

# **Integrated Management Systems as a Tool for Achieving Continuous Improvements in Performance**

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## **Abstract**

The paper presents an analysis of the factors that affect the performance, efficacy and efficiency of the implementation of integrated management systems in an organisation, as well as identifies the potential problems that might occur during this process. For an organisation to operate successfully and effectively it is essential to regulate and manage it in a systematic and transparent way. The continuous improvement of an organisation's activities and processes also involves the introduction and maintenance of management systems that are designed to permanently raise an organisation's performance, whilst addressing the needs of all stakeholders. The purpose of the continual improvement of integrated management systems in an organisation is to increase the likelihood that customer and stakeholder satisfaction is achieved.

**Keywords:** quality, management systems, performance, improvement, efficiency, environmental management system, organisation.

## **Introduction**

Strategic decision-making by businesses operating under competitive conditions requires knowledge of markets, a quality orientation and innovation. Most product innovations are accompanied by quality improvements and additional features. Entrepreneurial innovation culture involves risk-taking, a tolerance of failure, decision-making in ambiguous conditions, uncertainty, a lack of information, the search for opportunities, flexibility, and the creation of an atmosphere that stimulates and supports innovation

(Knošková 2015). The introduction of innovative business activities leads to an increase in the key factors affecting a business' economic performance (Kubíčková et al. 2016).

Improvements in quality can be achieved by improving processes, in particular in terms of efficiency and performance. Many organisations have implemented quality management systems because quality has become one of the basic requirements of competitiveness (Muzaimi and Chew 2015). Quality management systems are able to generate very interesting and long-lasting effects and bring many benefits to all stakeholders. Organisations that have established management systems are better able to meet customer's needs, avoid mistakes, and motivate and engage employees in increasing the efficiency of internal processes, whereby quality becomes the focus of their business (Albulescu et al. 2016).

Established management systems positively affect an organisation's image and, in addition to all the practical benefits of implementing them, are generally accepted by the market as a guarantee of organisational control over their processes. All management systems share several general characteristics:

- process management of an organisation that requires the development and implementation of a specific system that is the subject of audits within the compliance collation of its individual components with the requirements of the management system,
- the ability to apply them to any organisation, regardless of its size, type, or business area,
- the voluntary nature of their implementation, even though it is easier to identify and overcome various legislative regulations through management systems (Iatridis et al. 2016).

European quality policy supports trends and tools that lead to product and production quality improvements and the meeting of customer needs through increased efficiency, productivity and the continuous enhancement of all organisational activities. Many empirical studies confirm the relationship between an organisation's focus on quality and its economic outcomes.

An example of such research is that which was recently conducted in Bulgaria, and which highlights the importance of quality as a factor that affects a company's competitiveness and product quality (Georgiev and Georgiev 2017).

Another study conducted with the participation of 72 organisations in Spain deals with the identification of the factors that affect the performance of an organisation in the implementation of comprehensive quality management (Jaca 2015).

There is great interest in the implementation of the ISO 9001 quality management system. Relevant research on this subject has been extensive and is mostly focused on the economic impact this (potentially) has in manufacturing industries. In contrast, there has been very little interest in similar research on the impact in other areas, such as social services. According to one of the few pieces of research conducted into the

implementation of the ISO 9001 quality management system in social services, it can be very successful if it is adapted to the specific requirements of their clients (Melao 2015).

The introduction of management systems allows an organisation to implement a structured approach to their business in order to achieve predetermined goals. The potential relationship between the certification of a quality management system through ISO 9001:2008 and the risk of failure of Italian companies was examined on a sample of 63,400 companies from across different industries. A significant positive relationship could not always be confirmed (Galetto et al. 2017).

In many countries, the environmental behaviour of companies is strongly supported by government and society. Within this context, Polish organisations were motivated by societal demand and state support to implement environmental protection systems. A survey conducted into the impact of the implementation of such environmental management systems revealed that it produced a positive signal for an organisation's customers and enhanced an organisation's performance (Matuszak - Flejszman 2011).

