

Role of Computers in H.R.D. for Marketing

(A study with particular reference to Marketing Decision Making)

By

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Computers, can play an important role in the proper and efficient utilisation of Human Resources for Marketing Decision-making. An attempt has been made through this paper to identify the areas of Marketing Decision-making in which computers can be used.

Making decisions is one of the most important functions of any manager. The decisions that a manager makes, forms a part of a cyclical procedure, in the following order :

- (i) Objectives,
- (ii) Management Decisions,
- (iii) Action,
- (iv) Results, and
- (v) Results Evaluated, to be followed in the same order again.

A manager makes a decision, taking into account the objectives that he is trying to achieve. As a result of his decisions, some action is taken which affects the works that he controls. Thereafter, the date indicating the effect of his decision is collected, and also

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evaluated against the objectives that were to be achieved. Having assessed the effectiveness of his previous decision, the manager makes a new decision and the cycle is repeated.

We can take the advantage of computer's speed, accuracy and "Memory" capacity in making marketing decisions. All possible alternatives are considered, in case the computer is used for decision-making.

Decisions have now become routine matters under computer control. Exceptional matters, requiring intuition and experience, are dealt with by managers.

Use of Computer in Inventory Control :-

The basic questions associated with the control of an inventory are how much to order and when? If the demand and the time taken for an order of stock to be delivered are constant, the time to re-order will be at such a point that the order is delivered when existing stocks are exhausted.

In practice, neither demand nor the time taken for an order of stock to be delivered will ever be absolutely constant. The revision or change of the re-order point involves a large amount of calculation, which is not easy manually. If a computer is being used, the frequent revisions of the re-order points would not be difficult, at all. The re-order points can be calculated easily, taking into account current trends in demand and estimates of the demand.

The Inventory Control under Computer System includes two principal parts : a series of analytical routines to establish from historical data the characteristics of stock items and to determine suitable control parameters; and a series of updating and forecasting routine to establish the current stock position, indicate which items needed replenishing, and forecast the future demand from current demand figures. The use of a computer would render most of these processes automatic; routine adjustments and updating would be done as a matter of course, and only exceptional conditions would be placed before the management.

Use of Computer in Sales Accounting :

The computer can be used for :

- (a) Invoicing.
- (b) Sales Ledger, and
- (c) Sales Analysis.

(a) *Invoicing* : If the inventory of a company is controlled by means of computer system, incoming orders will usually be processed against the stock master file, first of all in

order to update the inventory. Extra items of information needed for invoices will be copied from the stock master file, so that the orders will be expanded before being written to magnetic tape or any other medium during the inventory updating run. When the original orders have been expanded in this way and written to tape, they will be sorted by computer to customer accounts number sequence ready invoicing.

The magnetic tape containing the customer accounts file will then be loaded on to a tape deck, and processed against the expanded orders to make available the information necessary for the invoices to be printed out. The customer accounts file will contain all relevant particulars of the customer indicating the category in which he is classed, and discounts or special terms to which he is entitled. The information will be used in the calculation of debits to his account on the invoice. The details of incoming cash transactions may have been included on the original orders tape; if not, they can be added in a separate computer run before the Sales Ledger Master Tape is updated.

(b) *Sales Ledger* : The Sales Ledger Run can be set up by loading the Sales Ledger Master File. The Master File holds details of all invoices sent out during a particular period, alongwith the details of items outstanding from earlier identical periods.

The purpose of the Daily Sales Ledger Run is to copy the day's invoices to the Sales Ledger Master File and to delete transactions on the Master File that are accounted for by the day's cash transactions. It frequently happens that payments and debited items can not be matched, in which case the relevant details will be printed out by the computer so that appropriate action can be taken. These transactions be included in a following day's run when they have been properly matched. At the end of each period, the Sales Ledger Master File will be processed against the Customer Accounts File in order to produce periodical statements, notices of payments over due, and any other such documentation that may be required. The transactions which have been settled, will be written to tape to be used for audit purposes, and Sales Ledger Master File will be left only with incompleated transactions to be carried forward to the next period.

(c) *Sales Analysis* : The Sales Analysis Tape producing the invoicing run is built up day by day until the end of the period. The data on this tape can then be sorted by the computer to a variety of sequences and used in conjunction with other tapes to produce the desired analysis.

