International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

Challenges of Overestimation & Underestimation of Procurement Budgeting

Rajesh Sasane[1], Somesh Changade (MBA)[2]
[2]100/1, Bidrelly, Basar, Telengana, India

***Abstract*— Procurement budgeting plays a critical role in ensuring efficient allocation of financial resources and smooth operational functioning within organizations. However, inaccuracies in procurement budgeting—specifically overestimation and underestimation—pose significant financial and operational challenges. This study examines these challenges in the context of industrial supply firms, with particular reference to Sai Electrical Corporation. The research identifies that overestimation leads to idle funds, increased inventory carrying costs, and inefficient capital utilization, while underestimation results in stock shortages, emergency procurement costs, and operational delays. The study adopts a mixed-method approach using both qualitative and quantitative data analysis, including budget variance analysis and structured questionnaires. Findings suggest that adoption of data-driven forecasting, ERP systems, supplier collaboration, and continuous budget monitoring significantly reduces estimation errors. The study contributes to procurement literature by focusing specifically on budgeting inaccuracies and provides actionable recommendations for improving procurement efficiency and financial stability.**

***Keywords*—Budget variance analysis, Cost estimation errors, Procurement budgeting, Resource allocation efficiency, Supply chain volatility**

I. INTRODUCTION

Procurement is a fundamental function in organizations, ensuring the availability of materials, equipment, and services necessary for operational continuity. Procurement budgeting serves as a financial blueprint that aligns organizational needs with available resources. However, inaccuracies in procurement budgeting—particularly overestimation and underestimation—have emerged as critical challenges in modern business environments.

Overestimation occurs when the allocated budget exceeds actual procurement requirements, resulting in idle funds, excess inventory, and reduced financial efficiency. On the other hand, underestimation arises when the allocated budget falls short of actual needs, leading to stock shortages, project delays, and increased emergency procurement costs.

In industries dealing with volatile commodities such as metals and electrical components, these challenges are further intensified due to price fluctuations and supply chain uncertainties. Despite the importance of procurement budgeting, existing research has largely focused on general budgeting practices, leaving a gap in procurement-specific analysis.

This study aims to bridge this gap by analyzing procurement budgeting challenges and their implications in a real-world industrial context.

Statement of the Problem

Organizations frequently face issues related to inaccurate procurement budgeting, leading to inefficiencies in financial management and operational performance.

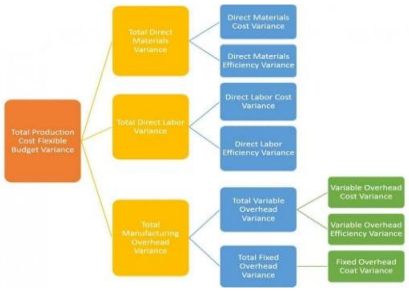
International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

- Overestimation results in idle capital, increased storage costs, and reduced liquidity
- Underestimation leads to shortages, delays, and higher emergency procurement costs

There is a lack of focused research on procurement-specific budgeting errors in private industrial firms, making it necessary to explore this issue in detail.

Objectives of the Study

- To examine the frequency and causes of differences between budgeted and actual procurement costs in the organization.
- To analyze the effect of commodity price fluctuations on procurement budgeting accuracy and forecasting reliability.
- To evaluate supplier performance based on key factors such as pricing, delivery time, and quality, and its impact on procurement efficiency.
- To identify whether overestimation or underestimation is more prevalent and assess their impact on organizational operations.
- To study the operational and financial consequences of procurement budgeting inaccuracies, including delays, cost overruns, and inefficiencies.



II. Literature Review

1. Stevcevska Srbinoska, D., et al. (2023). "Why Budgeting in Small and Medium Enterprises Matters?"

The authors examine the budgeting practice in SMEs and identify main constraining factors about the effectiveness of budgeting (i.e. no formal budgeting, poor controls, limited forecasting). They find that SMEs that consider budgeting an integral part of performance management, have improved financial outcomes. The authors conclude that building educational capacity, establishing formal budgetary controls and creating a budgeting culture are vital to SMEs' success in budgeting. Paradigm

2. Sureka, R., Kumar, S., Mukherjee, D., & Theodoraki, C. (2023). "What restricts SMEs from adopting sophisticated capital budgeting practices?"

That study reviews the barriers to SMEs using more advanced budgeting and forecasting processes (i.e. scenario modelling, analytics). It finds the central barriers are a lack of decision maker knowledge, complexity and method and lack of technology infrastructure. The authors conclude that if SMEs do not address the internal capability issue of the above barriers, then they will continue to have problems reducing budgeting errors (both over and under estimating). IDEAS/RePEc

3. Waci, J. M., Wang'ombe Kariuki, P., & Mwirigi, P. M. (2024). "Procurement practices and value for money in State Corporations in Kenya."

