Review Article

Marketing Information System in Marketing Management : A Comprehensive Review

Brijesh Rawat

Department of Management, SPJ Institute of Management
Dr B R Amabedkar University, Agra

ABSTRACT

This article is explained to take a look at the Marketing Information System (MIS) as an analytical tool for marketing managers and specialists who seek to find an instrument for systematization of information, automation of routine processes and facilitation of decision-making processes. This review examines marketing informational system and its role on improving decision making for marketing managers in different organizations and corrects application of information on decision making process.
Key Words: *Marketing Information System, Marketing Information, Marketing Research,(MDSS)*

INTRODUCTION

Marketing information system can be defined as a computer based system that works in conjunction with other functional information systems to support the firm's management in solving problems that relate to marketing the firm's products. During the period of 1967-1974, no fewer than five models of MKISs were described in the literature. Brien and Stafford were among the first modelers, basing their design on four Ps and emphasizing the development of strategic marketing programs. King and Cleland stressed strategic planning; whereas Kotler, Montgomery and Urban, and Crissy and Mossman emphasized decision support. These modeling efforts began in the 1960s and continued into the 1970s, laying a strong theoretical foundation for functional information systems that followed in the all areas (Kotler, 1991).

In fact, MIKS is a system that improves decisions of managers in organizations. Marketing information system greatly improves efficiency of organization and is regarded as competitive advantage and in this way the role of computer and additional systems as subsidiary system for processing time period and artificial intelligence is greatly increased i.e. if ability of users of subsidiary systems of computer is increased, the managerial activities of organization is improved. Nowadays one of the principal requirements of benefiting marketing information system is establishing database for registering information. The liability and role of marketing informational systems is collecting information and process of creating information through close relationship with customer (Vorisek, 1999, Mezulánik, 2000)
 (6).

MARKETING INFORMATION SYSTEM

Marketing information system is one of the informational systems for determining performance of organization. Such system consists of many subsystems for producing different information that is necessary for making correct decision (Vorisek, 1999).
Different Types of Marketing Information System:
1) Operational and event data processing system
2) Management information system
3) Decision making support system
4) Supreme manager information system

A marketing information system consists of several persons, equipments, collection methods, classification methods, analysis methods, information evaluation and distribution methods for assisting the decision making process. Generally, marketing manager is faced with 2 fundamental problems including: under emergency condition, no information is available or under emergency condition there is excess information. Marketing information system means a set of organized stages for collecting, classifying and analyzing information either inside or outside of organization. It is to be noted that

marketing information system is not applicable merely, rather marketing managers should determine their required information (3).

MARKETING INFORMATION
Analysis of competition

First of all the system should integrate and provide with information systematically collected on the competitors of all kinds, i.e. a) the existing, direct competitors, b) once the marketer identifies potential competition this is also to be added, c) the substitute producers, d) suppliers and finally e) customers. All the categories of competitors have to be continuously analysed and inserted in the data warehouse. Such items as concentration of competitors, differentiation and range of products, intensity of competition or the customer's willingness to change brands will be the core of this function (Rousts and Ebrahimi, 2011).

Based on the analysis of processed information the system should facilitate the process of setting the competition strategy: a) Porter's strategy (i)the lowest costs, ii) differentiation, niche product), or b) Kotler's strategy (i) leader, ii) challenger, iii) follower, iv) niche operator).

Macroeconomic environment

Besides the information about the forces in the market the marketer has to have at his/her disposal information on the factors which he may not influence. This category names information ranging from a) demographic trends (e.g. number or age of inhabitants), b) socio-economic trends (connected to culture, un/employment, and leisure time), c) ecological

trends, d) technological factors (fast progress in production) up to e) political factors (restructuring programs, taxation). Although these qualitative information items are less convenient for entry into the system, it may include legislation norms, information resources and secondary resources of information.

Market analysis

The market may be characterised and analysed in the following ways: a) market in units (e.g. money, visitors), b) effective demand, i.e. a total number of really sold products, c) potential demand, that is number of items which might be sold. The system should be able to count the market volumes in different ways and units as well as provide with the figures on penetration (also cumulative) and market share.

Customer's behaviour

The decisive factor in this category is whether we operate at a consumer or industrial market. When operating on the industrial market we will tend to specify in which stage of purchase the customer is at the given point (specification of the problem, product, searching for suppliers and so on). We will classify three stages of purchase: a) initial (original market), b) alternative, modified or c) direct repeated, routine. Another decision is whether to produce or purchase, the manager will specify possibilities of external supply, risk rate, quality requirements and others. The individual customer will be classified and described according to the following criteria [3]: a) culture and subculture (divided according to e.g. age, religion),

5) social status (based for instance on occupation, education), c) social impacts (family, life cycle), d) individual factors (income, personality), and e) psychological factors, such as physiological needs, social security and so on. Additionally, it is important to identify the purchase role, for instance initiator, decision-maker, customer or user.

Distribution analysis

Information gathered in this section concerns the alternative distribution channels, analysis of customer's preferences and a sort of the product (everyday, luxurious). Distribution, similarly to other company activities, has to be revised regularly in order to ensure a continuous improvement.

Marketing strategy

Finally the manager will need information on the company activities compared in different times, compared to competition, plan and marketing strategy. This information will be provided based on a) analysis of the sales, b) analysis of the market share, the whole market or a sector where the company operates, c) analysis of the sales, costs and profit, d) analysis of the marketing policy, e) analysis of the target group, f) analysis of the marketing mix (policy of product, prices, distribution, marketing communication) and last but not least g) analysis of marketing activities.

