

A Study on Internal Mechanism of Marketing Information Systems

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Abstract

Modern marketing organizations, with their focus on the Internet, exhibit different characteristics like customer service, value addition etc. To survive in highly competitive markets, companies need to be able to develop the marketing function with more comprehensive and accurate information systems to save resources in terms of time, money and efforts. A Marketing Information System (MkIS) is intended to bring together disparate items of data into a coherent body of information. An MkIS is more than raw data or information suitable for the purposes of decision making. Essentially the concept of MkIS is wide and has its impact on all the levels of management right from strategic level to supervisory level. The purpose of this study is to review the conceptual framework of Marketing Information Systems given in marketing literature. The other objectives include outlining the internal mechanism of MkIS and its other functional components, identifying the opportunities with implementing MkIS in organization. This paper also throws light on the concept of Marketing Decision Support Systems finally offering recommendations to effective implementation of MkIS.

Key Words

Marketing Information Systems – MkIS - Marketing Decision Support Systems – MDSS - Marketing Intelligence.

I. Introduction

Organizations of all sizes are feeling the “ripple effect” of Internet-enabled customers, supply chains and competitors. This pressure is particularly acute in the marketing function where information technology touches the customer and is increasingly becoming the key to creating superior customer value. The marketing environment is fast changing. As companies expand their geographical market coverage, their managers need more information more quickly. Similarly, as income improves, buyers become more selective in their choice of goods. More and more, companies are faced with the need to control an ever larger and rapidly changing marketing environment. The information processing requirements of companies are expanding as their competitive environments become more dynamic and volatile [1].

The marketing environment is fast changing. As companies expand their geographical market coverage, their managers need more information more quickly. Similarly, as income improves, buyers become more selective in their choice of goods. In the course of developing the firm’s marketing plan, data was collected and information about the internal and external environments was analyzed. To predict buyers’ response to different features, styles and other attributes of goods, sellers must turn to marketing research. Again, as sellers increase their reliance on branding, product differentiation, advertising and sales promotion, they require more information on these marketing tools and techniques. Objectives were set, strategies determined, and evaluation metric defined. Now that all the planning has turned into implementation, how do you know which part of your effort is making a difference? Is it the pricing? Channel selection? Or are the results you are seeing entirely due to the external environment? The only way the

answer this type of question accurately and in a timely manner is with a marketing information system (MkIS). Traditionally, MkIS has been seen as a system to support marketing management in its decision making. In addition to the management perspective, MkIS can be an essential tool for the entire marketing organization.

A. Marketing

American Marketing Association (AMA, 2008) defined Marketing as it is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.

B. Information

Any person or group managing a marketing effort needs information to make informed decisions. The first step to developing an effective marketing information system is identifying the information that is important to your marketing efforts. Primary data is collected by the firm directly for a specific use. Secondary data is data already collected by third party sources.

C. System

System can be any entity that involves in Collecting, recording, reporting and analyzing the information must be developed to cater the research and decision making needs for the firm.

II. Defining Marketing Information System (MkIS)

At the most basic level a marketing information system consists of, “people, equipment and procedures to gather, sort, analyze, evaluate and distribute needed, timely and accurate information to marketing decision makers” (Kotler, 1997). Information technology-based marketing information systems (MkIS) have been with us for many years. The importance of computers in marketing was highlighted by Kotler [2]. A marketing information system (MkIS) is intended to bring together disparate items of data into a coherent body of information. An MkIS is, as will shortly be seen, more than raw data or information suitable for the purposes of decision making. An MkIS also provides methods for interpreting the information the MkIS provides. Moreover, as Kotler’s [3] definition says, an MIS is more than a system of data collection or a set of information technologies:

“A marketing information system is a continuing and interacting structure of people, equipment and procedures to gather, sort, analyze, evaluate, and distribute pertinent, timely and accurate information for use by marketing decision makers to improve their marketing planning, implementation, and control”.

III Characteristics of MkIS

MkIS systems are designed to be comprehensive and flexible in nature and to integrate with each other functionally. They are formal, forward looking and essential to the organization’s ability to create competitive advantage. The MkIS is the firm’s “window on the world” and, increasingly, it is the primary customer interface [6].

- MIS is a consciously-developed master plan for information flow. It is an on- going process. It operates continuously.
- MIS is future-oriented. It anticipates, prevents and solves

marketing problems. It is a preventative as well as curative process in marketing.

- Management gets a sturdy flow of information on a regular basis. MIS provides the right information to the right people at the right time and cost.
- MkIS was seen as a set of procedures and methods for the regular planned analysis and presentation of information for use in making marketing decisions [7].
- Marketing information was divided into control, planning and research information [8].

IV. Benefits of MkIS

The MkIS enables managers to share information and work together virtually. The MkIS can enable Manufacturers to collaborate with customers on new product designs, changed needs of the customers and customer requirements.

