
UNIT 17 PRETEST MARKETING AND TEST MARKETING

Objectives

After reading this unit you should be able to:

- discuss pretest marketing methods;
- explain ASSESSOR model; and
- describe marketing methods

Structure

- 17.1 Introduction
- 17.2 Assessor Model
- 17.3 Preference Model
- 17.4 Trial Repeat Model
- 17.5 Test Marketing
- 17.6 Test Marketing or No Test Marketing
- 17.7 Issues in Test Marketing
- 17.8 Summary
- 17.9 Self-Assessment Questions
- 17.10 Further Readings

17.1 INTRODUCTION

Test marketing is the penultimate step in new product development and the last opportunity to safeguard against the introduction of 'wrong' new product in the market. Test marketing is an expensive method not only in terms of money, time and other resources, but also the exposure to competition. Hence, alternative methods are suggested before test marketing, like in-house use test, control location or simulated test marketing, mini-market testing, and regional rollouts.

In the pretest market methods the attempt is to simulate the key factors of an actual market condition of a new product introduction to act upon the potential consumer, however in a controlled condition. This helps in better understanding of the impact of key factors on consumption and simultaneously help in reduction in time, space and other resources for testing the product. The main factors suggested by Yankelovich, Skelly and White are.

- Creation of awareness among the potential consumer uses various communication mechanisms.
- Providing genuine opportunity to the consumer to buy with some interest.
- Creating a genuine interest for trying the product.
- Mechanism for collecting feedback immediately on factors either encouraging or discouraging use of the product.
- The products needs to be put on to regular in-house use test, without the knowledge that they are being samples in a test.
- Repeat purchase measure.
- Frequency of use measure.
- Benchmarks for decision making.

Pretest Marketing (PTM) has to be designed in such a way it reflects the current market competition situation, Physical product including packaging advertisement copy, price, and the promotion budget go as into PTM, hence some advertisement is necessary. Number of developed over a period of time.



Pretest market testing would be conducted when the product with packaging is made available in sufficient quantities, advertising copy is ready, and the decision-makers are in a position to decide the marketing mix elements and a resource budget. The resource approach would help in estimating the following:

- Forecast the long-term market share of the product and sales volume over the decision period.
- Estimate the draw (sales of new product drawn from competitor's products) and cannibalization (sales achieved at the expense of company's own products).

Provided diagnostic information to help in improving the product, advertisement copy and other relevant launch materials like packaging etc.

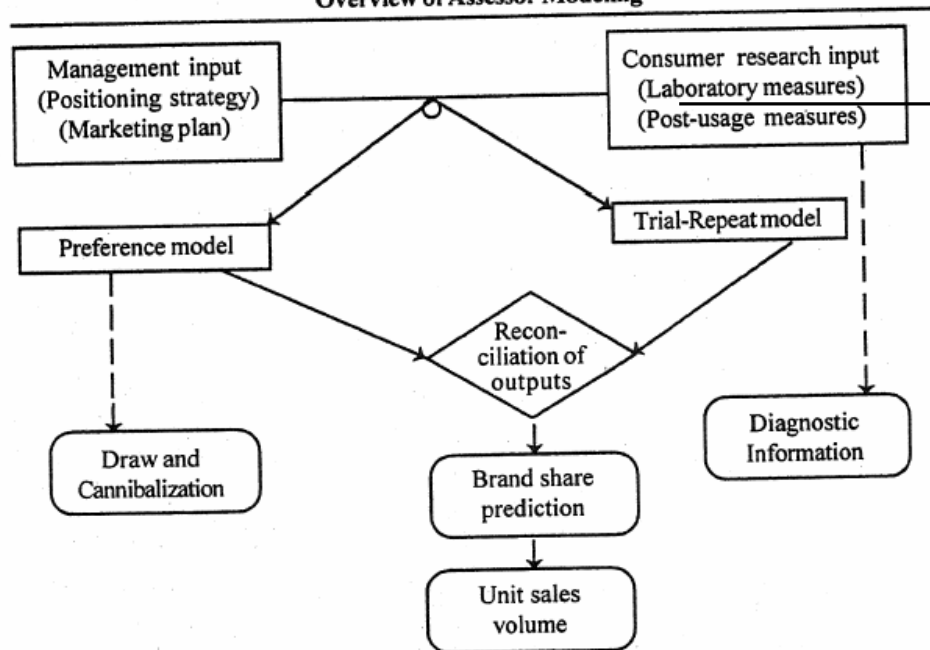
Can provide approximate estimates of market share for different marketing strategies.

