

Vendor Managed Inventory (Supplier Performance Rating in Delivery) at Brakes India Private Limited

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Abstract- Having chosen supplier base as the project headline, various methods of rating vendors have been researched. Nowadays the problems faced by industries are performance in the way of rating, optimization, re-ordering, repetition of vendors, etc.

The main purpose is to optimize the supplier base, resolving inefficiencies in choosing the right vendor for the right order which as easy as it may seem, need to be verified keeping in mind all the various parameters that go into a product from manufacture to delivery to assembly. Thus the above mentioned problems have been resolved with the help of a developed software using delivery control as the major aspect.

Operations management is an area of administration that deals with business practices. It helps create maximum efficiency in the organization. Operations management plays an important role in business organizations to help them achieve their objectives and desired goals. Operations management department like any other department like Finance, Sales, HR is an integral part of almost all organizations be it big or small-scale units. It involves a set of processes like planning, organizing, and supervising the tasks carried out in the organization. It improves productivity and enhances the skills of the workers working in the organization. It improves the working conditions of the workers of the organization. The process of Operations Management reduces wastage of resources. This in turn, reduces the expenditure in the organization. Operations Management is an important aspect of every company. Operations Management is a function of management and is important for the success of any company. Operations management helps to create products which can be sold by companies in an effective and efficient manner.

Keywords: Kanban Performance rating on Delivery, SAP, SRM, ERP

INTRODUCTION

Efficient inventory management is crucial for any business that deals with physical goods, as it can impact profitability, customer satisfaction, and overall business operations. Here are some tips for efficient inventory management:

Keep accurate records: Accurate record-keeping is crucial for efficient inventory management. Use an inventory management system or software to track your inventory levels, sales, and restocking needs. This will help you to make informed decisions about when to reorder, how much to reorder, and which products are selling well.

Forecast demand: Analyse sales data and market trends to forecast demand for your products. This will help you to avoid stock outs and overstocking, which can both be costly for your business.

Categorize your inventory: Organize your inventory into categories based on product type, demand, and other relevant factors. This will make it easier to track your inventory and identify which products are performing well and which ones need attention.

Use first-in, first-out (FIFO) method: FIFO is a common inventory management method that involves selling the oldest items in your inventory first. This helps to prevent spoilage and obsolescence of your products.

Optimize your storage space: Use your storage space efficiently by organizing your inventory in a way that maximizes your available space. This may involve using shelving, racks, and other storage solutions.

Keep safety stock: Maintain a safety stock of inventory to protect against unexpected spikes in demand or delays in restocking. This can help you to avoid stockouts and ensure that you can fulfil customer orders in a timely manner.

Regularly review and update your inventory: Conduct regular inventory audits to ensure that your records are accurate and up-to-date. This will help you to identify any discrepancies and take corrective action as needed. By implementing these best practices, you can improve your inventory management and help your business operate more efficiently.

OBJECTIVE

The major objectives of the present study are as follows:

PRIMARY OBJECTIVES

A Study on Vendor managed Inventory (Supplier performance rating in Delivery) at Brakes India Private Limited

SECONDARY OBJECTIVES

- To study the history of VMI in the Indian and international scenario.
- To compare the traditional inventory system with the VMI system.
- To evaluate the key performance indicators in the implementation of VMI.
- To identify the challenges faced while implementing VMI with focus.

Research Methodology Tool Used in Research and Percentage analysis

The tools used in this study were MS- EXCEL, MS- WORD. MS- EXCEL was used to prepare pie- maps and graphs. MS- WORD was used to prepare or write the whole design report.

Formula used = (Number of responses / Total responses) * 100

Data Analysis & Interpretation – Bracket & tabulation transforms the raw data collected through questionnaire in to useful information by organizing and collecting the bits of data contained in each questionnaire i.e., observation and responses are converted in to accessible and orderly statistics are used to organize and dissect the data.

Literature Review Studies on simulations and implementations of VMI:

Vendor Managed Inventory (VMI) is a supply chain management technique where the supplier takes responsibility for managing the inventory levels of their customers. Several studies have investigated the

use of VMI, and some have focused on simulations and implementations. The following are some key findings from the literature survey on simulations and implementations of VMI.