- The marketing managers will be benefited by tapping the untapped market potential and provides effective defense against emerging marketing threats.
- It helps in planning phase of marketing management by making reliable information on external environment available.
- It helps early spotting of the internal realities of the company, the changing trends and provides market intelligence to the firm.
- It facilitates the development of action programmes for achieving goals and also helps the firm adjust its products and services to the needs and tastes of the customers.
- The quality of marketing decisions is decided to a great extent by the quality of marketing information available to the decision-maker and helps the firm in gaining control over its marketing activities.

V. Types of MkIS

The purpose of a marketing information system is providing support to the marketing team and management when planning, analyzing and evaluating alternative strategies. An effective MkIS can range from a simple spreadsheet to a complex analytical database. Regardless of its structure, the MkIS must possess current data and be able to provide useful information in a timely manner. Without a solid MkIS any marketing effort will not be sustainable and will result in wasted firm time and money. Marketing Information Systems can broadly be classified into two types. Classification based on end use and Classification based on subject matter.

A. Classification based on End Use

- Information for marketing planning.
- Information for marketing operation.
- Information for key decisions in marketing.
- Information for marketing control.

B. Classification based on subject Matter

- Product
- Consumer
- Pricing
- Distribution channels
- Promotion
- Sales force
- Competition
- Sales methods
- Internal operations of the firm.

- External environment of the firm.

VI Working Model of MkIS

Encyclopedia of Information Systems [4] defined MkIS as a computerized system that provides an organized flow of information to enable and support the marketing activities of an organization.



Fig. 1: Basic Model of MkIS

The explanation of this model of an MIS begins with a description of each of its four main constituent parts: the internal reporting systems, marketing research system, marketing intelligence system and marketing models. It is suggested that whilst the MkIS varies in its degree of sophistication - with many in the industrialized countries being computerized and few in the developing countries being so - a fully fledged MkIS should have these components, the methods (and technologies) of collection, storing, retrieving and processing data notwithstanding.

A. Internal Reporting Systems:

Information is usually categorized according to its nature so that there are, for example, financial, production, manpower, marketing, stockholding and logistical data. The internal records that are of immediate value to marketing decisions are: orders received, stockholdings and sales invoices. These are but a few of the internal records that can be used by marketing managers, but even this small set of records is capable of generating a great deal of information. Marketing managers rely on internal reports such as orders, sales, prices, inventory level, receivables, payables and so on. By analyzing this information, they can spot important opportunities and problems. It gives details about past trends which in turn helps marketing manager to know the possible future implications. The various types of internal record system include:

- Sales record
- Order to remittance cycle
- Complaints from customers
- Receivables and payables
- Inventory
- Marketing intelligence system

B. Marketing Research Systems:

Marketing research is a proactive search for information. That is, the enterprise which commissions these studies does so to solve a perceived marketing problem. In many cases, data is collected in a purposeful way to address a well-defined problem. Marketing research offers special information on request when marketing executive encounters typical marketing problems, demanding unique information for solving those problems. Marketing research may be conducted by the employees of the organization or companies can hire the services of marketing research firm.

C. Marketing Intelligence Systems:

Internal record system supplies result data whereas marketing intelligence system supplies happenings data. AMA defines marketing intelligence as “a set of procedures and sources used by managers to obtain everyday information about developments in the marketing environment.” Unlike marketing research is focused, market intelligence is not. A marketing intelligence system is a set of procedures and data sources used by marketing managers to sift information from the environment that they can use in their decision making. This scanning of the economic and business environment can be undertaken in a variety of ways, including [5] Unfocused scanning, Semi-focused scanning, Informal search and Formal search.

D. Marketing Models:

Within the MIS there has to be the means of interpreting information in order to give direction to decision. These models may be computerized or may not. Typical tools like Time series sales modes, Brand switching models, Linear programming, Elasticity models (price, incomes, demand, supply, etc.), Regression and correlation models, Analysis of Variance (ANOVA) models, Sensitivity analysis, Discounted cash flow, Spreadsheet ‘what if models etc.

VII. Functional Components of MkIS

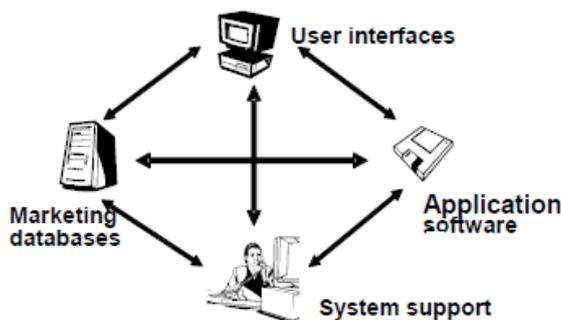


Fig.2: Functional Components of MkIS

A. User Interfaces:

Interface is like a communicator between MkIS and user of it. The effectiveness of the MkIS is directly proportional to how friendly the interface is designed. The different users of the system like managers, sales force, back office people, marketing staff will interact with different interfaces of the system depending on their access to the implementing decisions or making decisions. The interface includes the type of hardware that will be used, the way information is analyzed, formatted and displayed, and how reports are to be compiled and distributed.