The implementation and integration of management systems within organisations provides them with the opportunity to demonstrate their obligations towards improving quality, preserving the environment and protecting the health and safety of their employees, thereby gaining a significant competitive advantage in the market. The integration of management systems also contributes to the identification and by the fact that the organization integrates more management systems, it is possible to minimize the risks that affect key aspects of a business with regards to the organisation and its stakeholders (Rebelo et al. 2017).

Although many surveys have been conducted into the economic impact of the integration of (different) management systems, they reveal very little about the actual situation on the ground. As management systems are robust and complex processes, their impact has the same character. Unfortunately, because the majority of the research is based on empirical data collated by individual researchers, only a small number of existing surveys can be compared with each other. In a similar vein, the authors of this article were confronted with the same problem when creating their research task in that they were unable to adapt other work to increase the efficiency of their own findings.

## **Materials and Methods**

The method of analysis was applied to the problem. This required the division and subsequent examination in detail of individual theoretical approaches, as sourced from articles in domestic and foreign journals. The next step was to compare these approaches and evaluate the overall issues relating to the selected management systems.

The aim of the paper is to highlight the factors that affect the performance, efficacy and efficiency of the implementation of (integrated) management systems. The selected method to achieve this was quantitative research on the basis of a questionnaire survey.

The questionnaire survey was conducted among 583 organisations. These organisations belong to a database prepared for scientific research project VEGA No. 1/0670/16 - Evaluation of integrated management systems in the context of improving the competitiveness of business entities in the Slovak Republic. In Slovakia there are approximately 580,000 business entities, of which an estimated 370,000 are sole traders (i.e. self-employed). On the basis of an assumed incidence rate of 50%, significance level of 0.05 and a confidence level of 95%, the recommended size of the sample set is 384. Although stratified sampling from the database was not undertaken, the sample set was representative and included organisations of various sizes and from across many business sectors.

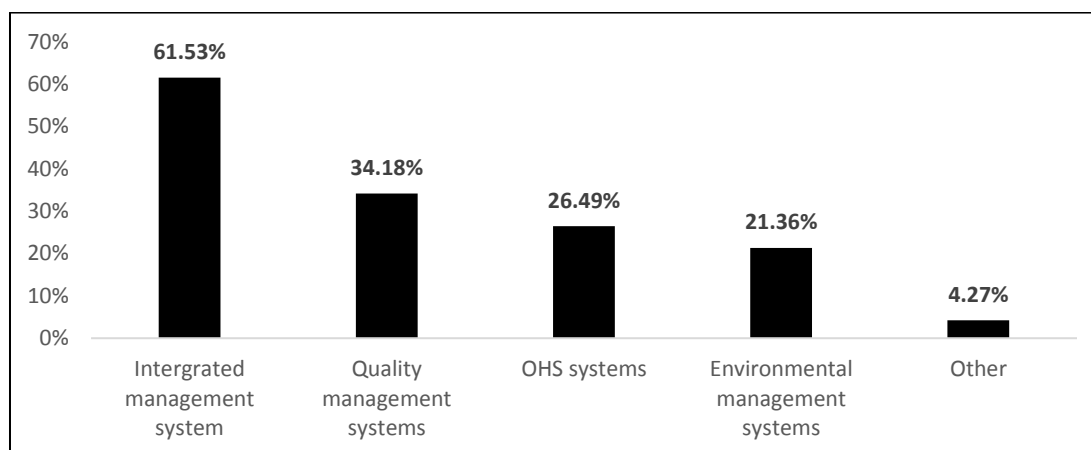
In total, 248 organisations participated in the survey, which represents a return rate of 42.54%. Of these respondents, 131 organisations declared that they were not certified and 117 declared they had some form of management system certification. For the purpose of this paper, the analysis will focus only on those respondents who already have experience with integrated management systems. By doing so, we fulfil the goal of determining the factors that affect company outputs due to the implementation of integrated management systems. The sample set therefore consisted of 117 organisations from different sectors and of varying sizes: micro-companies and self-employed (2 resp. 1.71%); small companies (49 resp. 51.88%); medium-sized companies (58 resp. 49.57%); and large companies (8 resp. 6.84%). The organisations in the sample set were predominantly from the manufacturing sector (82 resp. 70.09%), followed by those from the non-manufacturing sector (20 or 17.09%) and other economic sectors (15 or 12.82%).

