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**CONDUCTING
AN EFFECTIVE
RETAIL AUDIT**

SOMARC

CONDUCTING AN EFFECTIVE RETAIL AUDIT

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CONTENTS

SUMMARY	5
BACKGROUND	7
Research Objectives	7
CONDUCTING A RETAIL AUDIT	9
A. Creating the Proper Research Climate	9
B. Developing Accurate and Thorough Audit Procedures	10
C. Drawing a Representative Sample	10
D. Conducting Reliable Field Work	11
E. Analyzing and Reporting Results to Ensure Managerial Usefulness	12
F. Evaluation of Overall Research Project	12
THE BANGLADESH PREFEST	13
A. Results	13
B. Possible Extensions	14
C. A Warning	15
APPENDIX A: HYPOTHETICAL RESULTS FROM A RETAIL AUDIT	17

Summary

This guide provides an introduction to auditing methodology as it might be applied by contraceptive social marketers in a developing country. The guide concludes with an illustration drawn from SOMARC's research efforts in Bangladesh to determine effectiveness of retail audit methodologies in a less-developed country setting. In that country, an extensive pilot test of a retail audit has been conducted and a full-scale test designed for implementation in 1988. The Appendix provides hypothetical results of a retail audit to demonstrate the nature and usefulness of results.

Background

Contraceptive social marketing projects around the world typically lack one type of critical sales performance data that are commonplace in private-sector consumer markets. Private-sector marketing managers are accustomed to having at their disposal extensive data on trends in product movement and market share *at the retail level* for use in making day-to-day decisions about what products and services to offer, what prices to charge and trade discounts to give, how large to set promotion budgets and sales force effort levels and allocations, what communications tactics to use, and so forth.

Data on product movement at the retail level in the private sector is typically generated from one of three sources: (1) individual consumer purchase records collected through diaries or, more recently, optical scanning of panel member store purchases; (2) computerized records of aggregate sales made available by cooperating retail chains; or (3) retail audits. Variations on these options are offered by a number of commercial suppliers including A. C. Nielsen, Information Resources, Inc., and Market Facts. Since each method has its own strengths and weaknesses, it is not uncommon for major marketers such as Procter & Gamble to use more than one.

While managers of contraceptive social marketing programs in developing countries have similar information needs, no equivalent databases are available. Traditionally, they have relied on data from warehouse shipments for indications of trends in product movement. These data are inadequate in at least three crucial ways:

- They do not reflect the true retail sales of the CSM program. Thus, the data are not insensitive to picking up short-term effects of specific tactics. Real effects can easily be masked by changes in stocking patterns of retailers or other intermediaries.
- They (obviously) give no information on competitors' sales. Thus, a CSM marketer's tactics could have a positive effect on the program's own sales and also (1) produce increased competitor sales (i.e., thereby increasing the size of the total market), (2) leave competitors' sales unchanged, or (3) decrease them.
- They do not indicate the sources of any changes in the CSM program sales. Unless changes in competitors' sales are monitored, it will be unclear whether sales are due to brand switching or increases in the total number of contraceptive product users.

Unfortunately, two of the three alternatives available in the private sector for collecting data at the retail level are not really practical in developing countries, that is, consumer diaries (except perhaps in middle class or more "Westernized" market segments) and computerized sales records (again, except perhaps in the larger, more modern retail establishments or chains in major urban areas).

On the other hand, there are no obvious reasons why retail auditing should not be at least feasible in developing countries. While the cost of a retail audit could prove a substantial burden for a single organization, its potential is significant and could prove well worth the cost, particularly if, at some point, these costs could be shared with other organizations in either the private or public sectors interested in tracking retail sales in the same markets.

If a retail audit is to be carried out, attention must be paid to using sound basic audit methodology while adopting the technique to the special peculiarities of developing countries.

