

The Level of Perception of the KAIZEN Philosophy, KAIZEN Management and 5S Technique in the Academic and Business Environment in Romania

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Abstract: *Whether talking about the economic environment, the teaching environment or the social environment, the principles and values promoted by the KAIZEN philosophy, once understood, are easy to apply and follow. According to Professor Masaaki Imai, the founding father of the KAIZEN management, the model has a universal character being able to be applied in any country and organization, regardless of its field of activity. It is true that one of the features that makes the most profound difference between KAIZEN management and all other types of management is the fact that it takes into consideration the future organization's requests, adapting to change, whether talking about financial crisis, the number or training of the employees from within the organization, the costs of the raw materials, market demands or internal expenses. However, the same basic needs are also found in the academic and social environments because, regardless of the country they come from, culture or living standards they have, people share a common need of improving their life quality. Precisely why it is important to become aware of the perception level of the KAIZEN concept, the extent to which it is known and how much from the values and principles promoted by KAIZEN are used by individuals for improving the quality of life. All these fundamental ideas highlighted above find their explanations and appropriate explicit treatment in the content of this management study.*

Keywords: KAIZEN, KAIZEN scope, KAIZEN values, KAIZEN benefits, KAIZEN promotion, KAIZEN in the teaching system, KAIZEN in the business environment, KAIZEN implementation, Romanian companies with KAIZEN management system, KAIZEN techniques and practices, the 5S technique, 5S Public, Social KAIZEN, KAIZEN predictions.

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I. Introduction

This management study aims to capture the main aspects that come from analysing the Romanian academic and business environment’s perception on the KAIZEN philosophy, KAIZEN management and 5S techniques. The scope of the analysis was to identify the level in which the three concepts are known and used by the respondents in order with the purpose of improving the quality of one’s personal and professional life¹.

As far as the utility of the results goes, one must mention that the information obtained from the research are useful not only to the organizations which have implemented the KAIZEN management² into the structure and function based on the KAIZEN techniques and practices, but also to the knowledge based organizations, independent consultants and firms specialized in developing quality management systems. Based on the results obtained, a portrait of the organizations in Romania whose management system is of KAYZEN type can be drawn, results which will serve to consultancy firms and specialists as starting point in improving internally the organizations and the foreign relations that they have with third parties, as well as in the offers they place on the market³. In order to reach the objective, the

¹ Trademark of the KAIZEN® Institute Romania, <http://ro.kaizen.com/> (last time accessed: March 20, 2019).

² C. Oprean, M. Țîțu, *Cercetarea experimentală și prelucrarea datelor*, vol. 2 (Sibiu: ULBS, 2007).

³ M. Țîțu, C. Oprean, *Cercetarea experimentală și prelucrarea datelor*, vol. 1 (Sibiu: ULBS, 2006); V. M. Mateescu, “Le management interculturel en Roumanie: Le cas des investissements directs étrangers des PME étrangères” in *Cross-cultural Management in Romania: The case of Foreign Direct Investments of SME’s* (Paris, 2008); P.F. Drucker, J.A. Chamy, J.A. Conger, F. Hesselbein, M. Goldsmith, R. Beckhard, *Fundația Drucker. Organizația viitorului* (Bucharest: Teora, 2000), 14; M. Imai, *KAIZEN, the Key to Japan’s Competitive Success* (McGraw-Hill Publishing Company, 1986); D. Zait, *Management intercultural. Valorizarea diferențelor culturale. Cadre culturale de referință – valori și limite* (Bucharest: Economică, 2002), 135-140.

management study will start with presenting the research, chapter in which the stages of the research methodology that was done will be presented.

In the second chapter the most significant aspects regarding the results of the research that was done both in the academic, and the business environment, by comparison, according to the aspects analysed, will be presented. Among these the following can be mentioned: the difference between the KAIZEN philosophy, KAIZEN management and the 5S technique, their scope and benefits, promoting the KAIZEN concept, implementing the KAIZEN management in the Romanian companies with KAIZEN management system, KAIZEN techniques and practices used in the Romanian business environment; the difference between 5S administrative and 5S Social, the impact of KAIZEN Social and the evolution of the KAIZEN concept at national level⁴.

The paper will close with mentioning some improvement recommendations of the current situation in conclusions.

II. Scientific Research Methodology

The scientific research done is based on selective, documentary and applicative type of questionnaires and follows the analysis of the perception level of the KAIZEN philosophy, KAIZEN management and 5S technique in the business and university environment in Romania.

The elaboration of the research both in the business environment and in the academic environment pursued the following stages.⁵

1. Defining the studied objectives and hypothesis;
2. Choosing the most suitable research method according to the analysed situation and taking into consideration the quality aspects, cost and time;
3. Establishing the group;
4. Statistical observation;
5. Checking questionnaires; preparing data for processing;
6. Data processing and analysis;
7. Final report and evaluation of results.

1. Defining the study objectives and hypothesis:

The research followed **6 objectives**:

1. Analysis of the KAIZEN philosophy knowledge level, KAIZEN management and 5S techniques by the respondents by translating the term KAIZEN, of identifying the differences between concepts, of purposes, benefits and promoted values;

⁴ I. Mihuț, F. Peter, *Drucker - Rugul aprins al managementului modern* (Bucharest: Universitatea Creștină Dimitrie Cantemir), <http://www.managementmarketing.ro/pdf/articole/9.pdf>.

⁵ C. Oprean, M. Țîțu, *Cercetarea experimentală și prelucrarea datelor*, vol. 2 (Sibiu: ULBS, 2007); M. Țîțu, C. Oprean, *Management of intangible assets in the context of knowledge-based economy* (LAP Lambert, 2015).

2. Analysis of promoting the KAIZEN concept at personal, organizational and social level, as well as identifying suggestions regarding improving promotion at national level;
3. Analysis of the KAIZEN management implementation in the business environment and identifying the KAIZEN techniques and practices that are most used in the Romanian companies;
4. Analysis of respondents' perception on the 5S technique from organizational and social level;
5. The analysis of the KAIZEN Social projects' impact and the potential of developing the social environment by exploiting projects at national level;
6. Identifying the main predictions regarding the evolution of the KAIZEN concept at national level.

The research hypotheses were:

1. The KAIZEN concepts are known by the respondents of the business environment to an extent higher than the respondents of the academic environment;
2. The respondents of both environments consider that the promotion of concepts should be improved at national level to a very high extent;
3. The respondents of both environments support the implementation of KAIZEN techniques and practices in the educational environment;
4. The business environment respondents state that the implementation of the KAIZEN techniques and practices is possible in any company and any field in Romania;
5. The business environment respondents know the difference between "5S Administrative" and "5S Social" to a higher extent than the academic environment respondents as a consequence of participating in the KAIZEN Social actions;
6. The respondents of both environments consider that the KAIZEN Social actions are capable of changing society's mentality and to develop self-conscience;
7. The respondents of both environments consider that the evolution of concepts will be upward at national level.

