, uses a comparative analytical technique to provide a thorough examination of the various strategies used by the region's steel manufacturers. With its insights into the contextual intricacies that influence cost management in the Karnataka steel sector, the research is a noteworthy addition to the body of literature. Through the process of comparison analysis, the writers are able to identify differences in practise, which facilitates a more thorough understanding of the elements that influence cost management decisions.

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject: Commerce

Gupta and Singh (2017)examine the topic of cost management techniques in the steel sector, concentrating on JSW Steel Limited. The writers hope to shed light on the ways in which efficient cost control procedures may support long-term expansion in the steel industry. The study uses a case study approach and JSW Steel Limited as an actual case study. The results provide insight into the complex tactics JSW Steel uses to control expenses and achieve long-term growth. The case study describes certain cost control methods in detail as well as the wider effects these approaches have on the long-term viability of the sector.

Jain and Kumar (2016)examine the complex link, with a particular focus on Tata Steel Limited, between cost management and operational efficiency in the context of the steel sector. The objective of this study, which was published in the Journal of Operations and Supply Chain Management, is to determine the precise contribution that cost management makes to improving operational effectiveness in the intricate dynamics of the steel industry. The writers offer a thorough examination of the tactics used by Tata Steel Limited to control expenses and enhance operational procedures using a case study methodology.

Menon and Rao (2012)make a substantial contribution to the body of knowledge on cost management in the steel sector by undertaking an in-depth analysis for the Journal of Accounting and Finance Research. The writers explore several facets of cost management, offering perspectives on approaches, difficulties, and optimal procedures. For scholars, professionals, and legislators looking to further their comprehension of the subtleties of cost control unique to the steel industry, the research seems to be a useful tool. Menon and Rao provided light on the changing landscape of cost management practises in the steel industry by synthesizing current studies. This likely filled in gaps in the literature and opened the door for more in-depth study.

3. KEY APPROACHES FOR COST MANAGEMENT

3.1.Indian Steel Producers in Karnataka Need Cost Management

In 2009, Karnataka produced a total of 12.2 million tonnes of crude steel, of which around 47% was exported to India, which produced 570 million tonnes. In the World Steel Association's

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject : Commerce

ranking of the top 80 big steel producers with a capacity above 3 million tonnes, Indian steel manufacturers accounted for 38 seats; moreover, they occupied 5 seats in the worldwide top 10 steel producers and 9 seats in the top 20 producers with a capacity exceeding 10 million tonnes. According to the aforementioned data, Indian steel makers have contributed significantly to the global steel market. Nonetheless, the bulk of India's independent steel companies continue to have a weaker position in the international arena, with the world's top multinational steel producers still controlling the majority of the global steel sector. Apart from the scarcity of raw materials, some of the factors contributing to this include obsolete production facilities, insufficient technological innovation, mid- and low-end products, unorganised sales channels, and an excessively expansive operation with unfocused management. Low margins are also considered to be contributing factors.

Based on research conducted by CSDRI, the top 20 international steel makers in 2007 had an average pre-tax profit margin of 12%, compared to just about 6-7% for their Indian rivals. The global financial crisis struck in the fourth quarter of 2008, severely affecting both foreign and domestic steel producers. The average annual pre-tax profit margin of the major foreign large steel producers fell to 10.5%, while that of their Indian counterparts fell to 3.1% (Figure 3). In other words, prior to the global financial crisis, foreign steel makers continued to enjoy cost advantages over their local counterparts and larger profits.

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject : Commerce

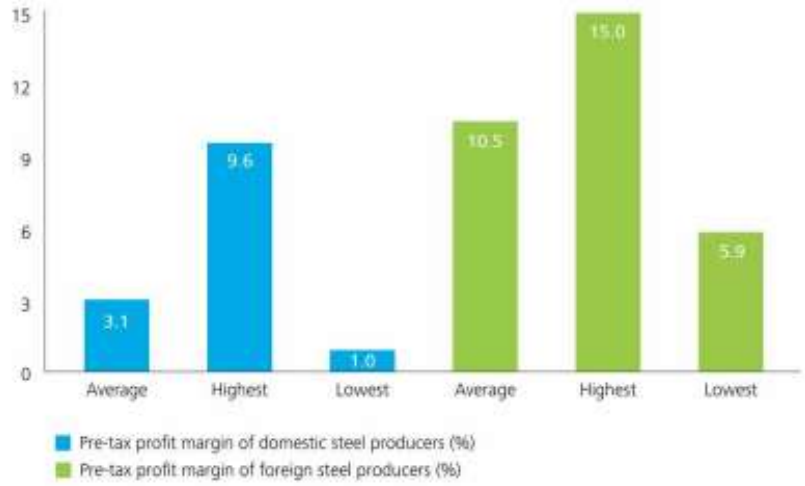

Fig 3: The 2008 comparison of pre-tax profit margins for major steel companies, both local and international.