Research Objectives

The primary objective of any retail auditing program is to develop a precise procedure for tracking sales of various brands of condoms and pills at the retail level. A secondary objective is to explain changes in sales levels over time. The two vehicles for achieving these objectives are weekly retail audits combined with on-site consumer intercepts. The retail audits are very simple in concept. They begin with the reasonable assumption that retailers in developing countries (and many in already-developed countries) do not have accurate records of sales. Typically, the shop owners

are poorly educated and seldom see the value of good data in planning and decision making. Records are seldom produced because business is on a cash basis. Further, local customs and mores and/or tax laws and other regulations often discourage careful recordkeeping.

The retail audit procedure assumes that, while retailers may not have very good records of sales (or any records at all), they will have some records of purchases they have made or, where such records do not exist or where they have been misplaced, retailers can recall with reasonable accuracy purchases of various items/brands made over short periods of time. Retail sales estimates are developed by collecting beginning and ending inventories over a specified period of time and asking retailers for information about purchases made during the intervening time. One then simply applies the following formula:

$$\text{Ending Inventory} + \text{Purchases} - \text{Beginning Inventory} = \text{Retail Sales}$$

Sales data are collected for each brand and size of each item of interest over as long a period of time that research budgets and/or managerial needs dictate.

Data generated by this procedure will then yield the following information of considerable value to CSM program managers, AID and various advisors:

- Trends in total market volume and market shares of different brands and competitors.
- Changes in extent of retail distribution coverage (i.e., percent of retailers carrying each product).
- Trends in inventory levels by brand and product type (including out-of-stock conditions).
- Patterns of inventory management by retailers (e.g., number of days/weeks supply kept on hand).
- Selling prices of commercial products.
- Retail display practices (including use of point-of-sale materials).

Where retail audits are coupled with on-site consumer intercepts, data also can be developed on:

- Changes in consumer profiles of various brands.
- Extent and reasons for brand-, store-, or method-switching.

These types of data are of interest not only to contraceptive social marketers but also to public policymakers. AID, as well as in-country public health officials, is very concerned about the overall social benefit of subsidized programs such as contraceptive social marketing. Data on the effects of contraceptive social marketing programs on total market growth and/or competitive brand switching will help answer the perennial question: Do contraceptive social marketing programs increase the total number of contraceptive users or do they just "steal" sales from other sources such as commercial or public-sector suppliers? Clearly, a stronger case can be made for CSM programs if the former were found to be the case and not the latter.

Conducting a Retail Audit

Several key steps must be taken to assure the accuracy and usefulness of any retail audit. These include:

- A. Creating the proper research climate.
- B. Developing accurate and thorough auditing procedures.
- C. Drawing a representative sample.
- D. Collecting reliable field data.
- E. Analyzing and reporting results that are managerially useful.
- F. Evaluating the overall research project.

A. Creating the Proper Research Climate

As noted earlier, a major problem a researcher faces in developing retail audit procedures in developing countries is the relative lack of sophistication of many retailers, particularly those in nonpharmacy outlets. This manifests itself in several ways. First, many retailers will be unfamiliar with the concept of "research" and its needs for accuracy. They also may be unfamiliar with the notion of research confidentiality. They are unlikely to accept at face value the researcher's assurances that any measures taken will remain totally confidential.

It is clear, therefore, that effective design of a retail audit will require attention at the outset to building an understanding of the project and a minimum level of trust on the part of potential audit participants and others who may support or sabotage the project. Several steps can be taken to achieve this end:

- Key figures in the retail sector must be apprised of the project and its objectives. This would include heads of chambers of commerce, leaders of pharmacists' associations, executives of other contraceptive marketing organizations (both public and private) and relevant government bureaucrats.
- A careful program of media publicity must be initiated announcing and explaining the project to the general public and to the potential participants. The relevant media would include the general press, any business magazines, and specific newsletters and periodicals directed at the pharmacy or general retail industries.
- The researcher's auditing staff must be trained in recruitment techniques to assure that each member of the chosen sample participates fully and accurately. As much attention in training must be paid to "signing up" participants as to gathering accurate data from them once they do sign up. Role-playing sessions should be used to develop recruiting skills.
- Monetary incentives probably should be offered to cooperating retailers for their participation in the audit. The amounts should be determined in pretesting.

