Use of the Marketing Information System in the enterprise as a basis for efficient management (on the example of the SME sector in the Subcarpathian Voivodeship)

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Abstract: Changes taking place in the business environment intensify uncertainty and are a source of potential risk. Achieving long-term and lasting success in the current times by the company, regardless of its size, requires an appropriate Marketing Information System. This system is assigned a special role in reducing uncertainty and risk and is an important basis for efficient and effective management of a modern enterprise. The Marketing Information System introduces adequate procedures, which serve in gathering, analysis, assessment and spread of needed, actual and precise information for persons responsible for taking marketing decisions. However, an essential element of MIS of modern enterprises is the marketing research subsystem. The managers’ need for a variety of information comes from their task that is a preparation of competitive strategies. Those strategies are crucial in process of creation of company’s market position. Moreover, the need of information is related to necessity of taking fast decisions by managers. The aim of the study is to analyze the activity of selected enterprises of the SME sector in the application of the Marketing Information System and its elements such as: development of sales forecasts, use of the Internet as a source of information and as a form of advertizing. This goal was achieved based on the survey of literature and own research results. The survey was carried out in 2018 using a questionnaire method. The research covered the management of 208 enterprises in Subcarpathian Voivodeship (Poland). For the purposes of this study, in order to expand the comparative base, large companies were also included.

Keywords: Marketing Information System, marketing management, competitive advantage, SME, enterprises in Poland
1. Introduction

Modern companies operate in conditions of very strong competition and rapidly changing environment. Intense turbulence and the speed of changes taking place in the environment require managers to take adaptation measures. In order to perform their managerial tasks efficiently in enterprises, managers must take care of appropriate marketing instruments. The aim is to create conditions for the company to adapt to an increasingly turbulent environment.

Marketing management of a company is an internally coherent set of tools, the so-called 4P of marketing mix (product, price, promotion, place) (McDonald and Wilson, 2012, p. 28). “Marketing management is when at least one of the parties to a potential exchange thinks about how to get the desired reactions from the other parties” (Kotler and Keller, 2012, p. 5). A characteristic principle of marketing management is to influence a specific market not with individual instruments, but with their appropriately shaped composition. This means that it is necessary to apply appropriate procedures for collecting and processing information. The study focuses on information aspects of marketing management.

The aim of the study is to analyze the activity of selected enterprises of the SME sector in the application of the Marketing Information System and its elements, such as: developing sales forecasts, using the Internet as a source of information and as a form of advertizing.

The introduction of the Marketing Information System by managers, in addition supported by IT systems, is to create proper ground for effective management (Szatkowski, 2016, p. 226). An important role in MIS is nowadays attributed to the Internet, which provides interactivity in marketing communication. It is an important source of information and an increasingly important tool for advertizing products of both large and small companies (Skowronek, 2012, p. 88; Bulska, 2015, p. 15).

Continuous and dynamic transformations that take place in the external environment of a modern company make increasingly higher demands on companies especially in terms of the quality of manufactured products, as well as the degree and speed of their adaptation to the constantly changing needs of customers (Nogalski and Niewiadomski, 2014, p. 232; Łobos, 2018, pp. 186–212; Galindo-Escamilla, 2019, p. 222). Nowadays it is difficult to imagine an efficient functioning of MIS in an enterprise without the Internet.

The aim of the paper is to present MIS as an important marketing management instrument. A well-functioning MIS in a company becomes an important basis for building its competitive advantage on the market. Therefore, such an important issue is the development of sales forecasts and reaching for modern communicators by the management to an increasing extent. Some companies have a “technically correct” potential, but not an effective MIS, and therefore it is more difficult for them to win in the market. Only complete use of the company’s existing resources and skills according to customer preferences creates such opportunities (Nogalski, 2011, p. 121). Thus, in the management of a modern company, such principles as: variance, synthesis of strict and intuitive methods, creative approach, continuity of work on strategy, general social point of view grow to the basic rank. Adhering to these principles requires that managers collect and process relevant information within the company. This is the best guarantee of good and effective communication between the company and the market environment.

