Mkis support for the marketing management process perceived improvements for mark...

MkIS support for the marketing management process: perceived improvements for marketing management

Type of Article: Survey

Evaluates which information included in Marketing Information Systems (MkIS) has been important in providing support for the marketing management process. Also analyses what improvements in marketing and sales have been realized by implementing MkIS to support the marketing management process. Furthermore, investigates, in more detail, what operational MkIS sub-systems have contributed to improved effectiveness for implementing and controlling marketing efforts. The results of a survey of 50 Finnish wholesale companies showed that MkIS have supported marketing management in all complementary steps of the marketing management process. Information that is perceived to be useful for the different steps of this process, however, varies. The perceived improvements of studied MkIS usage were higher in marketing than sales tasks. These findings indicated that instead of one MkIS, organizations would be better advised to develop MkIS sub-systems to support the different steps in the marketing management process and also sub-systems to support sales activities directly, although still allowing technical and functional integration when needed. According to marketing managers surveyed, those who invested in more sophisticated MkIS sub-systems such as direct mailing and telemarketing systems, have achieved good results in implementing and controlling their marketing efforts. Later discusses the opportunities for these types of operational MkIS sub-systems.

Content Indicators: Readability**, Practice Implications**, Originality*, Research Implications*

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Introduction

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 environment becomes more dynamic and volatile (Child, 1987). To handle the increasing external and internal information flow and to improve its quality, companies have to take advantage of the opportunities offered by modern information technology (IT) and information systems (IS). Managing marketing information by means of IT has become one of the most vital elements of effective marketing. By collecting and sharing marketing information and by using it to promote corporate and brand image, IS offer new ways of improving the internal efficiency of the firm. IS allow dynamic marketing communication between personnel in corporate planning, accounting, advertising and sales promotion, product management, channels of distribution and direct sales. These systems also relate to marketing strategy, marketing planning and the entire marketing management process.

IS span the boundary between the organization and its environment by connecting the customers and partners to the firm s warehouse, factory and management. Today interorganizational relationships and interorganizational information systems (IOS) have become a common form for processing transactions and there are many examples of IOS that create electronic linkages between firms (see Bakos, 1991; Cash and Konsynski, 1985).

IT has a key role in new flexible organization forms such as strategic partnerships and cross-functional networks. New organizations will be designed around business processes rather than functional hierarchies (Rockart and Short, 1989) and we will face the need for new kinds of IS in marketing. In fact, IS will be the cornerstone of new approaches to marketing. Management and systems designers should therefore be better aware of the avenues available to integrate marketing and management processes in new innovative ways.

The objectives of this empirical survey among Finnish wholesale companies are threefold. First, we evaluate which information included in marketing information systems (MkIS) has been important in providing support for the marketing management process. Second, we analyse what improvements in marketing and sales have been realized by implementing MkIS to support the marketing management process. Third, we investigate, in more detail, what operational MkIS sub-systems have contributed to improved effectiveness for implementing and controlling marketing efforts.

In order to answer these questions we first develop the analytical framework, and then we describe the survey of 50 marketing organizations in Finland.

Later, we present the findings of the analyses before discussing the results and their practical implications.

MkIS and marketing management process

The concept of MkIS

The concept of IT-based marketing information systems (MkIS) has been with us for many years. During the last three decades many authors have presented models for MkIS (see literature review, Talvinen, 1995). Based on this literature review from the early days of MkIS to the present we reconceptualized the MkIS by dividing them into two main groups by use and users management MkIS and operational MkIS. Those management MkIS can be classified as marketing management and decision-making-oriented systems. Correspondingly, operational MkIS can be classified as operational, sales and marketing process-oriented systems.

The first era (1970-1980) in MkIS development was to provide standardized reports with multiple sources of information to multiple users within large firms (Choffray and Lilien, 1986). MkIS were seen as tools especially for analysing internal and external effectiveness of marketing and for controlling marketing activities and environment. From the marketing management point of view, MkIS were tools for managing marketing information, marketing research, marketing planning, modelling marketing transactions, decision making in marketing, budgeting, analysing different courses of action, and for reporting and control (Higby and Farah, 1991; Li et al., 1993; Morris et al., 1989; Vandermerwe and Carney, 1987).