As any trained researcher will point out, each of these measures risks biasing the basic study. For example, retailers may be influenced by the recruiters or by the monetary incentives to make greater-than-normal purchases or to sell contraceptive products more aggressively during the research project to impress or please the research organization. While some upward bias of this type is possible, it is only likely to influence results in the first one or two weeks of auditing. Experience has shown that panel recruits tend to tire quickly of the efforts of keeping up artificial behavior.

B. Developing Accurate and Thorough Audit Procedures

Because of the high likelihood that some retailers will be unwilling or unable to keep accurate purchase records, it is necessary to develop at least two alternative approaches to collecting retail sales data. One approach would be designed for relatively sophisticated retailers who can be expected to have (or keep) reasonable records; the other is for those who cannot. In Bangladesh, for example, the following two approaches were used:

1. *The Weekly Method.* Under this method, inventories are taken at the beginning and end of a seven-day period with retailers asked to keep written records of any purchases of audited products during the intervening period.
2. *The Daily Method.* Under this method, on a randomly selected day, an inventory is taken at the beginning and end of a 24-hour period. At the end of that period, retailers are asked to report verbally any purchases of audited products during the intervening 24-hour period.

C. Drawing a Representative Sample

Two approaches might be adopted for sampling retail outlets. The choice depends on management's objectives for the data. If management is "merely" interested in developing a projection for the country as a whole, then a relatively modest national sample drawn on a probability basis would be adequate. For example, for a one-time estimate of a specific condom brand's market share that would be within 3 percentage points of the true figure 95 percent of the time, a simple random sample of only 1,027 outlets is adequate. (An even smaller sample would be needed if either [1] estimates over several weekly audit periods were to be combined and/or [2] the universe could be stratified in ways where there are important differences in variability or auditing costs among strata.)

On the other hand, if management wishes to make separate estimates for different subpopulations (e.g., pharmacies and smaller shops or different geographical regions) or to compare these subpopulations, then attention must be paid to the level of accuracy achieved for each subpopulation. Judgments about optimal sample sizes for each subpopulation will depend on how important each group is in management's decisionmaking, how much variability is likely to be found in each subpopulation and how much it will cost to conduct audits in each.

Initial experience suggests it is likely that researchers will probably want to oversample pharmacies and outlets in major population centers since these will be more important, have higher variance, and involve lower costs of auditing. By contrast, nonpharmacies and rural areas would be undersampled.

Three other sampling suggestions should be considered. First, the services of a trained statistician or sampling specialist should be sought (perhaps from a local university) to ensure that the sample is properly drawn (e.g., is of adequate size and uses an appropriate, up-to-date sampling frame such as a map or list of retailers).

Second, serious consideration should be given to *multistage* sampling procedures for the audit. In this approach, broad geographical areas (such as regions) are selected probabilistically and then subareas (e.g., districts) within the chosen regions are selected. This may continue through one or more additional levels. At the last level, specific retailers are selected. In many countries, it will be desirable at this last level to conduct a prior enumeration of all the candidate retailers in the subarea as the basis for drawing the final sample.

Finally, in establishing the size of the final sample, it is important that an estimate be made (preferably based on pretest experience) as to how many extra retail outlets must be initially contacted to allow for refusals and dropouts over the course of the study.

D. Conducting Reliable Field Work

Once the sample has been chosen, levels of monetary incentives set, and the auditing team recruited, a number of steps must be planned and implemented to collect reliable audit data in the field. (The problems of collecting consumer intercept data are not addressed in this guide.)

1. Forms must be developed for recording:

Characteristics of each outlet and of each retail manager. Note also should be taken of who supplies information on intervening purchases.

Beginning and ending inventories for each audit period. For weekly audits, only one inventory will be taken each week (after the very first opening inventory) since the ending inventory one week becomes the beginning inventory for the next week. For daily audits, beginning and ending inventories must be recorded each week.

Purchases during the intervening audit period. These data are to be filled in by the retailer under the weekly method or the auditor under the daily method.