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2 This is a classic marketing-mix concept, based on the so-called 4P formula developed by McCarthy in 1960.
3 The first MISs were created in the 1960s, initially in the largest American companies.
2. The Marketing Information System and its importance in improving business management

2.1. The essence and functions of marketing management

Marketing management involves a logical sequence of tasks that form the process of creating an overall concept of the company’s market activities, which is defined in the marketing plan. That is why the management and control system, of which the Marketing Information System is an important element, plays such an essential role. Therefore, only full involvement of managers at different levels and in different organizational units of the company can lead to efficient and effective management.

The success of a company is strictly connected with the quality of management understood as the art of controlling processes and resources in a company to achieve its goals. Using the situation in the company’s interest should be the guiding principle of good management. The success of a company is not a consequence of being accidentally in the right place, at the right time, but it is the result of a continuous analysis of the market environment, ending with choosing the right marketing strategy.

Marketing management is, on the one hand, an integral part of the company’s management, as it means deliberate and conscious shaping of its entire market activity. On the other hand, it is a method that allows to strengthen the motivation of all managers and to create in them the awareness of participation in the creation of its achievements. Therefore, an important attribute of marketing management is the purposeful integration of activities, taking into account the interdependencies between them, which creates synergy effects. This ability is in contrast to other management systems that do not sufficiently ensure the extent and scope of inter-organizational coordination within the company. It is about the interaction of all levels of the company’s organizational structure. A special role is assigned to marketing managers, who should coordinate the activities of other services in such a manner that they lead to the achievement of the company’s objectives by achieving the desired degree of competitiveness in the long term. The essence of the company’s market orientation manifests itself mainly in the fact that all employees have contact with the markets on which it operates.

Corporate social responsibility towards the environment is very important in marketing management. The market (business) thinking of managers must therefore also include environmental protection aspects. The care of managers for socially desirable solutions should always be signalled, emphasized in company policy.

Companies act in a socially responsible manner when they treat themselves as an integral part of society and accept profit as only one of the main objectives of the company, which also include: protection of the environment, ensuring the survival of the company and continuity of employment of their employees (Paliwoda-Matiolańska, 2009, p. 76; Kulowczuk, 2018, p. 180). This means that managers should consider economic and social priorities while making long-term strategic and investment decisions. This may have a positive impact on the economic performance of the company in the long term.
2.2. Marketing Information System (MIS) in company management

The leading role of marketing management is constituted by the fact that the basic prerequisites for decision-making processes are provided by information from systematic marketing research on the market, purchaser preferences and competitors’ behaviour. Often the company has the information it needs, but it is dispersed across different cells of the company, not always easy to locate, sometimes mixed up in a mass of others, including unnecessary ones. Therefore, it is necessary to have a proper Marketing Information System that organizes this information appropriately (Duliniec, 1995, pp. 144–145). According to Elżbieta Duliniec, MIS’s task is to provide information for the management of the entire marketing process in the company. It is about direct support of research and product development processes as well as management and analysis of purchaser needs (Unlod, 2001, p. 91).

MIS should be built in such a manner that it focuses attention on the basic goal. The information should focus on the key results, as only a small number of results decides about success. This is the so-called 80/20 rule, which also applies to information effectiveness.

In the presented MIS approaches, the importance of collecting, systematizing, processing, evaluating and using information from the analyzed market segment is stressed. An essential element of the MIS, namely the marketing research and in-depth analysis subsystem, which is essentially about identifying and resolving marketing and marketing management problems in a company, is missing.

Managers are required to develop their own set of necessary information corresponding to the market situation of the company and the established objectives. Thus, the accents may vary, but the most important thing is to ensure the best possible conditions for effective business management (Cisło and Kozioł, 2004).

