INNOVARE JOURNAL OF BUSINESS MANAGEMENT

Vol 2, Issue 2 , 2014 ISSN NO: 2321-6816

Research Article

STOCK AUDIT IN RETAIL OUTLETS: A CASE STUDY

MIHIR DASH*[1], SIPRA DEBNATH[2]

[1]Professor, Quantitative Methods, Principal contact for editorial correspondence. [2]Research scholar,Alliance University.
Email: mihirda@rediffmail.com

Received: 22 June 2014, Revised and Accepted: 15 August 2014

ABSTRACT

Stocks and physical assets, such as raw materials, products, plant and machinery, office equipment, IT systems, and so on, are value assets of a company. With companies today operating across multiple locations with various channel partners, ensuring all assets exist as per the books of record is a challenge for the operations and facilities functions.
Stock audits help retail outlets in controlling several cost components. They help to check the level of opening stock and closing stock from previous periods, and thus help the company to account for short supply, damages, expired items, quality and quantity. Stock audits also check the billing process and ensure proper cash management. Thus, stock audits are required to be conducted in stores at least once in a month in order to avoid any frauds and to have proper control over stock.
This study is a case study of a stock audit in the retail outlets of a leading player in the specialty bakery and confectionary sector in India. The study focuses on benchmarking the Damages/Returns and Variance in six selected outlets, in

Keywords: : stock audit, retail outlet, Damages/Returns, Variance, control.

INTRODUCTION

The company is a leading brand in the specialty bakery and confectionary sector in India with the wide variety and highest quality of bakery products in India, mainly in Bangalore, and a few outlets in some major cities in India. The company manufactures a wide range of specialty breads of distribution in the supermarket chains, private label bakery products for other coffee chains and multiplexes also setting up its branded retail outlets in Bangalore.

Stocks and physical assets, such as raw materials, products, plant and machinery, office equipment, IT systems, and so on, are value assets of a company. With companies today operating across multiple locations with various channel partners, ensuring all assets exist as per the books of record is a challenge for the operations and facilities functions.

Stock audits help retail outlets in controlling several cost components. They help to check the level of opening stock and closing stock from previous periods, and thus help the company to account for short supply, damages, expired items, quality and quantity. They also enable accurate valuation of inventory. Stock audits also check the billing process and ensure proper cash management. Thus, stock audits are required to be conducted in stores at least once in a month in order to avoid pilferage or fraud and to have proper control over stock. Further, they instil discipline among the store managers and employees, as the variances are recovered from them, so they are induced to maintain stocks properly.

However, there are some difficulties in stock audits. Sometimes new employees do not know the correct item name, and they bill it in a different name. Such items may show negative variances. They are then adjusted with the positive variance items. Also, it is difficult to conduct stock audits for stores that have huge inventories.

Methodology

The primary objectives of the study were to study the stability of Damages and Variances in retail outlets, and to benchmark them. The data for the study was based on the audit reports for six outlets of the company over the last three years. The outlets were selected based on geographical segmentation, with one store each in North, East, and West Bangalore, and three stores in South Bangalore.

The procedure adopted was as follows. First, the Opening Stock for the month is entered on the template of items menu (in the software). Then, the invoices received at the outlets are checked with the invoices billed from the factory, and changes are made for the items that were not received and damages, and it is also checked whether all invoices were received. Then, returns (that were earlier recorded manually by the stores) are entered into a Daily Return Report. Next, live Closing Stock is taken by physical inspection in the store and entered into a template, and immediately the reported Closing Stock is retrieved from the Sales Report for the month from the billing software and entered into the template. The data from the Sales Report is then filtered by item code, and net quantity of sales is computed using pivot table (to avoid double counts). Then, all data of invoices, Daily Returns Report, and Sales Report are exported to the template using vlookup. The expected level of Sales is then computed by adding the Opening Stock, Receipts, and Transfers In (if any), and subtracting Damages/Returns and Transfers Out (if any), and the stock variance is calculated by subtracting the actual sales from this. The overall Variance is calculated by multiplying the stock variance of each item with its rate, and then summing up.

Analysis of the Damages and Variances was done across the six sample outlets. The Damages and Variances were expressed as a percentage of sales. Two-way ANOVA was performed to compare across the outlets (controlling for month). Also, the Damages and Variance were tested for stability using p-charts (Dull and Tegarden, 2003; Krehbiel et al, 2007). Damages were benchmarked at 10%, while Variance was benchmarked at 0.5%, and t-tests were performed to test for control.

