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UNIFORM METHODS FOR THE COLLECTION AND PRESENTATION
OF BASIC CUSTOMER SHOPPING PATTERN DATA

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Agricultural Marketing Service, is now reissued
without change in text, by the Economic Research
Service.

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PREFACE

This report is a part of a broad program of research designed to expand
markets for agricultural products and improve efficiency in merchandising
these products. The report was prepared primarily as a working tool for use
by Department researchers and cooperative Federal-State Extension marketing
agents. Because of widespread interest in the customer flow study approach,
for use in assisting retailers in store layout and merchandise arrangement,
it is now being made available to food retailers and others interested in
this problem.

Lewis F. Norwood, of the Federal Extension Service, Washington, D. C.,
and Malcolm L. Wood and Earl H. Brown, extension marketing agents at Michigan
State University, assisted in the development of these procedures. The
work was conducted under the general supervision of George H. Goldsborough.

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INTRODUCTION

Study of customer shopping patterns in retail food stores, as a direct method of determining the proportion of customers exposed to and purchasing an item at specific store locations, is being used by an increasing number of retail organizations. It is an additional tool in the planning of food store layout and merchandise arrangement.

The procedure for collection and presentation of data on basic customer shopping patterns is provided here as a guide, based upon various approaches that have been used by Federal and State marketing specialists. This type of research is in the development stage and procedures are subject to refinement as experience is gained. Uniformity in the collection of data by public agencies will permit data from different sources to be combined and analyzed with a view toward the confirmation of observed relationships. Establishment of consistent relationships will serve as a basis for stronger recommendations for individual stores. Results can be exchanged and compared on the same basis. Uniformity will also permit an individual researcher to make certain analyses on store-to-store differences.

These recommended procedures are suggested as guidelines only, and the extent to which they are utilized by an individual researcher will vary, depending upon his objectives and upon the time, manpower, and other resources available.

DEFINITIONS

Customer.--One or more persons constituting a shopping unit (representing one bill at checkout). If desired, only certain types of customers may be included in an analysis, such as those with a shopping cart.

Customer pattern.--The recorded path, selected actions, and characteristics recorded for one shopper while moving through the selling area of the store.

Customer flow.--The proportion of shoppers in the sample passing one or more locations, areas, zones, or departments, etc.

1/ Prepared in cooperation with the Federal-State Cooperative Extension Service.

Item.--An item represents each different size or brand of a food or nonfood. A complete merchandise order form would normally contain a list of all items carried by the store. Examples are:

1. Cut wax beans, brand A, 16-ounce can
2. Cut wax beans, brand A, 8-ounce can
3. Cut wax beans, brand B, 16-ounce can
4. French green beans, brand A, 16-ounce can

(Complete item description is not normally recorded on the pattern.)

Commodity 2/.--A commodity is a specified food or nonfood without regard to brands or sizes. A commodity such as canned peas, beans, or corn, may include any number of brands and sizes (items).

Purchase.--A commodity (one or more items)placed in a bascart and not removed prior to checking out. The purchase is recorded on the individual pattern at the point-of-purchase by the "X" mark, and the name of the commodity group is written in if not preprinted on the pattern.

Inspection.--Handling an item but not purchasing it. (Information collected in the past has had limited meaning. It is suggested for use only when this type of information is needed, possibly for produce, etc.)

Passing a location.--When the customer's path passes a display location unobstructed by another display or fixture, the person is given credit for passing the display. (NOTE: Passing in an aisle other than the adjacent aisle is considered as not passing, even though the shopper can visibly inspect across another display.)

Frequency of purchase.--Relates to the number of times an item, commodity, or commodity group is purchased out of the total potential number of times, and is most useful for relative or comparative indications; for example, of all customers entering the store, the proportion that purchase from a selected display; or, of the total number of grocery purchases, the proportion made from a selected display. (Note: There is no relationship to the value or number of units purchased.)

2/ A general limitation must be observed in comparing various commodities or commodity groups, since the number of components (items) varies from commodity to commodity and from commodity group to commodity group.

Shopping entire store.--Customer must move through every aisle except for
short distances where a visible inspection is possible (this may include visual
inspection over a low table.)

PLANNING AND ARRANGEMENTS

General

The number of customer traffic patterns should be taken preferably in the
same proportion as the number of shoppers that patronize the store for repre-
sentative hours of the day, and for different days of the week. As a practical
matter, however, it is not necessary that this be strictly followed in order
to obtain meaningful data. The end-use of the data is a primary controlling
factor.