17.2 ASSESSOR MODEL

The basic procedure of ASSESSOR approach is presented in the Exhibit 17.1 ASSESSOR estimates the market share using two models, first a preference model and the second, trial repeat mode. If both the models predict similar forecasts, it increases the confidence of the decision maker, if it generates divergent forecasts it would caution the decision maker, to look into the diagnostic information much more closely and seriously.

Exhibit 17.1

Overview of Assessor Modeling



Design	Procedure	Measurement
O ₁	Personal interview for respondent screening	Criteria for target group identification
O ₂	Premeasurement for established brands (self-administered questionnaire)	Composition of 'relevant set' of established brands, attribute weights and ratings, and preferences.
X ₂	Advertisement exposure of established and new brands	
[O ₃]	Measurement of reactions to the advertisements (Self-administered questionnaire)	Optional data can be collected about the believability and likability



X ₂	Shopping in the simulated market Both new and established brands are exposed to the respondents	
O ₄	Purchase Opportunity (Choices are recorded Brand(s) purchased by the research personnel)	
X ₁	Usage of products	
O ₅	Post-usage measures (Telephone interviews)	Usage rate of new brand, usage satisfaction, repeat purchase propensity Attribute ratings for relevant set including the new brand.

Source: Silk and Urban 1978 P174.

The data collection is carried out in two phases. The first phase is simulated market based data and the second phase of data collection is conducted after the product usage. The simulated test market data collection is conducted in a testing facility normally a room in the proximity of a shopping center.

The shoppers were screened based on parameters to select respondents only from the target segment. About 300-350 respondents were recruited for study. The respondents were asked to fill in the self-administered questionnaire regarding their awareness about the brands of the product in question and those brands they would consider buying in the category. What is referred to as 'consideration set'. Further, the brands they have purchased in the category in the recent past, and their preferences for the major competing brands with in the consideration set.

The respondents are exposed to 5-6 commercials, including the product in test. To avoid positional biases, the commercials are rotated for different set of respondents. Participants are provided a token currency for participating, they are free to use the currency in the way they would like to spend.

Respondents are sent to the simulated store, wherein the product in the test category including the new product with representative prices is displayed on the shelf This procedure is carried out to the maximum extent similar to the consumer's response for the new product.

After the shopping, respondents are interrupted to find out their purchases. Those who do not purchase the new product receive a quality of new product as free sample after all buying transactions are over.

The second phase of data collection, after product usage may be after 2-4 weeks. Participants are offered a chance to repurchase the new product and they are requested to respond to the same set of questions they have already exposed to during the laboratory testing. The information collected in these two phases would provide data for preference, and trial-repeat models.

17.3 PREFERENCE MODEL

In this model consumer's preference measured during the data collection are used (Observations O_Z in Exhibit).and transformed into choice probabilities. These choice probabilities would indicate that the respondents will purchase each of the products in their consideration set.

$$P_{ij} = \frac{S_{ij}^b}{\sum_{k \in C_i} S_{ik}^b}$$

Where

S_{ij} = ith participant's stated preference for product 'j' (measured in a suitable sale):



- P_{ij} = Probability that participant I choosing the brand/product j for purchase.
- P_{ij} = 0; if the participant is consideration set does not contain the product j. Hence, the sum of the denominator is overall the products in the ith participants consideration set.
- C_i = i^{th} participants consideration set.
- b = Parameter estimated from the data indicating the rate at which the preference of the products, are transformed into purchase probabilities.