In the questionnaire, company managers could pick from a list of management systems and certification schemes. The list included quality management systems, environmental management systems, occupational safety and health systems, and others. The organisations were asked to identify whether they use these systems individually, combined, or as part of an integrated management system that consists of all three, or if they use alternative management systems in their organisation.

Figure 1 shows that the ISO 9001:2015 standard for quality management systems is used by 34.18% (40) of the respondents in the sample set, that the ISO 14001:2015 standard for environmental management systems is used by 21.36% (25) of the respondents in the sample set, that 26.49% (31) of the respondents in the sample set operate under the OHSAS 18001: 2009 standard for OSH systems, and that 4.27%. (5) of the respondents in the sample set implemented other management systems.

In total, 72 respondents (61.53%) in the sample set declared that they had an integrated management system in place and therefore had some experience with management systems. It is this category of organisation, i.e. with experience of implementing more than one management system that forms the basis for the analysis that follows.

**Figure 1: Used management systems**



Source: Authors

Even though the topic of this research is relatively robust and allows for different approaches to be applied, a lack of funds and capacity are the reasons why a questionnaire survey was used for the data collection. In order to further cut costs, the questionnaire was prepared electronically with the use of Google Docs software and was subsequently distributed electronically to those Slovak businesses in the database. Although the questionnaire was addressed to responsible people within the companies (mainly responsible for quality and/or head of the organisation), it is difficult to identify which position the person who responded held.

The method of analysis was used for the processing of the data obtained through the questionnaire survey. During the processing of the results, the synthesis method was also used to synthesize individual answers and to formulate general conclusions, as represented by the relative frequencies (in percentages) with which organisations selected options. For the identification of the principal relationship between integrated management systems and economic performance, only basic mathematical-statistical methods were applied. Deeper statistical analysis would be required to determine a more explicit relationship.

