

MANAGEMENT SYSTEMS IN THE AUTOMOTIVE INDUSTRY – ASSESSMENT OF AWARENESS OF THE MANAGEMENT STAFF REGARDING THEIR IMPLEMENTATION AND APPLICATION

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Purpose: The article presents the results of research on the assessment of awareness of middle-level employees in the field of their implementation and use in a company from the automotive industry.

Methodology: Assessment of the management staff's awareness of the implementation and use of management systems in the automotive industry using a survey. Assessment of the management staff's awareness of the implementation and use of management systems in the automotive industry using a survey. The survey was addressed to middle management (90 employees). The number of respondents was indicated by top management. A four-stage research methodology was developed, including: development of survey questions (first stage), determination of the research group (second stage), determination of the minimum number of respondents using the PQStat tool (third stage), analysis of survey results (fourth stage).

Findings: The results of the survey research obtained in the work can be considered as a contribution to the statement that the awareness of the mid-level staff regarding the management systems used in the surveyed company, the implemented systems supporting the optimization of all production and production-related processes. Determining the type of impact of the implementation of management methods and tools used in the company affect the improvement of OHS, determine the type of impact of the implementation of management methods and tools used in the company that improves the organization of production, how employees acquire knowledge and skills in the field of OHS Management System and what are the most effective sources of knowledge should be a priority.

Making employees at all levels, including the middle level, aware of the importance of training and with what frequency it should take place, as well as the involvement of middle-level employees in the implementation of management systems, has a significant impact on the employees' work efficiency.

Research implications: The survey research was limited to examining the awareness of only one group of respondents (mid-level management) of the surveyed enterprise. This survey can also be conducted among other employees of the enterprise in order to obtain full information on the use of management systems in the audited entity. This industry is developing intensively and there is a need for greater awareness of employees about the applicable management systems.

Practical implications: The conducted research may provide important information for the management staff in terms of improving competences within the applied management systems.

Originality: The purpose of the publication was to present survey results concerning the assessment of awareness among middle-level employees regarding the implementation and utilization within a company in the automotive industry. In today's business world, the research problem holds significant importance. This industry is developing intensively and there is a need for greater awareness of employees about the applicable management systems.

Keywords: automotive management system, Lean Manufacturing, awareness.

Category of the paper: research paper.

1. Introduction

Nowadays, the challenge in the automotive industry is more demanding due to the increase in dynamicity and complexity of environmental changes in the external business environment (Purwanto, Ashari, Anggoro, Nasution 2023). The automotive industry is an important element of the global economy and is constantly undergoing changes and transformations, and in the last decade, the Polish automotive industry has recorded a 100% growth measured by sold production. This considerable success makes the automotive industry the second-largest industrial sector in Poland (10.1% share) (Dąbrowski, 2019) for maintained jobs and new investments. There are significant links between the automotive industry and other sectors of the economy related to the maintenance of vehicles, the business sector, road transport, the sale of propellants, or even the broadly understood construction of road infrastructure. Management systems such as WCM, EFQM, Toyota Production System and certified: PN EN ISO 9001, PN EN ISO 14001, PN ISO 45001, ISO/IEC 27001, ISO 28001, IATF 16949 have been used in this industry for years, contributing to better management, greater savings and the development of labor and production standards. Undoubtedly, the knowledge and awareness of employees regarding the use of systems is the main element of implementation and success.

In a manufacturing company, employees are considered a valuable resource against which goals related to the company's strategy are defined. Then the tasks and responsibilities in the process are specified. The role assigned to each employee separately causes each of them to be a clearly defined element of the system. This definition is expressed in defining the required competencies that are necessary for the proper performance of the entrusted tasks. The degree of compliance of the competencies possessed with the desired competencies proves the level of quality of human resources in the enterprise. It can be achieved when an employee is hired or

developed in parallel with the commencement of the employment relationship. Full employee involvement increases the ability to create value for stakeholders. Top management should, through their leadership, create and maintain a shared vision, shared values, and an internal environment where people can fully commit to achieving the organization's goals. These changes result from the understanding that most of the factors that improve work efficiency depend on the social and emotional nature of employees (Lindebaum, Cartwright, 2002; Santarek, Duda, Oleszek, 2020; Zeguo, Jiang, Zhicheng, Xueli, 2023). It can be concluded that the commitment and awareness of employees is, next to professionalism, availability of resources and proper organization of work, one of the basic conditions for high quality activities and, as a result, products (Hamrol, 2017; Hamrol, Mantura, 2005; Minh, Kien, 2021; Oana, Popescu, Gabor, 2023; Garg, Mahajan, Ghosh, 2023; Kelly, Wellington, Pimentel, Almeida, Juventino, 2023). Awareness is a complex concept. It may concern various categories (e.g. ecology, marketing, market, etc.). Attempting to define consciousness, a certain generalization is introduced and it is treated as the knowledge that a person has about his existence, his actions and the external world in given working conditions (Berkowska, Drzewiecka, Mrugalska, 2014; Vuppalapati, Roohi, Kursheed, Dasharath, Reddy, Prasada, 2023). Employees are motivated, dedicated engaged, eager to contribute to problem solving, and take part in improvement activities because they feel responsible for their performance.