In modern marketing thinking, MkIS are not regarded simply as systems limited to management. Moriarty and Swartz (1989) also included operational use and sales activities into the concept of MkIS (they used the term marketing and sales productivity tools, MSP) and have proposed four tasks typical for sales productivity systems: salesperson productivity tools, sales and marketing management, direct mail (or database marketing, DBM) and telemarketing. Salespersons use these productivity tools for planning and reporting of sales activities, reporting of expenses, checking inventory and order status, managing distributors and accounts, and tracking leads. In addition, information gathering is considered to be an essential function of the entire marketing organization. Sales representatives especially may get access to customer information that would not be available from any other source (Crace and Pointon, 1980). Correspondingly sales and marketing management use these systems for sales reporting, designing and managing sales territories, analysing marketing and sales programmes.

Shaw and Stone (1988) have defined database marketing (DBM) as an interactive approach to marketing, which uses individually addressable marketing media and channels (such as mail, telephone, and the salesforce) to extend help to a company s target audience, to stimulate demand, to stay close to them by recording and keeping an electronic database of customer, prospects and all communication and commercial contacts, to help improve all future contacts and to ensure more realistic planning of all marketing . With DBM, the MkIS database can be used to segment a company s markets and to record responses and reactions of customers and prospects to company initiatives (see literature review on DBM, Petrison et al., 1993). In

some companies, telemarketing (a version of DBM, in which the marketing channel is the telephone) has become an essential part of the marketing campaign process and companies MkIS.

MkIS and the marketing management process

The objective in MkIS development has been to implement MkIS which cover almost all management activities in the sales and marketing functions, and to produce timely and accurate information to be used in decision making. According to Martell (1988), MkIS can be seen as a part of the so-called management information systems (MIS) concept, which deals in particular with marketing strategy and operations. This MIS approach is suitable for traditional bureaucratic hierarchical organizations which, however, will be complemented increasingly by new flexible organization forms, such as strategic partnerships and networks.

The MIS approach can be misleading, since with this kind of thinking, developers may omit important issues company strategy, and business and marketing processes. Business processes consist of a set of logically related tasks performed to achieve a defined business outcome (Davenport and Short, 1990). The marketing management process is defined by Kotler (1994) as a process, which consists of analysing market opportunities, researching and selecting target markets, developing marketing strategies, planning marketing tactics, and implementing and controlling the marketing effort .

The traditional organizational principles of functional hierarchies and the Tayloristic principle of task specialization have led to many islands of

optimized activities that are hardly linked. Each organizational sub-unit within the process had optimized its own IT application, but no single sub-unit has looked at (or was responsible for) the entire process (Davenport and Short, 1990).

Earlier it was believed that achieving maximum efficiency in single activities would improve the whole process. However, this is not necessarily true while the efficiency of a specific task may be improved, the overall effectiveness of the process may suffer (Wilkinson, 1991). Therefore, the whole process with all its activities and its linkages needs to be considered.

Based on this fact the basis for most marketing and management-related IS development, subject to management needs, should be company strategy and redesigned management processes, particularly the marketing management process with the help of sophisticated IS. MkIS offer an effective way to co-ordinate the vertical process of marketing management and control between several user groups. The hierarchical division of tasks can be restructured with the help of effective MkIS, and by providing at the same time, sophisticated new ways to transfer marketing information between different vested interests, e. g. all levels of management and sales personnel.

Improvements of MkIS usage

The objective of this section is to summarize the results of prior studies concerning improvements of MkIS usage and above all to relate the authors research ideas to earlier studies (Talvinen, 1993). Expectations of typical potential improvements derived from marketing literature are summarized in

Table I . The potential improvements of MkIS usage according to earlier research .