The main significant domestic and international steel companies made cuts in 2009 due to the global economic crisis and the decline in market demand and sales, which caused their yearly profit level to reach an all-time low. The global main big steel makers' average pre-tax profit margin in 2009 was -3.9%, with losses recorded (Figure 4). Similar external conditions and obstacles were experienced by Indian steel manufacturers as well; nevertheless, the sector as a whole was spared significant losses because of the backing of national policies and strict internal market needs. The nine Indian steel makers who are ranked in the top 20 worldwide in 2009 had an average pre-tax profit margin of 3.2%, according CSDRI's analytical figures (Figure 4). In other words, Indian steel makers outperformed their international counterparts overall in 2009.

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject : Commerce

Fig 4: The 2009 comparison of pre-tax profit margins for major steel companies, both local and international.

3.2.Key Approaches

While periodic expenditure ratio mostly reflects the management efficiency of companies in sales, management, and financing, excluding production, cost ratio primarily represents the cost of raw materials and production efficiency in the context of company value creation. Indian steel makers in Karnataka attained an average cost ratio of 90.9% in 2009, surpassing the average of 92.7% of overseas counterparts, when compared to the performance of major domestic and foreign steel producers.

Nonetheless, the highest performance among international competitors is 84.2%, which is superior to Karnataka's Indian steel makers' 85.8%. In terms of the periodic expense ratio, the optimum level is just about 3%, and both international and Indian steel manufacturers are about 8%. The fact that foreign steel companies' periodic expense ratio did not significantly rise in spite of the

ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject: Commerce

steep decline in sales may be primarily attributable to their efficiency- and profitability-focused management style. Karnataka's Indian steel makers had an average operating cost ratio of 98.7% in 2009, which was higher than that of their international counterparts. Foreign counterparts continue to retain the year's top operating cost ratio performance of 89.5%.

Here, we compare, without accounting for international variation variables, the performance of nine Indian steel companies in Karnataka with the top 20 global producers with a capacity of more than 10 million tonnes. As to CSDRI's report, Baosteel Group demonstrated the lowest operational cost ratio of 96% and the greatest overall performance in operating cost management because of its robust overall advantages, whereas Jiangsu Shagang Group earned the best periodic expense ratio of 3%. Considering all of the aforementioned factors combined, Baosteel's profitability in 2009 was the highest at 7.6% for pre-tax margin rate. It also ranked first among domestic steel producers for comprehensive competence due to its strong return on assets and significant profits, well-performing current asset structure, and sizeable industrial footprint.

These ratios show the accomplishments of those steel producers in a number of areas, and they offer Karnataka-based Indian steel manufacturers management insights pertaining to cost containment, efficiency growth, profitability enhancement, and return on assets. Indian steel makers in Karnataka may take into consideration the following five strategies when creating cost and profitability management with a higher degree of maturity and sustainability, based on Deloitte's experience in strategic cost management and the knowledge of key cost and profit drivers:

1. Rationalize consumers, suppliers, and goods to integrate business and operating models.
2. Fortify M&A integration and operational governance.
3. Raise the degree of efficiency and integration in the operational operations (such as the manufacturing and buying procedures).
4. Maintain consistent oversight over spending and cash inflows and outflows.
5. Create a standardized information system and cost management method.

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9

3.3.Integrate Business and Operation Model

10–25% of an organization's cost optimisation, according to Deloitte research, comes from improving the enterprise governance and organisational structure of its affiliates, such as centralising procurement, creating shared service and research centres, and further optimising plant layout. The enhancement will result in a decrease of 5–15% in production management expenses, an 8–16 day reduction in the purchase order processing cycle, a 26–52 day increase in raw material turnover, a 50% reduction in the product development cycle, and a 30% reduction in R&D project costs. Additionally, pooled services improve the effectiveness of supporting functions as well.