The key benefits of employee engagement are:

- motivated and committed employees of the organization,
- innovation and creativity in promoting the company's goals,
- a responsibility of employees for their actions,
- willingness to participate and contribute employees to continuous improvement.

In every enterprise where product manufacturing processes are carried out, it is necessary to design, efficiently implement and maintain a system that should meet all the requirements set for it in terms of production flow control, planning, quality and customer service. Particularly in the automotive industry, management systems are necessary to maintain production continuity and high quality of manufactured products (Kuczyńska-Chałada, Poloczek, 2020).

2. Management systems used in the automotive industry

The number of enterprises included in the automotive industry means that it is treated as the main pillar of the Polish and European economies (Karlikowski, Karlikowska, Plezia, 2010). The automotive industry includes, among others:

- production of motor vehicles,
- manufacture of trailers and semi-trailers, excluding motorcycles,
- production of motor vehicles,
- manufacture of bodies for motor vehicles,
- manufacture of parts and accessories for motor vehicles,
- production of car tires,
- production of car windows,
- production of car batteries.

The implementation of management systems in the automotive industry requires technical, organizational, and mental preparations among employees (Oana, Popescu, Gabor, 2023). Management systems are not only the recording and application of procedures but also demonstrating positive behavior towards the customer and for the quality of the product, which prevail in the company regardless of the functioning system. It is based on knowledge in the field of technology of the selected industry, machine operation, maintenance, metrology, logistics, statistics, human resource management, finance, etc.

Because the issues are so numerous, the entrepreneur, implementing the selected management system, must take the necessary actions to adjust the current state of functioning of individual areas to the desired state. Changes may be required that are not easy or impossible in the realities of a given enterprise. What is important here are the necessary financial resources, technological capabilities, and technical conditions, but also cultural (mentality, habits of employees and management/owners) and qualifications. Table 1 characterizes selected management systems used in the automotive industry.

Table 1.

Characteristics of management systems, including certified ones, used in the automotive industry

Management system	Characteristic
Toyota Production System	The Toyota Production System is one of the most interesting concepts of production management. This method is a combination of unique Japanese management methods and the characteristic feature of the company is its specific organizational structure, the way of perceiving reality, and conducting business activity. The essence of TPS is based on the proper organization of production and logistics as well as mutually beneficial relations between the company and its suppliers and customers. The overriding objectives of the Toyota Production System are activities such as: providing products and services of the highest quality standards, developing employees' potential through mutual trust and cooperation, and reducing costs by eliminating waste. TPS is one of the most efficient production systems in the world and has been implemented in various forms by many large enterprises. The Toyota Production System is a long-term and never-ending improvement, which is manifested in continuous growth productivity, and production quality. TPS is the foundation of the Lean Manufacturing concept.

Cont. table 1.