The improvements are classified into three groups: improvements in marketing, improvements in sales and overall organizational improvements. Marketing literature abounds with examples of successful MkIS implementations. According to earlier research the impact of MkIS usage is remarkable. For example a Harvard Business Review article by Moriarty and Swartz (1989) covered several examples of well-known early adopters of MkIS that had achieved 10 to 30 per cent increases in sales and return on investment often exceeding 100 per cent. They maintained that these systems could automate the work of a single salesperson, a single marketing activity like direct mail, or a company s entire marketing and sales operations.

However, even if the concept of MkIS is mature and well known, there is little systematic empirical knowledge available of the realized improvements of MkIS usage. The above research findings, however, present individual success stories but what is the reality of perceived improvements of MkIS usage overall? For example, what, if any, are the improvements for marketing management of MkIS usage in the sales and marketing functions?

Research framework

Based on the above discussion we constructed a two-stage framework for analysing MkIS information content, its support for five complementary steps in the marketing management process and the perceived improvements of MkIS usage. The overall framework (Figure 1 . Overall framework of the

study) is focused on studying information content relevant to each step of the marketing management process. It also makes it possible to relate MkIS support for the marketing management process to the perceived improvements in marketing and sales.

A second, more detailed framework concentrates on operational MkIS sub-systems which would be important for improving effectiveness of the fifth step in the marketing management process, implementing and controlling marketing efforts, and subsequently yielding improvements for the organization (Figure 2 . Detailed framework of the study). We have split operational MkIS into the four sub-systems presented by Moriarty and Swartz (1989) and referred to earlier. The fifth step consists of tasks like developing a marketing organization, staffing it, assigning responsibilities for implementing all the activities in the plan, monitoring the plan s performance, and taking corrective action when it is warranted (Kotler, 1994).

There were two major reasons to concentrate on this specific step of the marketing management process. First there is a lack of empirical knowledge on the relationship between the marketing management process in general but especially between this step and the perceived impact of the work without efficient implementation, monitoring and corrective actions when needed. Implementing and controlling marketing efforts is a most critical step in this process a moment of truth.

Empirical survey

Research methodology

This article is part of a larger and cumulative research project on IS in marketing at the Helsinki School of Economics other reports from the project include Talvinen (1993, 1995) and Saaksjarvi and Talvinen, 1993). The aim has been to obtain an overall picture of MkIS usage in Finland and to gain new insights on the efficient use of MkIS in practice. We first conducted a mail survey in Finnish wholesale companies followed by in-depth case studies in two organizations. In the mail survey our unit of analysis was senior marketing management and in the case studies the entire marketing organization.

The business sector chosen for our empirical studies is wholesale companies, since according to earlier research in Finland, wholesale companies have invested much more to build up MkIS than other sectors. It is also more likely that within the same business sector, systems are more likely to be similar. By standardizing and by focusing the study only to one business sector, the results are likely to be meaningful and reliable.

This article is based on data collected in a mail survey. These analyses of empirical data are based on simple statistical techniques and original questionnaire items. We wanted to avoid the shortcomings of using constructed variables and sophisticated multivariate techniques inherent in this study due to the relatively small sample size. We conducted the same analyses using constructed variables and sophisticated multivariate techniques and the results were the same as reported here.

The questionnaire

A seven-page questionnaire was designed to gather information on existing MkIS and the marketing managers perceptions of the improvements of MkIS usage. The questionnaire consisted almost entirely of forced choice, seven-point scaled questions. Only the extreme points of each scale were labelled. Increments of these scales can thus be regarded as being equal. After test interviews the questionnaire was sent to 156 senior marketing managers in Finnish wholesale companies. To improve the response rate, companies were guaranteed anonymity. Respondents were also offered an executive summary of the results. A total of 56 usable questionnaires was returned within one month resulting in a 32. 2 per cent response rate. Six of the responses had to be dropped from the survey, since the companies did not use any MkIS. Thus we had 50 usable cases for our analyses. This was felt to be acceptable.