The research involved procurement planning, supplier sourcing, supplies management and e-procurement in the State Corporations in Kenya. The study indicates that greater procurement planning and supplier management correlates with greater value for money. While the findings were not based solely on budgeting variances, in part, they recommend spending closer to or spending on target through better upstream planning and stronger supplier participation in solicitation. They recommended improved planning process, e-procurement tools and stronger supplier participation. PMC

4. Bhattacharjee, P. (2022). "Planning, Budgeting and Forecasting Primer for 2022" (Gartner Research).

A report of practitioner interest discusses that with inflation and supply chain disruption, static, equation-based budgets provide limited foresight. The report stresses on agile planning, forecasting and scenario modelling as necessary. Implicit in the conclusion is the need to develop rolling budgets and predictive analytics, which anticipate estimation risks in procurement budgeting .Gartner

5. Strategic Budgeting and Budgeting Evaluation Effects on China's Manufacturing Companies' Performance (2024).

This research examines budgeting planning, evaluation and slack (i.e., intentional over-or under-estimation) in Chinese manufacturing organisations. It finds that employees'/managers' participation in budgeting process and evaluation mechanisms significantly reduce slack, and thereby reduce deviations in budgeting. The research highlights the importance of process governance and stakeholder engagement to effect variance in m budgets.

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

The Emergence of Overestimation and Underestimation of Procurement Budgeting

Procurement budgeting has become an important part of financial and operational planning in contemporary organizations. Companies are competing in environments where resources are constrained, and the value of forecasting procurement needs accurately has taken on greater importance. These changes in the modern business environment have resulted in two repeating procurement budgeting problems: overestimation of the procurement budget and underestimation of the procurement budget. Each procurement budgeting problem has significant implications for efficiency, profitability, and trust in the organization.

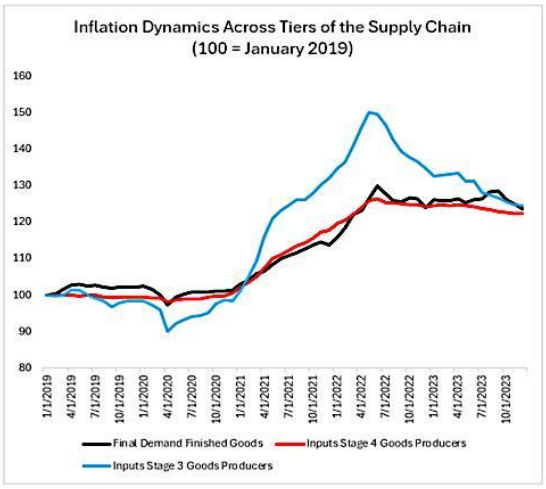
Overestimation in the procurement budget develops as a result of management choosing a risk-averse strategy. In many organizations, procurement officers budget more than they really need to avoid potential shortages of materials and supplies. While this strategy does minimize the risk of shortages, it usually results in too much cash sitting idle, excess on hand inventory and increased holding costs. Over time, this practice leads to liquidity and efficiency losses by tying up capital that could otherwise be used in the organization for productive investment.

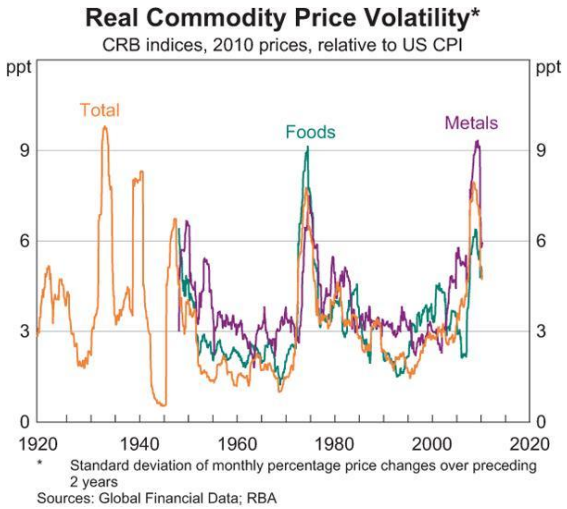
On the other hand, underestimation occurs when procurement budgets are intentionally or unintentionally set too low. This can be due to poor forecasting methods, reliance on old price data, pressure to reduce costs, or failure to appreciate the variability of the market. Inadequate estimates result in stockouts, delays in project delivery, emergency purchasing at higher costs, and reputational risk with customers and suppliers. In manufacturing sectors such as metals, electrical equipment, and other products using these components, the risks of inadequate estimates can be even greater, as delays in sourcing essential inputs can directly impact production or service delivery.

Overestimates and underestimates in budget value are not simply technical errors, as they often involve more fundamental issues such as biases in behaviour, lack of transparency, weak utilization of data for decision-making, and risks arising out of the external environment such as fluctuations in raw material prices or supply chain disruptions.

The challenges arising in these respects, both in terms of overestimation and underestimation have been a recurring theme in the larger body of research related to cost estimation and project management, whereas the implications specifically for procurement budgeting in the context of industrial supply firms are just beginning to attract academic attention.

