

The Level of Occupational Health and Safety in European Enterprises Providing Transport and Logistics Services in Terms of Quality Management Principles

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INTRODUCTION

In the era of a growing economy, competition on the global market is enormous, and enterprises to exist and to be a leader in their industry or sector must be constantly improve. At the same time, improvement should take place in many levels (Aziz, Sumantoro, and Maria, 2019; Jagusiak-Kocik, 2017). The improvement process should apply to all areas of activity, starting with the organization of the process through quality management, environmental protection management, as well as human potential management, including improvement of work safety management (and in particular improvement of working conditions) (Bhuiyan and Baghel, 2005; Grabara, Cehlar, and Dabylova, 2019; Klimecka-Tatar and Ingaldi, 2020; Lobanova and Tulenkov, 2019). All improvement measures are aimed at the enterprise development either directly (e.g. process organization) or indirectly (e.g. work safety) (Balon and Roszak, 2020). And it is worth noting, that lack of improvement activities may lead o disorganization of the management system.

The improvement process may include various corrective actions. The validity of such activities is determined on the basis of monitoring indicators or dictated by the results of research using improvement tools. While it is relatively easy to improve production processes, because of constant feedback in the form of process efficiency, production volume and quality level (Dobrąnsky, Pollák, and Doboš, 2019; Hale, 2003; Ingaldi and Ulewicz, 2020; Klimecka-Tatar and Dwornicka, 2019; Ulewicz, Mazur, and Novy, 2019; Ulewicz and Nový, 2019), it is definitely more difficult in service processes. Service processes are often improved on the basis of feedback from customers as well as from the employees (Aburumman, Newnam, and Fildes, 2019; Ingaldi and Ulewicz, 2018; Knop, 2019; Kowalik and Klimecka-Tatar, 2018; Labajan and Koomsap, 2019). Regardless of the type of business, every entrepreneur, regardless of the

size of the enterprise (micro, small and medium enterprises or large enterprises) is obliged to increased care for employee safety (Furci and Sunindijo, 2020; Mullen, Kelloway, and Teed, 2017; Niciejewska and Klimecka-Tatar, 2018). Special legal regulations exist for this in all European countries – to ensure safe and healthy working conditions (Hale, Heming, Carthey and Kirwan, 1997). Employees are also required to comply with health and safety regulations and their rights (Burt, 2015). The main duties of employees include:

- becoming familiar with the provisions and principles of occupational health and safety,
- participate in training,
- comply with occupational health and safety regulations and rules,
- control and care for the technical condition of machines at workplace,
- use individual and collective protection measures,
- carry out orders issued by superiors.

If the working conditions regarding health and safety at work are inconsistent with the provisions of the Labor Code and may pose a threat to employees, the employee has the right to resign from the work that threatens their safety and health, and notify the supervisor of the threat, as a result of which the work has been suspended.

In contrast, employee safety is perceived quite different from the employer's and employee's point of view. In addition, both compliance with work safety and knowledge of regulations is completely different in enterprises of all sizes. This paper attempts to assess the level of occupational health and safety on the basis of basic principles of quality management, which have become the determinant of the principles of occupational health and safety management.

METHODOLOGY

As is clear from the literature review it is easy to transpose the principles of quality management into the principles of occupational health and safety. Table 1 presents the interpretation of the principles of occupational safety management in the approach of quality management principles (which is the theoretical basis of the research). On the basis of the methodology included in the paper (Klimecka-Tatar, 2020), a set of statements/questions addressed to employees has been created. This study assesses the state of management and the maintenance of an appropriate level of occupational health and safety management in enterprises in the service sector. The research has a pilot nature. The study involved employees of micro, small and medium enterprises and large enterprises. In order to narrow down the research group, only the enterprises that operate on the transport market are referred to in this paper – enterprises that provide transport services (domestic and international transport):
Group 1 – employees/owners of micro enterprises from the service sector (enterprises employing only employees with family relationships),
Group 2 – employees of small and medium-sized enterprises (SMEs) from the service sector,

Group 3 – employees of large enterprises from the service sector. About 100 surveys (randomly selected) were selected from each group, which were analyzed and compared.