Decision-makers may receive some of the information by MIS on a permanent basis, some—on a periodic basis, and others—on an occasional basis. The effectiveness of company management is determined primarily by the data collected on an ongoing basis from sales reports, accounting records, sales representatives’ reports, etc. External sources of information from economic journals, research and development centres, government reports, publications of chambers of commerce and industry, annual reports of competitors are also important. No less significant are periodical surveys, which allow in particular for the identification of decision-making problems. They are conducted regularly from time to time in order to measure the same phenomenon. On the contrary, occasional surveys are carried out on an irregular basis. Their aim is to meet the specific information needs of decision makers (Kędzior [ed.], 2005, p. 26).

Well selected information is the one that supports decision-making processes in the company by identifying risks and reducing the uncertainty of activities. “A well-made decision is at least 80% of information, 10% of inspiration (ingenuity) and 10% of manager’s intuition” (Penc, 1994, pp. 83–84). In such a situation, the ability of the management to select the necessary knowledge is becoming increasingly important.

The information collected and organized in the Marketing Information System allows for a systematic assessment of the following aspects (Ślusarczyk, 2011, p. 175):

- Have the proper goals for the company been adopted and are the prerequisites for achieving them in the planned marketing strategy created?
– Are the managers of individual organizational units aware of their “contribution” to the implementation of the adopted marketing strategy?
– Do managers allow for situations in which valuable resources are engaged in activities that do not give hope of achieving the desired results?
– Do managers have a strong motivation to work and are they committed to achieving their goals? Do managers have the necessary knowledge and skills?
– Do managers allow for changes in the company in the future? If so, are they based on appropriate market research? What sources will the company profit from in the future, if the anticipated external opportunities and threats and the company’s strengths and weaknesses are taken into account?

It should be stressed that the introduction of MIS in an enterprise enables and facilitates using by managers such systems as:
– CRM (Relationship Management);
– CAD (Computer Aided Design);
– CAM (Computer Aided Manufacturing);
– MRPII/ERP (Manufacturing Resource Planning);
– FMSs (Flexible Manufacturing Systems).

By creating an important basis for the application of IT systems, MIS allows, on the one hand, for comprehensive communication of all company values and elements of its identity to the market environment through the use of coordinated marketing activities and, on the other hand, for a partnership-based response to the information coming from this environment.4

In a modern company, information is the fourth productive factor besides the human, material and financial factor (Cisło and Kozioł, 2004). The need of using the most extensive information in the company is primarily due to the constantly emerging new market difficulties and growing risks. Managers are therefore faced with the important task of solving the emerging problems in a timely manner and minimizing the risk concerning the accuracy of their marketing decisions.

The collection and passing on of core information about the company and the environment in which it operates by managers to each other is the basis for the process of formulating a marketing strategy (Unlod, 2001, p. 91). It is not possible to create the desired strategy for the company when the consideration of all executives is not based on one and the same set of facts. The executive director’s managerial role in the process of analyzing the collected information is particularly important. He must create a climate of total honesty and self-criticism among the company management. Only under such conditions is it possible to choose the right target market and appropriate marketing management instruments. This has a strict impact on the efficiency of the company and its success on the market.

The creation of an atmosphere of mutual cooperation and common drive for success, as well as the wide application of marketing management instruments in the relationship between the management and the staff is an extremely important element of the company’s mar-