<p>WCM system (World Class Manufacturing)</p>	<p>World Class Manufacturing (WCM for short) is an integrated management system. The basic assumptions of WCM are the absence of losses, failures, defects, and accidents. World Class Manufacturing is based on the lean manufacturing philosophy, Total Quality Control, and Total Productive Maintenance concepts as well as the Just in Time philosophy. Just in time assumes the complete elimination of waste of time, energy, materials, and overproduction by providing each production process with the exact number of needed elements at the right time. The main objectives of World Class Manufacturing include maximizing the results of the production system while maintaining quality standards and complying with logistics programs. The aim of WCM is also the development of a production system aimed at improving competitiveness. For success in implementing World Class Manufacturing, it is equally important to meet the assumptions that make up the group of managerial pillars. In the management area, it is considered crucial to develop the involvement of the management board, clearly define goals in the form of KPIs (Key Performance Indicators), create a framework project implementation plan, and define the target level we are aiming for. Next, it is important to allocate the necessary human resources, define deadlines and budget, gain acceptance for changes and commitment of the entire staff, and shape the motivation for continuous improvement.</p> <p>It is worth noting that the implementation of each of the pillars is a multi-stage process. There are 7 steps for each pillar, and the degree of their implementation is assessed during internal and external audits. WCM provides 4 levels of certification - bronze, silver, gold, and world class. Depending on the results of the control audits carried out, the auditors award the appropriate level of certificate. The bronze certificate is dedicated to companies that have already started the process of implementing WCM and this has translated into observable effects. The silver certificate has been provided for plants that have already implemented a complete set of WCM assumptions and function better on this account. The gold certificate is awarded to entities considered exemplary in terms of improving the functioning and innovativeness of solutions. The highest possible award is a world-class certificate confirming the model implementation of the WCM methodology.</p>
<p>Model of Excellence EFQM</p>	<p>The EFQM (European Foundation for Quality Management) Excellence Model is a comprehensive and advanced organizational improvement tool. It covers all the most important areas of the organization's functioning and precisely defines what requirements should be met in these areas. Thanks to this, the Model serves as a comprehensive self-assessment tool and at the same time a model of excellence to be pursued by taking appropriate action in each of the highlighted areas. Self-assessment makes the organization aware of its strengths and allows to identify areas that need to be improved. The EFQM Excellence Model does not impose or suggest ready-made solutions, but allows for many approaches to achieving sustainable excellence in all aspects of the organization's operations. The management approach suggested by the Model is based on the following assumption:</p> <p>Excellent results in terms of business performance, customers, employees and social impact are achieved through leadership that drives policy and strategy formulation, people management, partnership and resource management and processes.</p> <p>The EFQM Excellence Model covers the following business areas:</p> <ul style="list-style-type: none"> - Leadership - how the board and all managers behave and act to inspire and bring about a change in the culture towards a quality mindset; - Policy and Strategy - whether the policy and strategy are formulated, verified, and improved by the EFQM management concept; - Personnel management - how the company unleashes the full potential of its staff; - Resources - how financial, information, material resources, and applied technologies are effectively used to support the implementation of the company's policy and strategy; - Processes - how critical processes are applied and controlled to ensure continuous improvement of the enterprise; - Customer satisfaction - how the customer evaluates the quality of products and services; - Employee satisfaction - how the employee assesses the benefits of employment in the company and their contribution to its development; - Impact on the environment - what are the company's relations with the local community and its impact on the natural environment; - Activity results - to what extent the company achieves its planned goals.

Cont. table 1.

Norma PN EN ISO 9001	<p>The ISO 9001 standard contains requirements for a quality management system applicable to any organization, regardless of its size and type, which needs to demonstrate the ability to consistently provide products that comply with customer requirements and applicable regulations and strives to increase customer satisfaction (according to ISO 9001, a product is also service).</p> <p>The international ISO 9001 standard is one of the most popular standards, compliance with which is confirmed by external certifications.</p>
PN EN ISO 14001	<p>ISO 14001 contains requirements for an environmental management system, the fulfillment of which can help organizations achieve environmental and economic goals. The basic task of the standard is to support environmental protection and prevent pollution. The standard is intended for all organizations regardless of type and size.</p> <p>The benefits of environmental management system certification are:</p> <ul style="list-style-type: none"> - Positive perception of the company on the market by customers and the public. - Minimizing emergencies in the company by using the best available technical solutions. - Reducing the costs of using the environment. - Better position when undertaking new ventures and raising capital. - Increased competitiveness in the market.
PN ISO 45001	<p>“Occupational health and safety management systems. Requirements and application guidelines” is a standard issued in March 2018 by the International Organization for Standardization. The standard characterizes the requirements relating to the occupational health and safety management system (i.e. OHS). Its scope includes both a practical approach that translates into the safety of people and the company, as well as guidelines for its use so that it can be continuously monitored and optimized in the area of OHS. Thanks to such activities ensuring safety in the workplace, enterprises increase their competitiveness in the market and improve their image "in the eyes" of employees and customers.</p>
ISO/IEC 27001	<p>The ISO/IEC 27001 standard presents a model of an information security management system and defines the requirements for establishing, implementing, operating, monitoring, reviewing, maintaining and improving the system.</p> <p>Information, which is a valuable resource for every company, has a measurable value and is constantly exposed to many threats. Therefore, ensuring the security of information held should be a priority in managing the organization.</p> <p>Information security management is not only related to the protection of IT systems. It also serves to ensure the security of personal data, commercial information and other information constituting a business secret.</p> <p>Protection against loss of information is also a legal obligation of all entities conducting business activity, for non-compliance with which there are serious criminal sanctions.</p> <p>With the accession to the European Union, many legal acts appeared, among which the Act on the protection of personal data is of particular importance. IT systems and procedures used in the organization should be adapted to its requirements. You should also take all measures to ensure maximum protection of the processed information.</p> <p>Implementation of an information security management system raises employees' awareness, helps in risk management as well as in establishing information security goals and principles.</p>

Cont. table 1.