Table 1 The principles of occupational safety management in the approach of quality management principles

	Principles of quality management	Principles in the context of occupational health and safety management
Principle 1	Customer orientation	Focus on employee safety – employee needs above economic
Principle 2	Leadership	Leadership – being a role model in the aspect of work safety
Principle 3	Employee involvement	Employee involvement in the implementation of the mission, vision and goals of safety
Principle 4	Process approach	Process approach – documenting the interrelationships of processes aimed at maintaining safety
Principle 5	System approach to quality management	System approach to safety management
Principle 6	Continuous improvement	Continuous improvement – additional safety systems, regular trainings etc.
Principle 7	Making decisions based on facts	Making decisions based on facts – legal documents, statistics and results of monitoring security parameters
Principle 8	Mutual beneficial relationships with suppliers	<i>Not applicable</i>

Source: (Klimecka-Tatar, 2020)

Employees/respondents have been asked a number of questions about safety conditions and safety management in the enterprise. The respondents evaluated the level of occupational health and safety using scale of 0 to 5, where 0 mean: I totally disagree (this is not true), and 5 meant: I completely agree (it is true).

RESULTS AND DISCUSSION

Tables 2-4 present the opinion of employees of micro, small and medium-sized enterprises (SMEs) and large enterprises providing transport or logistics services. Based on notes, employees assessed the attitude towards safety management in a quality management approach, in accordance with the research methodology, employees assessed the issues as follows:

1. My safety is the most important thing at work.
2. My supervisor is a role model in respect of compliance with the safety principles.
3. In enterprise, we care about ourselves and others' safety.
4. Special attention is paid to the relationship between safety and efficiency of work.
5. All safety recommendations at positions are documented.
6. The safe working conditions are constantly improved.
7. Changes in safety conditions are based of data.

Table 2 Structure of assessment according to employee attitude towards safety management – employees of micro enterprises providing transport or logistics services

Statement/Question	Rate						Average
	0	1	2	3	4	5	
My safety is the most important thing at work	0	2	7	13	28	50	4.17
My supervisor is a role model in respect of compliance with the safety principles.	1	2	12	17	15	53	4.02
In enterprise, we care about ourselves and others' safety.	1	4	15	21	18	41	3.74
Special attention is paid to the relationship between safety and efficiency of work.	1	3	14	22	23	37	3.74
All safety recommendations at positions are documented.	1	15	32	23	15	14	2.78
The safe working conditions are constantly improved.	41	36	15	3	4	1	0.96
Changes in safety conditions are based of data.	45	21	31	2	0	1	0.94

Source: (own study)

Table 3 Structure of assessment according to employee attitude towards safety management – employees of small and medium enterprises providing transport or logistics services

Statement/Question	Rate						Average
	0	1	2	3	4	5	
My safety is the most important thing at work	19	22	17	13	18	11	2.22
My supervisor is a role model in respect of compliance with the safety principles.	45	21	14	12	7	1	1.18
In enterprise, we care about ourselves and others' safety.	21	24	12	15	14	14	2.19
Special attention is paid to the relationship between safety and efficiency of work.	37	21	16	18	7	1	1.40
All safety recommendations at positions are documented.	18	19	23	8	14	18	2.35
The safe working conditions are constantly improved.	16	16	22	18	15	13	2.39
Changes in safety conditions are based of data.	35	21	19	9	7	9	1.59

Source: (own study)

Table 4 Structure of assessment according to employee attitude towards safety management – employees of large enterprises providing transport or logistics services

Statement/Question	Rate						Average
	0	1	2	3	4	5	
My safety is the most important thing at work	0	0	5	9	24	62	4.43
My supervisor is a role model in respect of compliance with the safety principles.	1	1	21	11	21	45	3.85
In enterprise, we care about ourselves and others' safety.	0	0	0	5	36	59	4.54
Special attention is paid to the relationship between safety and efficiency of work.	0	1	7	7	43	42	4.18
All safety recommendations at positions are documented.	0	0	0	8	15	77	4.69
The safe working conditions are constantly improved.	0	0	3	5	23	69	4.58
Changes in safety conditions are based of data.	4	2	17	11	27	39	3.72

Source: (own study)

The tables present the percentage structure of ratings assigned by employees to each of the statements/questions. The average rating was calculated based on the collected numerical data.

