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Observation Techniques in Store Auditing

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This paper describes some variations of audit and observation methods that are discussed in the preceding article, "Observation and Audit Techniques for Measuring Retail Sales."

ONE OF THE MAJOR TOOLS used in deriving marketing data at the retail level is the standard retail store audit procedure. Classically, this procedure consists of (1) selecting a representative sample of outlets for auditing, (2) securing their cooperation, (3) taking a physical inventory of the item under study and (4) collecting the purchase invoices maintained by the retailers. The retail sales for the items are then derived by the formula: Opening inventory plus retailer purchases minus closing inventory equals sales for the period.

For a variety of reasons, other procedures for obtaining similar types of information (as well

as data not obtainable using the standard procedure) which can be broadly classified as "observation" techniques have been utilized. They include all procedures used in obtaining data on either sales, purchases, or inventories other than through the use of the conventional physical inventory and purchase invoice procedure.

The major reasons for the newer techniques are the limitations of the physical audit mechanism itself, including problems of response error and cost considerations. For example, in the accompanying article, "Observation and Audit Techniques for Measuring Retail Sales," reference is made to the use of the "observation" technique in

the measurement of retail sales of apples and pears. In this study, conducted for the U.S. Department of Agriculture, a comparison was made of estimates of retail sales of fresh produce (apples and pears) using the standard audit procedure with similar estimates using the observation technique. In this latter procedure, retail purchases by customers were observed and recorded for time-segment samples within stores.

In comparing the results of the two procedures directly, some of the limitations of the physical audit mechanism were apparent. For one, the physical audit and the observation audit *cannot* measure sales data for the same time period because, in conducting the standard audit, all stores cannot physically be audited at the same time and on the same day at uniform time intervals. Even if a large enough field staff can be mustered, retailers generally prefer auditors to conduct their activities so as to cause a minimum of disturbance to the store's general activities. During peak periods, such as Christmas and Easter, this problem becomes even more acute.

Another factor in these comparisons is that although the observation technique used in this procedure recorded actual sales to consumers, the physical audit measures the movement of goods off the premises, which is assumed to be equal to retailer sales. Thus, the physical audit includes spoilage and returns and transshipment (unless specifically recorded) as retail sales.

For other consumer items, the problem of pilferage is especially acute in certain types of retail outlets amounting to a significant item in their retail profit picture. Here again, the physical audit procedure mechanism is subject to an overstatement of retail sales as compared with the observation procedures. Also, certain types of products, such as pharmaceuticals, do not allow for an accurate physical count of inventory.

Failure to achieve full cooperation in conducting the standard audit procedure can cause significant biases in estimating sales data. Failure on the part of the retailer to retain all invoices during the audit interval or to keep records of returns and transshipments can likewise cause biases. Also, in certain types of establishments, the bulk of the retailer purchasing is done on a cash basis with either no invoice recording or simply a summary bill with no description. Finally, it can be shown that for

certain high turnover items where substantial time is involved in actually obtaining complete counts of physical inventories and invoices (such as with soft drinks and frozen foods), an optimum solution taking into account the cost and variance functions might suggest the observation technique.

Some additional types of "observation" techniques that have been used follow:

Inventory depletion.—In an effort to derive retail sales data from among stores that cannot provide full cooperation for the standard audit procedure, a system is utilized wherein counts are made of the retail counter or shelf inventory during a cross section of time periods when the store is open. In effect, the procedure consists of recording the depletion in retail inventory at the counter or shelf between restocking periods as a measure of purchases of these items by consumers. Within the cost limitations, this procedure can be made more efficient statistically by oversampling certain of the hours or days during which the store is busiest. This procedure has been found to be particularly useful for consumer items with fairly high turnover. One qualification of this technique is that, though estimates of retail sales can be obtained, it permits no direct method for obtaining data on retailer purchases from wholesalers or on retailer inventories, which might be important for certain products.

Direct observation of sales.—Another variation of the observation technique is that used in measuring retail sales of apples and pears, as previously referred to. This procedure has particular merit for application to measuring the retail movement of fresh produce wherein it might be physically too difficult to utilize the "inventory depletion technique" or to obtain inventory information using the standard audit procedure.

The purchase invoice technique.—Another variation of the observation technique used to derive estimates of retail sales of certain products is the "purchase invoice technique." It is particularly relevant to items that have a relatively large turnover compared with their inventory at any time. Retailer purchase invoices as estimates of retailer sales can likewise be used for other high-turnover products, such as fresh milk and ice cream. There is a constant flow of deliveries of these products and thus little need for any substantial retail inventory.

Direct measures of sales.—Frequently the problem of partial cooperation has been encountered among retailers in auditing products that have high unit cost. Often retailers will permit the collection of certain types of information but not others. In auditing jewelry and cameras, a variation of the warranty card procedure has been employed with the card being filled out at the retail counter. As each consumer purchase is made, the retailer fills out a form attached to the sales slip, then this form is mailed directly to the surveying company. In effect, this provides a direct measure of the sales of these items without having to take complete inventory and collect purchase invoice data.

In providing clients with estimates of retailer sales of gasoline, the procedure of measuring gallons pumped during the audit interval has been

used as a measure of retail sales. This does not require an estimate of the inventory at any time within the pumps themselves.

For certain products, such as ethical drug products, costs of collecting inventory information are prohibitive. In order to measure retail sales of prescription items, a procedure of sampling time segments from the pharmacist's prescription book has been used. By sampling within the audit interval and obtaining a copy of the prescriptions recorded, total estimates of sales of prescription items can be made.

In summary, collection of data on retail sales, purchases, or inventories at the retail level through procedures other than the standard physical audit procedure, one which we have labeled "observation" techniques, came into being because of the specific purposes of the audit, the product class or type to be audited, and cost considerations.