ISO 28001	<p>The supply chain security management system to identify and manage revealed threats focuses on identifying the risks associated with the physical movement of goods. ISO 28001 provides requirements and guidance for organizations in international supply chains to:</p> <ul style="list-style-type: none"> - develop and implement supply chain security processes; - establish and document a minimum level of security in the supply chain(s) or segment of the supply chain; - assist in meeting the relevant Authorized Economic Operator (AEO) criteria set out in the World Customs Organization's Standards Framework and line with national supply chain security programs. <p>In addition, ISO 28001 establishes certain documentation requirements that allow for verification.</p> <p>ISO 28001 users will be required to:</p> <ul style="list-style-type: none"> - define the part of the international supply chain where they have established security; - conduct security assessments in this part of the supply chain and develop appropriate countermeasures; - develop and implement a supply chain security plan; - train security personnel in their security duties.
IATF 16949 – Quality Management System in the automotive industry	<p>The IATF 16949 standard was published on October 1, 2016, and replaced the former ISO / TS 16949 standard. It is an extension of the ISO 9001 standard - apart from its general guidelines, it contains elements related only to the automotive industry. The quality management system according to the IATF 16949 standard applies to such aspects of activity as the design, production, assembly, and service of automotive products.</p> <p>The implementation of the IATF 16949 standard eliminates the need for multiple certifications when dealing with different foreign clients. Unification of international standards in the quality management system of the automotive industry is therefore a very convenient solution in this situation.</p>

Source: Own elaboration based on (Liker, 2005; Monden, 2011; Skojett-Larsen, 2012, ISO 28001:2007. 2007; Grzelakowski, 2011; Kosutic, 2022; Drzewiecka-Dahlke, 2020; Abdoul, 2022; Małysa, 2023; PN-EN ISO 14001:2015; PN-EN ISO 9001:2015; PN-ISO 45001:2018; Furman, Kuczyńska-Chałada, 2019; Piątek, 2022).

3. Metodology

The research on the awareness of automotive industry employees in the field of applied management systems was carried out based on surveys conducted in the first quarter of 2023. The questionnaire contains forty questions, including ten questions related to the management systems used in the company. The research was addressed to 90 middle-level employees employed in the following departments: production (23 employees), logistics and warehouse (18 employees), administration (11 employees), quality assurance (17 employees), production maintenance technology (13 employees), and maintenance (8 employees). The group of respondents consisted of employees aged 41-50 with 16-20 years of work experience. The subject of analysis as part of the work was the area related to the implementation of management systems and the awareness of middle-level employees in this regard. As part of the questionnaire, the issues related to occupational health and safety, the use of Lean Manufacturing concept tools, and applied management systems (first stage) were addressed.

In the second stage of own research, the employees to whom the survey was addressed were identified - the research group consisted of 90 middle-level employees, indicated by the top management of the surveyed company (working in two plants in a two-shift system). Two plants where survey respondents belonging to one company work. The results are analyzed for the company and not for each independent device (according to the management executive substances).

In the third stage, the minimum number of respondents was established. For this purpose, the PQStat statistical analysis tool was used. With the assumptions of the significance level of 0.05 and the estimation error of 0.02, it was estimated that the necessary number of questionnaires should be 87. The assessment of awareness was a subjective assessment based on the analysis of the results of each question individually.

In the fourth stage, the obtained research results were analyzed and areas for potential improvement were indicated. The step-by-step approach is graphically presented in Figure 1.

