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STUDY OF INVENTORY AUDIT AND CONTROL OF AUTOMOBILE SPARE PARTS USING SELECTIVE INVENTORY CONTROL TECHNIQUES

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Abstract

The purpose of this study was to improve the inventory management policy adopted by Dugar TVS Showroom, a well-known and authorized dealer of automobiles in Indore. The objective of this study was to identify problems in the inventory management of above mentioned firm and improving it in terms of investment, categorization of items, customer satisfaction by timely delivering what is needed and when by proposing an efficient and effective analysis. This study employs the procedure of inventory audit and uses Selective Inventory Control techniques to improve the inventory status at Dugar TVS, Indore. A survey has been conducted for inventory management at Dugar TVS showroom to improve their inventory management policy. This study uses systematic observation, mathematical tools and graphical representation in ABC analysis for categorization of items integrated with the tool of XYZ analysis and FSN analysis as project methodology. The improvement in inventory status has been executed by identifying the category of each item which is A, B, C and/or X, Y, Z and/or F, S, N. A combined study integrating ABC, XYZ and FSN analysis was also performed to provide a comprehensive solution of inventory classification which is most suited to the firm as per their requirements.

Keywords – Inventory Management, Control Techniques, Case Study

1. INTRODUCTION

An inventory is the most significant part of assets and working capital in the undertakings. For a smooth running of operations every organization needs some sort of inventory to be kept. (Jose et al., 2013). Therefore, it is required to manage and keep proper control of inventories. Inventory management ensures the availability of materials as and when required and also minimizes the investment made on it (Jose et al., 2013). Inventory decisions has involvement of finance, marketing, production and purchasing managers and these decisions involve high risk and have strong impact on the financial part of the organisation. As a result of this inventory differs from other current assets (Kareem and Lawal, 2015). From financial and operational standpoint, inventory is very essential in all the organizations (Mahamani et al., 2017). It is vital condition for providing the goods and services to the customer and also represents a financial investment of a company (Awachat and Agrawal, 2017). Raw materials hold a cost in inventory therefore, inventory management and its control are very important in an industry. A company's financial management can fail due to the unjustified surplus and deficit stocks. Therefore, to regulate its financial health, optimization in inventory management is essential (Gopalakrishnan and Banerji, 2002). If not controlled, inventory has a tendency to develop beyond economic limits and increase the cost of maintenance and carrying cost. At the same time, the stock-out or non-availability of item incurs additional costs like cost of re-ordering, additional transit costs disturbing the financial health and in some cases, the goodwill of organisation. Thus, as an integrated approach of inventory control, it is essential to determine the amount of stock, quantity to indent items so that storing and purchasing costs become the least, without affecting the functional effectiveness, production, distribution etc. of any industry (Devarajan and Jayamohan, 2016). To enhance the performance of any organization various selective inventory control techniques like ABC, XYZ and FSN analysis are applied individually in different companies. These methods provide a generalised solution of inventory control of that organisation. To determine a comprehensive solution of inventory control and its classification different analysis can be performed in isolation as well in conjunction with each other. Better results can be derived by forming two dimensional and three dimensional matrices. These matrices help in comparing the items from different points of analysis.

Objectives of the Study

This study analyses the data from the period of December 2017 to February 2018. The need of the study was to find out the true inventory data which gives an accurate account of the inventory in their store so as to help them take further action using the method of cycle counting. It also includes streamlining effective selective control technique in the management and proposing the changes in the existing inventory practices which were inadequate. The workers were performing the inventory practices according to their estimation, but the selective control techniques helped them to follow the particular format for sorting items. The project has the following objectives:

- To deduce the irregularities of inventory management at Dugar TVS, Indore.
- To provide a comprehensive solution of inventory classification through selective inventory control tools which are most suited to the firm as per their requirements.