Financial analysis

Although this is not primary information for the marketer, general overview is necessary for him/her to take strategic decisions and evaluate the operation of the company and its marketing/sales activities. Out of the indicators based on the balance sheet the following can be named: a) indicators of company's liquidity – i) current ratio, ii) quick ratio and

* working capital – b) indicators of solvency – i) capital ratio and ii) registered capital to total assets ratio – c) indicators of profitability – i) profitability, ii) total capital profitability,
* profitability of equity – d) indicators of company's activity – i) sales coefficient, ii) sales profitability, iii) return on capital.

Besides the above-mentioned analyses the system should serve as a supportive tool in making more strategic decisions based on intuition and professional background of the manager. The following categories should provide with basic alternative solutions for the manager who would finally make the special decisions.

Product policy

The product is the most important part of the marketing mix. First the product has to be identified – we distinguish between the physical, extended and total product. This function should facilitate definition of assortment policy – which products to add, remove –, policy of a group of products and policy of product attributes. Regarding the assortment we will focus on the length and depth. Concerning the product attributes, we speak about the policy of mark, which represents quality for the customer.

Quite an important feature of the product is the product cycle and marketing policy. It is relevant for the marketer to have at his/her disposal continuous information on the stage in which the product at the point of time is. All the marketing activities, i.e. product strategy, price strategy, commercial strategy and so on, vary in the stages of introduction, growth, stagnation, saturation and fall. Moreover, for the marketer it is priceless information to know retrospectively the development of the sales in comparison with the activities, tools and remedies applied.

Price policy

At the occasion of introduction of a new product, changes at the market and other situations the marketer needs to deal with price fixing. He needs to have at his disposal the demand curve and to know the demand elasticity. Also, the analysis of the break-even point is convenient. Out of the basic information it is possible to determine the price strategy, that is strategy in terms of a) price policy, b) price and assortment, c) price variability, d) new price for new products, e) competition, f) maintaining the price. The system should offer a range of methods for price fixing. Among them belong a) methods oriented at costs (e.g. based on the break-even point), b) methods oriented at the demand and customer (based on research, analyses), c) methods oriented at competition (e.g. imitation).

Distribution policy

This category is aimed at fixing a distribution channel based for instance on the characteristics of the customer, product, competition and so on. Then the distribution targets should be determined – intensive, selective or exclusive distribution. Finally, the distribution costs, numerical distribution and indicators like market share will be calculated.

Sales and commercial policy

This information will include communication marketing mix, commercials and their impacts, direct marketing, promotion policy and the targets of promotion. The commercial policy will be based on information on the target group, setting aims, selection of the commercial strategy, setting the message, selection of the media, budget and evaluation of the effect.

INFORAMTION SYSTEM

MIS in the organisational hierarchy of the company

The overall system information is build up from construction blocks which are characterised by a) their factual orientation (purchase, accounting) and b) management level (operative, tactical, strategic) (Lavdon, 2007, Catler 2011).

Strategic		EIS (e.g. MIS)	
Tactical	EDI	TIS	OIS
Operative		TPS	

TPS – Transaction Processing System is the bloc focused on the main activity of the company. It is the most specified system and depends on the character of the company (production, trading).

TIS – Tactical level Management Information System. This level includes commercial and logistic applications: above all purchase, sales, supplying, warehousing, transport. Financial applications include controlling, wages, work and financial control.

EIS – Executive Information System is oriented at strategic management of the company. The top management applications are designed to gain information from the other application of the company system (TPS, TIS). They aggregate such data and create time sequences and mutual relationships.

OIS – Office Information System is a bloc devised for the support of office and team work. The following applications may serve as examples: word processor, worksheet, presentation or e-mail program.

EDI – Electronic Data Interchange ensures communication of the company with its environment, i.e. banks, institutions, suppliers and so on.

Partial IS/IT Architectures

In a choice of MIS the marketer will be interested in the special functions and the network of their relationships. Therefore, it is necessary to briefly consider the individual aspects of the system, i.e. partial architectures.

Functional architecture

This structure reflects the processes taking place in the company with the support of IS. This view is static and divides the individual functions into the smallest items – elementary functions (transactions)..

Process architecture

It is a proposal of the future processes in the company. It suggests networks of non-automated activities and functions in IS which are planned reactions to certain data, time or extraordinary events.

Data architecture

It shows the structure and physical placement of the data, defines the data types – signal, structural, genetic.

Software, hardware and technological architecture

These architectures identify what software and hardware components will be used, where they will be located, what their structures will be and so on. As this article concentrates on the special marketing functions of the systems, these aspects are merely mentioned in brief.

As it may be apparent from the paragraphs above the role of a marketer will rather rest in the definition of the process and functional architectures. The other structures should be designed and maintained by IS/IT specialists.

Criteria for the selection of a relevant system

Choosing the information system for a company is a complex system which demands a team co-operation of different specialists. Commonly such an order would take a form of a tender where there would be more potential suppliers in question. Therefore, the highest attention has to be paid to selection of relevant criteria. Again, in this paper we will focus on the part of a marketing specialist who would be able to define the parameters and processes/functions which an ideal system would provide (Esmaeilpour, 2005)..

MDSS (Marketing decision support system)

Nowadays marketing managers apply from computer system to quickly offer information through several means. Managers are able to obtain support system through marketing decisions and restudy the marketing process. Hypothesis and solutions determine whether new information is required for supporting appropriate marketing decisions or not. A good MDSS system is set of data, systems, market and techniques that are arranged with software and hardware support system and organization is able to collect and interpret suitable information from economic sector and is regarded as basis for marketing activities (Nenadal, 1999).

CONCLUSION

The role of informational system is more important so that at the present time information system is regarded as inseparable part of each organization and companies that are fall being of this competition are lead to failure for attracting customer and obtaining market share.

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Brijesh Rawat

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