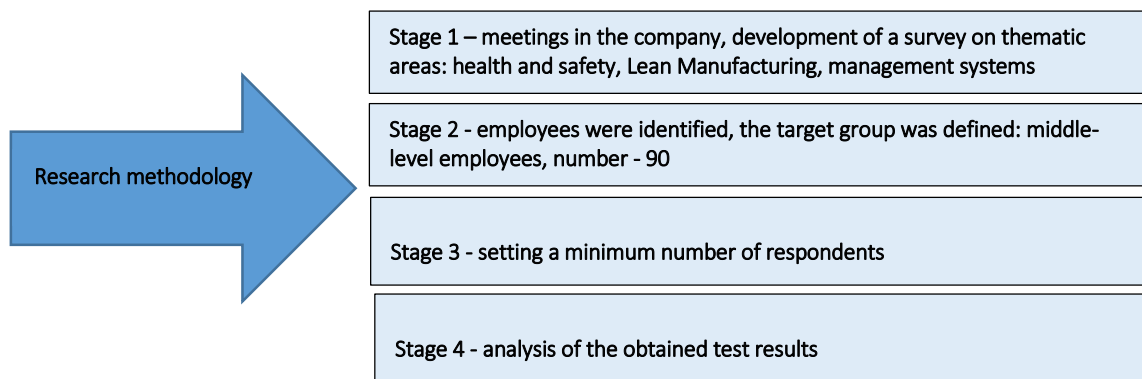


Figure 1. Methodology of own work.

Source: own elaboration.

As part of the survey questionnaire, 10 single- and multiple-choice questions were distinguished from the following research areas:

- awareness of the middle-level staff in the field of management systems used in the audited enterprise,
- awareness of the implemented systems supporting the optimization of all production and production-related processes,
- determination of the type of impact of the implementation of management methods and tools used in the Company that improve OHS,
- determination of the type of impact of the implementation of management methods and tools used in the company that improves the organization of production,
- how employees acquire knowledge and skills in the field of OHS Management Systems and what are the most effective sources of knowledge.

Table 2 lists the survey questions that will be used to assess the awareness of middle-level employees in the field of implementing management systems, which in turn will allow them to take further actions in the field of development for the development of organizational culture in the company.

Table 2.

Survey questions. Number of respondents. Number of responses

Specyfification	Number of respondents	Number of responses
What certificates does the company have? (more than one answer possible)	90	89
What systems are implemented in your company to support the optimization of all production and production-related processes? (you can select more than one answer)	90	89
As part of the implemented systems, what tools are used in the daily functioning of the Company? (more than one answer possible)	90	89
How long have you known and used the tools selected above? (choose one answer)	90	89
Which of the listed tools caused the least difficulty in implementing in your company, in your opinion? (more than one answer possible)	90	90
Please specify the type of impact of the implementation of management methods and tools used in your company on the improvement of occupational health and safety. (choose one answer)	90	90
Please specify the type of impact of the implementation of management methods and tools used in your company on the improvement of production organization. (choose one answer)	90	90
How many hours does it take to train a new employee? (choose one answer)	90	90
How do you acquire knowledge and skills in the field of OHS Management Systems? (more than one answer possible)	90	89
Choose three, in your opinion, the most effective sources of knowledge:	90	88

Source: own elaboration.

4. Analysis of survey results - employee awareness survey

As a result of the analysis, based on the answers given by the respondents regarding the implemented systems supporting the optimization of all production and production-related processes. it can be concluded that the WCM system is the most recognizable among this group of employees (45 respondents answered), followed by the Toyota Production System (16 respondents). Awareness of the IATF standard is the highest (78 responses). In the case of WCM, visibility is related to the fact that awareness is raised every day through the dissemination of visual information in the workplace.

Figure 2a, 2b shows employees' awareness of the company's management systems and certifications.

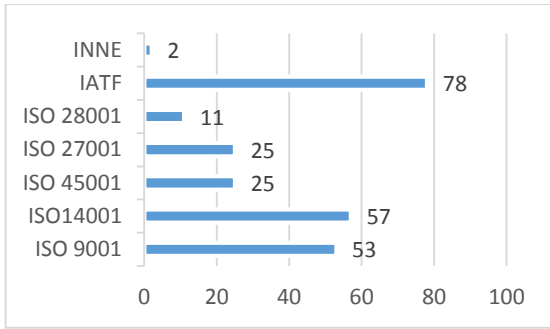


Figure 2a. The results of the survey regarding the awareness of the mid-level staff what certificates the company has.

Source: own elaboration.

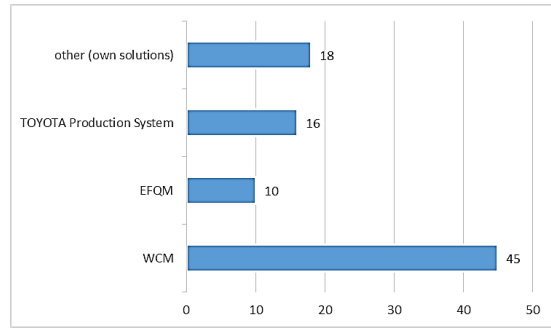


Figure 2b. The results of the survey in terms of awareness of the implemented systems supporting the optimization of all production and production-related processes.