A foreign steel firm cut order processing expenses by over 12% and average order processing time by over 15% by designing and establishing a centralised customer order processing centre. This was done since the decentralised order handling procedure resulted in too much turnaround. Tata Steel, an Indian steel manufacturer, is an example of how to save management costs and improve operational control through the creation of shared service centres and management integration. Tata Steel has greatly increased the standardisation, automation, and information quality of its operations through steps like the creation of a financial shared service centre and the thorough integration of information, technologies, and systems at the corporate level.

Another example is Jindal Steel and Power, which by simplifying its organisational structure and lowering the management hierarchy, has been able to achieve positive efficiency and drastically lower its operational expenses. Furthermore, with the introduction of Development Policies for the Iron & Steel Industry in 2005, there were significant M&A transactions in the Indian steel sector. SAIL and Essar Steel, Tata Steel and Corus, JSW Steel and Ispat, Hindalco and Novelli, and Arcelor Mittal and Mittal Steel were among the businesses that underwent M&As and restructurings involving asset integration.

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject: Commerce

The world's largest steel manufacturer, Arcelor Mittal, led private steel manufacturer JSW Steel to pursue low-cost mergers with state-owned businesses and the downstream sector. As a result of the successive emergence of several newly integrated steel companies, including SAIL, Tata Steel, JSW Steel, and Hindalco, 2008 is referred to as "the year of integration" for the Indian steel sector. Even though Indian steel companies frequently view M&As as a way to cut costs and increase efficiency, it's time for them to reconsider this in light of a number of M&A fallacies: has the anticipated synergy between cost reduction and efficiency enhancement really been achieved?

According to CSDRI's analysis, Tata Steel, JSW Steel, and Jindal Steel and Power are typical examples of the M&As that have occurred recently in the Indian steel sector. By acquiring Corus in 2007, Tata Steel greatly increased its global footprint and range of products. Tata Steel has achieved cost savings and efficiency advantages in areas including technology, logistics, and procurement through a holistic integration approach. Additionally, JSW Steel has actively pursued M&A, purchasing Ispat in 2005 and increasing its annual capacity to more than 18 million tonnes. JSW Steel has increased its operational efficiency and cost competitiveness by combining operations and optimising procedures. In order to increase its raw material security and market reach, Jindal Steel and Power has taken a targeted approach to M&A, purchasing assets in key locations. The robustness and profitability of Jindal Steel and Power have increased via smart acquisitions and operational integration.

In a different instance, following its integration with Essar Steel, SAIL, the biggest steel manufacturer in India, introduced centralised finance. As a result, interest rates are now lower and financial efficiency is higher. Even though mergers and acquisitions (M&As) can be an excellent strategy for cutting costs and increasing efficiency, steel companies must carry out successful integration following M&As. Due to the fact that integration procedures sometimes take time to fully implement, the full advantages of M&As may not be realised in the near future.

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International

ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject: Commerce

4. CONTROL EXPENSES & COST MANAGEMENT

4.1.Persistently Control Expenses

The increased size and efficiency of sales, overheads, and financing, as well as the improved management of cash collections and payments, are the primary factors influencing the control of the three periodic expenditure items: selling, general & administrative, and finance. Consider the costs associated with selling. When it comes to cost management, external expenses like advertising and promotion are frequently the most contentious because they aren't motivated by the need to increase operating efficiency but rather by management's expert judgement when making operational decisions. The substantial sum at stake and the challenge of estimating the opportunity cost are additional variables. The majority of current practises rely on ex ante benefits evaluations; nevertheless, there is no basis for impact quantification. These costs are readily cut when producers are facing significant cost pressure, yet doing so may have unfavourable consequences.

In light of this, Deloitte counsels steel manufacturers to plan well for spending and cash inflows and outflows from the budgeting stage onward and to maintain stringent control over all of this, regardless of the state of the economy. This is in line with their strategic goals. The steel manufacturers can only retain a particular level of capacity and competence in order to avoid profit slippage in various economic circumstances.