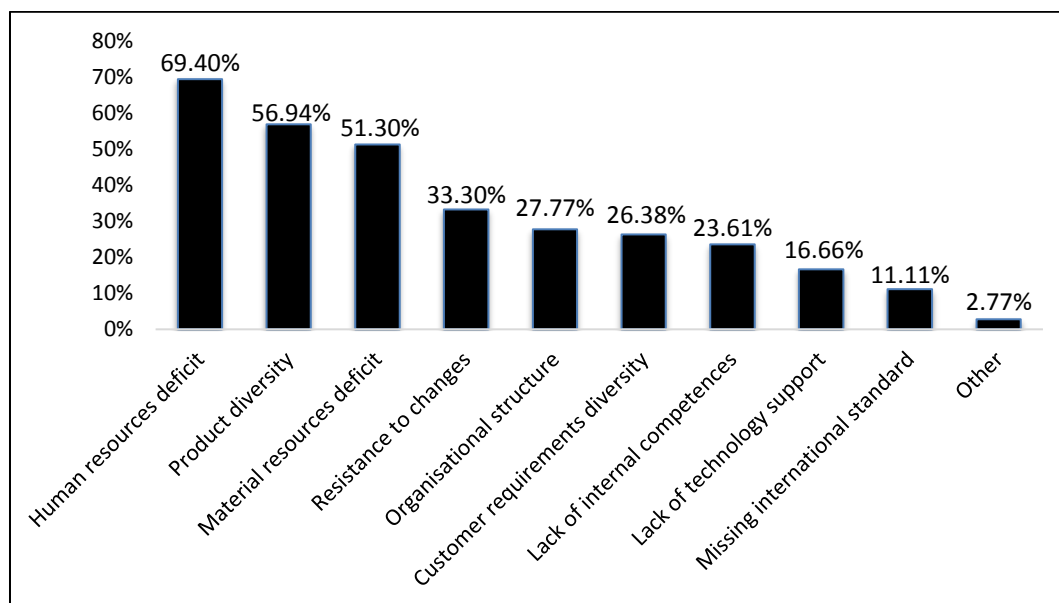
## Results

As unfortunately, in those companies with no experience of building management systems, the perception of the impacts and benefits of integrated management systems can be influenced by subjective descriptions of company environments and perceptions set through mediated information.

The first question with regards to the impact of integrated management systems is whether integration is considered important in the first place. It came as no surprise that the overwhelming majority of respondents (67 resp. 93.09%) indicated that integration is very important. This reflects the expectations of company managements that integrated management systems deliver organisational and process improvements.

In general, organisations encounter several issues while implementing an integrated management system. These problems can be divided into *external* and *internal*. The *external* problems include a lack of tools with which to audit and evaluate the integrated management system, different perceptions of existing standards, and missing standards. The *internal* problems include pressure from the external environment, inadequate interconnection of the management systems with the “core” activities of an organisation, stakeholders groups (e.g. quality requirement vs. environmental or safety protection), efforts to meet the requirements of certification or advisory bodies, and corporate culture (implementation should start with a change in organisational management behavior).

Figure 2: Main barriers to the implementation of management systems



Source: Authors

As is evident in Figure 2, the main problem with the implementation of management systems in organisations is a human resources deficit (50 respondents, resp. 69.44%), which is closely connected with another human resources issue, namely resistance to change (identified by 33.30% of respondents).

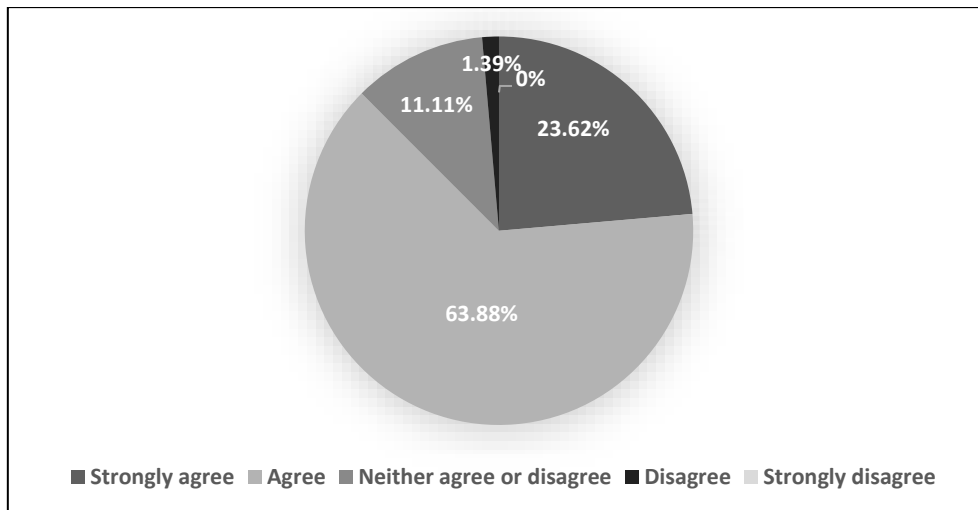
The second largest barrier is formed by process related issues, i.e. product diversity (identified by 41 respondents, resp. 56.94%) and a shortage of material resources (identified by 37 respondents, resp. 51.38%).

In contrast, technical barriers and a lack of knowledge and guidance about the process of integration only play minor roles. A lack of technological support was identified by 12 respondents (16.66%) and missing international standards with regards to the integration of management systems by 8 respondents (11.11%).

