



A STUDY ON EFFECTIVENESS OF PROCUREMENT IN MANUFACTURING SECTOR

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ABSTRACT

This project, titled “A Study on Effectiveness of Procurement” explores efficient procurement methods and supply chain management. It examines the production process, inventory management, dealer incentive schemes, dealer relationships, and order response efficiency. The study is limited to Manufacturing sector and aims to evaluate indent processes, vendor relationships, and dealer retention strategies. It provides insights into inventory control and payment modes. The company, a leading pig iron manufacturer, has a structured management hierarchy. Suppliers maintain strong relationships but rely on traditional communication methods. Educating them on modern systems like online orders and emails is crucial. The purchase department's strong negotiation skills contribute to optimal business growth.

Keywords: Procurement Effectiveness, Supply Chain, Vendor Management, Cost Efficiency, Alloysys Extrusion.

INTRODUCTION

Procurement plays a vital role in ensuring the smooth functioning of an organization by effectively managing the supply chain. This study, “A Study on Effectiveness of Procurement” aims to analyze the procurement process and its impact on the company's overall operations. A leading manufacturer of pig iron and castings, relies on an efficient procurement system to maintain production efficiency, cost control, and supplier relationships.

The study focuses on understanding the effectiveness of inventory management, dealer incentive schemes, vendor relationships, and the speed of order processing. By evaluating these factors, the research provides insights into improving procurement strategies, enhancing supplier communication, and adopting modern technological solutions. The findings will help

the company optimize its procurement operations, improve vendor and dealer satisfaction, and strengthen its competitive position in the industry.

OBJECTIVES

Research Questions:

What are the key stages involved in the production process at Manufacturing sector, and how do they relate to procurement effectiveness?

How effective is the inventory management system at Manufacturing sector in supporting timely procurement and production?

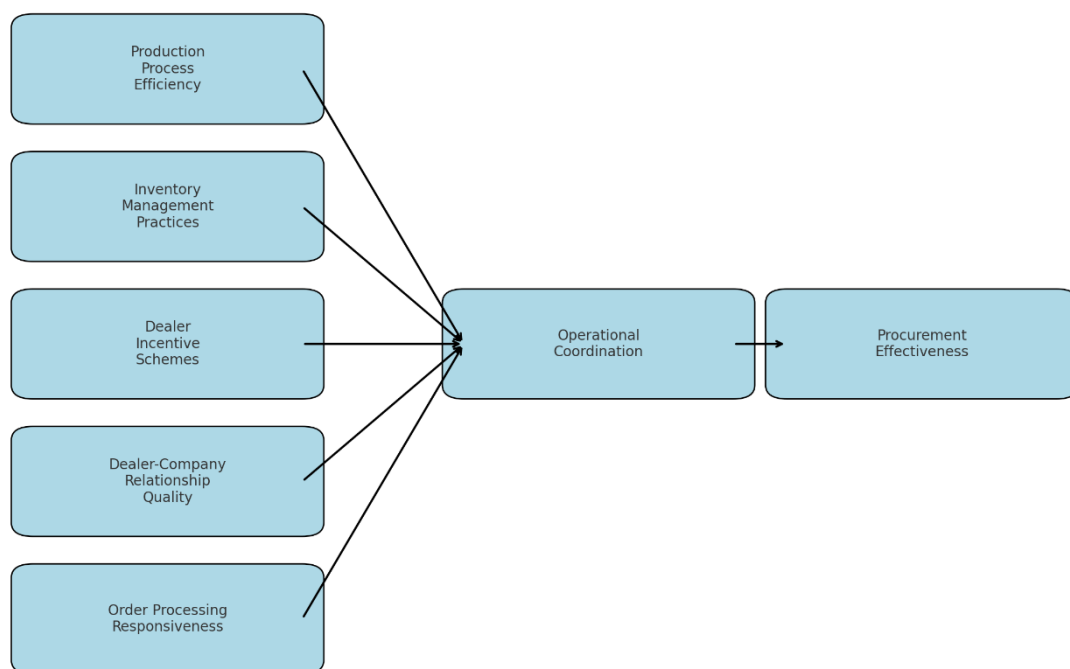
What is the level of satisfaction among dealers regarding the company's incentive schemes?

How effective is the relationship between Manufacturing sector and its dealers in facilitating smooth procurement and distribution?

How responsive is Manufacturing sector in processing dealer and customer orders, and what impact does this have on procurement efficiency?