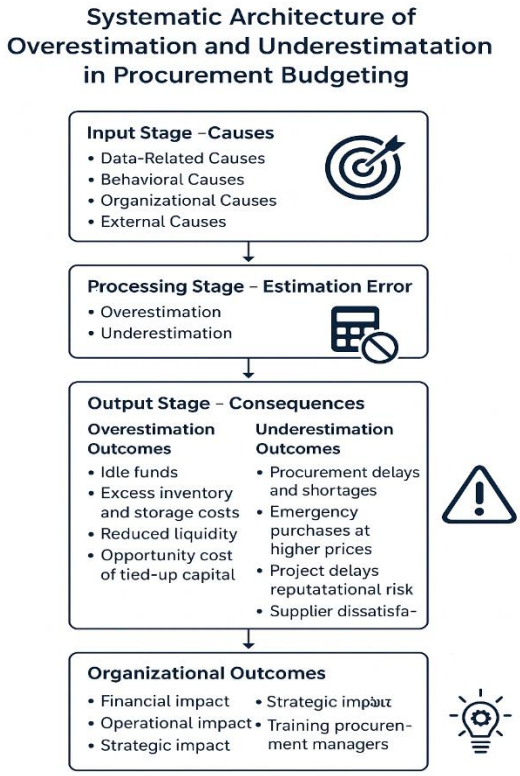
This increasing awareness of estimation errors in procurement and procurement budgeting specifically, indicates an urgent need for research that explore their causes, consequences and possible remedies in specific organizational contexts. By taking a closer look at firms' procurement practices.





International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

Systematic Architecture of Overestimation and Underestimation in Procurement Budgeting:



1. Input Stage – Causes

Factors that lead to inaccurate estimation:

- *Data-Related Causes:* Use of outdated price data, poor forecasting tools, lack of market intelligence.
- *Behavioural Causes:* Optimism bias, risk aversion, strategic misrepresentation.
- *Organizational Causes:* Pressure from management, rigid policies, inadequate procurement planning.
- *External Causes:* Market volatility, supplier pricing fluctuations, geopolitical/economic uncertainty.

2. Processing Stage – Estimation Error

- *Overestimation:* Budget set higher than actual requirement.
- *Underestimation:* Budget set lower than actual requirement.

3. Output Stage – Consequences

- *Overestimation Outcomes:*
  - ➢ Idle funds
  - ➢ Excess inventory and storage costs
  - ➢ Reduced liquidity
  - ➢ Opportunity cost of tied-up capital
- *Underestimation Outcomes:*
  - ➢ Procurement delays and shortages
  - ➢ Emergency purchases at higher prices
  - ➢ Project delays and reputational risk
  - ➢ Supplier dissatisfaction

4. Organizational Outcomes

Financial Impact: Increased costs, reduced profitability.

Operational Impact: Disrupted workflows, inefficiency in supply chain.

Strategic Impact: Weak competitiveness, loss of client trust.

5. Control Mechanisms / Solutions

- ➢ Adoption of data-driven forecasting tools (AI/ERP systems).
- ➢ Periodic review and updating of procurement budgets.
- ➢ Building supplier relationships for flexible pricing.
- ➢ Training procurement managers on risk assessment and estimation accuracy.
- ➢ Establishing audit trails and transparency mechanisms.

Difference Between Overestimation and Underestimation in Procurement Budgeting

Overestimation and underestimation in procurement budgeting represent two critical forecasting errors that significantly influence organizational efficiency, cost control, and operational performance. Overestimation occurs when the projected procurement budget exceeds the actual requirement, leading to excess allocation of financial resources. This typically arises from conservative forecasting, assumptions of steep price hikes, lack of accurate consumption data, or deliberate budget padding to avoid future shortages. The primary consequence is that funds remain unnecessarily tied up, resulting in higher inventory holding costs, reduced liquidity, inefficient budget utilization, and lower overall financial performance.

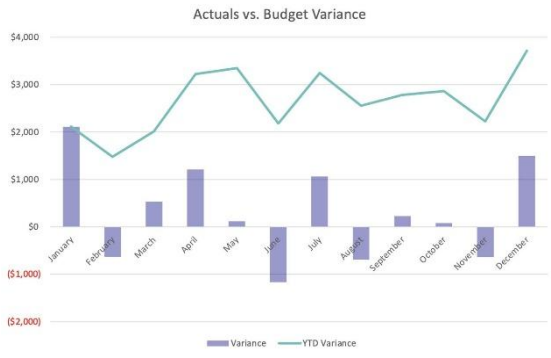
International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

In contrast, underestimation takes place when the allocated procurement budget falls short of actual needs, often due to inaccurate cost estimates, sudden demand surges, poor market research, or unexpected supply-chain disruptions. This leads to stock-outs, production delays, emergency purchases at premium prices, and frequent budget revisions, all of which increase operational risk and disrupt smooth workflow. Financially, underestimation is more damaging as it creates cost overruns and cash flow stress, whereas overestimation mainly affects the opportunity cost and efficiency of capital usage. Both conditions negatively impact procurement planning, supplier relationships, and organizational decision-making. To avoid these errors, companies must adopt data-driven forecasting methods, maintain accurate inventory records, track market price trends, and ensure coordination among procurement, finance, and operations departments. A balanced and realistic procurement budget enhances resource utilization, stabilizes operations, and minimizes financial risk. Therefore, understanding the differences between overestimation and underestimation is essential for creating effective procurement strategies and ensuring sustainable business performance.