2. LITERATURE REVIEW

2.1 Analysis of Previous Research Work

Authors/Yrs	Objective	Methodology used	Findings
K. C. Sahu and B. E. Narkhede, 2019	Explores how Industrial Engineers as the WORKSYSTEM DESIGNERS can help boost efficiency, effectiveness and most importantly, add to the HAPPINESS at all work places through involvement of (3H) in .(Perpetual Pursuit of Perfection (3P	Work system design	The study shows 'how and why' with brief exploration of interconnected, 'Work, life, and Happiness, a 'bird's eye survey' of ever-expanding 'Science and Technology, and billions of goods & services in use requiring trillions of Work and 'Work systems' to make .them
Jyoti Sanjeev Mohopadkar, Dipak R. Patil, 2017	Continuity of productive operation, effective use of capital and reduction of administrative .workload	ABC analysis, FSN .analysis, SDE analysis	Materials account for 60-70% of the entire expenditure for construction project. Therefore, it will be possible to reduce overall price of the project with the help of solution given for the project and also avoid .the same difficulties for next project
Dr.G.Brindha, 2014	Smoothing out irregularities in supply, minimizing the production cost and allowing organizations to cope with perishable materials	ABC analysis, EOQ, FSN .analysis	Inventory reduction, reduction in production .and delivery lead times, Increased efficiency
Andrea Bacchetti, Nicola Saccani, 2011	To investigate the reasons for the gap between research and practice in spare parts management	VED analysis, AHP analysis	The lack of integrated approaches and low level of awareness about how to .perform managerial improvements
K.Balaji, V.S.Senthil Kumar, 2014	Classification of the inventory of an automobile rubber components manufacturing industry .using MCIC method	AHP analysis, MCIC .method, ABC analysis	Classification of bin results in easy accessibility in the warehouse and the bin traceability and utilization has also .improved
Hooshang M. Beheshti, Dale Grgurich and Faye W. Gilbert, 2012	To present a decision support system for ABC inventory management that can be used to determine the efficiency of inventory policies and to evaluate .inventory decisions	ABC analysis, EOQ .model	Development of a spreadsheet based decision support system to increasing pressures to minimize inventory costs, satisfy customer needs in a timely fashion and to manage demand / .supply uncertainty
Y. kumar, A. lilhare, Amit Sahu, B. lal and Y. khaperde, 2016	Objective of this analysis is to minimize the inventory cost such as labour cost and material cost by categorizing the inventory .items into A, B and C class	.ABC analysis	To maintain the balance between critical stock- outs and minimizing inventory costs by managing the inventory items effectively for .raw material and finished goods
Mr. Rohan Nadkarni, Dr. Asita Ghewari, 2016	To study and understand inventory control techniques in industry and to determine whether inventory management in company, can be evaluated using ABC analysis in .inventory management	ABC analysis, FSN .analysis	FSN works with usage rate and ABC works with annual consumption value. FSN techniques significantly reduces unnecessary motions while issuing materials if they are .arranged accordingly
Tom Jose V, Akhilesh Jayakumar, Sijo M T, 2013	To analyse different inventory control techniques for efficient inventory .management system	EOQ method, ABC .analysis, FSN analysis	Determination of the amount of inventory that can be held in reserve stock per annum .by calculation of safety stock
B. Kareem, A.S. Lawal, 2015	To assist in keeping adequate spare(s) for continuing maintenance operations by spare .parts failure analysis and planning	ABC analysis, EOQ .method	Annually predicted failures and prevention were more profitable to manage than lesser .periods