B. Application Software:

Application software is a collection programs that runs on the systems software of the computer hardware. The marketing managers will use different external application software to collect the data, analyze the data, retrieve the data, and manage the data. The application software like SPSS, Statistica, Informatica, SAS, SAP (SD), Siebel (CRM) etc. used to supply the information to the MkIS of the firm.

C. Marketing Databases:

A Marketing database is the collection of tables and files which relates to the all marketing activities right from the marketing research, new product development, product inception, pricing, product distribution, promotion etc. Internal sources provide

input from transactions, dealers, distributors, retailers, employees, internet sales, e-commerce etc. The external sources are from the marketing research, competitor analysis, consumer data banks, consultancies, credit history, financial institutions etc. The data can be organized in traditional file systems or modern relational systems where data will be stored in form of logically related tables each row stores one transaction or information about an item.

D. System Support:

This part consists of the people like systems managers, help desk executives who manages and maintains the MkIS. It should be provided with a skilled people who can manage software, databases, hardware, network and monitor the activities.

VIII. Marketing Decision Support System (MDSS)

Marketing Information Systems (MkIS) have limited analytical capabilities when compared with Marketing Decision Support Systems (MDSS). Decision Support Systems is an interactive computer-based system designed to help in decision-making situations by utilizing data and models to solve unstructured problems [9]. MDSS is a set of core applications in the MkIS that provides computer-based tools, models, and techniques to support the marketing decision making process [6]. MkIS can be defined as an MIS or DSS which relates to marketing activities and marketing information [10]. The aim of DSS is to improve and expedite the processes by which management makes and communicates decisions – in most cases the emphasis in DSS is on increasing individual and organizational effectiveness. Piercy and Evans [11] have differentiated MkIS from MIS and DSS as follows:

- The MkIS is part of the Management Information Systems or Decision Support Systems – namely that part which deals with marketing strategy and operations.
- The MkIS is a Management Information Systems or Decision Support Systems, because it conforms to the definition and underlying concepts presented earlier, though its interests are to some extent more specialized than are those of the corporate Management Information Systems.
- However, because it is Management Information Systems, in the real world the MkIS serves the company, not simply a department, i.e. it provides marketing information to senior management and across business functions.
- In an ideal world, the MkIS takes information from other departments’ or functions’ information systems, such as the financial systems and the production systems, e.g. costs and product flows.

IX. Functions of MDSS

Marketers typically use MDSS models and tools to analyze markets, customers, competitors, and internal operations. MDSS tools include simple spreadsheets such as Excel, statistical analysis packages such as SPSS and SAS, on-line analytical processing (OLAP) tools, data mining applications, and neural networks [6]. The following are the functions of MDSS.

- Analysis of STP (Segmenting – Targeting – Positioning)
- Competitor analysis
- Cost analysis
- Sales analysis

- Market share analysis
- Sales control
- Sales force performance appraisal
- Sales forecasting
- Effective Sales force management
- Analysis of Advertising Effectiveness
- Channel member performance appraisal
- Channel control
- Consumer awareness analysis
- Customer Satisfaction levels
- eCRM performance appraisal

X. Recommendations for effective performance of Marketing Information System (MkIS)

- An effective MkIS must provide a comprehensive model of the market using existing sources of information to understand the latest trends in marketing place and it must reflect the changing needs of the customer.
- The MkIS must be designed and developed in such a way that it has a best fit with the decision making process.
- Define information intelligence policies and standards and create intelligence culture in the organization.
- When private information of the customers is needed to be used or some product or service is required to be promoted towards the customers, the organization must obtain permission from the respective customers. (Popularly known as Permission Marketing)
- The processes of the MkIS should be systematic and must be integrated with the original MkIS planning so that data will be transformed into actionable management intelligence for marketing decisions.
- The interface of MkIS must be designed user-friendly manner so that the user can interact with out facing any problems.
- The processes of MkIS must be updated in a continuous manner so that it can adapt the changes in the market place.

XI. Conclusion

Marketing information systems, in particular, are being transformed as these new technologies are enabling the integration of marketing, sales and customer service activities. The purpose of a marketing information system is providing support to the marketing team and management when planning, analyzing and evaluating alternative strategies. The primary drivers of this shift are the promises of delivering increased value to the customer more rapidly and at less cost. Without a solid MkIS any marketing effort will not be sustainable and will result in wasted firm time and money. An effective MkIS must add value to the customer and product by working more effectively align the enterprise and its supply chain on rapidly changing market opportunities

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