Observations and Analysis

The results of the two-way ANOVA test for difference in Damages and Variances across outlets (controlling for month) are presented in Table 1 below.

Table 1: ANOVA test for Damages and Variance across outlets

	Damages			Variance		
Outlets	**Mean**	**Std.Dev.**	**Coeff.Var.**	**Mean**	**Std.Dev.**	**Coeff.Var.**
N	15.52%	7.94%	51.16%	0.44%	0.26%	59.28%
S1	12.70%	8.98%	70.72%	0.47%	0.28%	59.62%
S2	11.37%	10.69%	93.95%	0.52%	0.56%	108.59%
S3	5.36%	2.15%	40.13%	0.38%	0.25%	64.56%
W	12.52%	11.63%	92.88%	0.34%	0.16%	46.73%
E	12.09%	8.01%	66.28%	0.31%	0.21%	66.36%
F Stat	*5.0387*			*2.0535*		
p-value	*0.0001*			*0.0370*		

There was a significant difference in Damages across the six outlets. Average Damage was highest in outlet N and least in outlet S3. Outlet S3 was also the most consistent, while outlets S2 and W had the highest variability in Damages. There was also significant difference in Variance across the outlets. Average Variance is highest in outlet S2 and least in outlet E. Outlet S2 also had the highest variability in Variance.

Due to these differences across outlets, stability needed to be tested separately for each outlet using p-charts and t-tests. The results are presented in Figures 1 - 12 below.

Outlet N

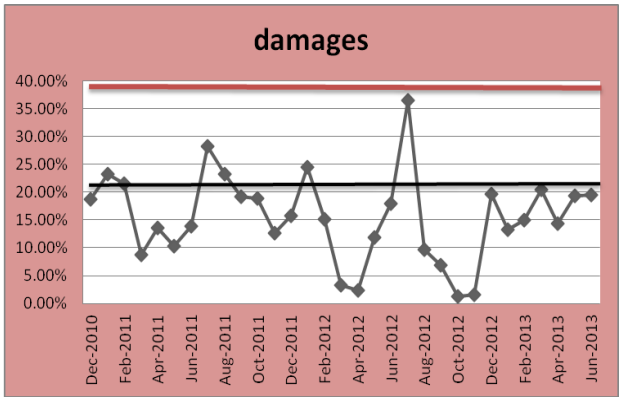

Fig. 1: p-chart for Damages in outlet N

The Damages for outlet N were found to be under control (with a high in July'12). The average level of Damages was 15.52%; against the benchmark (10%), this was found to be highly significant (t cal = 3.681, p = 0.0000**).

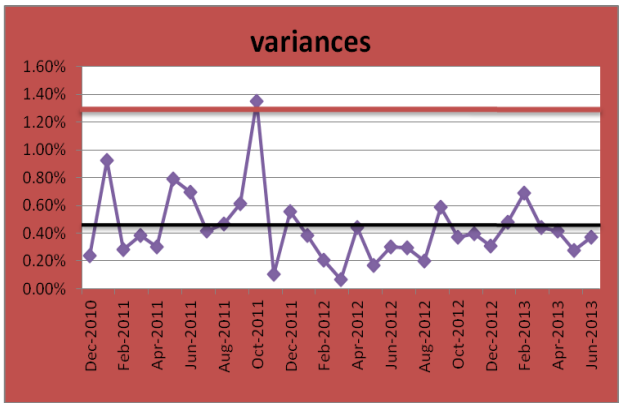

Fig. 2: p-chart for Variance in outlet N

The Variance for outlet N was found not to be under control, with an exceptional high in Oct'11. The average level of Variance was 0.44%;

against the benchmark (0.5%), this was found to be not significant (t cal = -1.191, p-value = 0.1215).

Outlet S1

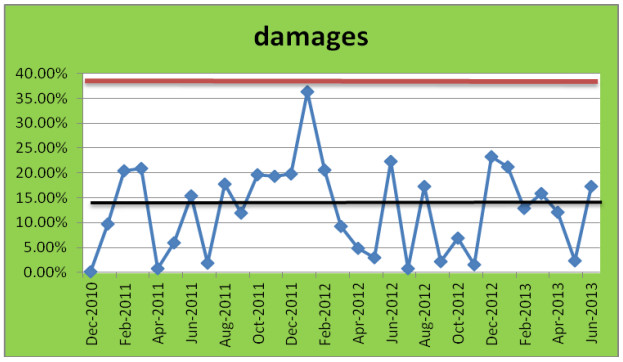

Fig. 3: p-chart for Damages in outlet S1

The Damages for outlet S1 were found to be under control (with a high in Jan'12). The average level of Damages was 12.70%; against the benchmark (10%), this was found to be not significant (t cal = 1.672, p = 0.0520).