S.G. Li, X. Kuo, 2008	To develop an Enhanced Fuzzy Neural Network (EFNN) based decision support system for managing automobile .spares inventory in a central warehouse	AHP analysis, EFNN	It is obvious that for each coefficient of optimism, the performance of EFNN is better than those obtained by FNN whether in the same assembly test cases or different assemblies' test cases. EFNN can avoid out of stock at the .price of least stock cost
Vaisakh P. S., Dileeplal J., V. Narayanan Unni, 2013	A spare part classification method based on item movement in store department and .criticality by FSN and VED analysis	Combined FSN and VED .analysis	Reduction of non-moving and desirable categories from the store in order to reduce spare parts holding cost and also to increase .the space availability in store department
Shibamay Mitra, M Sukumar Reddy and Kumar Prince, 2015	To study the inventorymanagementsystemofanEMUcoach .manufacturing industry using FSN analysis	.FSN analysis	The priority of the items changes according to different inventory analysis techniques. The management of the company decides .which process to follow
D. K. Dhoka, Dr. Y. L. Choudary, 2013	To study the volatility of the supply chain and .its impact on Inventory	XYZ Analysis, Standard .deviation	ABC along with XYZ, a 2-dimensional approach to inventory classifications can be .used more effectively
Bernd Scholz-Reiter, Jens Heger, Christian Meinecke and Johann Bergmann, 2012	To test the hypothesis that an integration of demand forecasts can improve the performance of item classification, in particular the performance .of ABC-XYZ analysis	ABC analysis, XYZ .analysis	The study shows that a comprehensive data analysis of the focal company can recommend a specific implementation of the .ABC-XYZ classification
Murugaiah, U, S Benjamin, M. S Marathamuthu, and S Muthaiyah. 2010	To reduce scrap losses using the root cause analysis technique in a lean manufacturing .environment	XYZ analysis	Sound understanding of the manufacturing operations and extensive explorations of all possible solutions reduces non-value-adding activities or waste .using the 5-Whys analysis
Vivek Arya, Sarvesh Ghai, 2015	,To provide uninterrupted production sales and customer service levels at the minimum cost for Ashok Leyland, Eicher, .Tata Motors and Mahindra and Mahindra	,ABC Analysis XYZ Analysis and .FSN Analysis	Case study of Ashok Leyland Ltd with the help of ABC Analysis, XYZ Analysis, FSN Analysis and HML Analysis. Moreover the findings and suggestions given in this study would help the organization in curbing the .costs and increasing the profitability
Surbhi Mishra, Sourabh Tege, Vishnu Agarwal, 2017	To understand the nature of inventory management of the supply store by applying suitable inventory management technique to the sample of the products of an enterprise .which were more frequent in demand	ABC Analysis, FSN Analysis	The inventory management technique is more useful in determining the optimum level of inventory and finding answers to problems of safety stock and lead time. Inventory management has become highly developed to meet the rising challenges in most Corporate entities and this is in response to the fact that .inventory is an asset of distinct feature

Table 1: Research Paper Analysis

2.2 Factors

Sr. No.	Factors	Reference
1	Average consumption	Mishra et al., (2017); Vaisakh and Unni, (2013);
2	Carrying cost	Jose et al., (2013); Vaisakh and Unni, (2013); Nandakarni and Ghewari, (2016)
3	Consumption rate	Vaisakh and Unni, (2013)
4	Cost per item	Beheshti et al., (2012); Vaisakh and Unni, (2013)
5	Cumulative Annual Usage	Kumar et al., (2016)
6	Cumulative of failure value	Kareem and Lawal, (2015)
7	Days of supply	Beheshti et al., (2012); Vaisakh and Unni, (2013)
8	Demand	Beheshti et al., (2012), Jose et al., (2013)
9	Demand Forecasting	Bacchetti and Saccani, (2011)
10	Deterioration and its prevention	Vaisakh and Unni, (2013)
11	EOQ- Demand per year	Jose et al., (2013)
12	Failure value	Kareem and Lawal, (2015); Bacchetti and Saccani, (2011)
13	Failures per annum	Kareem and Lawal, (2015)
14	Handling and disturbance	Vaisakh and Unni, (2013); Nandakarni and Ghewari, (2016)
15	Insurance	Vaisakh and Unni, (2013)
16	Inventory holding days	Nadkarni et al., (2016)
17	Maximum lead time	Jose et al., (2013)
18	Maximum daily consumption	Mishra et al., (2017)
19	Number of units ordered	Jose et al., (2013)
20	Number order per year	Jose et al., (2013)
21	Normal lead time	Jose et al., (2013)
22	Number of items	Beheshti et al., (2012)
23	Obsolescence and storage facility cost	Vaisakh and Unni, (2013)
24	Part criticality	Bacchetti and Saccani, (2011)
25	Re-order	Jose et al, (2013)
26	Safety Stock	Jose et al., (2013)
27	Spare parts holding cost	Vaisakh and Unni, (2013)
28	Spare parts ordering and purchase cost	Vaisakh and Unni, (2013)
29	Taxes	Vaisakh and Unni, (2013)
30	Transportation	Vaisakh and Unni, (2013)