Vendor Managed Inventory (VMI) is a supply chain management technique where the supplier takes responsibility for managing the inventory levels of their customers. Information sharing and supply chain relationships are critical components of VMI systems. This literature review focuses on the effects of information sharing and supply chain relationships in VMI systems.

Information Sharing: Information sharing between the supplier and customer is essential for the success of VMI. Studies have shown that information sharing can reduce uncertainty, improve inventory accuracy, and increase the effectiveness of VMI systems.

Formulae used for supplier performance rating
 Delivery Rating System (100 points)
 % OTD (On-Time Delivery – 100 possible points)
 Calculated this way:

$$\%OTD = \frac{\text{Nb. of p.o. lines delivered on time}}{\text{Total Nb. of p.o. lines delivered}}$$

A p.o. line is considered ‘on time’ whenever it is delivered on or before the required date.

- 100% → Excellent or N/A – Exceeds our expectations
- 90% & 99% → Very Good – Meets our expectations
- 80% to 89% → Good – Meets most of our expectations
- Below 80% → Poor – Needs improvement in the short term

All four are Groupe Meloche’s perception, based on a scale of 1 to 5, as indicated below.

- 5 → Excellent or N/A – Exceeds our expectations
- 4 → Good – Meets our expectations
- 3 → Acceptable – Meets most of our expectations
- 2 → Poor – Needs improvement
- 1 → Very poor – Needs major improvement in the short term

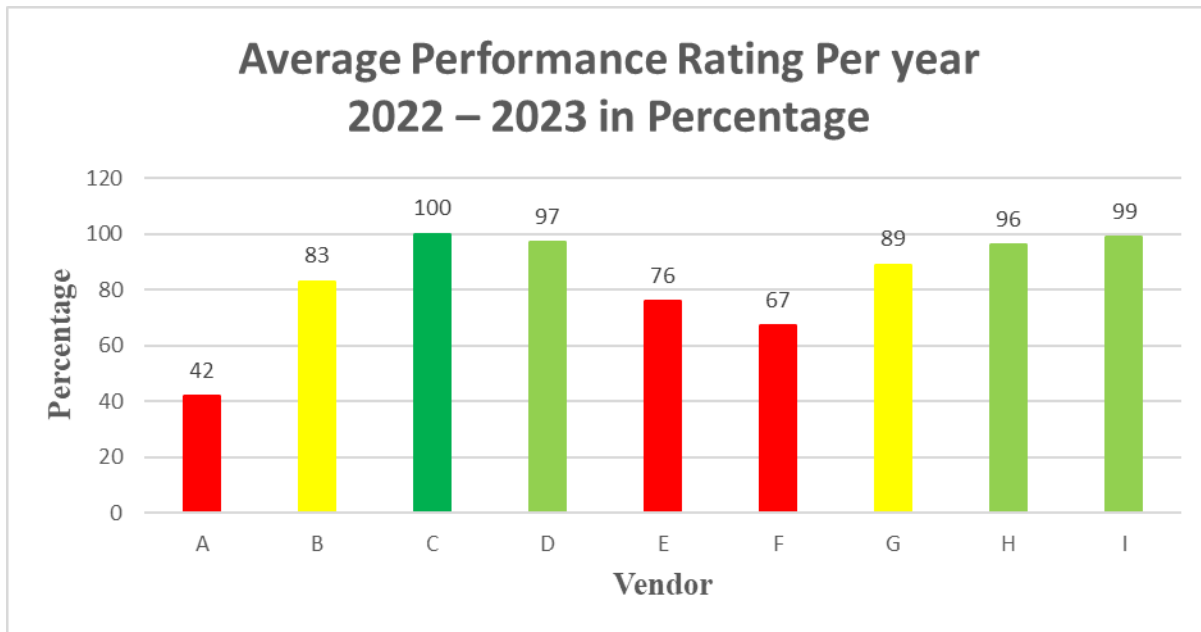
Grade for Vendor Delivery Rating

100	EXCELLENT	Grade I
90 To 100	VERY GOOD	Grade II
80 To 90	GOOD	Grade III
Lesser than 80	POOR	Grade IV

Grades of Performance	Grade I	Grade II	Grade III	Grade IV
	Excellent - Exceeds our expectations 100 %	Very Good - Meets our expectations 90 To 100 %	Good - Meets most of our expectations 80 To 90 %	Poor – Needs improvement in the short term Lesser than 80 %