Replicas of each store's layout, including commodity group locations and
customer information, should be made in sufficient quantity to provide a
separate pattern for each customer followed. The pattern should indicate the
location of the store entrance and exit, and whether the entrance has a turn-
stile.

Before study of a store is started, each commodity group, special display,
end display, etc., should be assigned a location number.

It is very helpful to record changes made of items on end displays and
other special displays, promotions, price reductions, etc., so that allowances
can be made in the analysis of the study if it is conducted over an extended
period. One way of doing this is to enter, on an unused traffic pattern, the
changes that are made, using a new pattern each time changes are made. Another
way is to list the changes, date of changes, and location numbers.

Paths should be recorded in such a manner that observation by the customer
will be avoided. Patterns are discarded for customers who become aware of
being followed.

Any approved sampling technique may be followed; however, time may be
saved by taking the very first customer entering the store after the enumerator
is ready to begin. A different layout sheet should be used for each customer.

It is recommended that not more than two enumerators be in the selling
area at any one time, to avoid customer consciousness of being followed.

Information to be Recorded on "Cover Sheet" for Each Store

A "cover sheet" of general information is needed to provide and classify
information concerning the individual store. The information recorded on
this sheet for each store studied will be useful in:

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(1) Evaluating the information collected, and (2) combining the information with information from similar stores. As much of the information as it is possible to obtain should be provided, although it is assumed that not all of the information will always be available. A recommended "cover sheet" is shown in the appendix.

Information to be Recorded on Customer Patterns

1. Path of customer.--A continuous penciled line ($\longrightarrow$ $\longrightarrow$) with arrows showing the direction of travel, should be drawn on the store layout form to indicate the path taken by the customer with a bascart. A square [   ] indicates where the customer parks the cart and shops some distance from the shopping cart. A broken line (---→ ---→), with arrows showing the direction of travel, indicates the path of the customer when leaving the bascart. An "X" at any location along the path indicates the display from which a purchase was made. The name of the commodity group should be written in on the form next to the "X" if it was not preprinted. An example: X - canned vegetables. Commodities within commodity groups may be indicated in detail if desired for specific purposes. For example, it may be of interest to indicate purchases of apples, oranges, bananas, etc., instead of "fresh fruit." The number of units purchased need not be recorded unless this special tabulation is desired.

2. Date.--The day of week, month, date and year the pattern was taken. Example: For Monday, Jan. 5, 1959, the entry would be M-1-5-59.

3. Time in.--Indicates when the customer entered the store. Example: 9:05 a.m.

4. Time of arrival at checkout.--Indicates time when customer completes shopping, and reaches the checkout line. Example: 9:22 a.m.

5. Time out.--Indicates time when customer leaves the checkout counter. (Same time as for leaving store.) Example: 9:25 a.m.

6. Miscellaneous time records.--Other times may be indicated as desired; for example, to determine time spent in each department.

7. Sex and approximate age:

	No. in party	Approximate age
(a) Male	_____	_____
(b) Female	_____	_____
(c) Couple	_____	_____

Recommended groupings for age are---------------- (a) under 18
(b) 18-30
(c) 31-50
(d) over 50

8. Shopping list.--Did the customer use a shopping list?
Yes_____ No_____. If the customers referred to a list or any type of
reminder that they brought with them into the store, at any time during
the shopping trip, they are credited with using a list.

9. Amount of purchase.--Example: Amount of purchase $10.27. The total
amount charged the customer at the checkout, excluding tax. NOTE: If there
is a State sales tax on food, the rate should be noted on the cover sheet,
or the amount of the tax on total order should be shown on the pattern
separately.

10. Remarks.--Any observations that may contribute to analyses and
recommendations. Examples: Customer knocked down special displays, cashed
checks, talked to store personnel, encountered congested areas, etc.

11. Initials of enumerator.--Initials of the enumerator making the
pattern.

Tabulation

1. Assign pattern numbers.--For each store: All customer patterns
that are considered valid for analysis should be numbered in the upper
right hand corner, running consecutively, by date, in the same order taken,
beginning with one. If, for any reason, patterns are not numbered in this
manner, a note should be made to that effect.

2. Minimum computations.--Tally by commodity group, special display,
end display, etc., (that is, location numbers) the number of customers
purchasing, passing but not purchasing, and not passing. When all patterns
are tallied, compute the percentage for each location that each activity
is of the total number of customers studied.

REPORTS AND RECOMMENDATIONS

1. Include on customer flow diagram for each store:

(a) Name, number (if any), and location of store, or a code
number.