Table 2: Factors identified

3. PROBLEM FORMULATION AND METHODOLOGY

3.1 Problem Formulation

In the present work, true inventory data was determined which has provided an accurate account of the inventory in their store so as to help them take further action. Inventory management is one of the crucial activities of any organization. A showroom X, situated in Indore was interested in analysing cycle of ordering items and also to deal successfully with the inventory present in their stores. This showroom was interested in proper inventory management and exploring its impact on overall organisational performance. Selective control techniques are used to find the most suitable method to classify the spare parts in the inventory on various factors such as money, movement etc. For this, ABC and FSN analysis along with XYZ analysis has been performed to recommend the suitable inventory management measures to organisation.

3.2 Methodology

In this project, inventory audit was performed using the process of cycle counting. It formed the base for further analysis. Further, selective inventory control techniques such as ABC, XYZ and FSN analysis were applied in isolation as well as conjunction to determine the most optimal method for classification of spare part inventory. Methodology adopted is shown in figure 3.1.

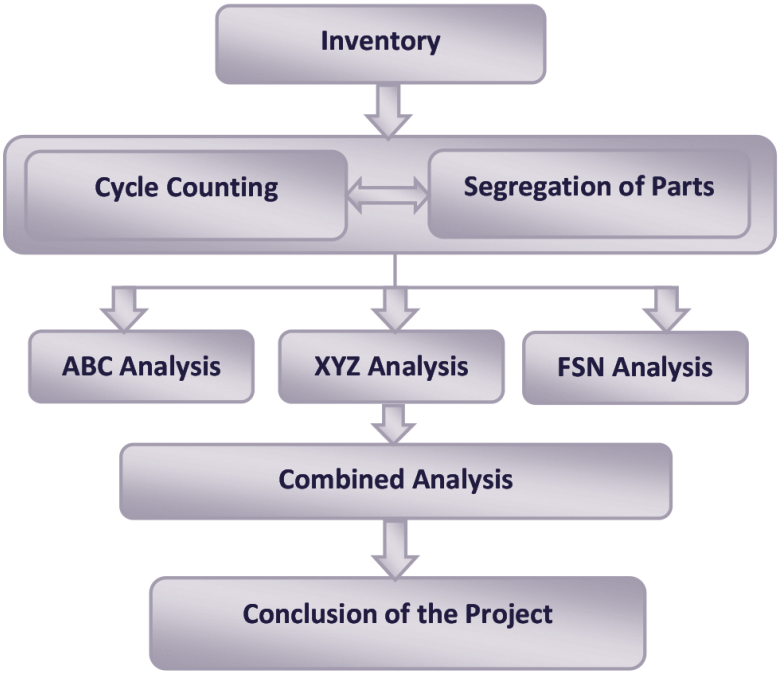

Figure 1: Methodology Cycle

4. DATA COLLECTION AND DATA ANALYSIS

Data collection is the way toward collecting and estimating data on targeted factors in a set up systematic design, which empowers one to answer important inquiries and assess results. While methods change by discipline, the accentuation on guaranteeing precise and legit collection continues as before. The objective for all data collection is to catch quality proof that enables examination to prompt the definition of persuading and valid responses to the inquiries that have been posed (Chary, 2015).

Irrespective of the field of study or inclination for characterizing data (quantitative or subjective), exact data collection is fundamental to keeping up the integrity of research. Data examination, so called analysis of data, is a procedure of reviewing, cleansing, changing and displaying data with the objective of finding valuable data, recommending conclusions, and supporting decision making (Datta, 1998). Data examination has different facts and approaches, incorporating diverse procedures under a variety of names. Investigation refers to breaking an entire into its different segments for individual examination. Data examination is a procedure for getting raw data and changing over it into data helpful for decision making by users. Data is gathered and investigated to answer questions, test speculations or disprove hypothesis.