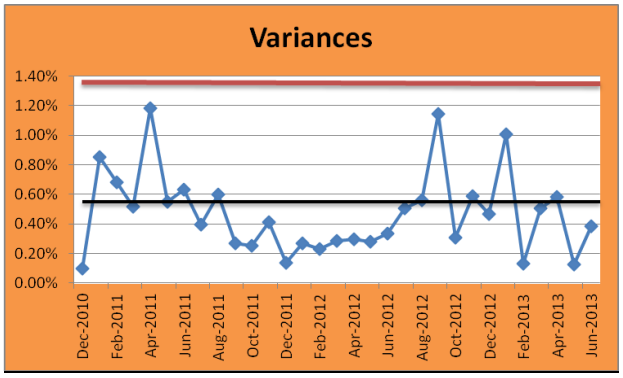

Fig. 4: p-chart for Variance in outlet S1

The Variance for outlet S1 was found to be under control. The average level of Variance was 0.47%; against the benchmark (0.5%), this was found to be not significant (t cal = -0.342, p-value = 0.3675).

Outlet S2

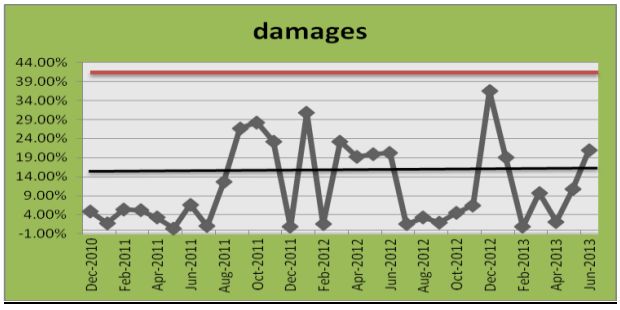

Fig. 5: p-chart for Damages in outlet S2

The Damages for outlet S2 were found to be under control. The average level of Damages was 11.37%; against the benchmark (10%), this was found to be not significant (t cal = 0.715, p = 0.2400).

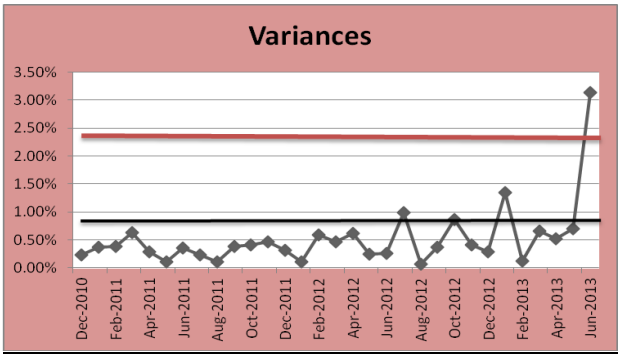

Fig. 6: p-chart for Variance in outlet S2

The Variance for outlet S2 was found not to be under control, with an exceptional high in Jun'13. The average level of Variance was 0.52%; against the benchmark (0.5%), this was found to be not significant (t cal = 0.258, p-value = 0.3990).

Outlet S3

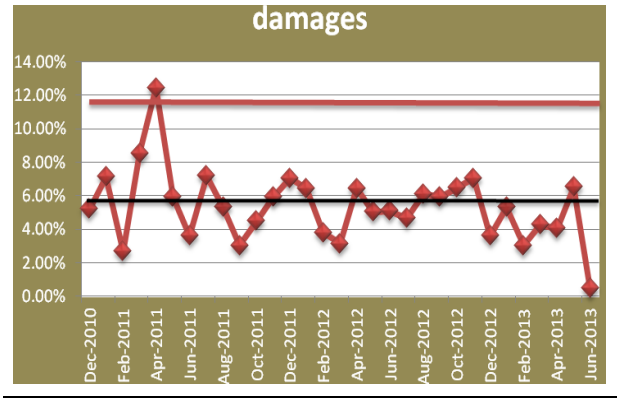

Fig. 7: p-chart for Damages in outlet S3

The Damages for outlet S3 were found not to be under control, with an exceptional high in Apr'11. The average level of Damages was 5.36%; against the benchmark (10%), this was found to be significant (t cal = -12.018, p = 0.0000**).