Source: own elaboration.

Figures 3a and 3b show the results of surveys in terms of awareness within the implemented management systems, what tools are used in the daily functioning of the company, and awareness of how long selected tools have been used (Six Sigma, TPM, SMED, Kaizen+Suggestion System, Standardization, visual).

The respondents replied that standardization (88) and the 5S method (83) are known and commonly used at work. Perhaps the period in which they are used plays an essential role here. Employees need time to get used to the changes. In this case, the most frequently marked answer in terms of awareness of how long these tools have been used, the employees answered that more than 5 years (65 persons).

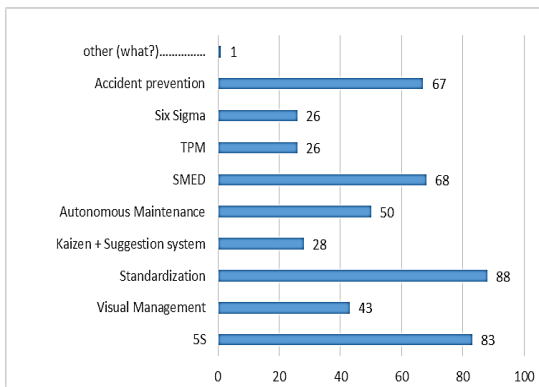


Figure 3a. The results of the survey in terms of awareness within the implemented systems, what tools are used in the daily functioning of the company.

Source: own elaboration.

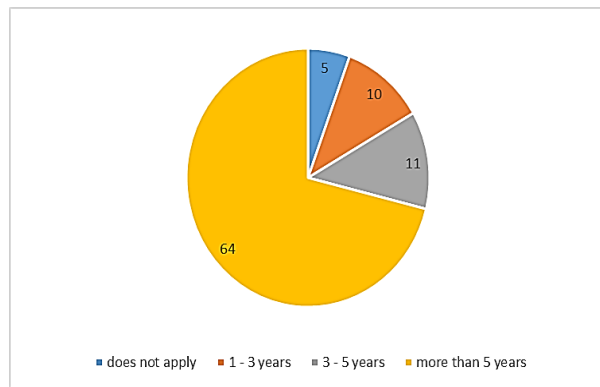


Figure 3b. The results of the survey in terms of awareness of how long selected tools are used.

Source: own elaboration.

Middle-level employees, when asked about the use of methods and tools (e.g. Six Sigma, TPM, SMED, Kaizen+Suggestion System, Standardization, visual management) to improve safety in the workplace, see the impact of selected methods and tools of the management system on improving safety. They assessed it as: large (49 respondents), medium (24 respondents), very large (13 respondents). Responses such as little or no impact were chosen by a total of

4 respondents (Fig. 4a). Awareness of middle-level employees in the field of health and safety is an essential element in improving working conditions. They have a real impact on improving safety at workstations that are directly under their control. Employees similarly assessed the impact of the tools used on improving the organization of production: 49 respondents decided that it had a large impact on the organization of production, 28 employees had a large impact, 10 medium, 5 small and 2 that it had no impact.

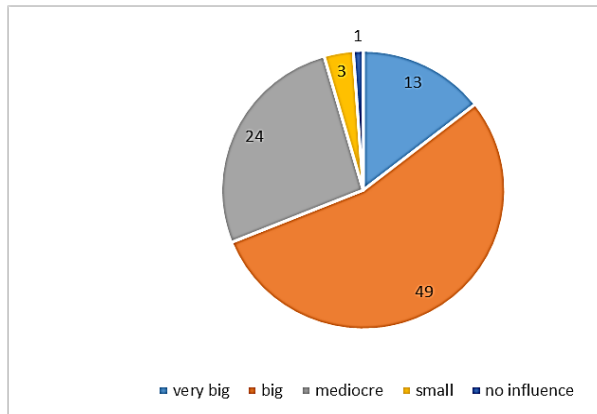


Figure 4a. Awareness of middle-level employees regarding the type of impact of the implemented management methods and tools on improving OHS.

Source: own elaboration.