5. RESULTS AND DISCUSSIONS

5.1 Results

5.1.1 ABC analysis

An examination of the annual consumption value for the analysis period (December 2017- February 2018) is depicted in Table 3. Corresponding plots are presented in Fig 2. It indicates that 26 items out of 306 acquires 70.67% of annual consumption value hence are considered as category A item. 24.21% of the total annual consumption value is from 81 items which are categorized as B items and 5.12% of the total annual consumption value is from 199 items hence these items are considered as C category items.

Table 3: Summary of ABC Analysis

Category	Number Of Items	Percentage Of Items (%)	Value Of Items	Percentage Of Value (%)
A	26	8.50	Rs.820257	70.67
B	81	26.47	Rs.280981	24.21
C	199	65.03	Rs.59441	5.12

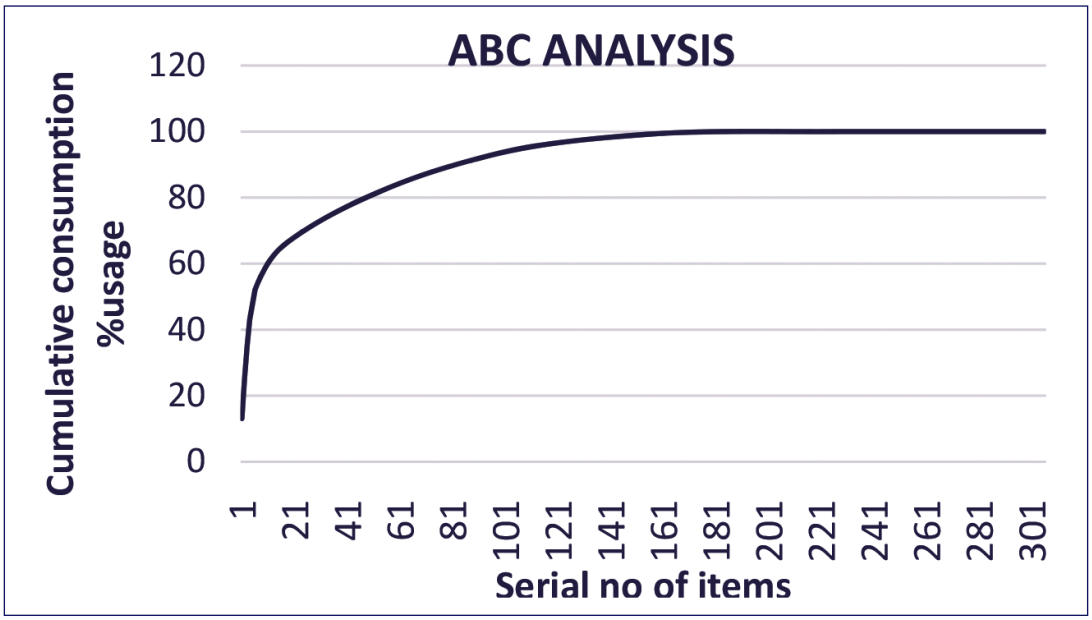

Figure 2: ABC distribution curve

5.1.2 XYZ analysis

Outline of XYZ analysis for the analysis time frame is appeared in Table 4. The table demonstrates that 69.64% of the total stock esteem is because of 10.46% of the total number of items categorized as X items. So also, just 20.31% of the total stock esteem is in charge of 24.51% of the total number of things under classification Y and 10.05% of the total inventory value is from about 65.03% of the aggregate number of items under classification Z. This analysis, therefore, distinguishes those couple of items which represent the extensive measure of money locked up in stock and steps are to take for their reduction. The plot of the XYZ distribution curve for the analysis period from December 2017- February 2018 is show in figure 3.