Variables used

Information content of MkIS. Empirical studies of the information content of MkIS are scarce. However, based on our prior studies and other studies that have discussed MkIS use (see Higby and Farah, 1991; Li et al., 1993; McLeod and Rogers, 1982, 1985 ; Moriarty and Swartz, 1989; Morris et al., 1989; Vandermerwe and Carney, 1987), we derived potential variables describing MkIS information content. After test interviews and on the basis of the literature review, our final instrument consisted of 12 categories of different types of information that can be included in a MkIS. Correspondingly in our mail survey, we asked what information components of those 12 categories are included in their own MkIS. The variables with means and standard deviations are shown in Table II . Variables measuring information content of

the MkIS (scale 1 = no information available; 7= a lot of information available) .

The marketing management process. To study MkIS support (service) for the marketing management process we divided this process into complementary steps as presented by Kotler (1994) . As described above, he distinguishes five integrated steps in the marketing management process: analysing market opportunities, researching and selecting target markets, developing marketing strategies, planning marketing tactics, and implementing and controlling the marketing effort. By using these five integrated steps we asked senior marketing managers in our mail survey, how MkIS support them in the different steps in the marketing planning process. We used the Finnish word for planning because in test interviews the Finnish term management process was not clearly understood as a process from strategic level analyses to implementation and control the planning process carried the right meaning. Correspondingly these variables with means and standard deviations are shown in Table III . Variables measuring perceived support of MkIS in the marketing management process (scale 1 = supported very badly, 7 = supported very well) .

MkIS sub-systems in implementing and controlling marketing efforts. In order to study what operational MkIS sub-systems have contributed to improved effectiveness of the fifth step in the marketing management process, implementing and controlling marketing efforts, we divided operational MkIS into four sub-systems i. e. salesperson productivity tools, sales and marketing management systems, direct mail and telemarketing systems proposed by Moriarty and Swartz (1989) referred to in Figure 2 . Detailed

framework of the study . We asked for the marketing managers perceptions of the overall usage of these four sub-systems within their marketing organizations. Operationalized variables with means and standard deviations are shown in Table IV . Variables measuring use of operational MkIS sub-systems for implementing and controlling marketing efforts (scale 1 = no use; 7 = a lot of use). .

Perceived improvements of MkIS usage. We based our evaluation on the marketing managers perceptions. We measured them by two types of variables. First we measured the overall perceived improvements in marketing management of MkIS usage. In addition, we divided the improvements into three categories: improvements for marketing, improvements for sales and organizational improvements. This measurement instrument made it possible for us to test all the potential improvements of MkIS usage presented in Table I . The potential improvements of MkIS usage according to earlier research . These variables with means and standard deviations are shown in Table V . Variables measuring the perceived improvements of MkIS usage (scale 1 = no improvement; 7 = a lot of improvement) .

Research findings

The average number of personnel in the studied companies was 1, 597 ranging from 35 to over 24, 000 employees. On average 170 people (11. 5 per cent) worked in marketing and sales functions and about 18 (1. 1 per cent) in the IS departments. The average annual net sales of the companies was US$768 million per year ranging from 7. 3 to over US$8, 477 million.

From the 50 final respondents, 22 were marketing managers and 28 were marketing directors.

First, we report the results analysing the overall framework of the study followed by the analyses of the more detailed framework.

The overall framework of the study

Information content of MkIS. Table II . Variables measuring information content of the MkIS (scale 1 = no information available; 7= a lot of information available) gives descriptive statistics of the variables measuring the information content of the MkIS. As the means show, the MkIS studied usually contained rather more sales follow-up, product, customer (end-user, consumer) and marketing planning information. However, information on tracking and forwarding sales leads, competitors and overall marketing effectiveness available through MkIS was limited.

The marketing management process. Table III . Variables measuring perceived support of MkIS in the marketing management process (scale 1 = supported very badly, 7 = supported very well) gives descriptive statistics of the variables measuring the perceived support of MkIS usage in the marketing management process. The means indicate that MkIS support all five steps in the marketing management process and that it increases slightly with each step towards implementation and controlling of the marketing efforts.