For comparison the employees of micro, small and medium-sized enterprises and large enterprises providing transport or logistics services assessments, based on the data presented in Tables 2-4, the charts have been constructed (Fig. 1-7).

It is worth noting that the highest scores were obtained for large transport and logistics enterprises – this is definitely higher than the middle of the range, and often exceeding 4. It means that employees of large enterprises assess the safety of work, occupational health and safety management very high and also demonstrate knowledge of legal regulations in this area (Fig. 8).

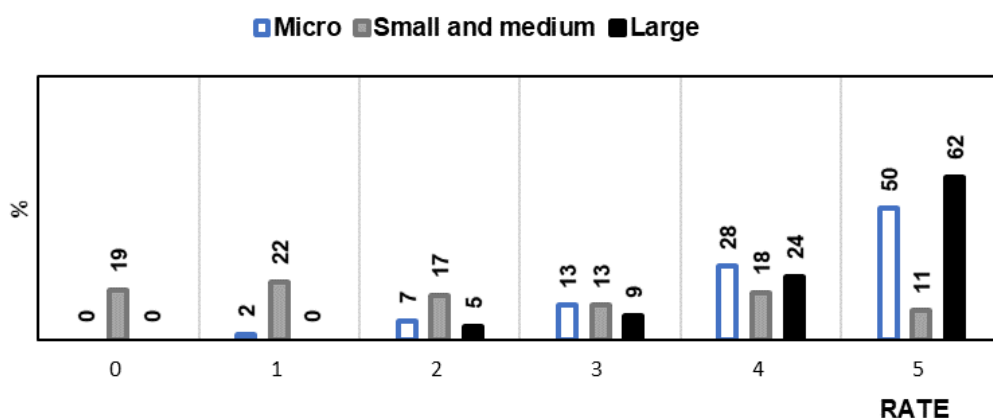


Fig. 1 Comparison of the assessment structure for the attitude towards safety management – according to employees, micro, small and medium-sized enterprises and large enterprises. Statement 1 (regarding principle 1): My safety is the most important thing at work

Source: (own study)

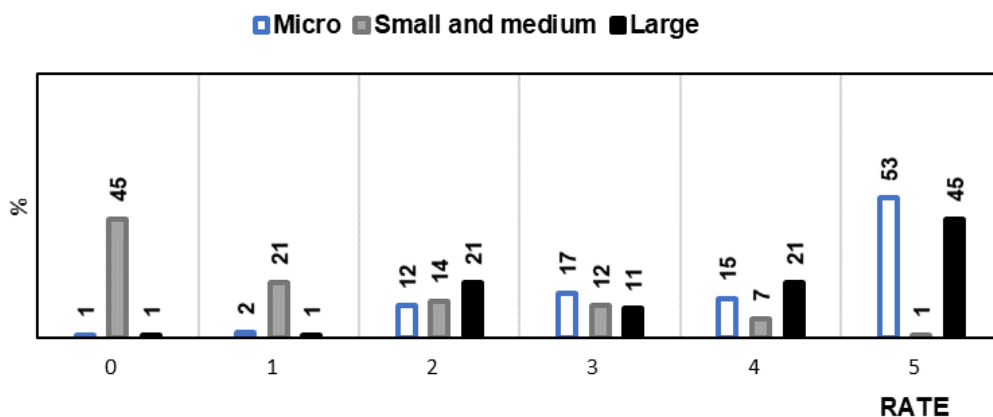


Fig. 2 Comparison of the assessment structure for the attitude towards safety management – according to employees, micro, small and medium-sized enterprises and large enterprises. Statement 2 (regarding principle 2): My supervisor is a role model in respect of compliance with the safety principles
Source: (own study)