CONCEPTUAL FRAMEWORK

Conceptual Framework: Effectiveness of Procurement at Alloysys Extrusion [P] Ltd



REVIEW OF LITERATURE

Procurement Processes and Performance

The study by Patrick Kakwezi and Sonny Nyeko (2010) provides valuable insights into the financial and non-financial measures that influence procurement performance, emphasizing the necessity of integrating efficiency and effectiveness metrics in procurement management.

Procurement Efficiency and Effectiveness as Performance Measures

(Neely, 1999; Amaratunga & Baldry, 2002; Waal, 2007). Procurement efficiency pertains to the optimization of resources to achieve cost-effectiveness, while procurement effectiveness refers to the ability to meet organizational procurement objectives successfully. The study by Kakwezi and Nyeko (2010) underscores that a holistic approach incorporating both financial and non-financial measures is crucial for comprehensive procurement performance evaluation.

Financial and Non-Financial Measures in Procurement Performance

Traditionally, financial measures such as cost savings, budget adherence, and return on investment have been primary indicators of procurement performance. However, recent research advocates for the inclusion of non-financial measures, such as supplier relationships, procurement cycle time, quality assurance, and compliance with regulatory frameworks. The study by Kakwezi and Nyeko (2010) highlights that organizations employing both financial and non-financial measures experience better procurement outcomes, lower customer dissatisfaction, and reduced employee turnover.

Challenges in Implementing Procurement Performance Measures

According to Kakwezi and Nyeko (2010), the successful adoption of procurement performance measures requires strategic preparation, teamwork, and continuous feedback mechanisms. Furthermore, without proper execution, performance measures may fail to reflect true procurement efficiency and effectiveness.

The study by Kakwezi and Nyeko (2010) contributes to the body of knowledge by emphasizing the need for a balanced approach in procurement performance assessment. While financial measures remain essential, non-financial metrics play an equally critical role in ensuring procurement efficiency and effectiveness. Organizations must adopt comprehensive procurement performance frameworks that integrate both dimensions to enhance overall procurement success. Future research should explore the implementation challenges and the role of technological advancements in improving procurement performance.

Procurement Process as a Foundation for Performance

Knudsen (2009) highlights that a proactive procurement approach begins with the establishment of efficient and effective purchasing processes. This approach enables organizations to not only streamline operations but also align procurement activities with broader strategic objectives. The shift from reactive to proactive procurement allows for a more agile response to market changes and internal demands.

Efficiency and Effectiveness in Procurement

According to Van Weele (2006), purchasing performance is essentially the outcome of two interrelated elements:

Purchasing Efficiency: Reflects the operational capacity of the organization to “do things right,” focusing on resource optimization, cost control, and streamlined processes.

Purchasing Effectiveness: Concerns the strategic alignment of procurement practices, ensuring that the organization is “doing the right things” to meet its overall objectives.

Lardenoije, Van Raaij, and Van Weele (2005) further reinforce that purchasing performance is not an end in itself but a critical tool for the effective control and monitoring of the procurement function. This duality ensures that performance measurement serves as a catalyst for continuous improvement rather than just a diagnostic tool.

RESEARCH METHODOLOGY

This study employs a descriptive research design to capture and describe the phenomenon and characteristics associated with the population, using a judgmental sampling method where the universe size is 330 and the sample size is 130. A structured questionnaire, meticulously constructed by the researcher, serves as the primary research instrument for data collection. Both primary data, gathered directly through the questionnaire, and secondary data, sourced