4 The surveys conducted in 2009 and 2018 concerned broadly understood marketing and innovation activity of small and medium enterprises in Subcarpathian Voivodeship (208 companies). They also concerned the use of MIS and its selected elements, such as: development of sales forecasts, use of Internet as a source of information and advertising. In the second stage the author intends to examine the scope and degree of use of the systems: CRM, CAD, CAM, etc.
ket potential. It is the company’s employees who are the ones who build and consolidate the competitive advantage. Companies that understand this dependence also pay great attention to shaping proper professional attitudes of their staff. Customers reject artificial communication and want to be treated seriously (Ślusarczyk, 2011, pp. 203–204). Only such an honest, natural dialogue with clients enables gathering information concerning their needs and wishes on the basis of which an offer which stands out from the competitors’ offers will be defined. Precise estimation of the potential and dynamics of sales processes and profitability of the strategy in accordance with the mission and objectives of the company is the best “recipe” for success. That is why it is so important to continuously assess the recognized opportunities and factors creating the enterprise value. This means returning to the customer and observing the market culture of the company. All company employees must understand what customer value is about and how to realize this value. Therefore, the company should have an effective system for measuring the aspirations and expectations as well as the level of satisfaction of its clients and ought to make the results of the conducted research available to all its employees so that they are fully aware of the realized mission (Ślusarczyk, 2011, p. 199).

The challenge facing today’s companies is to introduce a new management concept based on full awareness of the contribution of all company managers to its marketing management. This is not an easy task to perform and requires a longer time to change habits and make the employed company’s managers aware of their new role of management in the market-product configuration. An important role in this process is attributed to information technologies and databases (Brady, Forrest and Mizerski, 2002, pp. 114–115; Ślusarczyk, Góra and Strojny [eds.], 2005, p. 53). They open the way for creating long-lasting, financially effective, individual relationships with clients. In an effort to target its activities more precisely to the individual customer needs, the company tries to collect data and create their demographic, media and consumption profiles. For this purpose, the company often uses direct marketing—such as mail catalogues—to reach customers more effectively.

The database of huge capacity allows companies to address virtually any questions to the data collection and perform almost immediate analyses. For example, a company can analyze the database to determine whether it has good sales perspectives. This is a huge step towards improving the marketing management of the company. This can be used to develop more effective, customer-focused marketing programmes to meet customers’ needs. This is the right way to build a competitive advantage in relation to market rivals who do not use information analysis and information technology as a marketing management tool (Pomykalski, 2005, p. 145; Kuźniak, 2018, pp. 55–59).

This new market form of company management must be the answer to the growing requirements of today’s customers who (Przybyłowski et al., 1998, p. 238; Kaplan and Norton, 2001, p. 175):

– want to receive offers more tailored to their individual needs;
– require more and more quality and value. They are willing to pay a higher price for higher quality;
– show a lower level of loyalty to sellers.
3. The use of MIS in the examined enterprises

3.1. Methodological notes—adopted indicator

The research covered the managerial personnel of 208 companies in Subcarpathian Voivodeship, divided into groups: micro, small, medium and large enterprises. A non-random selection method was used to determine the research sample. The questionnaire technique was used to examine:

- the use of MIS and its selected elements, such as: developing sales forecasts, using the Internet as a source of information and advertising by enterprises in particular groups: micro, small, medium and large;
- managers’ opinions on how the use of MIS affects the decision-making process.

The following indicators were adopted:

- percentage share of companies using MIS and selected elements of MIS, such as: development of sales forecasts, use of Internet as a source of information and forms of advertising in particular groups;
- the percentage rate of evaluation of MIS support for the decision-making process.

<table>
<thead>
<tr>
<th>Subject of the questionnaire research</th>
<th>Number of indications for companies</th>
<th>Percentage of indication for companies (%)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Micro</td>
<td>Small</td>
</tr>
<tr>
<td>1. Does your company use MIS?</td>
<td>yes</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>43</td>
</tr>
<tr>
<td>2. Is the Internet used as a source of information?</td>
<td>yes</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>41</td>
</tr>
<tr>
<td>3. Is the Internet used for advertising?</td>
<td>yes</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>35</td>
</tr>
<tr>
<td>4. Are sales forecasts being prepared?</td>
<td>yes</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>65</td>
</tr>
</tbody>
</table>

Table 1. Subject of the survey questionnaire

5 For the purpose of this paper, large companies have also been included in the study in order to extend the comparative base.