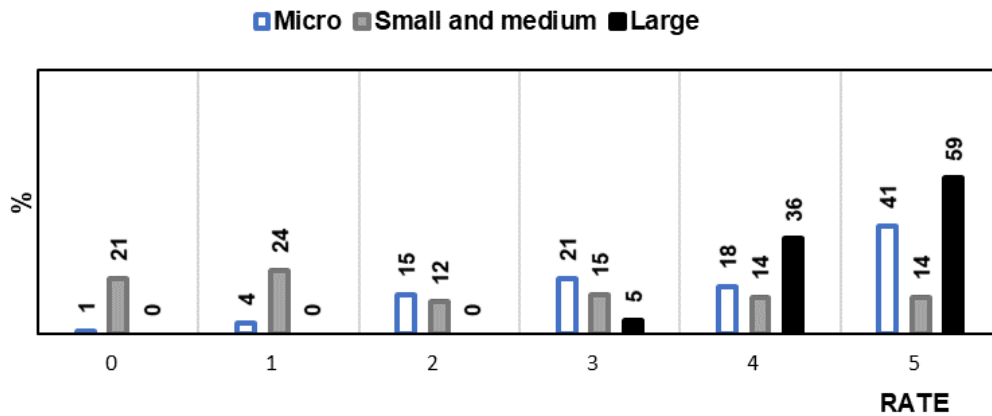


Fig. 3 Comparison of the assessment structure for the attitude towards safety management – according to employees, micro, small and medium-sized enterprises and large enterprises. Statement 3 (regarding principle 3): In enterprise, we care about ourselves and others' safety

Source: (own study)

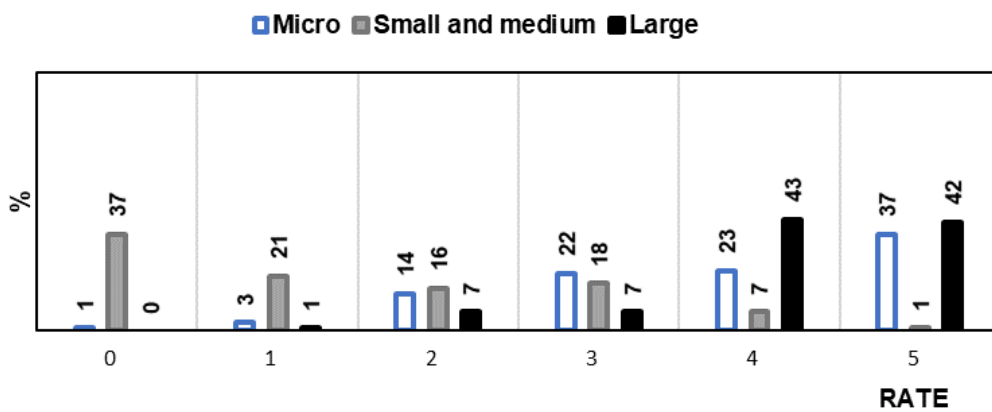


Fig. 4 Comparison of the assessment structure for the attitude towards safety management – according to employees, micro, small and medium-sized enterprises and large enterprises. Statement 4 (regarding principle 4): Special attention is paid to the relationship between safety and efficiency of work

Source: (own study)

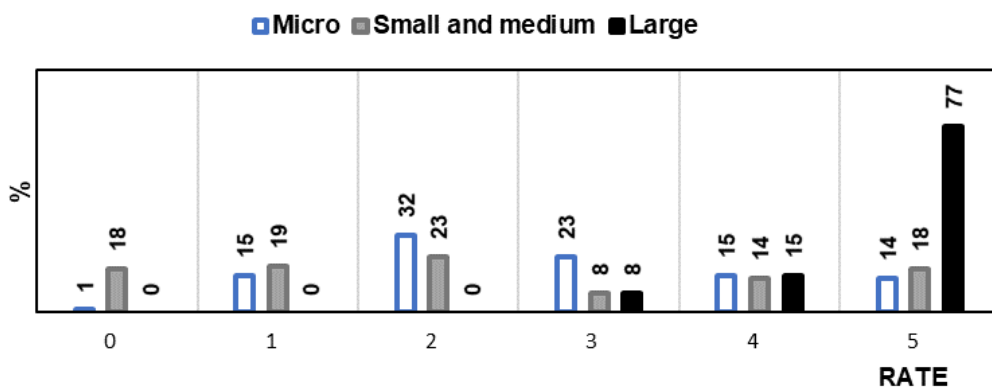
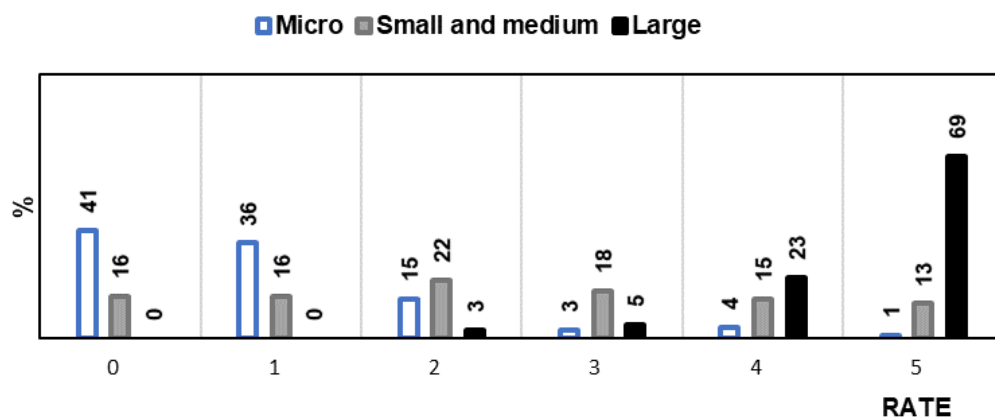