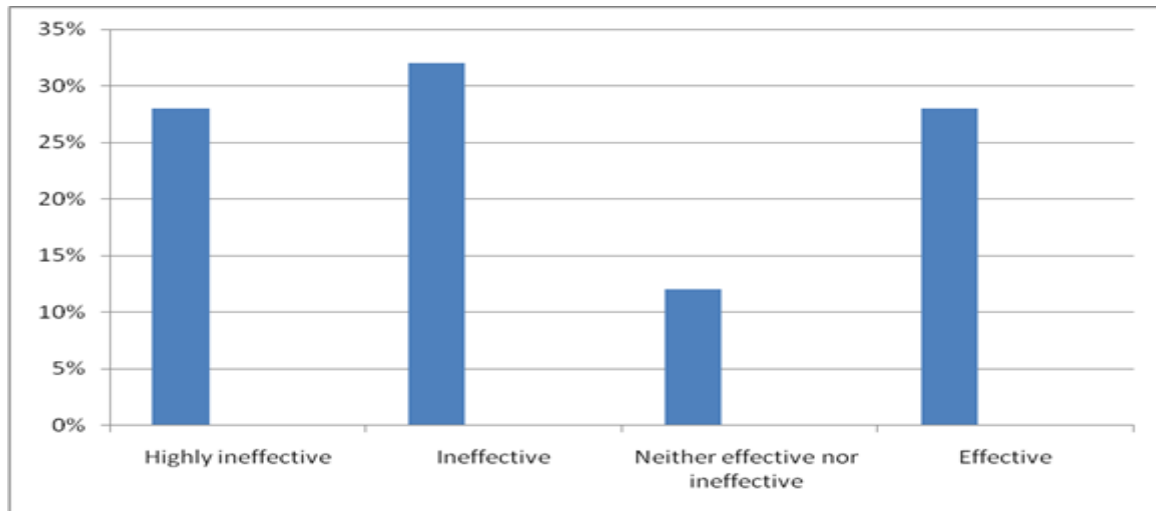
from previous research papers, articles, and newspapers, are utilized to enrich the analysis. For data analysis, statistical tools such as Chi-Square, correlation analysis, and One-Way ANOVA have been applied to ensure robust and meaningful insights.

DATA ANALYSIS AND INTERPRETATION:

Level of satisfaction towards “Dealers Incentive Schemes”

Parameters	No of Respondents	Percentage
Highly ineffective	36	28%
Ineffective	42	32%
Neither effective nor ineffective	16	12%
Effective	36	28%
Highly effective	0	0%
Total	130	100%

Level of satisfaction towards “Dealers Incentive Schemes” of Alloysys Extrusion [P] Ltd



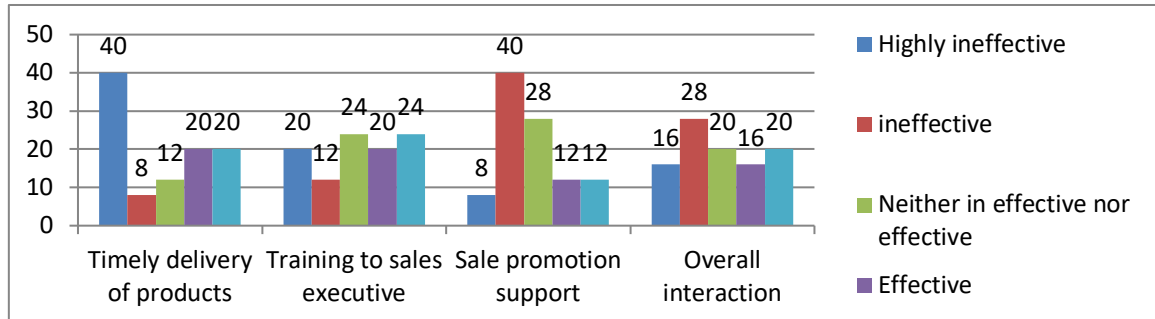
Inference: As per Alloysys Extrusion [P] Ltd as a company is concerned the dealers for the same are not satisfied with the incentives that the company is providing because of incentives are given less than the performance and expectation.

From the following parameter kindly rate your satisfaction level as indicated below.

Factors	Highly ineffective	%	ineffective	%	Neither in effective nor	%	Effective	%	Highly effective	%	Total
Timely delivery of products	51	40	11	8	16	12	26	20	26	20	130
Training to sales executive	26	20	16	12	31	24	26	20	31	24	130

Sale promotion support	10	8	52	40	36	28	16	12	16	12	130
Overall interaction	21	16	36	28	26	20	21	16	26	20	130

From the following parameter kindly rate your satisfaction level as indicated below.



Inference: From the analysis of the graph, it is inferred that 40% of respondents say that the timely delivery of the product is highly ineffective, 40% say that sales promotion is ineffective, and 8% say that sales promotion support is highly ineffective."

CHI-SQUARE

The Chi-square statistic is calculated as the sum over all categories of the squared difference between the observed (o) and expected (e) frequencies, divided by the expected frequency in each category.

Null Hypothesis (H₀):
There is no relationship between the suppliers' association with Alloysys Extrusion [P] Ltd and the relationship that you have with Alloysys Extrusion [P] Ltd.