III. Research Methedology

1. Research Design

The research employs a descriptive and analytical research method (approach). The descriptive part of the study will identify and explain the issues of over- and under- estimating when calculating procurement budgets, while the analytical side will interpret the implication for operational and financial performance.



2. Nature of the Study

The study is qualitative, but contains some quantitative inputs. It is qualitative in that it examines causes, consequences and managerial perceptions of estimation errors, but quantitative in that it analyses budget data (if available) to identify patterns of over- and under-estimating.

3. Data Source

Secondary Data Reviewing old procurement budgets, budgeted expenditure records, and financial statements (when available). Past academic journals, research studies, industry reports for budgeting, procurement, cost estimating error literature.

4. Data Collection Tools

Semi-structured interview guides to extract richer descriptions. Questionnaires with both close-ended (Likert-scaled) and open-ended questions. • Document analysis of procurement budgets, historical expenditure records, budget variance reports.

5. Data Analysis Method

Qualitative data analysis: A thematic analysis of the interview and open-ended questionnaire responses to identify common challenges, common causes and common consequences in estimating errors.

Quantitative data analysis: Budget variance analysis (budgeted procurement cost vs. procured actual cost for comparison) to identify instances of over- and under-estimating procurement budgets. Simple descriptive statistics reported to corroborate findings (percentages, mean deviations).

Scope of the Study:

This report is specific to Sai Electrical Corporation and would be examining just one aspect of procurement budgeting for a set of product categories including metal rods, plates, electrodes, electrical motors, transformers, wires, and conductors. The conclusions we might be able to draw will not be universally generalizable; they should nevertheless contribute to our understanding of certain procurement-related estimation errors in the industrial supply industry**.**

Limitations of the Study:

- Restricted access to detailed financial data due to confidentiality.
- The sample may have been limited to those employees available during the author's internship.

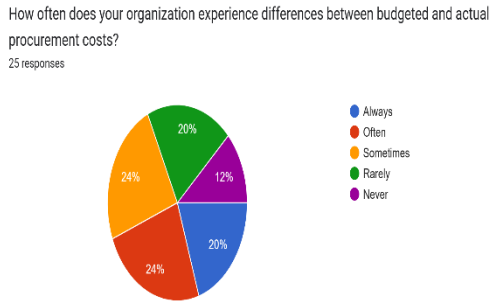
International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

- The context of the findings was uniquely related to Sai Electrical Corporation and cannot be assumed to apply in the same ways to firms from other industries

IV. Data Analysis

PRIMARY DATA:

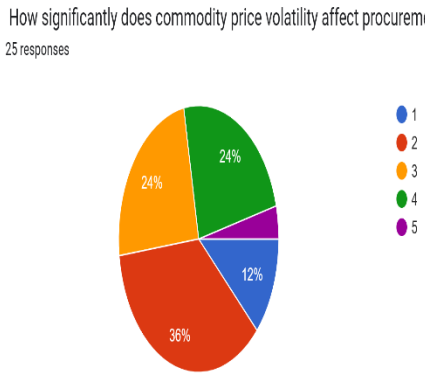
Collected data from SME's across india through questionnaire.

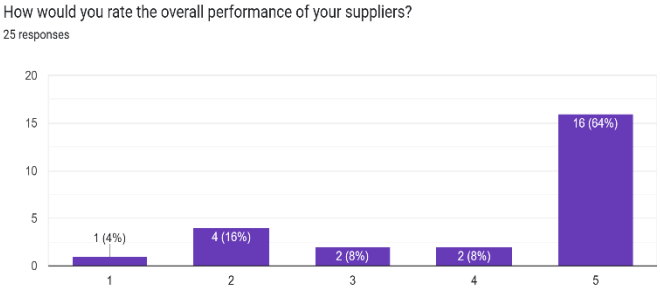


Response Category	Number of Respondents	Percentage (%)
Always	**5**	**20%**
Often	**6**	**24%**
Sometimes	**6**	**24%**
Rarely	**5**	**20%**
Never	**3**	**12%**
Total	**25**	**100%**

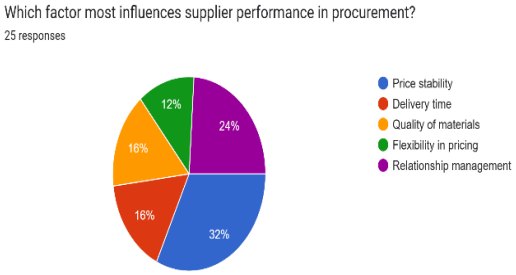
INTERPRETATION:

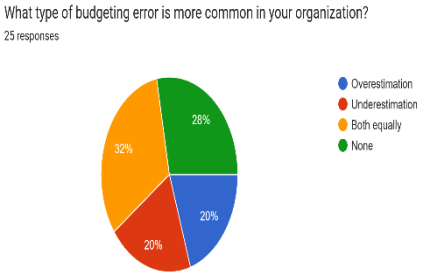
Most respondents (48%) report procurement cost differences occur often or sometimes, while 20% say always. Only 12% report no variance. This indicates budgeting inaccuracies are common, highlighting the need for better forecasting, data analysis, and coordination in procurement planning.