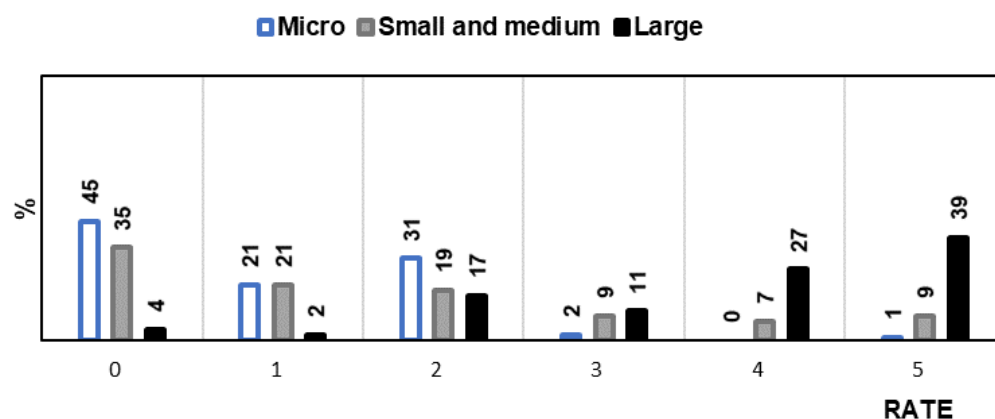
Fig. 5 Comparison of the assessment structure for the attitude towards safety management – according to employees, micro, small and medium-sized enterprises and large enterprises. Statement 5 (regarding principle 5): All safety recommendations at positions are documented

Source: (own study)



**Fig. 6 Comparison of the assessment structure for the attitude towards safety management – according to employees, micro, small and medium-sized enterprises and large enterprises. Statement 6 (regarding principle 6):
The safe working conditions are constantly improved**

Source: (own study)



**Fig. 7 Comparison of the assessment structure for the attitude towards safety management – according to employees, micro, small and medium-sized enterprises and large enterprises. Statement 7 (regarding principle 7):
Changes in safety conditions are based of data**

Source: (own study)

The lowest scores were recorded (in most cases) in small and medium-sized enterprises. This means that the state of health and safety at work in these enterprises leaves much to be desired. Such low ratings are the result of a poorly developed management system. Usually these are enterprises that are constantly developing and in the organizational structure there is still lacks of a person (manager) responsible for maintaining the occupational health and safety contitions. The lowest rating refers to statement/question 2: My supervisor is a role model in respect of compliance with the safety principles (Fig. 8). A rating of 1.18 clearly indicates mismanagement of human resources or persolary problems within the company.