If the usage rates differ significantly across respondents, P_{ij} is weighted based on the usage index W_i to convert the probability of purchase into market shares for products using the equation presented above.

As mentioned earlier parameter b is estimated using the data that collected during the laboratory test. It is an index of rate at which the preferences of the products converted into purchase probabilities.

If $b > 1$ then the brands with high preference will be having higher purchase probabilities. It would be disproportionately higher than the low-preference brands.

Maximum likelihood estimation procedure is used to estimate the value of b . The data used for estimation is from the observations made during the laboratory study before the participants are exposed to new product. The estimation procedure maximizes the likelihood of recovering the actual product/brand choices the respondents indicated in their most recent purchase occasion (2 in the Exhibit).

The task is to estimate the purchase probability to the new product, to do that the preferences are measured for both existing and new products after the product usage. (02 in Exhibit). As the participants are aware of the new product and seen the sample also we can assume that the new product will be in their consideration set of all the participants. Then the equation would be;

$$P_{ij} = \frac{S_{ij}^b}{S_{i \text{ new}}^b + \sum_{k \in C_i} S_{ik}^b}$$

Where

S_{ij} = Preference rating of i^{th} respondent of J^{th} product after usage.

new = Denotes the new product.

P_{ij} = Purchase probability that the i^{th} respondent will purchase the j^{th} product after usage.

$P'_{i \text{ new}}$ = Refers to the purchase probability of the new product that the i^{th} consumer will buy the new product after usage.

b = The parameter estimated from the previous equation.

Market Shares can be obtained by summarizing the purchase probabilities for each product.

$$MS'_{\text{new}} = \sum_i \frac{P_{ij}}{N}$$

MS'_j = Market share of the product j .

P_{ij} = Purchase probability of j^{th} product for i^{th} consumer.

N = Total number of participants in the study.

The market share for the new product can be obtained by;

$$MS'_{\text{new}} = \sum_i \frac{P'_{ij}}{N}$$

However, this estimate would be optimistic because it is assumed that every one in the



respondent will include the new product in their consideration set. That means every body in the marketplace who includes the new product in their consideration set. To remove this bias, the market shares can be weighted using the proportion of respondents who have included the new product in their consideration set,

$$MS'_{new} = W_{new} \sum_i \frac{P'_{i,new}}{N}$$

W_{new} : The percentage of respondents who had the new product in their consideration set. Similarly, the weighted market shares can be obtained for all the products. Using the pre trial and post trial market shares it is possible to estimate the cannibalization and draw. To do this we have to participation the respondents into two groups, partition with the new product in their consideration set (W_{new}) and others ($1-W_{new}$). Following equations could be used to estimate the sources of market share for the new product.

$$MS'_j = W_{new} \left(i \frac{S'_{ij}}{N} + (1-W_{new}) \sum_i \frac{S'_{ij}}{N} \right)$$

MS'_j = Market share of the product j after the new product is introduced.

Guarantee assumption that the market has not expanded between the pre and post think. The extent the new product draws from the projects can be written as:

$$D_j = MS_i - MS'_j$$

The sum of all draws across the existing products is equal to the market share for the new product.

$$MS'_{new} = \sum_{j \in J} D_j$$

The percentage of new product sales drawn from the company's brands/products is considered to be cannibalization. The proportion of sales obtained at the expense of competitors products/brands is called draws or incremental sales. A new product with higher incremental sales would be good. However, in practice there may be new products with higher cannibalization. In those cases the decision-maker has to analyse the implications of new product on total financial contributions to the firm. A numerical example of preference model is presented Exhibit 17.2. (Adapted from Lilien and Rangaswamy 1998).