The study is based on two selective and complementary research documentation.⁶

- *Scientific research no. 1* – has analysed students, master students and PhD students' level of perception of KAIZEN philosophy, KAIZEN management and 5S technique;

⁶ Trademark of the KAIZEN® Institute Romania, <http://ro.kaizen.com/> (last time accessed: March 20, 2019); V. Bogdan, A. Hârlab, *Statistică managerială* (Bucharest: Fundației AXIS, 2004); M. Imai, *Gemba Kaizen: A Common sense Approach to a Continuous Improvement Strategy* (McGraw-Hill Education, 2012); M. Imai, *Gemba Kaizen: a common sense, low-cost approach to management* (McGraw-Hill, 1997).

- *Scientific research no. 2* – has analysed managers and specialists from the business environment level of perception of the KAIZEN philosophy, KAIZEN management and 5S technique.

The two researches were done through two types of questionnaires, one for each environment. They were given at the same time and distributed via e-mail and directly, printed, to the persons interviewed.

2. Researching the survey bed

Due to the high number of characteristics of the phenomenon that we wanted to study by means of statistics methods, in the unfolding of the research the survey research was decided. This type of research has offered a series of advantages which came from reducing the number of cases studied: shorter period of making, efficiency in supplying information, the possibility of exerting a more rigorous control in gathering and processing information and lower costs⁷.

3. Establishing the group

Regarding the academic environment research, the group was made up of students, master students and PhD students from two faculties and universities from Cluj-Napoca County which have in the university curricula included courses related to quality management and KAIZEN management.

In the business environment, questionnaires were sent to three categories of organizations: companies which have implemented the KAIZEN management in the structure and function based on the KAIZEN principles, companies which function based on the quality management principles and companies which function by neither the quality principles nor the principles promoted by the KAIZEN philosophy.

A total number of 162 companies have been included in the research. Out of the three categories of selected companies, the respondents who answered to the questionnaires either work in companies with a KAIZEN management system, or in companies with a quality management. Also, respondents from companies that offer consultancy on the KAIZEN system or quality have answered.

Due to the fact that the respondents that answered our invitation of being involved in the research represent 14 national companies which function based on the KAIZEN management system and quality systems, the research done is of the quality type.

4. The researched group and gathering the experimental data

The research that was used is a field research done at the headquarters of the responding organizations.

⁷ M. Țîțu, C. Oprean, *Cercetarea experimentală și prelucrarea datelor*, vol. 1 (Sibiu: ULBS, 2006).

5. Checking the questionnaires; preparing data for processing

After checking the questionnaires that were received, three questionnaires from the business environment have been invalidated, while from the academic environment eight questionnaires have been removed from analysis because they contained non-responses.

6. Data processing and analysis

After collecting the data, the questionnaires had to undergo the following processes:

1. *editing* (checking and proofing where needed);
2. *codifying* (establishing the manner of codification of the quantity and quality data and symbols association);
3. *Tabbing* (done by computer).

In the processing stage, typical standardization and codification procedures were used. For this purpose, the facilities made available by the software SPSS Statistics, version 22.0, were used

7. Final report and the evaluation of results

The final result was seen in the conclusions and observations that came out of the research, which are presented in the next chapter.

III. The results of the analysis done in the academic and business environment

In this chapter the main aspects, analysed in accordance with the objectives and hypothesis launched, are captured.

The first part of the research followed the analysis of the knowledge level of the analysed concepts by the respondents, by recognizing the translation of the KAIZEN concept, the differences between the KAIZEN philosophy, KAIZEN management and 5S technique, the scopes aimed for by each one, the benefits of using them and the values promoted.

For starters, the respondents of both environments have been questioned in order to identify the extent to which they consider that the three concepts are known to them. The results were:

Academic environment	Business environment
4,2% - to a very high extent; 29,2% - to a high extent; 26,4% - not to a high, not to a low extent; 11,1% - to a low extent; 29,2% - to a very low extent.	55,6% - to a very high extent; 38,9% - to a high extent; 5,6% - not to a high, not to a low extent.

1. The translation of the term “KAIZEN”

The extent to which respondents know the translation of the “KAIZEN” concept is illustrated in the following two graphs:

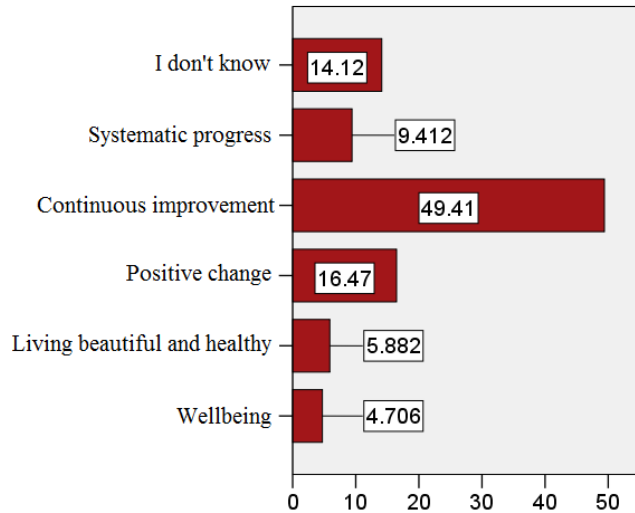


Fig. 1. Translation of the “KAIZEN” concept by the respondents from the academic environment

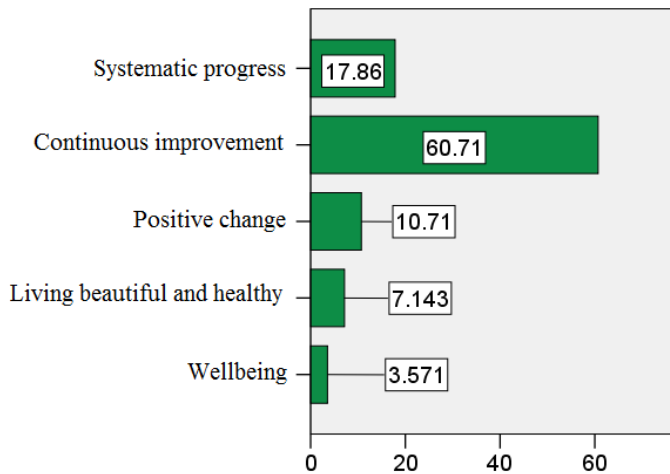


Fig. 2. Translation of the “KAIZEN” concept by the respondents from the business environment

From the two graphs one can see that 49.4% of the academic environment respondents and 60.7% of the respondents from the business environment know the translation of the KAIZEN concept to an average and high extent. Although the

term can also be associated with the other phrases, the wide spread translation is “continuous improvement”, because “KAI” means “continuous”, “change”, “ocean” and “ZEN” MEANS “well”, “improvement”, “wisdom”.

2. The difference between the KAIZEN philosophy, KAIZEN management and the 5S technique

The respondents of the business environment know this difference to the extent presented in Fig. 3.