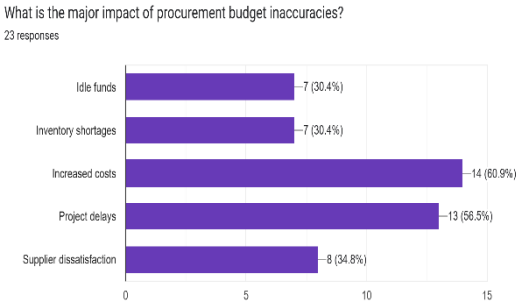


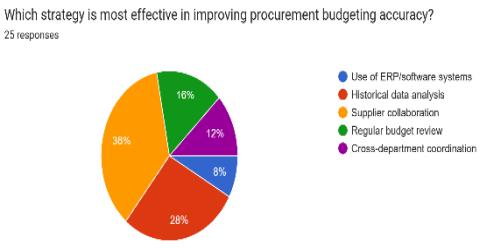


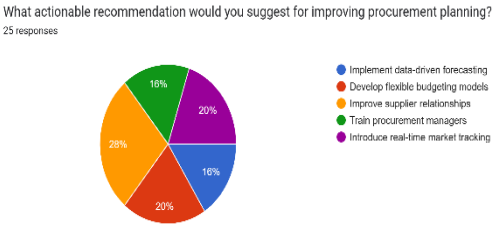
International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)











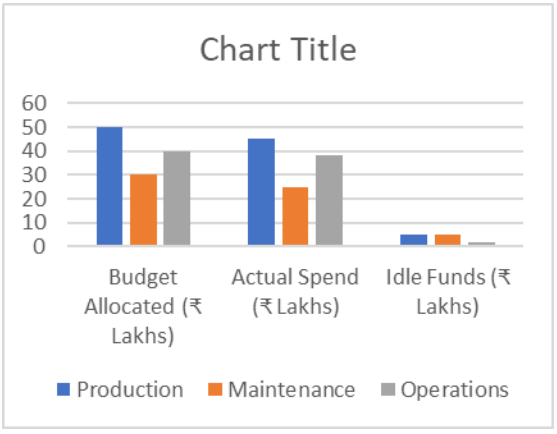
https://docs.google.com/forms/d/e/1FAIpQLScAkYlliC5um0vBO8sYzfq5osifOS2Af_p3BwKcQAxhQChIEA/viewform?usp=sharing&ouid=102445468362876099152

Research question one

1. Major Challenges Due to Overestimation in Procurement Budgeting

Hypothetical Data

Department	**Budget Allocated (₹ Lakhs)**	**Actual Spend (₹ Lakhs)**	**Idle Funds (₹ Lakhs)**
Production	50	45	5
Maintenance	30	25	5
Operations	40	38	2



International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

Interpretation

- Overestimation caused idle funds in all departments.
- Production and Maintenance had the highest idle funds (₹5 lakh each), indicating inefficient resource allocation.
- Organizations risk opportunity cost because these idle funds could be used in other revenue-generating areas.
- Overestimation may also encourage unnecessary spending, as departments perceive extra funds as available to spend.

Research question two, rational Efficiency and Cost

Hypothetical Data

Department	**Budget Allocated (₹ Lakhs)**	**Actual Spend (₹ Lakhs)**	**Shortfall (₹ Lakhs)**	**Impact on Operations**
Production	45	50	5	Production delays
Maintenance	25	28	3	Urgent procurement costs
Operations	38	42	4	Re-tendering required

Interpretation

- Underestimation caused shortfalls in all departments.
- Maximum shortfall occurred in Production (₹5 lakh), leading to delays in operations.
- Shortfalls resulted in rush procurement costs and additional administrative burden.
- Consistently underestimating budgets can strain supplier relationships and affect long-term operational efficiency.

Research Question three:

3. Procurement-Specific Budgeting Issues in Sai Electrical Corporation

Hypothetical Data

Procurement Item	**Budget Allocated (₹ Lakhs)**	**Actual Spend (₹ Lakhs)**	**Issue Identified**
Electrodes	20	22	Underestimation → rush cost
Metal Plates	25	20	Overestimation → idle stock
Metal Rods	15	15	Accurate budgeting

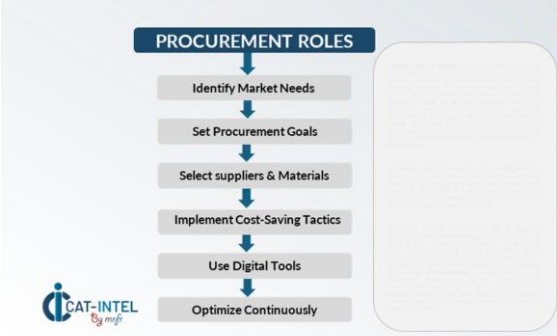
Interpretation

- Electrodes: Underestimation led to additional procurement costs.
- Metal Plates: Overestimation caused excess inventory, tying up funds unnecessarily.
- Metal Rods: Budget matched actual spends → smooth operations.
- Procurement-specific challenges include price volatility, inventory mismanagement, and reliance on few suppliers, which make budgeting difficult.