Exhibit 17.2

Example of preference model used in ASSESSOR

Preference ratings									
Con-sumer	Pre-use (S_{ij})				Post-use (S'_{ij})				
	Br ₁	Br ₂	Br ₃	Br ₄	Br ₁	Br ₂	Br ₃	Br ₄	New _{Br}
1	0.1	0.0	4.9	3.7	0.1	0.0	2.6	1.7	0.2.
2	1.5	0.7	3.0	0.0	1.6	0.6	0.6	0.0	3.1
3	2.5	2.9	0.0	0.0	2.3	1.4	0.0	0.0	2.3
4	3.1	3.4	0.0	0.0	3.3	3.4	0.0	0.0	0.7
5	0.0	1.3	0.0	0.0	0.0	1.2	0.0	0.0	0.0
6	4.1	0.0	0.0	0.0	4.3	0.0	0.0	0.0	2.1
7	0.4	2.1	0.0	2.9	0.4	2.1	0.0	1.6	0.1
8	0.6	0.2	0.0	0.0	0.6	2.2	0.0	0.0	5.0
9	4.8	2.4	0.0	0.0	5.0	2.2	0.0	0.0	0.3
10	0.7	0.0	4.9	0.0	0.7	0.0	3.4	0.0	0.9



Choice probabilities									
Con- sumer	Pre-use (P _{ij})				Post-use (P' _{ij})				
	Br ₁	Br ₂	Br ₃	Br ₄	Br ₁	Br ₂	Br ₃	Br ₄	New Br
1	0.00	0.00	0.63	0.37	0.00	0.0	0.69	0.31	0.00
2	0.20	0.05	0.75	0.00	0.21	0.03	0.03	0.00	0.73
3	0.43	0.57	0.00	0.00	0.42	0.16	0.00	0.00	0.42
4	0.46	0.54	0.00	0.00	0.47	0.50	0.00	0.00	0.03
5	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
6	1.00	0.00	0.00	0.00	0.80	0.00	0.00	0.00	0.20
7	0.01	0.35	0.00	0.64	0.03	0.61	0.00	0.36	0.00
8	0.89	0.11	0.00	0.00	0.02	0.00	0.00	0.00	0.98
9	0.79	0.21	0.00	0.00	0.82	0.18	0.00	0.00	0.00
10	0.02	0.00	0.98	0.00	0.04	0.00	0.89	0.00	0.07
UMS	38.0	28.3	23.6	10.1	28.1	24.8	16.1	6.7	24.3
DR					9.9	3.5	7.5	3.4	
WD					2.0	0.7	1.5	0.7	

Notes : B 1-B4 : Brands, New Br: New Brand. UMS: Unweighted market share (%), DR: Draw of new product from other brands, WD: Draw of new product weighted by W_{new} in percentage.

There are four brands and ten consumers. The preference ratings are converted to choice probabilities using the parameter 1.9 (b). Weight, w_{new} is used to calculate the draw. The weights are the proportion of consumers having the new product in their consideration set, to 0.2.

17.4 TRIAL REPEAT MODEL

ASSESSOR uses trial-repeat model for estimating long-run market share. Using two approaches would help in increase in confidence of the estimates. Following standard formula is used to estimate the long-run market share of the new product using trial and repeat measures generated during the laboratory and post usage data collection.,

$$MS_{new} = t * r * u$$

Where

- t = Trial rate: The cumulative proportion of consumers in the target market that eventually tries the new product.
- r = Repeat rate: The proportion of consumers who are trying the new product, and who will become long run repeat purchases.
- u = Usage rate: Trial rate is estimated using the formula:

$$t = \frac{F * K * D + C * U - (F * K * D) * (C * U)}{C * U}$$
- Where
- F * K * D = Those consumers who try.
- C * U = Those consumers who have been given samples.
- (FKD) (CU) This term is an adjustment for double counting.
- F = Long-term probability of trial when there is total awareness and unlimited distribution of the new product to the target segment.
The proportion of consumers who purchased the new product in laboratory store.
- K = Long-run probability of awareness that is expected. It is in the formula based on the management judgement.



- D = Long-run probability that the new product will be available to the target segment. The estimates are mostly desired from the proportion of outlets that carry the product. It is also incorporated based on the management judgement.
- C = The probability that the consumer in the target segment receives the new product sample. Management based on the product launch plan also determines this.
- U = The probability that the consumers who receives a sample will use it. This is also an estimate based on part usage rates and management judgement.