An interesting phenomenon is observed in micro-enterprises (family businesses) – for statements/questions: 1) My safety is the most important thing at work; 2) My supervisor is a role model in respect of compliance with the safety principles, 3) In enterprise, we care about ourselves and others' safety, 4) Special attention is paid to the relationship between safety and efficiency of

work. Ratings are very high, similar to those of large companies. Which indicates good personal relations and mutual care for own and other employees' safety

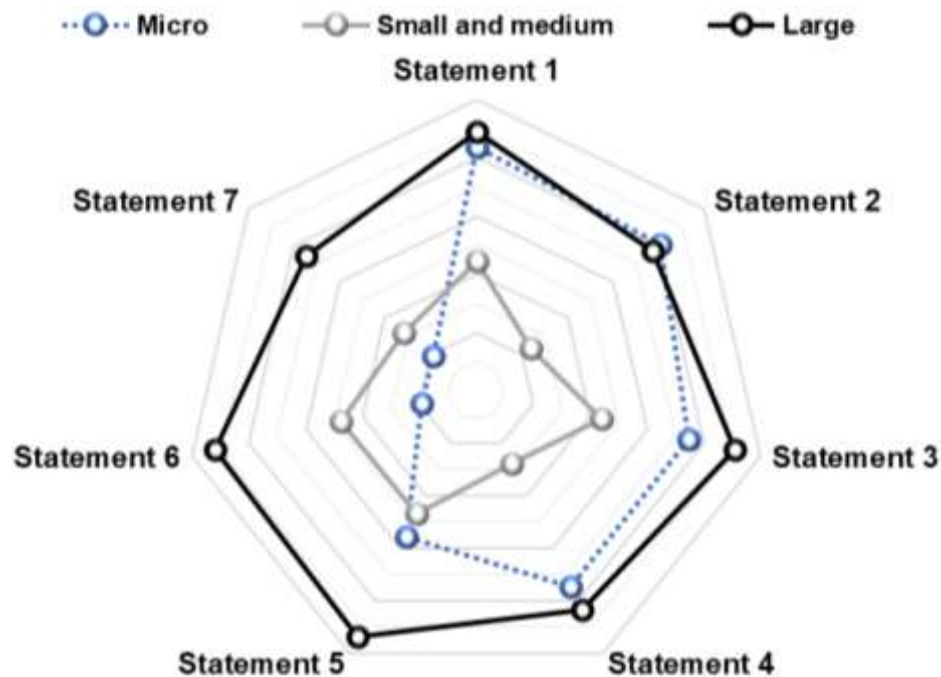


Fig. 8 Comparison of average ratings for 7 statements/questions – based on the data presented in Tables 1-3

Source: (own study)

However, it can be noticed that despite high scores for statements/questions 1 to 4, for statements/questions 5 to 7 the ratings are rather low – similar or lower than in medium and small enterprises. Such low grades (in particular for the question/statement 6 and 7 (respectively: The safe working conditions are constantly improved; Changes in safety conditions are based of data) indicate a complete lack of development of the system or principles of occupational health and safety management

CONCLUSION

Based on surveys conducted among employees of enterprises providing transport and logistics services, the level of occupational health and safety in European enterprises providing transport and logistics services in terms of quality management principles has been determined. Also, the comparison between assessments obtained from employees of micro-, small and medium enterprises and large enterprises has been made. On the basis of the presented results it was found that:

- in large enterprises safety management principles are respected, employees know the regulations on occupational health and safety, care about safety and adhere to all indications,

- in small and medium enterprises (SMEs) the level of safety does not look very promising, generally employees do not care about mutual safety, they do not comply with legal regulations in this respect,
- in micro-enterprises (family businesses) employees know and adhere to the safety principle, but they do not see too much change in improving the level of safety.

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Abstract: Safety and quality management are very important elements of managing production and service processes. It is important not only to manage in itself, but above all to constantly improve processes and constantly strive for excellence. However, continuous improvement of the organization is one of the key principles of quality management, it states that improvement can be obtained from the analysis of existing processes or measurement results. In this paper the level of occupational health and safety in european enterprises providing transport and logistics services in terms of quality management principles. On the basis of the presented results it was found that in large enterprises safety management principles are respected, while in small and medium enterprises the level of safety does not look very promising. An interesting phenomenon was observed in the case of micro-enterprises (family businesses). Research shows that employees know and adhere to the safety principle, but they do not see too much change in improving the level of safety.

Keywords: safety, safety management, quality, SMEs