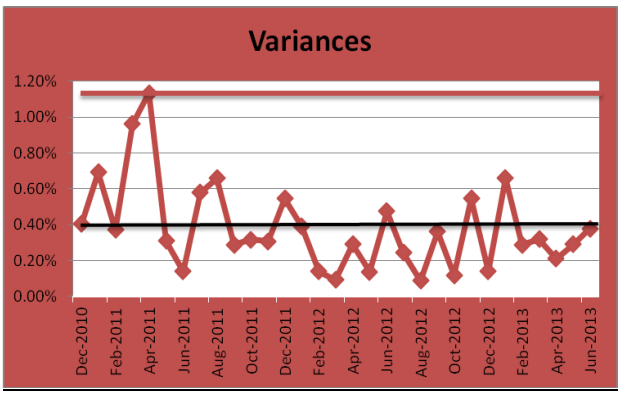

Fig. 8: p-chart for Variance in outlet S3

The Variance for outlet S3 was found not to be under control, with an exceptional high in Apr'11. The average level of Variance was 0.38%; against the benchmark (0.5%), this was found to be significant (t cal = -2.570, p-value = 0.0080**).

Outlet E

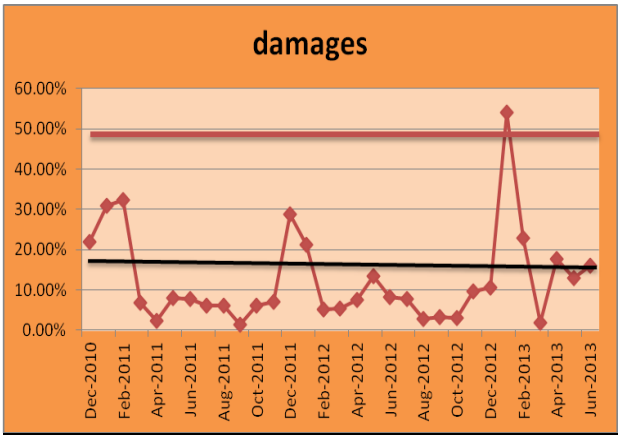

Fig. 9: p-chart for Damages in outlet E

The Damages for outlet E were found not to be under control, with an exceptional high in Jan'13. The average level of Damages was 12.52%; against the benchmark (10%), this was found to be not significant (t cal = 1.205, p = 0.1189).

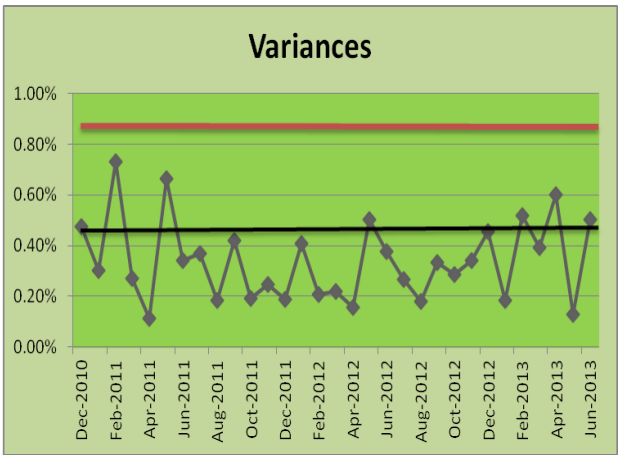

Fig. 10: p-chart for Variance in outlet E

The Variance for outlet E was found to be under control. The average level of Variance was 0.34%; against the benchmark (0.5%), this was found to be significant (t cal = -4.766, p-value = 0.0000**).