In summary FKD, denotes the proportion of consumers who will try the new product if they are aware about the new product and if the product is available to them in their convenient shopping place.

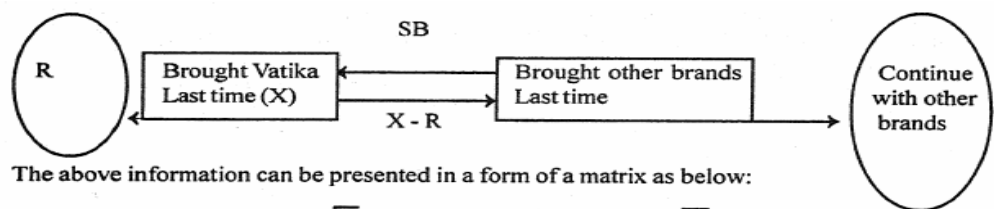
The term also refers to the proportion of consumers who will try if the product is provided as sample. The third term (FKD) (CU), is included to adjust the double counting for those who both purchase the new product and receive sample.

The long-term repeat rate is estimated in ASSESSOR by the following formula:

$$r = \frac{P_{o\ new}}{1 - P_{new\ new} + P_{o\ new}}$$

The estimate of repeat rate is obtained from the information collected during the post usage survey (Phase II data collection, O₅ in Exhibit).

The formula is derived using Markov chain. At any given time period t , the purchasers of the new product could be divided into two groups; For Example the new brand of shampoo 'Vatika'. Then the two groups would be; (1) those who bought Vatika last time and those who did not buy. The following diagram would illustrate what would happen at the time period $t+1$. Among the consumers who bought Vatika at time t (X), some proportion of consumers will buy Vatika in $t+1$, their next purchase occasion (R), the remaining people might have purchased other brands (X-R). In the same way those consumers who didn't buy Vatika in the time period t , also switchover to Vatika in the time period $t+1$ (SB). The remaining group will continue to purchase the competing brands.



The above information can be presented in a form of a matrix as below:

$$t \quad \begin{bmatrix} P_{vv} & P_{vo} \\ P_{ov} & P_{oo} \end{bmatrix} \quad t+1$$

Where

P_{vv} = Refers to the probability that the consumer who purchased Vatika (new product) at the time period t , would buy Vatika in the second purchase at the time period $t+1$.

P_{ov} = Refers to the probability that the consumers who purchased other than Vatika in time period t , would switch to Vatika in their second purchase at time period $t+1$.

$P_{vo} = 1 - P_{vv}$

$P_{oo} = 1 - P_{ov}$

This matrix is called switching matrix in Markov process. Our interest is if the



purchasing pattern behaves as presented in the matrix period after period indefinitely, what proportion of the consumers would buy Vatika over a long periods of time? In other words what would be the equilibrium repeat rate for Vatika. This can be estimated by the formula presented earlier.

$$r = \frac{P_{ov}}{1 - P_{VV} + P_{ov}}$$

or in general

$$r = \frac{P_{o\ new}}{1 - P_{\ new\ new} + P_{o\ new}}$$

The trial-repeat model provides an independent estimate of market share, which is used, for comparison. When both the estimates are converging the confidence on the estimates are high. The pretest market models are particularly useful in forecasting new product sales in a well-defined category. Further, the preference model in ASSESSOR generates diagnostic information that could provide very good understanding of the product-market. The preference model would be more accurate in well-defined product categories for which consumers learn about the new products quickly and preference stability quickly and usage rate of the product does not change because of the new product.

Activity I

Enumerate the benefits the firm could derive from pre-testing the new product.

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17.5 TEST MARKETING

Test marketing is primarily used for frequently purchased fast moving consumer goods. However, the general principles can be applied easily to industrial goods and consumer durable goods also. The objectives of test marketing are generally four folds.

They are:

- 1). To obtain the best estimates of sales volume and market share of the new product.
- 2). Marketing mix elements like distributor support, advertisement response, and some sales promotion efforts can be evaluated only in the test marketing.
- 3). Only opportunity to evaluate the entire marketing strategy.
- 4). It is like a dress rehearsal, time to streamline manufacturing, selling, and delivering the product to consumers.