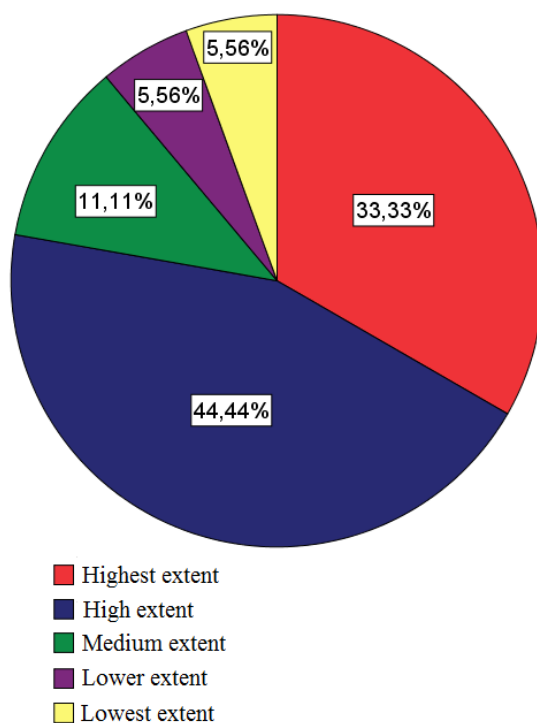


Fig. 3. Noticing the difference between concepts by the respondents of the business environment

The “KAIZEN” concept is seen as a philosophy, a way of life, a spirit, an attitude and an umbrella under which the KAIZEN management is found together with the techniques and practices it uses, amongst which the 5S technique. More so, it is stated about the KAIZEN concept that it aims at attaining excellency in all aspects of life through continuous, step-by-step and consistent improvement.

KAIZEN management is evaluated by most respondents as being a strategy of continuously improving the activity in organizations, both regarding processes and results. It is worth mentioning that KAIZEN management aims at reducing loss (*muda*) of any kind in order to improve performances and the quality of products and

services delivered by involving the entire staff, aspect which transforms it in one of the most performing types of management on the market.

As tool of KAIZEN management, *the 5S technique* is considered the optimal frame and environment which functions based on the KAIZEN management system. Implementing the technique is considered a basic principle because it offers the highest opportunity of reducing the main types of losses (*muda*) in organizations. Additionally, the respondents have stated that, due to the objectives which the 5S method follows, it can be applied both in the work environment from companies and in the personal life, as long as the space requires order, discipline, performance and productivity.

3. Scope of KAIZEN philosophy, KAIZEN management and 5S technique

Respondents from the academic environment have been questioned regarding the scope of KAIZEN management and 5S technique.

As far as the scope of KAIZEN management is concerned, the first three options chosen have shown a good knowledge of the concept. However, for 27.4% of the respondents the scope of KAIZEN management is still unknown, respondents considering that the system aims at fast economic progress through investments in innovations, implicitly through significant costs, approach to which KAIZEN management opposes. The other responses are presented in Fig. 4.

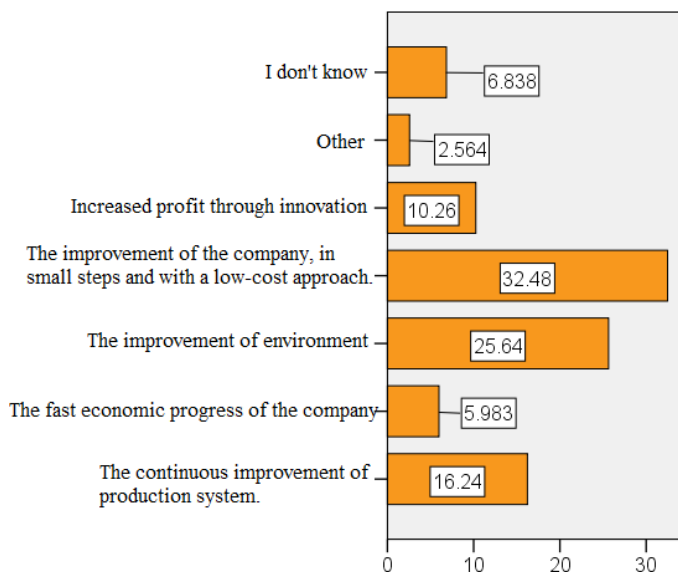


Fig. 4. The scope of KAIZEN management according to respondents of the academic environment

Regarding the scope of the 5S technique the results have shown that 66.7% of the respondents from the academic environment have information on this to a low and very low extent, while for 5.6% of the respondents, the scope of the method is

known at the highest extent. For 27.7% of the respondents the scope of the 5S technique is known not to a low, not to a high extent.

In the business environment, 94.4% of the respondents have stated that the scope of each concept is known to them to a very high and high extent. To a percentage of 5.6% of the respondents, the scope of the three concepts is known only to a low extent.

The respondents of the business environment consider that the scope of the KAIZEN management is to bring improvements in all aspects of life, of the KAIZEN management to bring continuous improvement to individual and organizational performances but also to build strategies for mellowing problems by reducing losses, and of the 5S technique to keep the work place in optimal conditions in order to achieve performances.

4. The benefits of implementing the KAIZEN philosophy and 5S technique

In the business environment 94.4% of the respondents know the benefits of implementing the concepts to a high and very high extent.

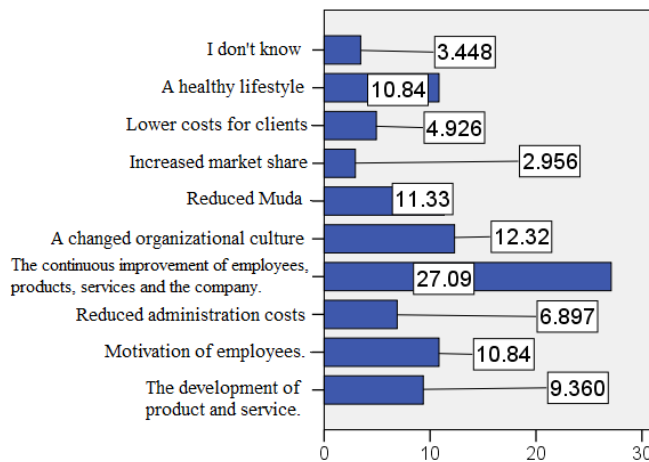


Fig. 5. Benefits of implementing the KAIZEN management in companies, according to respondents of the academic environment

Regarding the KAIZEN philosophy, the main benefit of adopting the philosophy, as a life style, is considered to be the focus toward continuous improvement in all aspects of life, day after day, by adopting a positive and pro-active attitude.

The main benefits mentioned with regard to KAIZEN management are the ones of the operational-financial order (low implementation costs, low investments for improvements, improving processes performance and products' quality, solving problems, standardization of operations, eliminating and preventing non-

conformities, reducing losses) and the motivational ones (developing the staff, improving internal communication, beneficial changes in the organizational culture). In the academic environment, out of the options presented as benefits of implementing KAIZEN management in companies, 27.1% of the respondents have chosen as main benefit *“continuous development of employees, products, services and of the company”* proving once more a good knowledge of the concept.