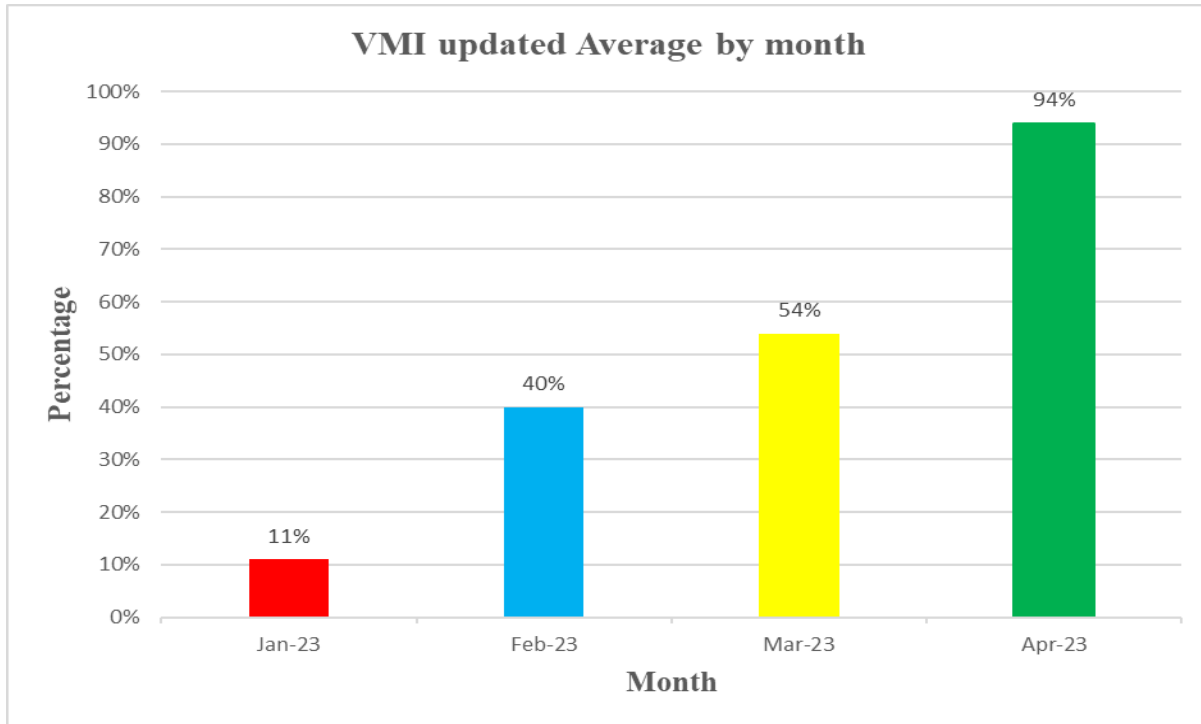
Vendor No	Vendor Name	Grade	Avg Score	Average	Mar-23	Feb-23	Jan-23	Dec-22	Nov-22	Oct-22	Sep-22	Aug-22	Jul-22	Jun-22	May-22	Apr-22
1	A	IV	POOR	41	100	96	83	17	23	24	14	26	29	26	40	30
					EXCELLENT	VERY GOOD	GOOD	POOR	POOR	POOR	POOR	POOR	POOR	POOR	POOR	POOR
2	B	III	GOOD	83	100	100	100	98	85	81	96	41	89	85	92	89
					EXCELLENT	EXCELLENT	EXCELLENT	VERY GOOD	GOOD	GOOD	POOR	POOR	GOOD	GOOD	VERY GOOD	VERY GOOD
3	C	I	EXCELLENT	100	100	100	100	100	100	100	100	100	100	100	100	100
					EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT
4	D	II	VERY GOOD	97	99	95	98	100	98	100	98	98	88	95	99	99
					VERY GOOD	VERY GOOD	VERY GOOD	EXCELLENT	VERY GOOD	EXCELLENT	VERY GOOD	VERY GOOD	GOOD	VERY GOOD	VERY GOOD	VERY GOOD
5	E	IV	POOR	76	95	92	88	85	43	47	49	48	48	83	95	88
					VERY GOOD	VERY GOOD	GOOD	GOOD	POOR	POOR	POOR	POOR	POOR	GOOD	VERY GOOD	VERY GOOD
6	F	IV	POOR	67	100	82	57	83	47	53	42	27	83	80	80	69
					EXCELLENT	GOOD	POOR	GOOD	POOR	POOR	POOR	POOR	GOOD	POOR	GOOD	POOR
7	G	III	GOOD	89	96	86	81	90	100	100	100	97	95	91	80	77
					VERY GOOD	GOOD	POOR	VERY GOOD	EXCELLENT	EXCELLENT	EXCELLENT	VERY GOOD	VERY GOOD	VERY GOOD	GOOD	POOR
8	H	II	VERY GOOD	96	93	95	98	100	98	100	92	98	83	95	99	96
					VERY GOOD	VERY GOOD	VERY GOOD	EXCELLENT	VERY GOOD	EXCELLENT	VERY GOOD	VERY GOOD	VERY GOOD	GOOD	VERY GOOD	VERY GOOD
9	I	II	VERY GOOD	99	100	100	85	98	100	100	100	100	100	100	100	100
					EXCELLENT	EXCELLENT	GOOD	VERY GOOD	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT

Vendor Name	Average	Grade	Performance
A	42	Grade IV	POOR
B	83	Grade III	GOOD
C	100	Grade I	EXCELLENT
D	97	Grade II	VERY GOOD
E	76	Grade IV	POOR
F	67	Grade IV	POOR
G	89	Grade III	GOOD
H	96	Grade II	VERY GOOD
I	99	Grade II	VERY GOOD



VMI UPDATED AVERAGE BY MONTH

Month	Average of VMI updated	No of Days Worked
Jan-23	11%	25
Feb-23	40%	24
Mar-23	54%	27
Apr-23	94%	4



FINDINGS

1. As per the outcome of the 93.30% of respondent think that decision making in your Organization is Top Level Management, Middle Level Management, Operational Level Management and 6.70% of respondent think that Operational Level Management.

2. As per the outcome of the 94.70% of respondent think that operations management strategies in your Organization is Use of Data & Data Challenges, Inventory Analysis & Collaboration Among Departments, Process Design & Managing People, Forecasting & Goal Setting and 4% of respondent think that Forecasting & Goal Setting and 1.30% of respondent think Process Design & Managing People.

3. As per the outcome of the 98.70% of respondent think that cost involved in holding goods in a warehouse is Inventory cost and 1.30% of respondent think Facility cost.

4. As per the outcome of the 92% of respondent think that activities of operations management in your Organization is Materials Management, Quality Management, Capacity Management, Facilities Management, Scheduling & Job Design and 8% of respondent think Materials Management & Quality Management.

5. As per the outcome of the 97.30% of respondent think that Now a days organizations are paying attention supply chain management for Proper supply, Value addition & Transportation and 1.30% of respondent think Proper supply and 1.30% of respondent think Transportation.

6. As per the outcome of the 97.30% of respondent think that key benefits of Materials Management in your Organization Increased productivity & reduced costs and 2.70% of respondent think Aligned product demand and manufacturing capacity.

7. As per the outcome of the 98.70% of respondent think that Purchasing Information Records (PIRs)

document the relationship between Material, Vendor, and Price and 1.30% of respondent think Material, Customer, and Price.

8. As per the outcome of the 88% of respondent think that Production Activity Control (PAC) and 1.30% of respondent think Marketing and 10.70% of respondent think Material Requirements Planning (MRP).

9. As per the outcome of the 100% of respondent think that Data accuracy can be maintained by using barcoding and scanning techniques is True.

10. As per the outcome of the 100% of respondent think that most common form of quality control includes that Inspection.

11. As per the outcome of the 96% of respondent think that Eliminate Waste, Improve Quality, Reducing Costs, Reducing Time for Lean Manufacturing and 4% of respondent think Reducing Time.

12. As per the outcome of the 80% of respondent think that Lead time reduction is helpful to reduce the cost throughout the supply chain and it helps to improve Customer Satisfaction and 20% of respondent think Customer Satisfaction, Supplier Satisfaction, Management Satisfaction.

13. As per the outcome of the 98.70% of respondent think that vendor performance is usually evaluated in the areas Pricing, Delivery, Quality and 1.30% of respondent think Delivery.

14. As per the outcome of the 97.30% of respondent think that major benefits of a VMI Systems Benefits for suppliers, Benefits for retailers, End user benefits, Benefits for the entire supply chain and 2.70% of respondent think Benefits for the entire supply chain.