Alternate Hypothesis (H₁):
There is a relationship between the suppliers' association with Alloysys Extrusion [P] Ltd and the relationship that you have with Alloysys Extrusion [P] Ltd.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Suppliers association with Alloysys Extrusion [P] Ltd * The relationship that you have with Alloysys Extrusion [P] Ltd	130	100.0%	0	0.0%	130	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	337.212 ^a	16	.000

Likelihood Ratio	286.138	16	.000
Linear-by-Linear Association	112.600	1	.000
N of Valid Cases	130		

Degree of Freedom = $(r - 1) \times (c - 1) = 4 \times 4 = 16$

The calculated value (337.212) is greater than the tabulated value (26.296), which means $Z (337.212) > Z (26.296)$. Hence, the alternate hypothesis (H_1) is accepted.

Inference:

Since the calculated Chi-square value exceeds the tabulated value, we accept the alternate hypothesis. This indicates that there is a relationship between the suppliers' association with Alloysys Extrusion [P] Ltd and the relationship that you have with Alloysys Extrusion [P] Ltd.

ONE-WAY ANOVA CLASSIFICATION

Null hypothesis (H₀):

There is no significant difference between the duration of association with Alloysys Extrusion [P] Ltd and the level of satisfaction with the “dealers incentive schemes” of Alloysys Extrusion [P] Ltd.

Alternate hypothesis (H₁):

There is a significant difference between the duration of association with Alloysys Extrusion [P] Ltd and the level of satisfaction with the “dealers incentive schemes” of Alloysys Extrusion [P] Ltd.

Descriptives

Duration of association with ALLOYSYS EXTRUSION [P] LTD

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Highly ineffective	36	1.56	.504	.084	1.39	1.73	1	2
Ineffective	42	2.98	.517	.080	2.81	3.14	2	4
Neither effective nor ineffective	16	4.00	.000	.000	4.00	4.00	4	4
Effective	36	4.00	.000	.000	4.00	4.00	4	4
Total	130	2.99	1.067	.094	2.81	3.18	1	4

ANOVA

Duration of association with ALLOYSYS EXTRUSION [P] LTD

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	127.127	3	42.376	268.780	.000
Within Groups	19.865	126	.158		
Total	146.992	129			

Tabulated Value and Calculated Value

Tabulated Value: 2.70

Calculated Value: 268.780

Since $F_{cal} (268.780) > F_{tab} (2.70)$, the alternate hypothesis (H_1) is accepted.

Inference: Because the calculated value exceeds the tabulated value, we accept the alternate hypothesis. This indicates that there is a relationship between the duration of association with Alloysys Extrusion [P] Ltd and the level of satisfaction with the "dealer's incentive schemes" of Alloysys Extrusion [P] Ltd.

Analysis Using Karl Pearson's Correlation

Correlation analysis is the statistical tool used to measure the degree to which two variables are linearly related to each other. It assesses the strength and direction of the association between the two variables.

Null Hypothesis (H_0):
 There is a positive relationship between the selection of vendors and negotiation with suppliers.
 Alternate Hypothesis (H_1):
 There is a negative relationship between the selection of vendors and negotiation with suppliers.

Correlations

		Selection of vendor	Negotiation with suppliers
Selection of vendor	Pearson Correlation	1	.937**
	Sig. (2-tailed)		.000
	N	130	130
Negotiation with suppliers	Pearson Correlation	.937**	1
	Sig. (2-tailed)	.000	
	N	130	130

** . Correlation is significant at the 0.01 level (2-tailed).

$$r = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum X^2 - (\sum X)^2} \sqrt{N\sum Y^2 - (\sum Y)^2}}$$

$r = .937$

Inference: Since the correlation coefficient (r) is positive (0.937), there is a strong positive relationship between the selection of vendors and negotiation with suppliers.

CONCLUSION

This study provides a comprehensive evaluation of supply chain management. The findings highlight the company's strong supplier relationships and effective negotiation strategies, which contribute to its business growth. However, the reliance on traditional communication methods, lack of timely dealer support, and inadequate incentive schemes need improvement. Implementing modern communication systems, optimizing warehouse management, and

introducing better dealer incentives will enhance operational efficiency. Regular dealer meetings and the adoption of digital solutions can further strengthen supply chain effectiveness. With these improvements, the company can achieve greater competitiveness and long-term success in the industry.

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