5. Values of the KAIZEN concept

From the perspective of the academic environment respondents the most significant values promoted by the KAIZEN philosophy are: *“improvement of all environments it comes into contact with”* – 25.55%, *“personal and professional development”* – 20.44% *“the value of creativity and human potential”* – 13.13%, *“increasing productivity”* – 13.13% and *“reaching perfection”* – 13.13%.

Even though the options chosen reflect the knowledge of the values promoted by the KAIZEN philosophy to a high extent, the one referring to *“reaching perfection”* is not one of them. In this view, one can argue that either the respondents referred to the strategy *“zero defects”*, in which case, choosing the option would be partially correct if talking about KAIZEN management, or the respondents still do not know the essence of the concept well enough to know that in KAIZEN one aims for continuous improvement, and not reaching perfection.

Among the respondents that have ticked the option *“Something else”*, some have offered the answers: *“creating long lasting and dynamic structures”*, *“improving the relation between employees”* and *“eliminating losses”*, showing that in the academic environment, the KAIZEN concept is known more through the perspective of organizational benefits than as a life style.

Regarding the values promoted by the KAIZEN management, the respondents of the same environment have chosen the options: *“consistently bringing improvement suggestions”* – 17.1%, *“continuous improvement in the production system”* – 16.1%, *“continuous transfer of know-how”* – 12.8%, *“training employees in order to improve the final product”* – 10.9% and *“involving employees in the decision process”* -10.4, results also shown in the graph above. These answers show the fact that the most known techniques of KAIZEN management are the 5S technique as alternative of improving the work space, and the *teian* system or the suggestions system. An aspect that still needs some looking into is the one referring to the connection between the total productive maintenance and the 5S technique.

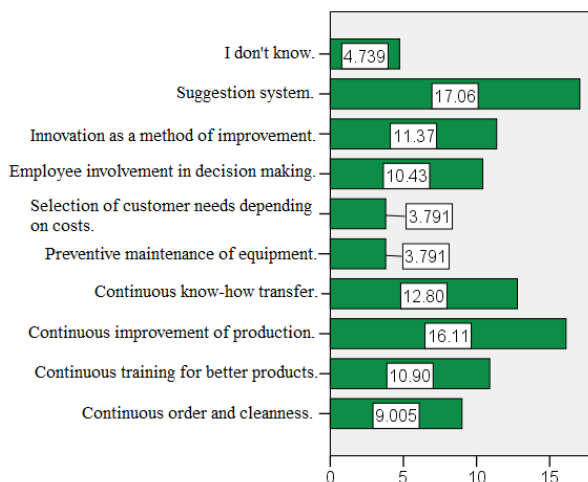


Fig. 6. The values promoted by KAIZEN management according to respondents from the academic environment

6. Promoting the values of the KAIZEN concept in personal life

The second part of the research aimed at the analysis of promoting the KAIZEN concept at personal, organizational and social level. Also, the analysis also aimed at identifying some suggestions for improving the promotion of the KAIZEN concept at national level.

However, for starters, the respondents of both environments have been questioned in order to find out to what extent they share the techniques and practices of the KAIZEN management and philosophy in their private life circle. The results were:

Academic environment	Business environment
<p>2,8% - to the highest extent; 22,2% - to a high extent; 26,4% - not to a high, not to a low extent; 13,9% - to a low extent; 34,7% - to the lowest extent.</p>	<p><i>KAIZEN philosophy</i> 33,3% - to the highest extent; 27,8% - to a high extent; 16,7% - not to a high, not to a low extent; 22,2% - to a low extent.</p> <p><i>KAIZEN management</i> 44,4% - to a high extent; 33,3% - to a high extent; 16,7% - not to a high, not to a low extent; 5,6% to a low extent.</p>

One can note that the respondents who had the chance to work with the KAIZEN techniques and practices, applying, testing and following the benefits of the KAIZEN management and philosophy in an organizational environment are

more likely to identify themselves with the values promoted by the KAIZEN concept and to introduce these values in their personal lives.

This aspect is confirmed by the additions that the respondents of the business environment have brought in order to justify their answers. They have stated that training in the organization and the activity that takes place daily for the continuous improvement in the work place has an impact, whether desired or not, on private life, too. According to respondents, understanding the values promoted by the KAIZEN concept have changed not only their perception of life, but that of their acquaintances as well, helping them to become more organized, with a clearer vision on long term and with a predisposition toward planning. Positive thinking, harmony with one's self, with the people around and with the environment are two other benefits that have been mentioned. Additionally, part of the respondents have stated that they use the 5S method, together with the 5S mental and visual management in organizing thoughts and personal space because it is the technique whose application is done the easiest in the personal environment.

Aside from this, it was mentioned that, for an extension at a larger scale, it is important that the person promoting the KAIZEN concept values to adjust the message according to the interlocutor so that the person will open naturally. It is considered that, for profound and long-lasting effects, it is necessary that the values promoted by KAIZEN to be felt from the inside, and not imposed from the outside. Thus, the most efficient promotion is done by the power of example and based on positive results obtained.

The respondents of the business environment consider that, presently, a sufficient maturity degree has not been reached in order to generate a critical mass for change, because becoming aware of the benefits of using KAIZEN management is done only in close circles who share the same values with the system.

Other respondents consider that all quality systems aiming for improving the quality of life and sustainable development should be promoted more. In this way, a social background that is more permissive and interested in improving personal and professional life would be created.

7. Information sources regarding KAIZEN concepts

In order to identify the main information sources regarding KAIZEN philosophy, KAIZEN management and 5S technique the respondents from the academic environment have had to choose from the options presented in the following graph. It was noted that, currently, a significant percentage of respondents, 28.03% are directly informed by means of the courses within the university. 13.11% of the respondents are using the official site of the KAIZEN Institute Romania, while 9.31% of the respondents from the companies they work in are the facilitators of information in the field.

22.4% of the respondents have stated that they do not search for information. For those who ticked the option "*Others*" and have also offered a justification of their choice, the answers were: "*the central library*", "*specialized literature*" and "*other sites*". The least used are the social networks and e-mails.

Based on these results one can conclude that the sectors in which improvements can be brought regarding promotion are the written and online media, social networks and the extranet.