Table 4: Summary of XYZ analysis

Category	Number Of Items	Percentage Of Items (%)	Value Of Items	Percentage Of Value (%)
X	32	10.46	Rs.892927	69.64
Y	75	24.51	Rs.260471	20.31
Z	199	65.03	Rs.128943	10.05

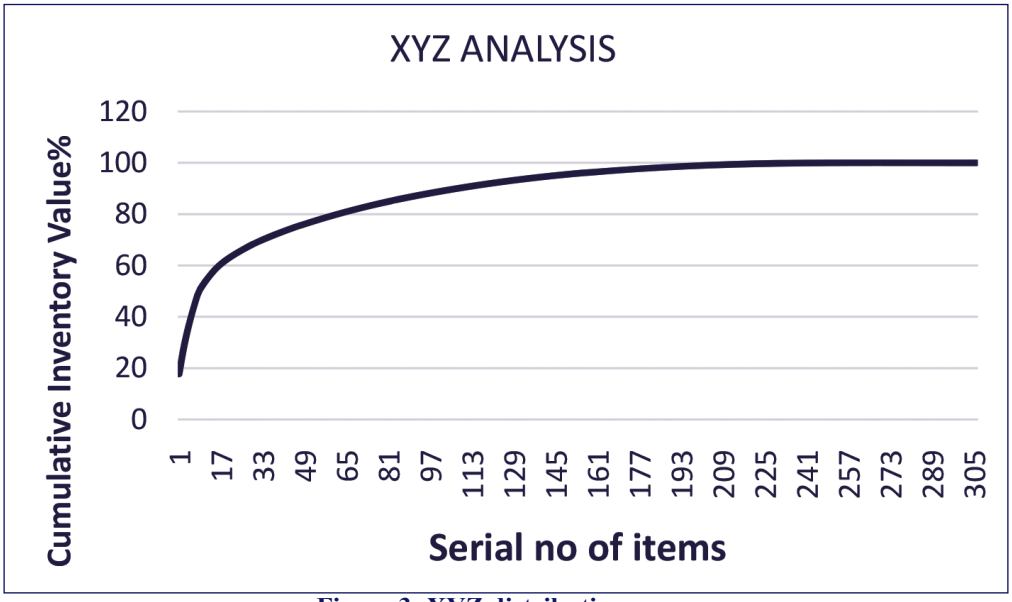

Figure 3: XYZ distribution curve

5.1.3 FSN analysis

This analysis has been carried out on the basis of the rate of movement of spare parts in the store. Summary of FSN analysis for analysis period (December 2017- February 2018) is given in Table 5. Results show that 31 items (10.13%) are issued15 or more times and are classified to be in class F, whereas another 162 (52.94%) items are issued 1 or more times and are classified to be in class S. Rest are classified as class N items.

Table 5: Summary of FSN analysis

Category	Number Of Items	Percentage Of Items (%)
F	31	10.13
S	162	52.94
N	113	36.93

5.2 Two Dimensional Matrix

5.2.1 Two dimensional analysis covering ABC- XYZ

Results of the two dimensional analysis for the analysis period (December 2017- February 2018) is given in Table 6. Results show that 16 items (5.24%) fall in AX category, 14 (4.57%) in BX category, 2(0.65%) in CX category, 6(1.96%) in AY category, 37 (12.09%) in BY category, 32 (10.45%) in CY category, 4 (1.31%) in AZ category, 30 (9.81%) in BZ category and 165 (53.92%) in CN category.

Table 6: Two-dimensional ABC-XYZ analysis

	X		Y		Z	
	Item Count	**%**	**Item Count**	**%**	**Item Count**	**%**
A	16	5.24	6	1.96	4	1.31
B	14	4.57	37	12.09	30	9.81
C	2	0.65	32	10.45	165	53.92

5.2.2 Two-dimensional analysis covering ABC and FSN

Results of the two dimensional analysis are given in Table 7. Results show that 15 items (3.45%) fall in AF category, 2 (0.46%) in BF category, 4 (0.92%) in CF category, 26 (5.99%) in AS category, 28 (6.45%) in BS category, 50 (11.52%) in CS category, 11 (2.53%) in AN category, 18 (4.14%) in BN category, 49 (11.29%) in CN category.