Before getting on to test marketing it is important to decide whether or not to test market. The trade-off of required investment, the risk of taking the product directly to the market. The risks could be over estimation of the company's ability to manufacture, distribute and sell the new product, company's reputation and morale of employees. The several important factors for consideration are opportunity cost of delaying launch. The third issue is the reaction of competition and company's exposure to competition. When P&G launched ' Ariel Compact', a new detergent product in the market, HLL quickly learnt and. launched "Surf Ultra".



However, it is important to note that the purpose of test marketing is not to learn whether consumers will buy and use the product or the interest will dwindle quickly. The answers for these questions should have been obtained in concept test, product test or pretest marketing, i.e., well in advance before putting the product for test marketing.

17.6 VEST MARKETING OR NO TEST MARKETING

An examination of both the advantages as well as disadvantages can help us answer this dilemma.

The basic reason why test marketing is flourishing is the belief that results are obtained under realistic conditions and can, therefore, be generalized. There is also a belief that test marketing is the only tool that comes close to predicting ROI.

The most notable advantages of test marketing are:

- a) marketers can pretest alternative marketing strategies,
- b) the firm may get valuable clues to various market segments of the new product and its distribution management,
- c) besides identifying sales potential of a new product, it highlights the sources of sales,
- d) it brings out all the unsuspected product faults, difficulties and problems in time for them to be taken care of, and
- e) it exposes the ideas and concepts of marketing planners and developers to the reality.

At the same time, the most obvious disadvantages of test marketing are ;

- a) it is time consuming and delays the start
- b) it is costly and the value of additional information may be nil,
- c) competitors may deliberately disrupt and tangle the results,
- d) it may be exploited by the competition to strengthen their products and position, and
- e) if not done properly or rushed through, the results may prove to be suicidal.

However, not all products are suitable for test marketing. The nature of product is also a factor in testing decision. Modifications, for example, don't require test marketing. Also, the products with expected low sales volume.

In India, test marketing may be used more frequently for consumer products than for industrial ones, as most of the industrial products are highly customized and the firms can obtain new-product feedback by user-to-user sampling - a more personalized and informal way.

The decision to test market or not also depends upon the degree of perceived risk and estimates of comparative costs. As a generalization, test marketing is desirable, when risk is high and costs of a new product introduction are large. When opposite conditions prevail, there is less reason for test market*. For example, industries such as autos and steel have high investment needs regardless of production volume, then, what is to be gained from test marketing? Test marketing is really useful when it can help defer substantial investments until sales can be forecast with greater assurance.

That is to say, the most compelling reason for test marketing should be risk reduction. But, not just the monetary risk A national failure is very much capable, of ruining the channel relationships, lowering the morale of the sales force; and reducing the confidence of investors.

At the same time, test marketing should also identify ways to improve profit. A carefully structured test marketing can identify how to improve product, price placement and promotion. The channel relationships and production facilities can be put to acid test. Things can go wrong, but test marketing helps them to be corrected before full-scale launch.

Cadbury , ND, "When,Where and How to Test Market " , Harvard Business Review(May-june , 1975),pp.96-98



Activity 2

State advantages and disadvantages of test marketing the following products:

i) Liquid shoe polish

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ii) Petro card

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iii) Simputer (Low Priced Computer)

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iv) New Brand of Home Furniture

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17.7 ISSUES IN BEST MARKETING

Designing Test Market

Certain important issues have to be made clear before starting test marketing operations. The national market place should be ready, final packaging and advertising should be ready. The national advertising expenditure has to be converted in to GPS, correspondence between advertising expenditure in test marketing and national, GRP should be specified. Importantly, a minimum bench mark sales has to be specified for national roll out or withdraw of the new product.

The next important question is in which markets the test should be conducted. To have a good predictability, normally 3-5 percentage of the households is considered reasonable. However, adequate care has to be taken to select sample markets to have fair representation of the diverse markets. Especially the key variables, like cultural composition, household income distribution, demographic profile should be identified earlier and representative samples have to be chosen for test marketing.