Perceived improvements of MkIS usage. Table V . Variables measuring the perceived improvements of MkIS usage (scale 1 = no improvement; 7 = a lot

of improvement) shows the variables measuring the perceived organizational improvements of the MkIS and their means and standard deviations. On average, the most significant perceived improvements of MkIS usage in marketing are related to improved marketing planning and decision making. In sales the perceived improvements were related to better sales performance and improved forecast and follow-up of sales. Means of increased volume of information, improved customer knowledge and timesaving were rather high.

Information content and perceived support of MkIS in the marketing management process. The correlations between information content and perceived support of MkIS in the marketing management process are presented in Table VI . Correlations between information content and perceived support of MkIS in the marketing management process . Many of the correlations are significant, but it seems that information content of the studied MkIS is focused mainly on improving effectiveness of marketing planning, not so much implementation and controlling of the marketing efforts, i. e. operational marketing and sales activities.

Furthermore, some information included in the MkIS, product information and distribution information, does not correlate significantly with perceived support of MkIS in the marketing management process. We should bear in mind the sector chosen for our empirical studies was wholesale companies, which sell to retailers, other selected wholesalers, and industrial users but do not sell in significant terms to ultimate consumers. Therefore correlations (e. g. between customer (end-user, consumer) or potential customer (prospect)

information and perceived support of MkIS in the marketing management
process) were very weak.

Perceived improvements and support of MkIS in the marketing management
process. Table VII . Correlations between perceived improvements and
support of MkIS in the marketing management process contains correlations
between perceived improvements and support of MkIS in the marketing
management process. There are lots of significant correlations implying that,
if marketing managers perceive support in the marketing management
process of MkIS usage, they see many improvements realized in sales and
organizational levels but especially in marketing.

However, it is striking to observe that perceived support in the implementing
and controlling of marketing efforts did not have higher correlations with the
perceived improvements in sales activities. This may be partly because the
information content of the studied MkIS did not yield high improvements in
these sales tasks (Table V . Variables measuring the perceived
improvements of MkIS usage (scale 1 = no improvement; 7 = a lot of
improvement)). By comparing Tables Table II . Variables measuring
information content of the MkIS (scale 1 = no information available; 7= a lot
of information available) , Table VI . Correlations between information
content and perceived support of MkIS in the marketing management
process , and Table VII . Correlations between perceived improvements and
support of MkIS in the marketing management process there seems to be
insufficient information, especially concerning sales leads management
information and overall marketing effectiveness information, needed to
achieve improvements in this step of the process.

This finding, however, requires a more detailed analysis of the operational MkIS sub-systems supporting implementation and controlling of the marketing efforts. We have to note that our unit of analysis was senior marketing managers. Normally they do not themselves use these operational MkIS sub-systems and therefore we should keep this in mind when analysing the results. However they do have, as team leaders, a very good insight into operational sales and marketing tasks.

The detailed framework of the study

Use of operational MkIS sub-systems for implementing and controlling marketing efforts. Table IV . Variables measuring use of operational MkIS sub-systems for implementing and controlling marketing efforts (scale 1 = no use; 7 = a lot of use). gives descriptive statistics of the variables measuring the use of MkIS sub-systems for implementing and controlling marketing efforts. As the means show, operational, salesperson productivity tools, and sales and marketing management systems were extensively used. But direct mail and telemarketing systems were not so common.

Use of operational MkIS sub-systems for implementing and controlling marketing efforts and the consequent perceived support in this step of the process. Table VIII . Correlations between use of operational MkIS sub-systems for implementing and controlling marketing efforts and the perceived support in this step of the marketing management process gives the correlations between use of operational MkIS sub-systems for implementing and controlling marketing efforts and the consequent perceived support in this step.