Outlet W

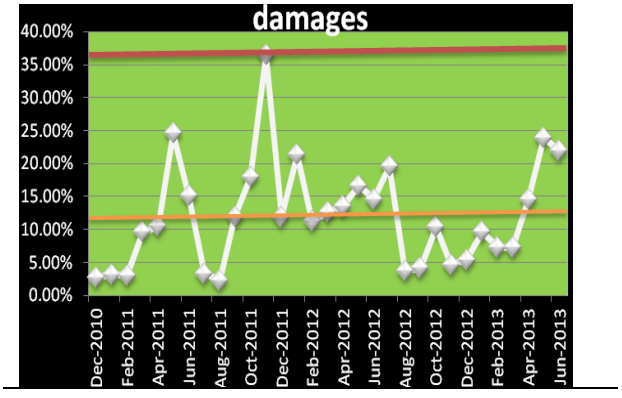

Fig. 11: p-chart for Damages in outlet W

The Damages for outlet W were found to be under control (with a high in Nov'11). The average level of Damages was 12.09%; against the benchmark (10%), this was found to be not significant (t cal =

1.453,p=.0780).

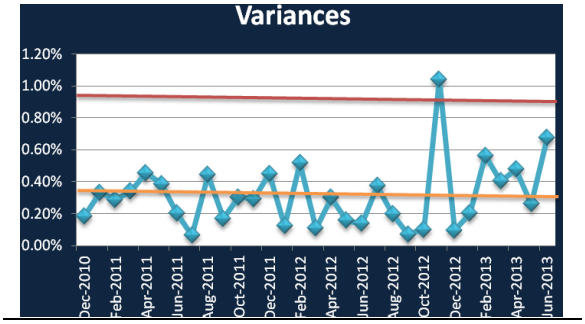

Fig. 12: p-chart for Variance in outlet W

The Variance for outlet W was found not to be under control, with an exceptional high in Nov'12. The average level of Variance was 0.31%; against the benchmark (0.5%), this was found to be significant (t cal = -5.596, p-value = 0.0000**).

DISCUSSION

The results of the study indicate that there were significant differences in Damages across the outlets. Average Damage was highest in outlet N, significantly higher than the benchmark level (10%), and least in outlet S3, significantly lower than the benchmark level. Outlet S3 was also the most consistent, while outlets S2 and W had the highest variability.

The results of the study also indicate that there were significant differences in Variance across the outlets. Average Variance is highest in outlet S2 and least in outlet E. In particular, outlets S3, E, and W had significantly lower Variance than the benchmark (0.5%). Outlet S2 also had the highest variability in Variance.

The "best performer" was outlet S3, which had the lowest level of Damages and a moderate level of Variance, significantly lower than the benchmarks (10% and 0.5%, respectively), though outlet E had the best performance in terms of lower Variance. The "worst performer" was outlet N, with high average Damages and relatively high average Variance.

The application of control charts complements the above findings and presents a different picture. In terms of statistical control, only outlet S1 was found to be under control for both Damages and Variance, while other outlets were not under control for either, or for both. However, the limitation of the application of control chart is that it only benchmarks performance of a process relative to itself. In particular, even the "best performer" outlet S3 was found not to be under control. Thus, all outlets need to examine their processes carefully, and take steps to control Damages/Returns and Variance. Though outlet S3 may be used as a benchmark, it also needs to improve its processes. On the other hand, outlet E should be used as the benchmark for Variance. Also, all exceptional points (points not under control) must be specifically investigated and explained. These process improvements may lead to a standardisation of practices, adopting the "best practices" across outlets.

Based on the study, it was found that though the company had been trying to keep their Damages/Returns intact, but it has not been able to control these effectively. Thus, the company should adopt some mechanism to reduce the Damages/Returns, which can help it reduce wastage and thereby improve its profits.

The study has some limitations. The analysis of Damages/Returns and Variance was based on Stock Audit Reports, and was subject to reporting requirements of the company, so that there may be scope for reporting errors, particularly if the audit is performed newer employees. Also, the research period considered was relatively short.

REFERENCES

1. Dull, R.B. and Tegarden, G.P. (2004), "Using Control Charts to Monitor Financial Reporting of Public Companies," *International Journal of Accounting Information Systems* 5(2),109-127.
2. Glove, F. (2003), *The Essentials of Auditing*, Research & Education Association, USA.
3. Inland Revenue Service (2009), *Retail Industry Audit Technique Guide.*
4. Krehbiel, T.C., Havelka, D., and Scharfenort, M. (2007), "Process Monitoring In Accounting: Implementing Pre-Control Charts," *The Journal of Applied Business Research* 23(4), 93-104.
5. Loughran, M. (2000), *Auditing for Dummies*, Wiley Publishing: Hoboken, NJ, USA.
6. Puttick, G., van Esch, S., and van Esch, S.D. (2007), *The Principles and Practice of Auditing*, Juta & Co.: Cape Town, South Africa