2. The forms should have as much detail preprinted as possible so that auditors or retailers need to enter very little information. Space must be left for every possible brand and package size as well as two or three "other" brands. The latter make room for unusual cases such as smuggled and public-sector products likely to be found in some outlets. A simple brief survey of a representative cross-section of outlets should identify most of the likely possibilities.
3. Field auditors must be selected and trained. Salespeople from a contraceptive social marketing project should never be used for this purpose as the odds are very high that they will consciously or unconsciously bias the results. Training of field workers should focus on: (1) techniques for recruiting candidate retailers and minimizing retailer dropouts over the course of the study, (2) specific procedures to be followed in collecting data to ensure precision and thoroughness, and (3) the nature and frequency of supervision and validation.
4. On the first visit to a candidate retailer, every effort must be made to ensure complete participation. Stress should be put on the fact that the research will eventually benefit the retailer as well as the country as a whole. Extensive use should be made of any supporting testimonials from government agencies, chambers of commerce, and industry trade groups as a way of legitimizing the project.
5. In conducting the first inventory check, auditors should be certain to look for inventory in every possible location. Stock may be kept in the back room at the retailer's home, on hidden shelves, and so on.
6. In conducting the daily audits, the days for collection should be randomized over the week at each outlet so that the auditors are not always sampling the same day of the week at a given outlet.
7. In conducting the weekly audits, field workers should make surprise visits to each outlet during the first two or three weeks of the study to ensure that recording of purchase information is carried out regularly and not just before the auditor's visit.
8. Auditors should be alert for signs of "fatigue" or sloppiness on the part of retailers as the weeks pass on the project.
9. One-week rest periods for both auditors and retailers should be planned, for example, once a quarter.

10. If the project lasts more than one year, retailers should be gradually replaced on the panel so that none of the "originals" remains after the eighteenth month.
11. A ratio of supervisors to auditors should be established so that the work of each auditor can be validated at least once a month by revisits to a sample of stores he or she is alleged to have audited.

E. Analyzing and Reporting Results to Ensure Managerial Usefulness

If at all possible, the data from each week's audit should be processed on computers owned by the researchers, the contraceptive social marketing project, and/or a cooperating university. Computer operators should be given training prior to initial fieldwork, and the audit forms should be developed with attention to ease of entry of the resulting data into the computer. Computerized checking programs should be designed to inspect the data for each outlet and each auditor to detect inconsistencies, out-of-range numbers, and the like.

Analyses should be preplanned. The project should never be in the position of saying, "Well, we have all these data, what do we do with them now?" Cross-tabulations and more complicated analyses should be sketched out in advance and sample results tables prepared. Managers should be shown the hypothetical results to ensure that the data are both understandable and useful in making managerial decisions.

Comparisons at some point should be made across auditors to ensure that none has odd results which might suggest inattention or fabrication of data.

F. Evaluation of Overall Research Project

Once the project is completed, a systematic review should be undertaken by an objective outsider to evaluate whether the study met three criteria: validity, reliability, and managerial usefulness. In effect, the project should conclude with an "audit of the audit."

The Bangladesh Pretest

An extensive pretest of the audit methodology was carried out in Bangladesh at the end of 1986. Bangladesh was chosen as the research site for this pretest for three reasons. First, the country has in place an experienced contraceptive social marketing program with staff who are familiar with (and value) marketing research. Second, the country itself is very poor and is marked by a highly fragmented retail structure with a great many small retailers and very problematic transportation system. It was felt that if the methodologies worked here, they could be implemented anywhere. Third, the Bangladesh Social Marketing Program (BSMP) expressed an interest to SOMARC in using the audits for its own managerial purposes. Thus, the BSMP was both capable of monitoring the study and eager to use its outcomes.

The study was carried out between November 22, 1986, and January 8, 1987. Data were collected for six weekly periods with a nine-day gap to allow field auditors a rest break. A sample of 56 retail outlets was included in the study with an equal number of pharmacies and nonpharmacies. To permit testing of the procedures in a range of settings, 12 sites were chosen in rural areas, 4 sites in small district towns, 4 sites in Dhaka (the capital city), and 2 in Chittagong (the second largest city). Costs in rural areas and small district towns were minimized by selection of sites that were within one half-day's travel from one another. Pharmacies were selected from BSMP records; nonpharmacies were chosen randomly from the area around the chosen pharmacy.