Duration of Test Marketing

Normally test markets are run for ten to twelve months. An important consideration in deciding the duration of test market is length of purchase cycle. Products with longer purchase cycles, like body deodorants, or perfumes need for a longer test market and shorter purchase cycles products like, shampoo sachet, toothpaste requires only shorter duration test markets. On an average the test markets are run to monitor 5-6 cycles of repurchase. However, products with strong seasonal behaviour should be tested through the entire season. For example, soft drinks, certain garments exhibit strong seasonal behaviour. As mentioned earlier preferably whatever variables can be tested earlier. However, certain variables like sales promotion, trade promotion, price, advertising impact and expenditure can be better tested in the test markets.

Design of Experiments

Test markets are to a large extent a controlled experiment. Hence, careful consideration has to be given for designing the experiment. For evaluating different marketing strategies we



have to alter the marketing variables to different levels at controlled condition and observe the impact on the sales. Various experimental designs like Completely Randomized Block Design, Latin Square Design, or Greco-Latin Square Design can be used.

Data Collection from the Test Markets

Several methods are used to collect data from the test markets, such as store audits, consumer panels, and consumer surveys.

Store Audits

The test marketers have the information of shipments to the retailers. The off takes from the retail outlets are surveyed. During the initial phase of the test marketing the early off-takes from the company will go to fill the distribution channels. Hence, there will be a delay in observing consumer response in the early phase. Apart from the sales data, additional information about the competitive products, prices and dealer relationships, any competitive action etc. also gathered. In India some market research organizations like ORG MARC conducts regular retail audit. This information also provides valuable data for the decision-making.

Consumer Survey

Store audit provides only the sales data, it does not contain information like trial and repeat purchases. For estimating the steady state market share, we need the proportion of trial and repeat purchases. The best way to obtain this information in test market is direct consumer survey. Simultaneously, additional information like brand awareness, other brands purchased, demographic and psychographic variables are also collected, and this information would be useful for decision making.

Diary Panel

A group of consumers were selected and they record everything purchased in the product category during the period of test marketing. They record several prices of information, like, price, quantity purchase, size, favour, brand, SKU, name of the outlet, date of purchase entry and so on. The company gathers the recorded information periodically. However, it is important to consider the learning effects that would take place among the panel members. As the consumers start accounting their purchases seriously, they may start behaving differently.

Analyzing Test Marketing Data

As mentioned in the beginning of this unit, the main objective is to estimate the market share and sales. One way of getting market share estimate is through direct calculation from survey and panel data. Estimating steady state sales would require more time. If the trial and repeat rates are available, long-run market shares can be estimated. As in the case of concept testing and product testing, the diagnostic information would help in refining the marketing strategies employed in the experiment.

Activity 2

Test marketing is time consuming and expensive. What are the appropriate conditions for a 'go' decision to test market.

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17.8 SUMMARY

Test marketing is expensive and time-consuming process. Quantitative model based new product evaluation models have been developed to judge the product acceptance and suggest modifications before test marketing. There are several models, like ASSESSOR, BASES, NEWS, TRACKER etc. for this purpose. This group of models is based on simulated marketing experiments. These models are called pretest-marketing models. Important new product decision taken based on PTM is whether to go to market directly, or through test markets. The second set of decisions is related to product modifications based on the diagnostic information generated during the simulated test markets. However, certain variables can not be evaluated in PTM also, like distribution response, and sales promotion impact etc. To evaluate these variables invariably marketers use test markets.

17.9 SELF-ASSESSMENT QUESTIONS

- 1). Discuss and bring out the essence from the models of pretest marketing available to the Indian marketer.
- 2). Distinguish the terms pretest marketing and test marketing. When do you think these concepts are relevant to the marketer.
- 3). Does your company test market? Why? What has been its experiences? List the products/services test marketed and major findings therein.
- 4). What is the rationale for test marketing. Discuss situations where you think test marketing is not desirable.

17.10 FURTHER READINGS

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