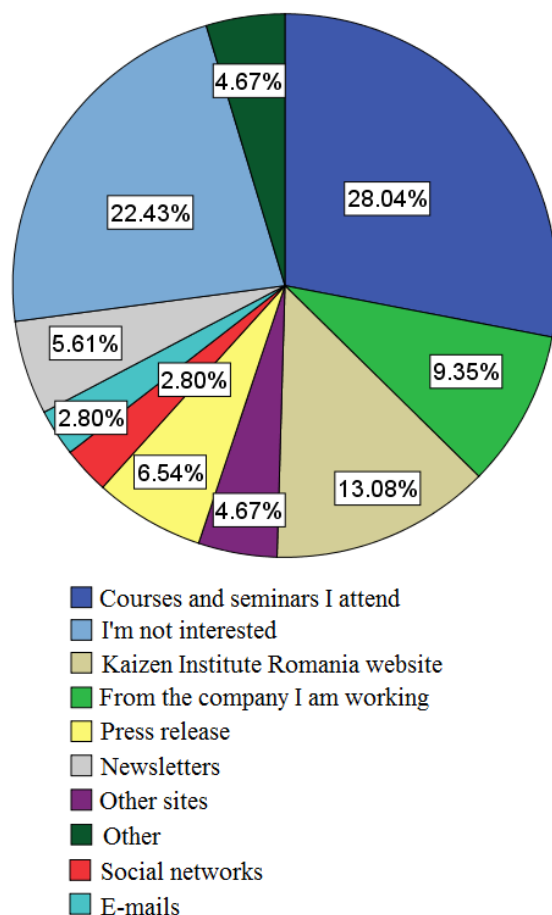


Fig. 7. Sources of information of the respondents from the academic environment

8. Promoting the KAIZEN concept at national level

The respondents from the academic environment are of the opinion that the promotion of the KAIZEN management should be improved at national level to a high extent and very high extent, opinion supported by 62.5% of the respondents. 20.8% consider that improvements are required not to allow, not to a high extent, while 16.7% of the respondents state that promotion needs improvements to a low and very low extent.

The extent to which the respondents of the business environment consider that the promotion of the KAIZEN management requires improvements is shown in fig. 8.

The respondents of both environments consider that both the KAIZEN philosophy and management are known only by a few restricted circles, although some techniques treated individually have a greater exposure. The solution generally offered to extend the KAIZEN concept's practices at national level generating a critical mass for change is creating a national strategy supported on long term. That is why, about promotion, the respondents have talked in terms of "*national level*".

The suggestions offered by respondents have focused on three directions: the educational environment, the economic environment and the social environment in Romania.

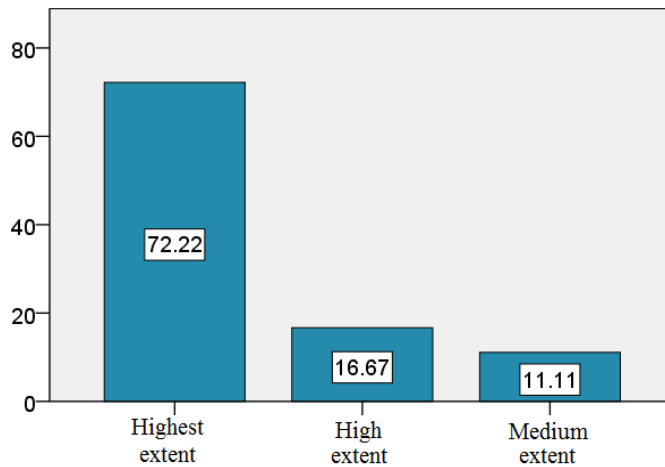


Fig. 8. The necessity of improving the promotion of the KAIZEN concept at national level according to respondents from the business environment

8.1. Suggestion for promoting the KAIZEN concept in the educational environment

The respondents of both environments are of the opinion that one of the most efficient levels from which the promotion of the KAIZEN concept could begin is the educational environment.

Suggestions start from introducing theoretical and practical courses on kindergarten, with parents participating, under the motivation that in this way learning positive behaviors could be supported by educators and family alike. However, it was specified that if these types of programs are successfully implemented in the educational system, it is important that the passage from one level to another is smooth and that it keeps the level of quality offered. More so, the level of teachers' training represents a relevant aspect in delivering quality services. In the case in which these aspects are not considered, aside from the problems that can occur in the evolution of the persons involved, there is also the risk for the investment in the system's quality to be lost.

An efficient way of transforming continuous improvement from theory into practice is the implication of more young people in KAIZEN Social actions and 5S

actions within the school area. More so, organizations that have a KAIZEN type of management could organize, at the level of high schools, information sessions that would help promote the KAIZEN management. In this way, students could become aware of the field's existence and the opportunities it offers, and in the case in which they are interested they could search for University study programs that could offer the possibility of going deep into the field up to employment.

Other practical ways of promoting the concepts in the educational environment include free courses and seminars offered within faculties by bodies with expertise in the field. Also, offering study grants and internships in companies with a KAIZEN management system, would offer students and master students interested in developing in this field the opportunity to know their future employers, and to companies, the opportunity to recruit committed and trained staff. A way of promoting such initiatives can be done through student discussion groups and through professors. Currently, the University offers support in the personal and professional development of students, master students and PhD students to a low and very low extent, as mentioned by 47.2% of the respondents.

8.2. Suggestions of promoting the KAIZEN concept in the economic field

The respondents of both environments consider that making marketing and public relations campaigns intensely supported by mass-media means, would point out the results and increased potential of the organizations that apply a KAIZEN management.

Another suggestion is represented by organizing more frequently courses, trainings, seminars and benchmarking. It is considered that KAIZEN management is capable of developing the business environment in Romania, but that it needs more openness from bodies offering KAIZEN consultancy and implementation.

The third suggestion refers to introducing the KAIZEN management system in the health system, government, administration system and in more and more SMEs.

Last but not least, it is considered that, in fact, the values promoted are the ones that truly matter and as a consequence the active promotion of the quality systems that share the same set of values having as a strategy the improvement of life quality and sustainable development is suggested.

8.3. Suggestions of promoting the KAIZEN concept in the social environment

For the persons who are not working in companies with a KAIZEN management systems and no longer attend university courses the alternative to getting acquainted with the values promoted by the KAIZEN philosophy can be done by extending the KAIZEN Social actions at national level, as well as by organizing seminars and courses with the purpose of informing and training in the spirit of the KAIZEN practices.

9. The necessity of applying the KAIZEN concept at all educational levels

Verifying the extent to which respondents from the academic environment support this idea has shown the fact that 36.1% and 16.7% of the respondents consider the three concepts as being necessary at all educational levels to a high and very high extent. The other results are shown in figure 9.

Introducing the KAIZEN concept in the university environment is seen by respondents from two perspectives. The first one refers to the possibility for the KAIZEN tools and techniques to improve the efficiency of the organizational processes at the institution's level, the quality of courses, the way they take place and making the evaluation. The second perspective concerns the study of the concept within the university courses. 43.1% of the respondents consider the interest in the field of KAIZEN management to be important to a high extent. More so, 48.6% are interested to know and to learn more about the concept to a high extent, while 25% show this interest to the highest extent.