Table 7: Two dimensional ABC -FSN analysis

	F		S		N	
	Item Count	**%**	**Item Count**	**%**	**Item Count**	**%**
A	15	3.45	26	5.99	11	2.53
B	2	0.46	28	6.45	18	4.14
C	4	0.92	50	11.52	49	11.29

5.2.3 Two-dimensional analysis covering XYZ and FSN

Results of the two dimensional analysis for the analysis period (December 2017- February 2018) are given in Table 8. Results show that 15 items (4.90%) fall in XF category, 7 (2.29%) in YF category, 8 (2.61%) in ZF category, 17 (5.55%) in XS category, 60 (19.60%) in YS category, 86 (28.10%) in ZS category, 0 (0%) in XN category, 7 (2.29%) in YN category, 106 (34.64%) in CN category.

Table 8: Two dimensional XYZ -FSN analysis

	F		S		N	
	Item Count	**%**	**Item Count**	**%**	**Item Count**	**%**
X	15	4.9	17	5.55	0	0
Y	7	2.29	60	19.60	7	2.29
Z	8	2.61	86	28.10	106	34.64

5.3 Three-Dimensional Analysis

5.3.1 Three dimensional analysis using ABC, XYZ and FSN

For the analysis period (December 2017- February 2018), a three dimensional analysis covering ABC, FSN and XYZ is shown in Table 9. Results show that 12 (3.92%) items fall in AXF category, 0 (0%) in AYF category, 1 (0.32%) in AZF category, 3 (0.98) in BXF category, 6 (1.96%) in BYF category, 7 (2.28%) in BZF category, 0 (0%) in CXF category, 1 (0.32%) in CYF category, 0 (0%) in CZF category, 4 (1.35%) in AXS category, 6 (1.96%) in AYS category, 3 (0.98%) in AZS category, 11 (3.59%) in BXS category, 31 (10.13%) in BYS category, 23 (7.51%) in BZS category, 2 (0.65%) in CXS category, 23 (7.51%) in CYS category, 60 (19.62%) in CZS category, 0 (0%) in AXN category, 0 (0%) in AYN category, 0 (0.%) in AZN category, 0 (0%) in BXN category, 0 (0%) in BYN category, 0 (0%) in BZN category, 0 (0%) in CXN category, 8 (2.61%) in CYN category, 105 (34.31%) in CZN category.

Table 9: Three-Dimensional ABC- XYZ- FSN Analysis

	F		S		N	
	Item Count	%	Item Count	%	Item Count	%
AX	12	3.92	4	1.35	0	0
AY	0	0	6	1.96	0	0
AZ	1	0.32	3	0.98	0	0
BX	3	0.98	11	3.59	0	0
BY	6	1.96	31	10.13	0	0
BZ	7	2.28	23	7.51	0	0
CX	0	0	2	0.65	0	0
CY	1	0.32	23	7.51	8	2.61
CZ	0	0	60	19.62	105	34.31

5.4 Inventory Audit Results

The following results and conclusions were obtained after performing cycle counting of spare parts as mentioned in table 10 below:

Table 10: Inventory Audit

Total No. of Components in System Count	4968
Total Value of Components in System Count	Rs.1331092
Total No. of Components in Physical Count	4982
Total Value of Components in Physical Count	Rs.1271289

5.5 Discussions

Based on observations and data analysis, some of the aforementioned recommendations can be made for Dugar TVS, Indore for their advantage as per the literature of the standard measures for selective inventory control. Dugar TVS, Indore can utilize ABC and FSN analysis to order their items in stores to deal with their inventory successfully and productively. For instance, it should give careful consideration to A class items; moderate on B class items; and least on C class items, on the grounds that A class things consume around 70.67% of the total money invested into stock. Buy and sale of A class items can be observed with incredible care to avoid from overstocking. It is wise to do request estimating (considering the regularity, pattern and irregularity in utilization) in light of past information accessible in the stores for a precise buy of things. Similarly, F compose things can be obtained in bulk and put away in the warehouse which can be conveyed every now and then in the stores when required. This will help Dugar TVS in these ways:

- ✓ It will have the advantage of buying the items in volume with a relevant discount from the providers.
- ✓ As the items are quick moving, they can be sold rapidly so there will be no compelling reason to keep them away for long time and pay huge storage charges.
- ✓ Besides, S and N type items can be conveyed straight to the stores since they move gradually and Dugar TVS needs to pay additional storage costs for them.