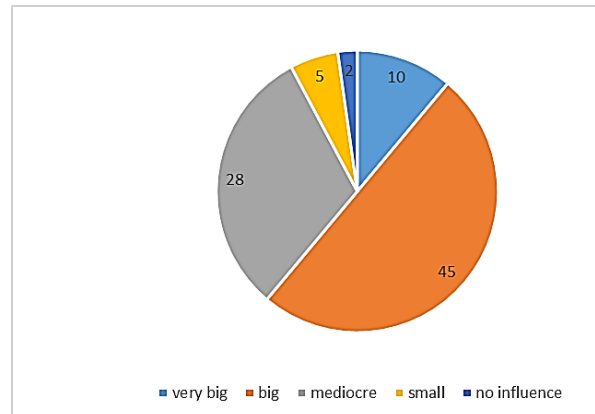


Figure 4b. Awareness of middle-level employees in the field of tools that have the greatest impact on improving the organization of production.

Source: own elaboration.

The time in which employees are trained provides the basis for better, safe and effective work, as well as information on management systems in the enterprise. Introducing changes is also associated with complex reactions of employees, and above all with resistance to the upcoming "new order". Time is needed for this stage to be successful and for everyone to become convinced of the proposals and duties that will improve their work. In each company, the implementation period is determined individually: sometimes it lasts a year, but in other cases it can be, for example, five years. One thing is certain, it must be used primarily for employee training, which will step by step introduce new arrangements, indicate their purpose, outline the perspective of effects. Employees need time to personally believe in the change, to work on new habits, and in the transition phase - to make mistakes. In building the competitive potential of the company using the Lean Manufacturing concept, the priority of the middle-level staff should be primarily to create a system of efficient information about changes, to take care of trainings that transfer specific knowledge and skills, to involve all employees who participate in company processes and to constantly motivate them to development. The results of the survey shown in Figure 5 show that 47 people are aware of how long it takes to train a new employee (4 days), 27 employees answered that one day, 12 employees specified 2 days, and 4 employees 3 days.

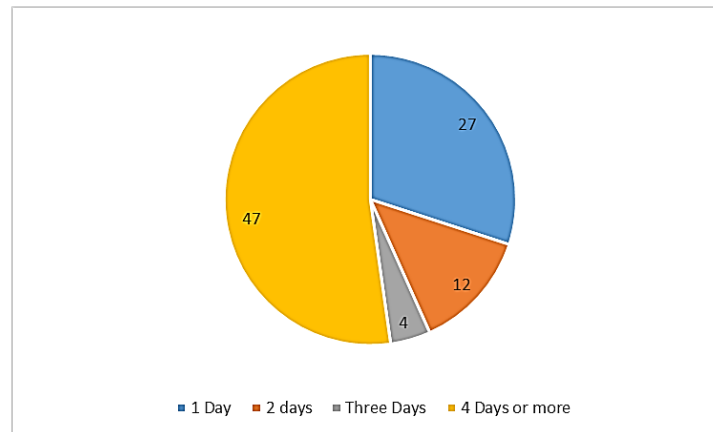


Figure 5. The results of a survey on the awareness of mid-level employees regarding the training time of a new employee.

Source: own elaboration.

According to the requirements contained in the legal provisions (Section X of the Labor Code), an employee must not be allowed to work for which he does not have the required qualifications or skills, as well as sufficient knowledge of the regulations and principles of occupational health and safety. How to pass on knowledge, in the most effective way and at the same time make the employee aware that compliance with the rules at work is related to his safety and ensures continuity of production. To the question (Figure 6) on how middle-level employees acquire knowledge and skills in the field of OHS Management Systems, the largest number of answers (82) concerned thematic and periodic training, OPL (46), and dedicated training 40.

When asked what, according to middle-level employees, are the most effective sources of knowledge (respondents could indicate more than one answer), they chose: dedicated training (58), thematic and periodic training (45), and thematic training (43). Such a choice depends on the acquisition of specialist knowledge during such training on the use of methods and tools for the functioning of the management system in the enterprise. They are the most valuable to increase employee competencies in this area.