For instance, the Sales Analysis Tape could first be sorted to type of product within salesman number within sales area sequence. The tape then could be processed against a Sales Master File, holding historical Sales Data to produce various print-outs. One print-out might show a comparison between the current period's sales figures and the corresponding figures for the previous period and the same period of the previous years. A comparison

with the expected demand for the period could also be made, and both sets of data could then be used in the sales forecasting procedure, required for the adaptive inventory control.

Analysis by computer and type of trade compared with similar historical data might indicate trends in specific areas of the market, and suggest adjustments to the apportionment and distribution of the sales effort.

Use of Computer in Marketing Research :

The computers can be used widely for conducting Marketing Research. The Computers can help in getting the best possible answers to certain major questions of business namely what to produce or handle, when and how much to produce, when to place the product in the market, when to direct sales efforts, and what price to charge.

All data and information concerning the marketing research should first be collected; and thereafter, it can be punched into cards and transferred on to magnetic tapes. For example, the two tapes, one holding the details of each customer or potential customer, and the other holding details of usage of the product and from whom it can be obtained, can now be sorted and merged to form the market file.

After establishing a market file, a number of analyses can be conducted. Analyses by area and type of the customer will reveal the sections of the market where the usage of the product has not been fully exploited. It will also identify the sections of the market, the company is the strongest and the weakest.

Thus, management can obtain information on how best to distribute the sales efforts according to the type of customer and geographical location. The market file will also help in assessing the company's performance in relation to the other companies, competing in the same market.

Information Retrieval Software may also be used in conjunction with the market file to provide mailing lists of customers of a certain type or in a certain area. With the help of Computer Hardware and Software, the market file can be used to provide essential information rapidly, and then help in more effective deployment of marketing resources.

Use of Computer in connection with Delivery :

An important problem before every marketing manager is that of distribution. A marketing manager has to know how goods can be transported from the supply to the demand points at the minimum cost. If there are many supply and demand points, and if demand at one point is met in varying degrees from a number of supply points, the desired

solution may be difficult to find. Moreover, if demand varies to great extent, the distribution net work may have to be re-calculated at frequent intervals.

The problem, in its simplest form, without intermediate points is known as the transportation problem; and if intermediate points are present, it is known as the transshipment problem. Trans-shipment programmes are supplied by some of the manufacturers of computers, as a part of standard software. A trans-shipment programme can be used for solving both transportation and trans-shipment problems. A trans-shipment programme can also be used inversely to plot suitable location for supply points, such as the appropriate location of the warehouses, in order to minimize the distribution costs.

Use of the Computer for Control of Salesmen :

Through Computers, the control over salesmen can be exercised by establishing salesmen's files. In a salesmen's file, we can include such information as personal details of each salesmen, his quota, and associated commission, his grade or territory, details of existing and potential customers, the details of past performance summarized by sales period, record of sales by product within customer type, and the associated contribution to gross profit. This file can be updated by using survey data, obtained for the market file, and by selling reports submitted by the salesmen. Selling reports should be designed to show only relevant information, such as the customers visited, orders obtained, new contacts made, and so on.

The Sales Manager will have his own estimate of the performance that should be achieved by each salesmen. A relationship can be established between the performance the management expects and the sales quota allotted to each salesman, and this relationship given a numerical value, can be inserted in each salesmen's record as a control parameter. A salesmen's record would then be printed out for management attention, only when the salesman's performance was significantly different from management's expectations.

In such a case, the Sales Manager would have immediately available a detailed record of the salesman's past and current performance to indicate what action should be taken. The salesman's file would provide not only close control and flexibility in the control of sales-force, but also the information which could be of use in the selection of salesmen.

Use of Computer for Control of Advertising:

The computers can also be used for exercising control over advertising. The data relating to advertising can be computerized; and, in this way, it can be of great aid for formulating policies for the future. Various variables can be studied for the purpose. For

example, we can know the lowest advertising cost that will achieve a given profit goal, or else the optimum point between advertising cost and profit, in order to maximize the net return.

The selection of the suitable media or optimum combination of media would also require the study of all available facts, which after being quantified, can be studied with the help of a computer programmes.

The Concluding Remark :

It is earnestly hoped that if adequate training is imparted to the marketing personnel for using the computer in the marketing process, on the lines suggested in this paper, the goal of H.R.D. for Marketing can be achieved.

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