We also asked those companies who have successfully integrated management systems about the impact thereof on organisational efficiency. The respondents were asked whether they agreed with the statement that their “integrated management system has

improved organisational efficiency". The results show that the majority of companies agreed that the impact had been positive. Of the in total 72 respondents in the sample set, 17 respondents strongly agreed (23.62%), 46 respondents agreed (63.88%), 1 respondent disagreed, leaving 8 respondents (11.11%) who were unable to judge (see Figure 3).

Figure 3: Integrated management system and improved organisational efficiency

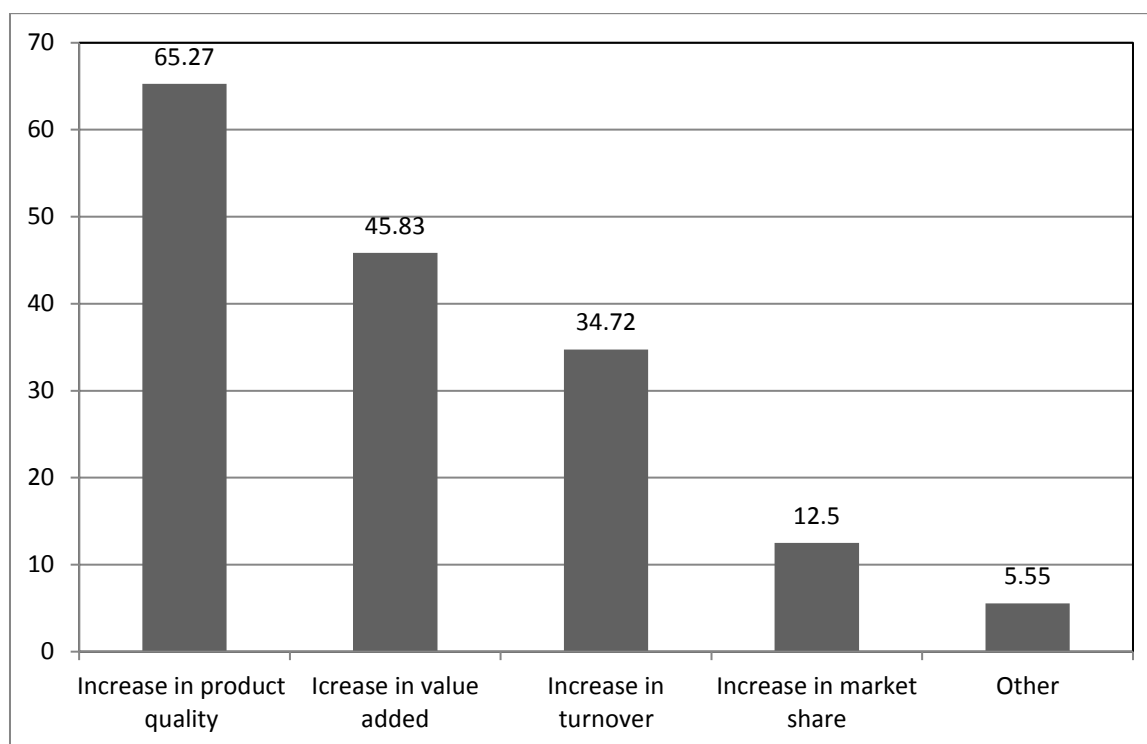


Source: Authors

Organisations, considering their priorities, may decide to only implement some of the systems, such as a quality management system, environmental management system, or OSH system, individually and then to integrate them into a single management system at a later date, or alternatively to immediately implement an integrated management system as a whole in the interests of improving performance and the efficacy of processes management within the organisation (Trierweiler 2016).

Increased efficiency can be achieved through different processes within an organisation. To this end the respondents were asked which aspects of their business activities were influenced the most by their integrated management system. Although more answers were possible, the differences among the different answers were relatively high. The biggest impact on company performance as a result of increased efficiency achieved through an integrated management system, as identified by the respondents, was an increase in product quality (47 respondents, resp. 65.27%). The second largest impact was on turnover (33 respondents, resp. 45.83%), with just over a third of respondents (25 respondents, resp. 34.74%) identifying an increase in value added. Four respondents (marked as Other) specified that their integrated management system alone had no impact on efficiency improvements or on company image (Figure 4).