On the basis of observations, following suggestions were made to the concerned organization:

- ✓ Most spare part components were haphazardly placed in the stores. Systematically arranging these components would help them to locate, manage and issue spare parts more easily.
- ✓ A component issued from the store is not billed until the vehicle is dispatched. At times, the vehicle stays in the service station despite being ready for dispatch. This causes a discrepancy in the system's inventory data and sales data. Hence, some sort of review system should be exercised on these types of spare parts to eliminate the irregularities.
- ✓ The factor of criticality of components has not been considered while classifying the spare parts. If some criteria

for criticality can be defined then, the spare parts can be classified more effectively.

✓ Furthermore after knowing the ordering cost, inventory carrying cost etc. for the spare parts in the stores, and one could also devise a review system (Periodic or Continuous) to determine the optimum re-order level of the spare parts.

From a total of 306 products, most of the items (almost 89.87%) are either very slow moving or non-moving or dead. The control methods for ABC- XYZ, ABC- FSN and FSN- XYZ have been described in tables 11- table 13 respectively.

Class	A	B	C
X	Efforts to be made to reduce stocks to Z category	Efforts to be made to convert them to Y category	Steps to be taken to dispose off surplus stocks.
Y	Efforts to be made to convert these items to Z category	*	Control may be further tightened
Z	*	Stock levels may be reviewed twice a year	*

Table 11: Recommendation for ABC and XYZ category

*Items are within control. No further action is necessary.

Class	F	S	N
X	Tighten control	Deplete stocks to very low level	Dispose off immediately at optimum price
Y	*	Deplete the stocks further at good price	Dispose off as early as possible
Z	Liberalize control (to reduce clerical cost)	*	Dispose off as early as possible even at lower proce.

Table 12: Recommendation for FSN and XYZ category

*Items are within control. No further action is necessary.

Class	F	S	N
A	Tighten control	Reduced frequency in cycle counting	Low frequency in cycle counting
B	Tighten control	Reduced frequency in cycle counting	Low frequency in cycle counting
C	Expedite disposal for releasing the locked up cost	Expedite disposal for releasing the locked up cost	Expedite disposal for releasing the locked up cost

Table 13: Recommendation for FSN and ABC category

6. SUMMARY

6.1 Conclusion of the study

The objective of this study was to identify items for inventory management using selective control techniques. The integrated ABC, XYZ and FSN analysis methodology was adopted in isolation as well as conjunction to determine the most optimal method for classification of spare part inventory at Dugar TVS, Indore. ABC, FS and XYZ analysis are generally applied to control inventory. First of all an inventory audit was performed using the process of cycle counting. In this regard both periodic and continuous techniques used for appraising the stats of the stocks.

Firstly individual analysis was performed like ABC on all components but single analysis failed to achieve proper economic control. For example, C items have low annual consumption value but can be fast moving in nature & not focusing on it properly leads to the path of loss. Similar problems also come in 2-dimensional matrix. Therefore to gain more efficient control, 3-dimensional matrix of ABC-XYZ-FSN was prepared which forms the basis of inventory control at Dugar TVS service. On the basis this 3-Dimensional matrix 12 items come in AXF category which needs strict control and efforts should be made to reduce the stock to Z category. Likewise 105 items are in CZN category. They don't have much value but they occupy large space within their inventory, hence suggestions were made to free shelf space by disposing them via selling them at discount. Most of the non- moving items have low value so that is the reason they don't need much control. 9 items fall in BYS category. From the above study it was found that the priorities of the items change according to different selective inventory control category.

6.2 Limitations

✓ This study is limited to Indore region only.

- ✓ Methodology adopted in this study is limited to one showroom only.
- ✓ No comparative study of other showroom is performed.

6.3 Scope for Future Work

- ✓ In the similar manner, inventory of several other showrooms of different types can be analyzed.
- ✓ This type of analysis can be done for managing inventory in a manufacturing organization.
- ✓ Some other analysis like HML, VED, SDE, SOS, GOLF etc. can be done for performing similar type of research.
- ✓ For more precise and accurate results, a comparative study can be done.

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