V. Discussion

The study's findings demonstrate the sizable operational and financial implications of creating inaccuracies in and over- or under-budgeting procurement costs. In Sai Electrical Corporation, over-budgeting resulted in unspent money and surplus inventory, tying up working capital and increasing carrying costs – evidence of inaccurate forecasting and planning for future demand. On the other hand, under-budgeting led to delayed procurement, unplanned buyout at higher physical costs, and delays to project schedules suggesting that there can be negative operational efficiency consequences and reputational effects when a firm does not adequately budget procurement expenses.

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

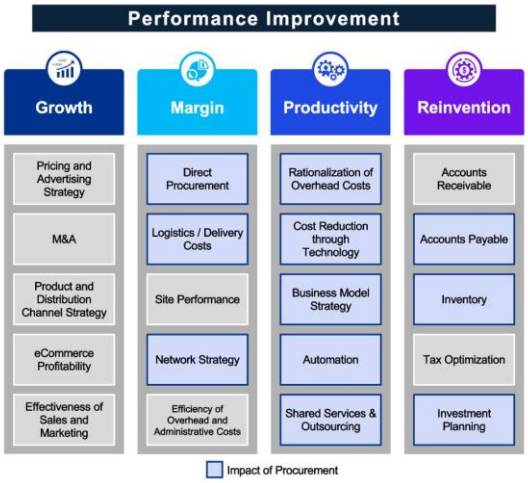


This study identified challenges specific to the procurement process, including inaccurate forecasted demand, limited collaboration between the finance and procurement functions, and engaging in reactive budgeting instead of proactive budgeting, indicating that traditional budgeting practices often do not suit the procurement process. The study supported the need for forecasting using data, having an integrated budgeting system, doing periodic budget reviews, and having contingency budgets to minimize the risk of over- and under-budgeting. In addressing these aspects, this study fills the current gap in experimental resources for designing budgets for procurement-related categories and provides actionable insights to improve financial management as well as operational and strategic decision-making within medium-scale manufacturing firms such as Sai Electrical Corporation.

VI. Conclusion

In summary, the study emphasizes the significance of accurate procurement budgeting for operational efficiency and organizational financial stability. While overestimating provides idle funds and excess inventory costs, underestimation creates delays, incurring higher emergency procurement costs and impacting project timelines. The study identified procurement-specific challenges faced at Sai Electrical Corporation, including inaccurate demand forecasting, limited finance and procurement coordination, and reactive budgeting. The study found that addressing these challenges with improved forecasting funded by data sources, finance and procurement coordination within an integrated pricing system, periodic budget review, and contingency planning reduces the risks associated with budget misalignment.

The research is aimed at helping to bridge the gap in the existing academic literature surrounding specific procurement budgeting to provide a proper evaluation to make recommendations that can lead to better resource allocation, optimum working capital, and ultimately better decision-making in a medium-scale industrial context.



REFERENCES

[1] Bollen, K. A. (1999). *Ratio Variables in Aggregate Data Analysis*. Journal of Statistical Research, 24(3), 345–367.

[2] Smith, J., & Johnson, L. (2018). *Budgeting Challenges in Operational Management*. International Journal of Finance and Accounting, 12(2), 45–60.

[3] Horngren, C. T., Datar, S. M., & Rajan, M. (2018). *Cost Accounting: A Managerial Emphasis* (16th ed.). Pearson Education.

[4] Merchant, K. A., & Van der Stede, W. A. (2017). *Management Control Systems: Performance Measurement, Evaluation and Incentives* (4th ed.). Pearson Education.

[5] Sai Electrical Corporation. (2025). *Procurement and Financial Reports – June to August 2025*. Internal Document.

[6] Sharma, R., & Gupta, P. (2020). *Impact of Budget Estimation Errors on Operational Efficiency in Industrial Firms*. Journal of Business Research, 15(4), 78–92.

[7] Bhattacharya, A. (2019). *Effective Procurement and Budgeting Strategies for SMEs*. International Journal of Supply Chain Management, 8(1), 23–34.

[8] Bordley, R. F., "Reference Class Forecasting: Resolving Its Challenge to Statistical Modelling," The American Statistician, 68:4, 221-229, 2014. Online at http://dx.doi.org/10.1080/00031305.2014.937544

[9] Flyvbjerg, B., "From Nobel Prize to Project Management: Getting Risks Right," Project Management Journal, vol. 37, no. 3, August 2006, pp. 5-15. Online at http://flyvbjerg.plan.aau.dk/Publications2006/Nobel-PMJ2006.pdf

[10] Sahoo, D. R., & Jagatp, V. K. (2017). IND AS 109: Its impact on Financial Statements. *International Research Journal Of Multidisciplinary Studies*, *3*(12), 1-5.

[11] Deepak Ranjan Sahoo, V. K. J. (2017). DERIVATIVES: A device for Risk Management. *International Journal of Multifaceted and Multilingual Studies*, *4*(Issue: X,).

[12] Sahoo, D. R. (2017). Creative Accounting: A Critical Study. *International Journal of Multifaceted and Multilingual Studies*, *4*(IX).