15. As per the outcome of the 97.30% of respondent think that Key elements of VMI and its role in the overall supply chain Inventory level monitoring & ordering, Sourcing decisions & Replenishment decisions, Inventory ownership & Inventory location and 1.30% of respondent think Sourcing decisions & Replenishment decisions and 1.30% of respondent think Sourcing decisions & Replenishment decisions.

16. As per the outcome of the 97.30% of respondent think that delivery factors includes in vendor performance that Time & Lead Time, Quality & Packaging, Documentation, Emergency delivery and 1.30% of respondent think Quality & Packaging and 1.30% of respondent think Emergency delivery.

17. As per the outcome of the 98.70% of respondent think that benefits of vendor rating systems include that Developing a performance-based culture,

Requiring specific action to correct identified performance weaknesses, Helping minimize subjectivity in judgment and make it possible to consider all relevant criteria in assessing suppliers, Establishing continuous review standards for vendors, thus ensuring continuous improvement of vendor performance and 1.30% of respondent think Establishing continuous review standards for vendors, thus ensuring continuous improvement of vendor performance.

18. As per the outcome of the 98.70% of respondent think that Primary Benefits of VMI for Suppliers Reduce Carrying Cost, Improve Demand Forecasting, Enhance Sales, Strengthen Customer Collaboration and 1.30% of respondent think Establishing continuous review standards for vendors, thus ensuring continuous improvement of vendor performance.

19. As per the outcome of the 98.70% of respondent think that Primary Benefits of VMI for Buyers Reduce safety stock, Lower Inventory Level, Minimize Overhead and Risk, Lessen Inventory Shrinkage and 1.30% of respondent think Lessen Inventory Shrinkage.

20. As per the outcome of the 98.70% of respondent think that Steps to VMI Implementation Get to Know Each Other, Get Organized, Prepare Inventory Data, Set Targets and Adopt an Order Process and 1.30% of respondent think Set Targets & Adopt an Order Process.

21. As per the outcome of the 89.60% of respondent think Very Satisfied and 9.86 % of respondent think Satisfied and 0.54% % of respondent think Neutral.

22. As per the outcome of the 89.04% of respondent think Much Better and 10.61% of respondent think Better and 0.35% % of respondent think some what ok.

23. As per the outcome of the 100% of respondent think organization follows the Lean Manufacturing System

24. As per the outcome of the 100% of respondent think organization implement good and proper quality procedure.

25. As per the outcome of the 96% of respondent think A proper quality procedure made your organization one of the well knowing company Strongly agree and 4% of respondent think Agree

26. As per the outcome of the 100% of respondent think Quality Procedures give help to good production response and increase profit is yes.

27. As per the outcome of the 97.30% of respondent think comfortable with the Operation management Process in your organization is Yes and 2.70% of respondent think Maybe.

28. As per the outcome of the 94.70% of respondent think processes of implementation of new Operation Management Process is Top Management Decision, Branch Manager Level and 5.30% of respondent think Top Management Decision.

29. As per the outcome of the 92% of respondent think that feasible to improve quality thereby reducing Time at minimum Cost is 5 and 4% of respondent think 4 and 4% of respondent think.

30. As per the outcome of the 92% of respondent think Company's overall performance has been improved compared to last year at this time is Greatly Improved and 8% of respondent think is Improved.

SUGGESTION

The suggestions I have given for the betterment are explained below:

- Management should clear their vision mission and goals towards the employees in the organization.
- Buyer should see the VMI data in portal regularly and supplier delivery performance rating
- There are regular review and comparison of current & past performance to detect gradual deterioration in the strategy.
- Proper cooperation should be necessary in the company.
- Supplier involvement in product design during conception stage
- Support Product Development Process through concurrent Engineering
- 100 percent on-time delivery by maintaining Vendor managed Inventory
- EDI (Electronic Data Interchange) capabilities

CONCLUSION

Vendor performance is an important metric for businesses to monitor, as it directly affects their bottom line. By regularly assessing vendor performance, organizations can ensure that they are getting the best value for their money and that vendors are meeting their contractual obligations. Regular reviews of vendor performance also identify areas

where improvements can be made to ensure maximum efficiency and effectiveness of operations. With proper monitoring and assessment of vendor performance, organizations can greatly improve the success of their business relationships with suppliers.

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