6 The survey was conducted by postgraduate students of UITM in Rzeszow. The MIS study is only a small fragment of a broad research conducted in 2009 and 2018 on marketing and innovation activity. The results obtained were used in the author’s books: Aktywność marketingowa małych i średnich przedsiębiorstw (1st ed. —Poltext, 2009; 2nd ed.—Poltext, 2011) and Rozwój aktywności marketingowej małych i średnich przedsiębiorstw szansą na ich większą innowacyjność (submitt for printing in 2019 at Poltext Publishing House).

7 All questions were addressed to the managers of selected 208 companies: micro, small, medium and large companies in the Subcarpathian Voivodeship.
As demonstrated by the data in Table 1, the marketing potential of the surveyed enterprises as concerns the rate of Internet use as a source of information and advertizing is at a medium level. In the case of such a marketing instrument as development of sales forecasts, it is much worse. The rate of MIS underutilization in individual groups of companies in the marketing communication process varies considerably. Namely, this indicator for micro companies was at the level of 55.8%, for small companies—58.5%, for medium companies—50.0% and for large companies—31.85%. The use of MIS in small and medium enterprises should be regarded as insufficient.8

Among those companies in which the Marketing Information System operates, the largest part—44.9% of the respondents is of the opinion that the decision-making process is supported by MIS to an average degree. Meanwhile, in every third company (32.7%) it was considered insignificant, and only 22.4%—significant (see Table 1).9

Sales forecasts
Sales planning in the SME sector is not given much importance. Therefore, it is more of an operational activity, consisting of the ongoing replenishment of inventories according to the rhythm of changes in demand, rather than trying to predict the level of demand in the medium and long term. The percentage of companies preparing sales forecasts in particular groups is as follows: in micro companies it is 15.8%, small—40.3%, medium—54.5% and large—86.4%. A vast majority of companies (87.5%) prepare a sales forecast for a very short period of time—up to one year. In the medium term, i.e. 1–3 years, every tenth company plans to sell its products (4.8%), while in the longer term—only 2.9% (including large enterprises). The managers also underestimate the activity in the area of product distinction. This remark refers mainly to micro enterprises, where this indicator was estimated at 42.3% and large enterprises—56.0%.

Internet usage
In micro enterprises, the usage of the Internet as a source of information and advertizing was reported respectively by 46.6% and 54.0% of respondents (Figure 1).

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8 Large companies use MIS to an extent that can be considered satisfactory.
9 The presented data cover not only the SME sector, but also large companies.
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Figure 1. Micro enterprises: A—using the Internet as a source of information; B—using the Internet as a form of advertising

Source: Author’s own elaboration based on the research results, 2018.

The activity of small enterprises in the scope of using the Internet as a source of information was at the level of 52.5%, while as advertisements—62.9% of respondents (Figure 2).

Figure 2. Small enterprises: A—using the Internet as a source of information; B—using the Internet as a form of advertising

Source: Author’s own elaboration based on the research results, 2018.
In the group of medium enterprises, 55.7% of the respondents indicated the use of the Internet as a source of information and 69.8% of the respondents indicated it as source of an advertizement (Figure 3).

Figure 3. Medium-size enterprises: A—using the Internet as a source of information; B—using the Internet as a form of advertizing

Source: Author’s own elaboration based on the research results, 2018.

Among large enterprises, 64.5% declared using the Internet as a source of information and 80.9%—as an advertizement (Figure 4).

Figure 4. Large enterprises: A—using the Internet as a source of information; B—using the Internet as a form of advertizing

Source: Author’s own elaboration based on the research results, 2018.
The increasing use of the Internet by companies as a distribution channel is a positive trend. Studies confirm that companies are more likely to choose this distribution channel if they operate in a market with a high concentration of customers. On such a market, 35.9% of companies sell their products via the Internet. In a market with a low and medium concentration of customers, this percentage is twice as low and amounts to about 18%. It should also be emphasized that only 6.8% of enterprises had a separate unit responsible for electronic business.