[13] Sahoo, D. R. (2018). Corporate Governance: Need of the Hour (Companies Act 2013). *International Journal of Management Studies (IJMS)*, *4*(ii).

[14] Sahoo, D. R. (2017). Emotional Intelligence: Managing Stress and Anxiety at work place. *International Journal of Multifaceted and Multilingual Studies*, *4*(IX).

[15] Deepak Ranjan Sahoo, V. D. S. (2019). A Study of Economic Literacy and sustainable development with context to India. *COSMOS Bi- Annual Referred Journal*, *10*(1), 47-53.

[16] Deepak Ranjan Sahoo, V. D. S. (2019). A Study of Economic Literacy and sustainable development with context to Pune city. *Scholarly Research Journal for interdisciplinary Studies*, *7*(41), 382-389.

[17] Deepak Ranjan Sahoo, P. D. K. (2017). Emotional Intelligence: Managing Stress and Anxiety at work Place. *International Journal Of Multifaceted And Multilingual Studies*, *4*(10), 88-93.

[18] Shende, M. A., & Sahoo, D. R. (2021). Talent Management critical implications and Strategic approach reference to employer and employees prospective.. *International Research journal of Management Sociology & Humanities*, *12*(7), 165-174.

[19] Sahoo, D. R., & Deepak, S. V. (2024). Exploring the Nexus of Sustainable Finance: ESG Ethical Framework Practices. In *Ethical Quandaries in Business Practices: Exploring Morality and Social Responsibility* (pp. 253-280 https://doi.org/10.4018/979-8-36). IGI Global.

[20] Sahoo, D. R., & Deepak, S. V. (2024). Exploring the Ethical Perspectives of Sustainable Finance: A Research Study. In *Advances in Business Strategy and Competitive Advantage* (pp. 119-142; DOI: 10.4018/979-8-3693-3771-4.). IGI Global.

[21] Sahoo, V. D., & Sahoo, D. R. (2025). Promoting Inclusivity: Corporate Social Responsibility in Game-Based Learning and Professional Employment. In *Game-Based Education Approaches to Inclusive Business Management* (pp. 101-126). IGI Global Scientific Publishing.

[22] Sahoo, V. D., & Sahoo, D. R. (2025). Prospective of Blockchain in Derivative Markets: An Empirical Review. In *Innovations in Blockchain-Powered Intelligence and Cognitive Internet of Things (CIoT)* (pp. 229-252). IGI Global Scientific Publishing.

[23] Kaptan, S., & Jagtap, V. K. (2016). Reaping the benefits of demographic dividend: Some issues in India. *Journal of Commerce & Management Thought*, *7*(3), 576-585.

[24] Sahoo, V. D., & Jagtap, K. N. (2021). Investors perception on Dividend Policy and Valuation Models. *International Research Journal of Management Sociology & Humanities*, *12*(11), 255.

[25] Sahoo, V. D., & Sahoo, D. R. (2019). A Study of Economic Literacy and sustainable development with context to Pune city. *Scholarly Research Journal for interdisciplinary Studies*, *7*(41), 382-389.

[26] Sahoo, V. D., & Sahoo, D. R. (2019). A Study of Economic Literacy and sustainable development with context to India. *COSMOS Bi-Annual Referred Journal*, *10*(1), 47-53.

[27] Jagtap, V. K. (2017). A Brief Review of Green Consumerism Literature and its consequences. *International Journal Of Multifaceted And Multilingual Studies*, *4*(12), 1-4.

[28] Sahoo, D. R., & Jagatp, V. K. (2017). IND AS 109: Its impact on Financial Statements. *International Research Journal Of Multidisciplinary Studies*, *3*(12), 1-5.

[29] Deepak Ranjan Sahoo, V. K. J. (2017). Derivatives: A device for Risk Management. *International Journal Of Multifaceted And Multilingual Studies*, *4*(10), 83-87.

[30] Jagtap, V. K. (2017). Strategic Approach to Talent Management. *International Journal of Management Studies*, *4*(2), 2-9.

[31] Jagtap, V. K. (2016). Green Economy: A tool for Sustainable Development. *State Level Seminar on the Importance of E-Commerce for promoting FMCG Marketing*, *1*(1), 13-19.

[32] mishra, D. U. (2014). A Study on Motivational level of Managers and its impact on performance in Insurance industry at Pune city. *Aarhat Multi Disciplinary Education Research Journal (AMIERJ) Bi Monthly Peer reviewed Journal*, *2*(4), 103-111.

[33] Mishra, D. U. (2013). The role of human resources and the challenges on globalization. *Anveshan IMR's Management Research journal*, *3*(1), 34-37.

[34] Mishra, U. (2012). Competition and its impact on life insurance corporation of India ltd. *Anveshan IMR's Management Research journal, ISSN -0976-4186*, *3*(2), 80-82.

[35] Mishra, D. U. (2015). A Study on Impact of Interest rates and the performance of stock market. *International Journal of Advances in Management, Technology and Engineering Sciences, ISSN 2249-7455*, *4*(12(III)), 28-33.