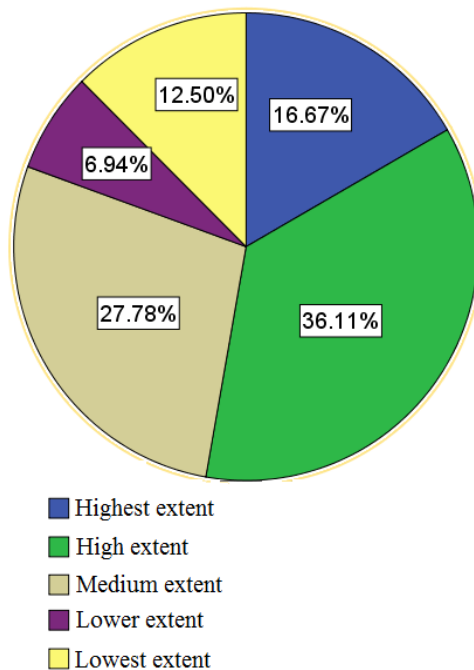


Fig. 9. The necessity of applying the KAIZEN concept at all educational levels according to respondents of the academic environment

According to respondents, students, master's students and PhD students whose study programs are based on the quality management study, currently, in the syllabus there are courses that tackle the KAIZEN concept to the following extent:

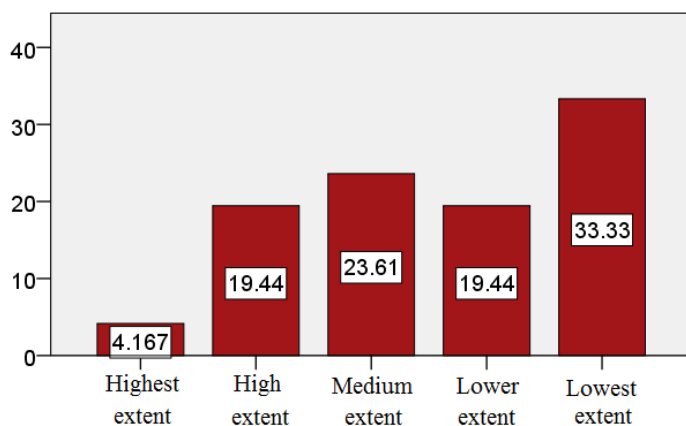


Fig. 10. The extent to which respondents from the academic environment appreciate that in the university syllabus there are courses regarding the KAIZEN concept

10. The necessity of applying the KAIZEN management in the economic environment

The third part of the research followed the analysis of implementing the KAIZEN management in the Romanian business environment and identifying the most used KAIZEN management tools and practices from national companies.

According to respondents from the business environment, the extent to which KAIZEN management implementation is necessary for the economic environment is the following:

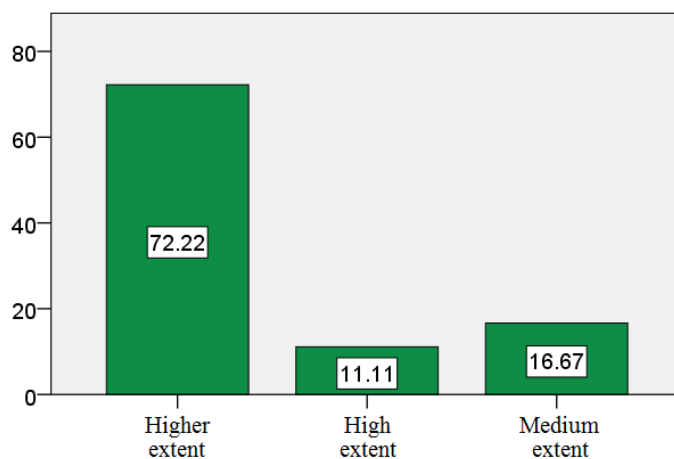


Fig. 11. The extent to which the business environment respondents consider necessary the functioning of KAIZEN management in the Romanian organizations

Respondents consider that the KAIZEN management creates a culture focused on performance and has a positive social impact, by changing mentalities from “*it will do*” toward “*continuous improvement in all life aspects*”. That is why, it is considered that KAIZEN management is capable of raising the operational and financial performances of Romanian organizations, equally having interest regarding motivating employees, aspect which in Romania is considered to be quite neglected. By introducing the KAIZEN management in companies coherence is created between the vision the company has, performance culture and performing management, becoming aware of the necessity of a continuous improvement, long term strategy. It is considered that the functioning of the KAIZEN management in the Romanian organizations would bring benefits to both companies and employees, customers, interested parties and finally, to the society.

11. The interest of getting a job in a company with a KAIZEN management system

In the academic environment, 9.7% work or have worked in a company with a KAIZEN management system. Out of 90.3% of respondents not working in a KAIZEN specific company, 63.9% of the respondents are interested to a high and very high extent in getting a future job in a company with KAIZEN management system.

In the business environment, 88.9% of the respondents have stated that they are working or have worked in a company with a KAIZEN management system. Out of the 11.1% respondents who have given a negative answer, 33.3% are interested to a very high extent in the perspective of getting a job in a company with KAIZEN specific, while 66.7% are interested not to a low, not to a high extent.

12. Implementing KAIZEN management in the economic environment

The extent to which respondents of the business environment consider that KAIZEN management can be implemented in any company and any field in Romania is reflected in Fig. 12.

Respondents consider that KAIZEN management can be applied in any field and activity, from the medical field, mounting rescue, production, food, institutions, banks, air force companies and printing firms, including in the automotive field. An important aspect which was noticed refers to the misconception that the system can be implemented only in the companies in the automotive industry because at the origin of the KAIZEN management is the Toyota system. On the contrary, the KAIZEN management system was developed in such a manner that its implementation would start from the diagnosis of the problems which the organization is facing and, according to needs, to undergo a personalized strategy in accordance with the organization's objectives and policy. Additionally, the father of KAIZEN management himself, Professor Masaaki Imai, states that KAIZEN management can be applied in a very wide range of fields aside from the economic

ones, such as governmental services, schools or other institutions, this being useful even in the countries where there is a controlled economy.⁸

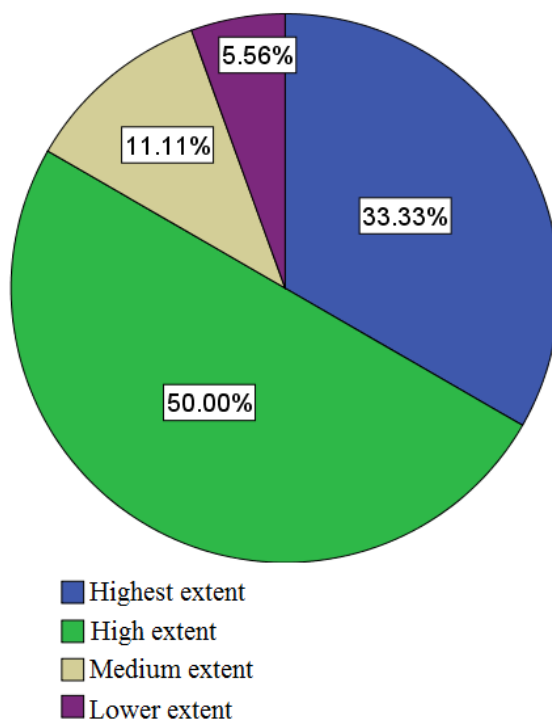


Fig. 12. The possibility of applying KAIZEN management in any company and field in Romania

13. National companies with a KAIZEN management system

The extent to which respondents know national companies which have implemented the KAIZEN management system into their structure is the following:

Academic environment	Business environment
2,8% - to the highest extent;	5,6% - to the highest extent;
9,7% - to a high extent;	38,95% - to a high extent;
15,3% - not to a low, not to a high extent;	16,7% - not to a low, not to a high extent;
45,8% - to a low extent;	16,7% - to a low extent;
26,4% - to the lowest extent.	22,2% - to the lowest extent.