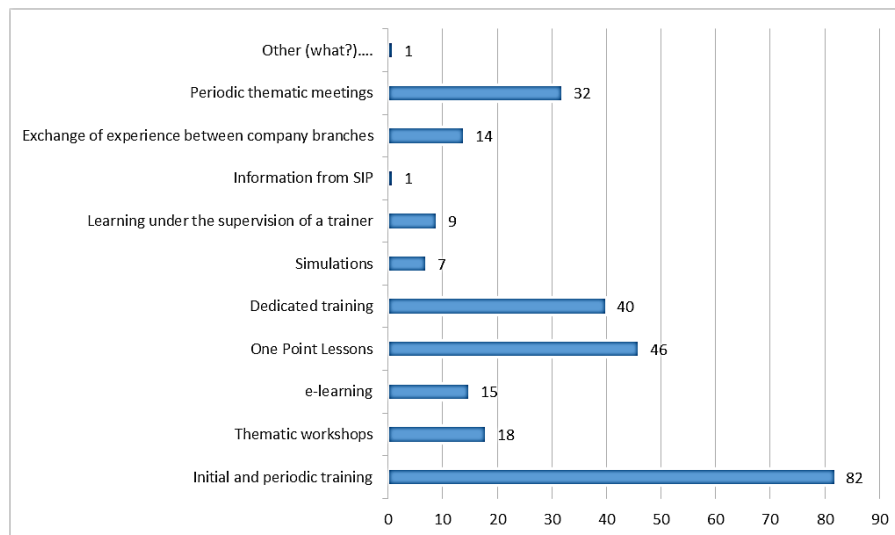


Figure 6. The results of the survey on the acquisition of knowledge and skills in the field of OHS Management System.

Source: own elaboration.

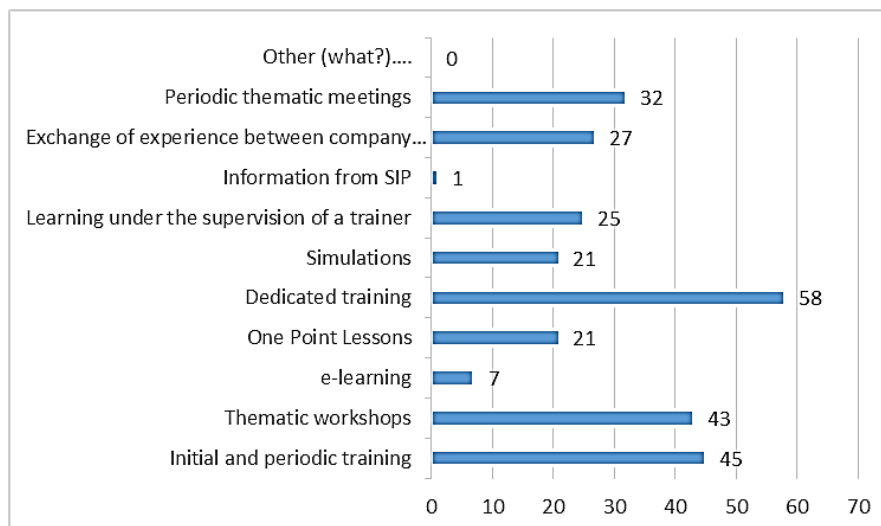


Figure 7. Survey results - the most effective sources of knowledge.

Source: own elaboration.

5. Conclusion

Implementation of management systems is a multi-stage process in a production company and requires careful planning and preparation of all persons involved in it. In the era of increasing competition in production markets, enterprises should continue to strive for perfection, introduce modern management methods and improve the quality and efficiency of production.

The results of the survey research obtained in the work can be considered as a contribution to the statement that the awareness of the mid-level staff regarding the management systems used in the surveyed company, the implemented systems supporting the optimization of all production and production-related processes. Determining the type of impact of the implementation of management methods and tools used in the company affect the improvement of OHS, determine the type of impact of the implementation of management methods and tools used in the company that improves the organization of production, how employees acquire knowledge and skills in the field of OHS Management System and what are the most effective sources of knowledge should be a priority. The answers rated the highest by the respondents, which prove the awareness of middle-level employees in the field of management systems in the company, are:

- obtaining specialist knowledge through dedicated training - 58 respondents answered 58,
- duration of the training - 47 respondents,
- how long selected tools of the management system have been used (Six Sigma, TPM, SMED, Kaizen+Suggestion System, Standardization, visual management) – respondents replied that standardization was 88 and the 5S method - 83 answers,
- the impact of the tools used on improving the organization of production - 49 respondents,
- what systems are implemented to support the optimization of all production and production-related processes - the WCM management system is the most recognizable among this group of employees (45 respondents answered), and the IATF (78 answers).

Making employees at all levels, including the middle level, aware of the importance of training and with what frequency it should take place, as well as the involvement of middle-level employees in the implementation of management systems, has a significant impact on the employees' work efficiency.

The increase in performance assessment can be attributed to their involvement in management systems such as WCM, EFQM, Toyota Production System and certified: PN EN ISO 9001, PN EN ISO 14001, PN ISO 45001, ISO/IEC 27001, ISO 28001, IATF 16949, because process owners have purposeful roles and functions in deployment. They are exposed to a variety of capacity-building activities such as training, thematic workshops, seminars, and focus group discussions that deepen their functional knowledge of these systems. As such, their involvement and awareness play a key role in governance throughout the company.

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