The correlation between direct mail and fulfilment systems and perceived support in implementing and controlling marketing efforts was rather high, but other correlations were insignificant. This indicates that these types of systems could be used to gain improvements in marketing but also in sales activities.

Discussion

The objectives of this empirical survey among Finnish wholesale companies were as follows. First, we evaluated which information contained in Marketing Information Systems (MkIS) has been important in supporting the marketing management process. Second, we analysed what improvements in marketing and sales have been realized by implementing MkIS supporting the marketing management process. Third, we investigated, in more detail, which operational MkIS sub-systems have contributed to improved effectiveness in implementing and controlling marketing efforts.

According to our findings the correlations between information content and perceived improvements for senior marketing management in marketing and in sales tasks were correlated partly with different information components. Based on our earlier studies, MkIS is often implemented as a compromise between these two purposes. As a consequence, information content of MkIS and usability is inadequate for specific tasks both in marketing and in sales. In addition to this, information which is perceived as being useful for different steps of the marketing management process varies. Due to these different kinds of need it might be better if, instead of one MkIS, separate systems for these purposes were developed. MkIS should provide, of course,

an efficient marketing and management systems totality, but merely based on separate integrated systems. The normative goal of this integration should be functional integration, i. e. redesigned marketing activities, functions and processes in addition to technical integration, i. e. data transfer from one component of the IS to another (Saaksjarvi and Talvinen, 1993).

The findings of this study indicated that in order to achieve improvements in the fifth step of the marketing management process, i. e. implementing and controlling marketing efforts, an operational MkIS should be used for telemarketing and especially for direct mailing. In our sample of Finnish wholesale companies the usage of these systems was, however, on a very low level. One may ask why? One sound reason is that the traditional functionally organized wholesale companies are not acquainted with the new IT and its outcomes yet. Their approach to MkIS seems to be the more traditional management controlling and reporting systems supporting managerial needs. As a consequence the information content of MkIS is also focused on supporting these needs. In direct mail and telemarketing activities, different and more specific information is however, needed. In order to be able to track, qualify and forward sales leads, rank prospects, generate picking lists and overall to manage customer relationships much more systematically, the gathered information, especially on potential (prospects) and existing customers, competitors and overall information on external influences on the marketing environment is essential. This information is required to improve the effectiveness especially of the sales process and the link between the four Ps in the marketing mix approach

(product, price, place, promotion), which reduces the likelihood of the customer being neglected.

Systematic use of operational MkIS, particularly for direct marketing, could help a marketer gain superior competitive advantage (Moriarty and Swartz, 1989; Shaw and Stone, 1987; 1988). However, salesforce automation is one of the most high-risk, high-visibility projects that a company can undertake and in addition sales representatives are a particularly difficult group to include in MkIS development and daily use (Ferreira and Treacy, 1988). Therefore, close contact between end-users, managers and designers is needed to build up an effective, functionally and technically integrated MkIS wholeness if competitive advantage is to be achieved.

Table I . The potential improvements of MkIS usage according to earlier research

Figure 1 . Overall framework of the study

Figure 2 . Detailed framework of the study

Table II . Variables measuring information content of the MkIS (scale 1 = no information available; 7= a lot of information available)

Table III . Variables measuring perceived support of MkIS in the marketing management process (scale 1 = supported very badly, 7 = supported very well)

Table IV . Variables measuring use of operational MkIS sub-systems for implementing and controlling marketing efforts (scale 1 = no use; 7 = a lot of use).

Table V . Variables measuring the perceived improvements of MkIS usage (scale 1 = no improvement; 7 = a lot of improvement)

Table VI . Correlations between information content and perceived support of MkIS in the marketing management process Note: Significance level ** = 0. 01, * = 0. 05

Table VII . Correlations between perceived improvements and support of MkIS in the marketing management process Note: Significance level ** = 0. 01, * = 0. 05

Table VIII . Correlations between use of operational MkIS sub-systems for implementing and controlling marketing efforts and the perceived support in this step of the marketing management process Note: Significance level ** = 0. 01, * = 0. 05

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