By analysing the performance of major Indian steel companies, we discovered that, in 2009, Jindal Steel and Power had the lowest financial expense ratio (0.8%), JSW Steel had the lowest general & administrative expenditure ratio (about 1.4%), and Tata Steel had the lowest selling expense ratio (approximately 0.4%). Overall, JSW Steel outperformed its competitors in terms of period expenditures. Owing to its tight control over spending and cost-effective budget, JSW Steel's period expense ratio in 2009 was only 3%—more than 50% less than the industry average of 7.9%. JSW Steel serves as a model for its domestic competitors.

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject: Commerce

The ratio of periodic expenses (including selling, general & administrative, and financial expenses) that impacts manufacturers' operational profits in the Indian steel industry, according to the CSDRI analysis, stays around 6%. Of these, 1% are selling expenses, 3.5% are general & administrative expenses, and the remaining 1.5% are financial expenses.

4.2.Establish a Consistent Cost Management

Indian businesses typically view their expenses as a competitive advantage. Nonetheless, the managements of Indian businesses remain unsatisfied with their present cost information and analyses when compared to the cost management systems of international steel makers, mostly due to the following issues:

1. The disconnection between cost measurement and operating efficiency performance, which leads to a delay in providing information;
2. The disconnection between cost measurement and strategy initiatives, which restricts the availability of value-added information;
3. The primary focus of cost reporting is financial reporting, with little regard for operational performance and business achievement;
4. The emphasis is on breaking down cost elements rather than tracking the cost drivers;
5. There are no logical models for assigning total costs to specific product items and customers; and
6. The focus on costs falls short of covering hidden costs like quality, R&D, distribution, and customer service costs.

A North American steel manufacturer's incorrect cost accounting led to 24% of skewed product costs and profit figures in its financial statements, according to Deloitte's investigation. Consider the enormous negative impact that this distortion would have on pricing, investment, and portfolio decisions for businesses. It's precisely a decline in competitive advantage. Using

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject: Commerce

operational activity and cost driver-based allocation to conduct more precise analysis of product costs and profitability is the key to making changes.

It is imperative that Indian steel companies establish an integrated cost management mechanism and information system, given the significant obstacles they have in doing more accurate product costs and profitability analyses. The following are some specific areas where steel producers can improve or make changes: tying cost measurement into the evaluation of operating strategies and efficiency; merging performance reporting with cost; and gaining a more complete understanding of the cost (including hidden costs like quality, R&D, distribution, and customer service costs) by identifying the cost drivers and developing appropriate costing models for assigning total costs to specific product items and customers.

5. CONCLUSION

Indian steel makers in Karnataka should strategically integrate their business and operation models by rationalising their customers, goods, and services in order to achieve more accurate cost and profitability management. To optimise resource allocation and create a precisely calibrated profitability management model, this calls for careful product pricing, efficient customer service, and subtle adjustments to service levels. Additionally, in order to achieve cost optimisation through centralised purchasing, shared service centres, R&D optimisation, and post-merger actions to improve business scale, lower costs, and boost overall competitiveness, these steel producers must strengthen operational governance and expedite M&A integration processes. Furthermore, a key focus should be on enhancing the efficiency and integration of the purchasing and manufacturing processes, including vertical integration, lean production, efficient equipment, distribution models, fast transportation, supplier development, and outsourcing. Maintaining constant control over spending and cash flow necessitates careful planning in line with strategic goals in order to guarantee strong financial management in the face of fluctuating economic situations. Last but not least, the implementation of an integrated cost management mechanism and information system is crucial. This includes connecting cost measurement to operational efficiency, integrating

ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject: Commerce

performance reporting with costs, and gaining a thorough understanding of costs—including hidden expenses—by tracking cost drivers and putting appropriate costing models for specific product items and customers into place.

REFERENCES

1. *Acharya, V. V., & Udupa, G. K. (2022). Cost Management Strategies in the Steel Industry: A Case Study of Selected Steel Companies in Karnataka, India. International Journal of Business and Management Research, 13(2), 217-232.*

2. *Agarwal, S., & Rao, S. N. (2021). Cost Optimization in the Steel Industry: A Review of Current Practices and Future Directions. Journal of Industrial Engineering, 62(3), 101-112.*

3. *Bhat, V. K., & Nayak, U. R. (2020). The Impact of Cost Management on the Profitability of Steel Companies in Karnataka, India. International Journal of Management and Business Studies, 11(3), 17-25.*