[36] Ujjwal Mishra, D. I. S. (2015). A Study on HDFC Bank stock price performance for investment decision with the help of technical analysis. *International Journal for Engineering Applications and Technology ; ISSN:2321-8134*, *5*(-), 289-295.

[37] Lalkar P, D. T. N. D. R. B. D. M. U. (2013). *Accounting for Business Decisions*. Success Publications Pune.

[38] Gupta M, D. M. U. (2014). *Financial Regulatory Framework*. Thakur Publishers, Pune.

[39] Mishra, D. U. (2016). A study of consumer buying behaviour in organized retail sector: Electronic Industry (Samsung Televisions). *International Journal of Engineering and Management Research*, *6*(2), 401-406.

[40] Ujjwal Mishra, M. P. N. (2016). A Study on credit risk management and apprisal process at punjab national bank, Nagpur. *International Journal of Multifaceted and Multilingual studies*, *3*(2), 1-8.

[41] Ujjwal Mishra, M. V. P. (2016). Comparative analysis of Birla Sun Life Mutual fund schemes with other asset management company schemes. *International Journal of Engineering and Management*, *6*(1), 241-244.

[42] Mishra, U. M., & Borole, M. C. (2017). A Comparative Risk Analysis of Kotak Select Focus Fund (G) Mutual Fund Scheme. *Imperial Journal of Interdisciplinary Research*, *3*(3), 4.

[43] Ujjwal Mishra, M. A. K. (2017). A Study of various ways of tax avoidance and tax envasion in agricultural sector and their effect. *Journal for research*, *3*(04), 4-8.

[44] Ujjwal Mishra, A. G. (2017). A Study on Impact of Accounts Receivable on Working Capital and Profitability at S. H. Kelkar Ltd Company, Mumbai. *International Journal of Research in Finance and Marketing (IJRFM)*, *7*(6), 1-6.

[45] Mishra, U. M., & Pawaskar, J. R. (2017). A study of non-performing assets and its impact on banking sector. *Journal for Research*, *3*(1).

[46] Mishra, U. M., & Peerapur, V. (2016). Comparative Analysis of Birla Sun Life Mutual Fund Schemes with other Asset Management Company's Schemes. *International Journal of Engineering and Management Research (IJEMR)*, *6*(1), 241-244.

[47] Ujjwal M. Mishra, M. A. K. R. (2019). Risk Analysis of Selected Mutual Fund Scheme. *International Journal of Research and Analytical Reviews (IJRAR)*, *6*(1), 13-19.

[48] Ujjwal M. Mishra, M. N. C. (2018). Financial Performance of Selected Automobile Companies. *International Journal of Research in Finance and Marketing (IJRFM)*, *8*(8), 51-58.

[49] Harshal Raje, D. U. M. M. S. P. (2020). Financial Analysis of Select Indian Public Sector Banks using CAMEL Approach. *Tathapi*, *19*(38), 193-212.

[50] Pol, A., Raje, H., & Mishra, U. (2021). Comparative performance analysis of selected mutual fund schemes in tax saver category. *PalArch's Journal of Archaeology of Egypt/Egyptology*, *18*(7), 2325-2337.

[51] Mishra, D. U. (n.d.). Inflation and its Impact on India Economy. *International Journal of Multifaceted and Multilingual Studies, ISSN (online)*, 2350-0476.

[52] Ujjwal M. Mishra, M. C. B. (2017). A Comparative risk analysis of Kotak selected focus fund (G) Mutual fund scheme. *https://www.ijrar.org/papers/IJRAR19UP003.pdf*, *3*(3), 4.

[53] Raje, H., & Mishra, U. (n.d.). COMPARATIVE PERFORMANCE ANALYSIS OF SELECT MUTUAL FUND SCHEMES IN TAX SAVER CATEGORY.

[54] Chaurasiya, S., Shekhar, S., Shariq, S., Chavan, S., & Mishra, D. (n.d.). ONLINE MARKET SYSTEM BASED ON BIDDING MECHANISM USING AN AI AUCTIONEER.

[55] Deepa U. Mishra, S. A. C. K. A. G. S. S. S. P. W. (2016). Augmented Reality based multipurpose application for 3D interface. *International Engineering Research Journal*, *2*(6), 2211-2213.

[56] Deepa Mishra, M. S. M. M. N. K. (2023). A Comparative Study of Face Recognition Models for Smart Attendance. *International Journal For Research in Applied Science and Engineering Technology*.

[57] Deepa Mishra, T. Y. (2017). Secure IOT Based HealthCare System with BSN. *International Engineering Research Journal*, *2*(9), 3208-3011.

[58] Mishra, D., Deshpande, S., Anna, M. G., & Tiwari, A. (2024). Exploring the Ethical Dimensions and Societal Consequences of Affective Computing. In *Affective Computing for Social Good: Enhancing Well-being, Empathy, and Equity* (pp. 91-105). Springer Nature Switzerland Cham.

[59] Mishra, D., & Phansalkar, S. (2025). Blockchain Security in Focus: A Comprehensive Investigation into Threats, Smart Contract Security, Cross-Chain Bridges, Vulnerabilities Detection Tools & Techniques. In *IEEE Access* . IEEE.