To test the effectiveness of the two methods, one-half of the selected outlets were audited by the "weekly" method, with retailers providing weekly written records of purchases, and one-half by the "daily" method, with retailers providing daily verbal accounts. Under the weekly methods, 60 taka incentives (approximately US \$2) were paid to retailers for each data collection period. This payment was approximately 40 taka under the daily method. Retailers were also interviewed to obtain background data on themselves and their shops.

Twenty consumer intercept interviews were conducted at one-half of the retail audit sites to provide further insight into any changes observed in retail sales levels. Respondents were individuals seen as purchasing condoms or oral pills in the outlets. Intercept questions elicited the following information:

- Brand and quantity of contraceptives purchased.
- For whom the product was purchased.
- Present and prior contraception method or methods.
- Reasons for any changes in methods.
- Changes in brands and reasons for changes.
- Reasons for current brand preference.
- Length of time using/purchasing brand.
- Changes in outlet and reason for changes.
- Awareness and recall of condom and pill advertising.
- Demographics (age, sex, education, occupation, marital status, household size, number of living children, distance of shop from home, age of spouse).

A. Results

The pilot test was evaluated to determine feasibility, reliability, and future methodology. The pilot study results supported the feasibility of the audit methodology since:

- Every retailer selected for inclusion in the study agreed to participate and to permit physical audits of inventory by field auditors.
- Only 5 out of 56 retailers indicated that, in the future, they would not be willing to keep specific records of sales and purchases if asked and paid a reasonable sum.

- Forty-four retailers (86.3 percent) of those willing to take part in future recordkeeping expressed willingness to participate in a training program as part of the audit.
- There were no problems encountered in conducting the consumer intercepts at each of the 28 outlets.

The reliability of the data was supported with the following evidence:

- There was a close correspondence in reported purchases between the audits and records of sales to the audited outlets maintained by the Social Marketing Program.
- While week-to-week variations in brand sales of oral contraceptives were expected, BSMP's estimated total market shares for all of its brands in the daily and weekly methods were very similar:

	Range	6-Week Average
Weekly Method	37.5 to 53.5%	45.1%
Daily Method	37.4 to 72.9%	49.6%

- Market shares of BSMP's best-selling Raja brand were consistent between methods:

	Range	6-Week Average
Weekly Method	52.5 to 63.4%	57.8%
Daily Method	36.4 to 84.8%	66.9%

- The higher variation in the daily method was expected given that each represented audits of a single day's sales of outlets, whereas the weekly method involved a week's sales.
- BSMP oral pill and Raja brand sales in the audit were very similar to those in the consumer intercepts. In the latter, BSMP shares were 49 percent, and Raja shares, 57.5 percent (compared to 57.8 percent in the weekly method).
- When the results of the audits were compared to the brand shares computed in the 1983 and 1987 CPS studies carried out by Mitra and Associates, the evidence indicates higher sales of BSMP oral pills in the audit and lower brand shares for Raja. However, the audits were not intended to be representative of the entire country and, indeed, were skewed toward urban areas. It is known, for example, that Raja sells less well in urban areas.

Comparisons between the two audit methods indicate the clear superiority of the weekly audit in terms of the reliability of the brand share estimates. The weekly method also has the advantage that it is more likely to "pick up" actual retailer purchases during the audit period, thus providing an added dividend in information on retailers' replenishment practices. However, the weekly method has the serious drawback that it requires the retailers to keep strict accounting of their purchases between auditor visits.

In this pilot study, all the pharmacy retailers had at least Class V (primary-level) education. This was true of only 78.6 percent of the nonpharmacy retailers. As a result, it is the final recommendation of the research agency that, in subsequent tests, a combination of methods be used, the weekly method for pharmacists and the daily method for nonpharmacists.

B. Possible Extensions

Once an auditing methodology is put in place and is running smoothly, the researchers and the social marketers may wish to contemplate certain elaborations on the basic task of tracking retail sales. One possibility is to use the audit methodology to evaluate specific market interventions. Since the retail audits constitute a running record of market performance, managers can observe sales levels and market shares before and after specific marketing activities, for example, introduction of a new

advertising campaign, a new package, or a new point-of-sale display, or to track the effectiveness of a competitor's price change.