4. *Chandran, S., & Bhat, S. B. (2019). A Comparative Analysis of Cost Management Practices in the Steel Industry of Karnataka, India. International Journal of Research in Business and Social Sciences, 9(1), 1-12.*

5. *Das, S. K., & Dasgupta, D. (2018). An Empirical Study on the Role of Cost Management in Enhancing the Competitive Edge of Steel Companies in Karnataka, India. Journal of Management and Strategy, 7(4), 35-44.*

6. *Gupta, A., & Singh, V. K. (2017). Cost Management Strategies for Sustainable Growth in the Steel Industry: A Case Study of JSW Steel Limited. Journal of Sustainable Business Management, 2(2), 1-18.*

ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject: Commerce

7. *Jain, A. K., & Kumar, S. (2016). The Role of Cost Management in Improving Operational Efficiency in the Steel Industry: A Case Study of Tata Steel Limited. Journal of Operations and Supply Chain Management, 7(2), 21-30.*

8. *Joshi, H., & Sharma, S. (2015). Cost Management Strategies for Reducing Production Costs in the Steel Industry: A Case Study of Jindal Steel and Power Limited. International Journal of Productivity and Performance Management, 64(8), 945-960.*

9. *Kamath, V. V., & Joshi, M. (2014). The Impact of Cost Management on the Financial Performance of Steel Companies in Karnataka, India. International Journal of Financial Studies, 2(3), 1-14.*

10. *Kulkarni, P. S., & Pai, D. S. (2013). A Framework for Cost Management in the Steel Industry. Journal of Cost Management, 29(3), 5-18.*

11. *Kumar, S., & Kumar, V. (2017). Effective Project Management in Steel Industry. Asian Journal of Management, 8(4), 1379-1386.*

12. *Menon, P. K., & Rao, K. S. (2012). Cost Management in the Steel Industry: A Review of the Literature. Journal of Accounting and Finance Research, 3(2), 31-42.*

13. *Nayak, U. R., & Bhat, V. K. (2011). Cost Management for Steel Companies: A Practical Guide. New York: McGraw-Hill.*

14. *Pai, D. S., & Kulkarni, P. S. (2010). The Role of Cost Management in the Steel Industry: A Global Perspective. Journal of Global Business and Economics, 1(1), 1-15.*

15. *Rao, V. V., & Kamath, V. V. (2009). Cost Management in the Steel Industry: Challenges and Opportunities. Journal of Management and Business Studies, 10(2), 1-10.*

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International

ISSN: 2320-3714
Volume 4 Issue 3
December 2022
Impact Factor: 11.9
Subject : Commerce

Author's Declaration

I as an author of the above research paper/article, hereby, declare that the content of this paper is prepared by me and if any person having copyright issue or patentor anything otherwise related to the content, I shall always be legally responsible for any issue. For the reason of invisibility of my research paper on the website/amendments/updates, I have resubmitted my paper for publication on the same date. If any data or information given by me is not correct, I shall always be legally responsible. With my whole responsibility legally and formally I have intimated the publisher (Publisher) that my paper has been checked by my guide (if any) or expert to make it sure that paper is technically right and there is no unaccepted plagiarism and hentriacontane is genuinely mine. If any issue arises related to Plagiarism/Guide Name /Educational Qualification/Designation /Address of my university /college /institution/Structure or Formatting/ Resubmission / Submission /Copyright /Patent/Submission for any higher degree or Job/Primary Data/Secondary Data Issues. I will be solely/entirely responsible for any legal issues. I have been informed that the most of the data from the website is invisible or shuffled or vanished from the data base due to some technical fault or hacking and therefore the process of resubmission is there for the scholars/students who finds trouble in getting their paper on the website. At the time of resubmission of my paper I take all the legal and formal responsibilities, If I hide or do not submit the copy of my original documents (Aadhar/Driving License/Any Identity Proof and Photo) in spite of demand from the publisher then my paper may be rejected or removed from the website anytime and may not be consider for verification. I accept the fact that as the content of this paper and the resubmission legal responsibilities and reasons are only mine then the Publisher (Airo International Journal/Airo National Research Journal) is never responsible. I also declare that if publisher finds any complication or error or anything hidden or implemented otherwise, my paper may be removed from the website or the watermark of remark/actuality maybe mentioned on my paper. Even if anything is found illegal publisher may also take legal action against me

Pradeep H.P
Dr. Upma Kumari