4. Conclusion

Marketing theoreticians currently attribute an important role to the Marketing Information System in improving company management. It provides a flexible solution to the constantly accumulating problems in modern companies. Therefore, developing activity in this area, regardless of the size of the company, is of great importance.

The analyses presented in the article allow for the following conclusions:
1. The activity of the enterprises of the SME sector in the use of MIS and its elements, such as the development of sales forecasts, the use of the Internet as a source of information and as a form of advertising, is low.
2. The level of analyzed activity is differentiated: the lowest in the group of the smallest companies, slightly higher in small companies, and the highest in medium companies, but much lower compared to large companies.
3. Only large companies use MIS to an extent that can be considered satisfactory; however, this system lacks its essential element, i.e. the system of in-depth analyses and marketing research—the information flowing from it is crucial for making decisions.
4. It is worrying that a significant proportion of managers do not attach much importance to the use of MIS in decision-making processes. Namely, 32.3% of respondents considered that this support for decision-making processes is insignificant, 45.3%—that it is on average, and only 22.4%—that it is significant.
5. In order to increase the activity of small and medium enterprises in the use of MIS, it is necessary, according to the author of this study, to intensify training in this area, so that managers are more aware of the benefits that the introduction of MIS in their enterprises can bring them. There is also a need for the management of the smallest companies to be more convinced that it is not possible to manage a company well without a wider use of MIS.

References


Wykorzystanie Systemu Informacji Marketingowej w przedsiębiorstwie jako instrumentu zarządzania (na przykładzie przedsiębiorstw sektora MŚP województwa podkarpackiego)

**Abstrakt:** Zmiany dokonujące się w otoczeniu przedsiębiorstw potęgują stany niepewności i są źródłem potencjalnego ryzyka. Osiągnięcie długofalowego i trwałego sukcesu w obecnych czasach przez przedsiębiorstwo niezależnie od jego wielkości wymaga odpowiedniego Systemu Informacji Marketingowej. Temu systemowi przypisuje się szczególną rolę w ograniczaniu niepewności i ryzyka i stanowi on ważną podstawę sprawnego i skutecznego zarządzania współczesnym przedsiębiorstwem. Wprowadza on bowiem odpowiednie procedury, które służą gromadzeniu, przetwarzaniu, analizowaniu, ocenie i udostępnianiu potrzebnych, aktualnych i dokładnych informacji dla osób podejmujących decyzje marketingowe. Jednakże zasadniczym elementem SIM nowoczesnych przedsiębiorstw jest podsystem badań marketingowych. Potrzeba dysponowania przez menedżerów szerokimi i różnorodnymi informacjami wynika z faktu: opracowywania konkurencyjnych strategii, umożliwiających budowanie silnej pozycji rynkowej oraz konieczności szybkiego podejmowania decyzji. Celem opracowania jest analiza aktywności wybranych przedsiębiorstw sektora MŚP w stosowaniu Systemu Informacji Marketingowej oraz takich jego elementów jak: opracowywanie prognoz sprzedaży, wykorzystanie internetu jako źródła informacji oraz jako formy reklamy. Cel ten został zrealizowany na podstawie literatury przedmiotu oraz wyników badań własnych. Badanie przeprowadzono w 2018 roku metodą ankietową, techniką kwestionariuszową. Badańmi objęto kadrę kierowniczą 208 przedsiębiorstw województwa podkarpackiego. Dla potrzeb niniejszego opracowania w celu rozszerzenia bazy porównawczej uwzględniono w badaniach także firmy duże.

**Słowa kluczowe:** System Informacji Marketingowej, zarządzanie marketingowe, przewaga konkurencyjna, sektor MŚP, przedsiębiorstwa w Polsce