(b) Inclusive dates of study and number of patterns recorded.

(c) Label and number of each commodity group, special display,
end display.

(d) A bar chart at each location number, as follows:

   (1) All bars should be of equal length and represent 100 percent of customers studied. Subdivide the bar into segments, from left to right, representing the proportion of all shoppers studied falling into each of the following categories for each location used: (a) Percentage purchasing, (b) percentage passing but not purchasing, and (c) percentage not passing.

   (2) The activities of the customers should be drawn to the nearest 5 percent in the bar chart, considering the bar as divisible into 20 equal parts, each representing 5 percent. The actual percentages can be placed over each segment for clarity.

  (e) <u>Customer activity key</u>:

              - Purchasing

              - Passing but not purchasing

              - Not passing

 2. <u>Data to be tabulated for each store</u> <u>3</u>/

  (a) For each commodity group, the proportion of all customers--

   (1) Purchasing
   (2) Passing but not purchasing
   (3) Not passing

  (b) Distribution of sample by--

   (1) Approximate age
   (2) Sex
   (3) Number in shopping party
   (4) Those using and not using a shopping list

  (c) Average and distribution of time customer spends in checking out.

_____

  <u>3</u>/ Under subheadings d through i, the basic information to be tabulated for an individual store or group of stores should include only the "all customers" heading under each, unless a large enough sample has been taken to be representative.

(d) Average and distribution of time customer spends shopping, for--

    (1) All customers
    (2) Classifications by:

        ·a. Sex
        b. Approximate age
        c. Use of a shopping list

(e) Average and distribution of sales (dollar value), for--

    (1) All customers
    (2) Classifications by:

        a. Sex
        b. Approximate age
        c. Use of a shopping list

(f) Percentage of customers using a shopping list, for--

    (1) All customers
    (2) Classifications by:

        a. Sex
        b. Approximate age

(g) Average and distribution of customers parking carts, for--

    (1) All customers
    (2) Classification by sex

(h) Percentage of customers shopping entire store, for--

    (1) All customers
    (2) Classifications by:

        a. Sex
        b. Approximate age
        c. Use of a shopping list

(i) Comparison between customers shopping entire store and all other customers, by --

    (1) Percentage using a shopping list
    (2) Average dollar value of order
    (3) Average time in store

STANDARD COVER SHEET FOR EACH STORE

1. Project leader_____ Office address_____

2. Dates of observations: From _____ To_____

3. Number of patterns used in analysis _____

4. How was sample chosen? _____

   _____

   _____

5. Store information:

   (a) Name_____ No._____ Address_____

       City _____ State _____

   (b) Type: Corporate group_____Co-op or voluntary group_____

              Independent store_____

   (c) No. of checkouts_____

   (d) Year when opened _____

   (e) Year when last remodeled_____ Extent_____

   (f) Sq. ft. of selling space_____

   (g) Mean dollar volume: Weekly $_____ Yearly $_____

   (h) Sales tax: Yes_____ No_____How much?_____ Percent_____

   (i) Customer count during week of study_____

   (j) Daily customer count during study:

                       Monday_____Thursday_____

                       Tuesday_____Friday_____

                       Wednesday_____ Saturday_____

                                Sunday _____

   (k) Estimated distance of closest one or two competitors and type of
       stores_____

(l) Estimated percentage of shoppers using cars_____percent

Walking_____percent;   public transportation_____percent

(m) Availability of customer parking: Yes_____No_____

Number of parking places_____Street parking? Yes_____ No____

(n) Any peculiarities of store?_____

_____

(o) Any comments about store, area, or customers_____

Example: Predominate nationalities, religion, type of jobs held by

customers, type of neighborhood, etc. _____

_____

_____

_____

_____

INFORMATION FOR EACH PATTERN
(Reproduce form on front or back of each pattern)

1. Store _____

2. Date _____

3. Time:

      Leave _____

      Enter _____

      Total _____

      Leave checkout _____

      Enter checkout _____

      Total checkout _____

4. Use of shopping cart: Yes _____   No _____

5. Sex and approximate age:

	No. in party	Approximate ages
Male	_____	_____
Female	_____	_____
Couple	_____	_____

      Age groups --------------------------------- a. under 18
                                                                                 b. 18-30
                                                                                   c. 31-50
                                                                                    d. Over 50

6. Use of shopping list: Yes _____   No _____

7. Value of purchases $ _____

8. Remarks: _____

_____

9. Initials _____