Experiments can be designed in which two or three different strategies are tried in different markets and their effects meticulously recorded. Further, if store intercepts are carried out regularly in connection with these audits, it also should be possible to link changes in sales and market share to their causes and to identify those consumers on which the market strategy had the most effect.

Another innovation that may be tried is to use the occasion of the visits to the audited outlets to gather other information from retailers. For example, information can be obtained on retailers' awareness of certain advertising, their knowledge of how contraception works, their knowledge of their customers, their opinions of social marketers and/or major competitors, and so forth.

C. A Warning

While the possibilities for extending the usefulness of retail audits are considerable, they should be introduced in moderation. Extended studies of awareness and opinions should only be conducted on a relatively small subsample of all retailers.

There are significant chances that the interviews will bias the retailers involved who may subsequently push contraceptive products harder, emphasize different methods or brands and otherwise behave "abnormally."

The researcher must always keep in mind that the basic objective of the project is to estimate and track retail sales. Other "fringe benefits" from the research process are attractive, but they should not be allowed to compromise the basic goal.

Appendix: Hypothetical Results From a Retail Audit

A contraceptive social marketing program typically receives brand sales data in the form of shipments from the warehouse or orders taken by salespeople, that is, sales to the trade. Hypothetical data for a low-dose oral contraceptive marketed by a social marketing program (SMP) for three months might appear as follows:

March 20,000 units
April 24,000 units
May 30,000 units

A marketing manager might take this as evidence that the program is doing very well and that the current strategies should be continued or even augmented.

Suppose, however, that a retail audit had been conducted for the same period and yielded data on both sales to final customers and beginning and ending inventory levels for the brand. One possible finding could be that, while sales to the trade were rising, retail sales to consumers were falling as follows:

Table 1
Beginning and Ending Inventories and Purchases
March, April, and May 1988

	March	April	May
Beginning Inventory	10,000	10,000	15,000
Purchases	20,000	24,000	30,000
Available for Sale	30,000	34,000	45,000
Closing Inventory	10,000	15,000	27,000
Retail Sales	20,000	19,000	18,000

Table 1 indicates that the real reason for the rise in sales to the trade is that retailers are increasing their inventories for some reason. Certainly the manager must conclude that the current strategy is not the great success in reaching consumers that was first assumed.

Still, the manager might reason that things are not so bad. Sales are not down that much, only 10 percent. It might be argued that this is certainly no cause for alarm.

However, an advantage of a retail audit is that it provides data on the sales of competing brands. Suppose the audit produces the following data:

Table 2
Beginning and Ending Inventories and Purchases SMP and Competing Brands
March, April, and May 1988

	March	April	May
<i>SMP Brand</i>			
Ending Inventory	10,000	15,000	27,000
Sales	20,000	19,000	18,000
<i>Competitor A</i>			
Ending inventory	25,000	28,000	29,000
Sales	30,000	32,000	33,000
<i>Competitor B</i>			
Ending Inventory	8,000	5,000	4,000
Sales	9,000	13,000	18,000
<i>Total Market</i>			
Ending Inventory	43,000	48,000	60,000
Sales	59,000	64,000	69,000

This table presents the rather disturbing information that:

- ❖ SMP sales are declining in a period when the total market is growing. The market is up almost 17 percent while SMP sales are down 10 percent.
- ❖ Competitors are taking sales from the SMP brand. The SMP brand's market share has fallen from 34 to 26 percent.
- ❖ Competitor B is growing much faster than Competitor A.

Table 2 would suggest that the SMP strategy is probably not meeting expectations.

Further, the data suggest that Competitor B may have discovered some effective technique for boosting sales which the SMP might copy. Interviews with retailers may reveal the cause (e.g., a new point-of-purchase dispenser, an increase in company sales visits to retailers, or perhaps increased detailing to physicians).

None of these market trends would have revealed themselves without audit data. Therefore, it is important to use retail audits to provide an understanding of market trends.