Figure 4: Impact of integrated management system on company performance



Source: Authors

If the answers to the questions are combined, it is possible to conclude that the goal of implementing integrated management systems is to increase customer satisfaction through the efficient application of these systems. This means continuous improvement of an organisation's processes and performance, while adapting to customer and market requirements. Within this context, external efficiency benefits (product quality, value added) play a bigger role than internal efficiency improvements (market share, turnover).

## Discussion

Establishing management systems can be a tool for continuous improvement in organisational performance, whilst establishing an integrated management system can be a tool with which to differentiate an organisation from its competitors through increased customer satisfaction. There is a plurality of views and approaches to creating and implementing management systems and it is difficult to find a universally established and proven unified approach for all sectors of the economy. Currently, management systems need to be adjusted to the specifics of individual organisations operating in different sectors of the economy.

The survey revealed that the implementation of quality management systems is the most popular approach. At the same time, other management systems under existing certification schemes are growing in popularity and being adopted by a wider range of companies. The analysis of the sample set showed that the integration of different systems is a high priority for companies and that companies tend towards the creation of integrated management systems rather than the replacement of old management systems



or the construction of new ones. This is likely to be the reason why more than 60% of the organisations with a certified management system have a functioning integrated management system. The perception of the importance of management system integration supports this statement as well.

As many experts have concluded on the basis of empirical research, the biggest barriers to the implementation of management systems lie in the field of human resources and resistance to change (as identified by one-third of the respondents). This was also confirmed by the results of the study that is presented in this article. These barriers can be removed by providing support for human resources and removing obstacles to change, which requires a change in organisational culture and philosophy.

Additional data analysis shows that the perceived power of customers has the biggest impact on the construction and implementation of integrated management systems. The results of our survey support this finding. The external benefits influencing the relationship with customers seems to be based on the perceived efficiency improvements that can be achieved through management system integration. This is subsequently reflected in improvements in product quality and value added, which are to the benefit of customers. However, market share or turnover have a greater impact on the financial health of companies, but are less influenced by system integration.

## **Conclusion**

The importance of implementing integrated management systems is growing globally. Increasing global competition supports the need for companies to differentiate themselves from their competitors. Proof of quality within different aspects of a company's activities is still considered to be an efficient differentiation tool, one which has equally positive effects on the sustainability of company processes.

The increasing number of management systems for different company processes and activities creates demand for them to be integrated in order to maintain the economic benefits thereof. Although the drive for internal efficiency seems to be the main reason for integration, our survey revealed that company environment and especially customers have a greater influence on the decision whether to implement integrated management systems.

Interest in management systems and their integration into a single integrated management system has a positive impact on the availability of integration solutions. Although technical issues are perceived by many companies to be an obstacle to integration, the experience of companies that already have certified integrated management systems in place shows the opposite.

Many more problems and barriers are connected with human resources and the workforce than with the technical content and guides for the integration of management systems. Corporate culture plays an important role in the success of the implementation of integrated management systems as tools for achieving continuous improvements in an

organisation's performance. To achieve this success, it is necessary to create the appropriate conditions to motivate and support teamwork and communication.

## **Acknowledgement**

This paper is an output of the project VEGA No. 1/0670/16 Evaluation of integrated management systems in the context of improvement of business entities competitiveness in the Slovak Republic.

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KARKALÍKOVÁ, M. and R. STRHAN, 2018. Integrated Management Systems as a Tool for Achieving Continuous Improvements in Performance. *Littera Scripta* [online]. České Budějovice: Institute of Technology and Business in České Budějovice, **11**(1), 81-92 [accessed: 2018-06-29]. ISSN 1805-9112. Available at: [http://journals.vstecb.cz/category/littera-scripta/11-rocnik-2018/1\\_2018/](http://journals.vstecb.cz/category/littera-scripta/11-rocnik-2018/1_2018/).