⁸ M. Imai, *KAIZEN, the Key to Japan's Competitive Success* (McGraw-Hill Publishing Company, 1986).

In the academic environment, the most often mentioned companies have been *Nokia* and *Toyota*. The other examples have been *Atlassib SA*, *Ambient SA*, *Compa SA*, *Tenaris Silcotub Zalău*, *Office Depot*, *Star Transmission Cugir*, *Leoni*, and *European Fabrication*.

From the examples offered one could identify that, either for part of the respondents there is no difference between quality management and KAIZEN management, or they do not have accurate information. *Tenaris Silcotub Zalău*, *Office Depot* and *European Fabrication* function based on the quality management practices

In the business environment, the most often mentioned companies have been *Takata Romania*, *Hirschmann Automotive Romania*, *Supremia Grup S.R.L.*, *JTI*, *Johnson Controls*, *Stabilus și Hidroelectrica*. To these *Nissan*, *Sunimprof Rottaprint*, *Assa Abloy*, *Autoliv*, *Continental*, *AeroTek*, *Nestle România*, *Artic*, *GoTravel* and *TVR* were also added.

14. KAIZEN techniques and practices used in Romanian companies

According to the respondents from the business environment, the main techniques and practices used in the companies with a KAIZEN management system in Romania are presented in the following figures.

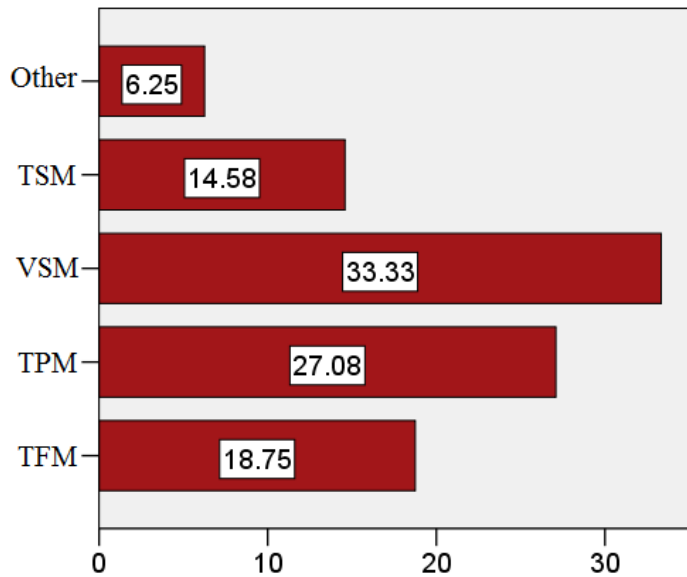


Fig. 13. Techniques for streamlining production processes

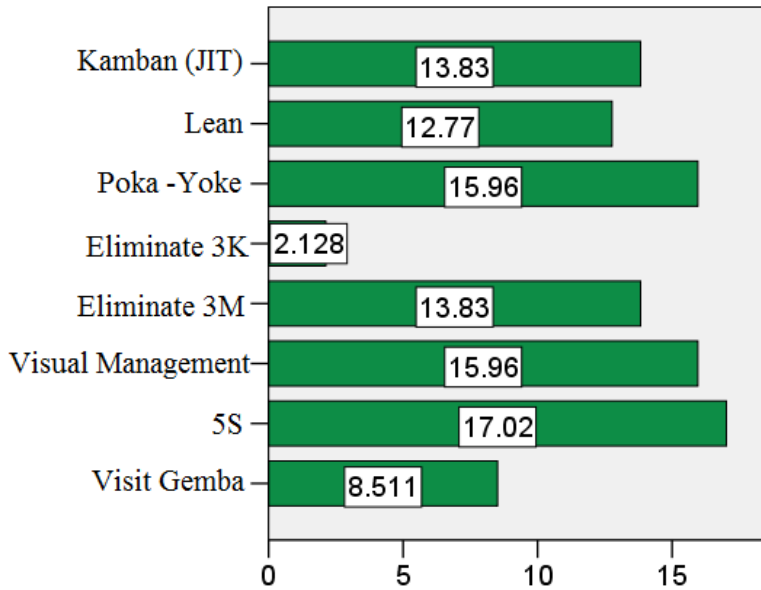


Fig. 14. Techniques for organizing the work space (Gemba)

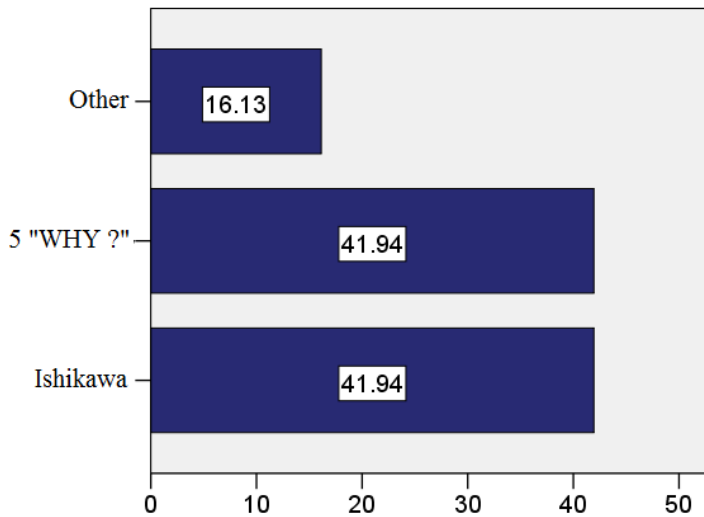


Fig. 15. Techniques for identifying problems

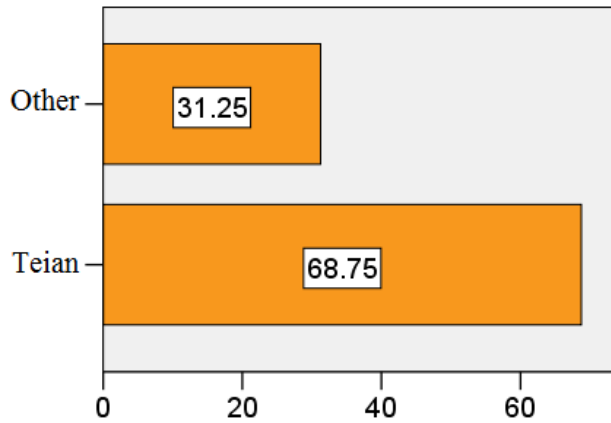


Fig. 16. Techniques of motivating employees

According to respondents, the extent to which the employees from the production line are familiar with the general aspects related to KAIZEN management and the applicability of the techniques and practices previously portrayed is the following:

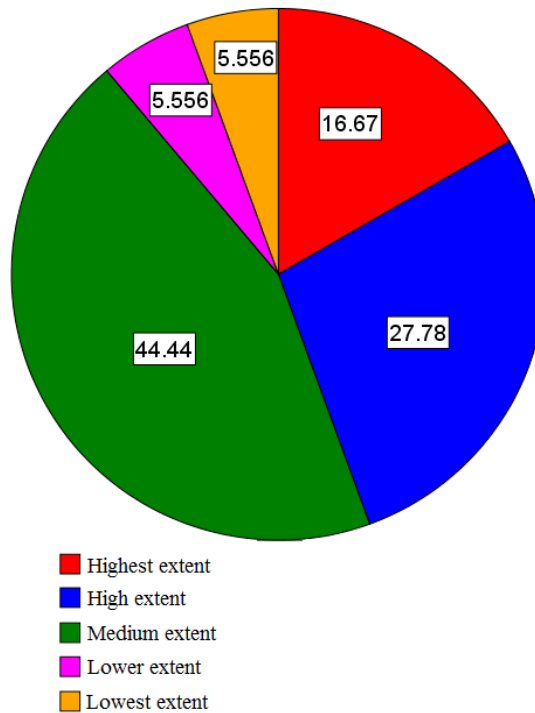


Fig. 17. Extent to which employees know general aspects related to KAIZEN management

The main modalities through which employees end up knowing the general aspects related to applying and functioning of KAIZEN management in the companies they work in are: visual management, trainings (upon hiring, specific and periodical) and re-trainings, the 5S workshops, information campaigns, audits, operative 5 minutes meetings, presenting the results obtained, internal magazines, self-quality metrics and the logistic system *kanban* (label attached to a product or pieces group from the production line with delivery instructions in the requested quantities, at the right time and with adequate resources).

For 72.2% of the respondents, the employees have an essential role in keeping the KAIZEN management system in the company. According to them, the human resource represents the most prized asset of a company in which the KAIZEN management is implemented. It is considered that employees are both the main facilitators of introducing the KAIZEN management system, as well as the ones that give it value. In order to prevent a destabilization of the power coming from the employees, upwards, it is required that top and middle management support employees' initiatives, to encourage and to repay them and downward cooperation to be facilitated. In this way, balance is created.

15. Knowing the stages of the 5S method in the administrative space

The fourth part of the research handled the analysis of respondent's perception on the 5S technique at organizational and social level.

The 5S technique is one of organizing *gemba* (the place in which value is added), a method of reducing loss (*muda*) and a tool for developing the staff. The ultimate goal is to involve employees on all levels in the continuous improvement of the work place, opportunity with which not only the work conditions are improved, but also the relations between employees and the attachment for the company is developed. The respondents from both environments know the 5S technique to the following extent:

Academic environment	Business environment
5,6% - to the highest extent; 16,7% - to a high extent; 19,4% - not to a low, not to a high extent; 15,3% - to a low extent; 43,1% - to the lowest extent.	33,3% - to the highest extent; 61,1% - to a high extent; 5,6% - not to a low, not to a high extent.

In order to check the results, respondents were asked to count the stages of the method and explain them in short. It was noticed that the respondents from the business environment have a better knowledge of the method and its steps. The ratio of the correct answers with respondents from the business environment was 100%. The stages of the 5S technique in the administrative space are the following:

- *S1 – Seiri (Sorting)*: the useful object are identified from the useless ones, and the latters are removed;

- *S2 – Seiton (Systematization)*: the remaining objects are ordered so that they can be easily and at the shortest time found when needed;
- *S3 – Seiso (Shine)*: the work space, equipment are cleaned, the necessary repairs are made and defects are prevented;
- *S4 – Seiketsu (Standardization)*: rules are created in order to maintain the first three steps; this stage implies routine checks;
- *S5 – Shitsuke (Support)*: The entire team is trained and involved in maintaining the 5S level; the last stage implies the self-discipline of all staff, regardless of the level.

16. Applying the 5S technique in the Romanian companies

According to respondents from the business environment, in the companies where they conduct their activity the 5S technique is applied and maintained as presented in fig. 18.

According to them, it is important that the persons responsible with supervising the audits do not transform the method into a cleaning tool, an additional obligation for the employees or a control and check method. In this way, a wrong message can be sent, the effects of the activity diminishing by not fulfilling the standardization and support stage. In order to facilitate understanding and for the employees to maintain the method, it was mentioned that instructions, transparent communication and visual management are opportune tools.

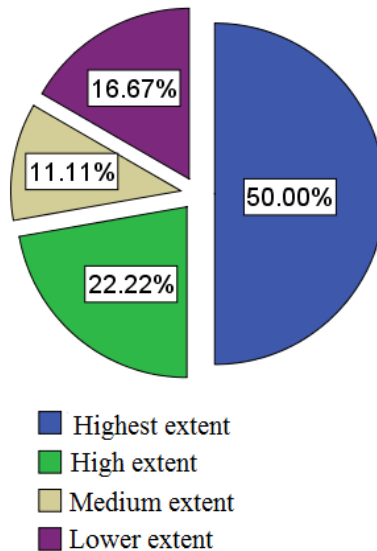


Fig. 18. Applying the 5S technique in the companies of the respondents from the business environment

17. Implementing the 5S technique in the professional and personal area

The respondents from the business environment say that the 5S method can be applied anywhere, regardless if it is the professional area (in the companies they work

in) or the personal area. It was mentioned that the 5S method is already done and kept by people, most often, in organizing the household and the spaces around the house. However, with all this, it is still not known at a larger scale that the same common-sense principles are aimed at in implementing the technique in the company. Respondents consider that when this aspect is understood, embracing and supporting the method will become easier.

As far as implementation in companies is concerned, respondents consider that top management is responsible with introducing and keeping the method functioning under optimal conditions. In other words, implementing and maintaining all stages of the method in a company, is first of all dependent on the management's capacity to offer credibility, training, support in creating the habit and a behavioral model. These objectives can be reached by the active involvement of management in the 5S activities.

Currently, the respondents from the business environment consider that in the national companies all stages of the 5S method can be applied and maintained to the following extent:

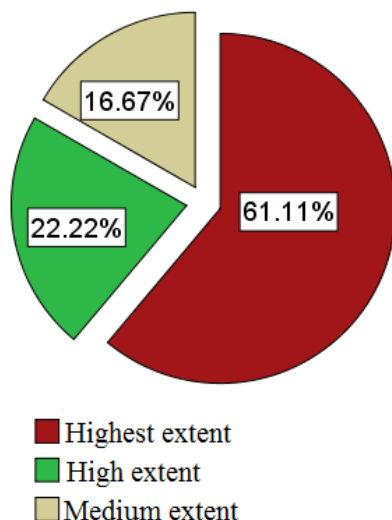


Fig. 19. The extent to which the respondents from the business environment consider that in the Romanian companies all stages of the 5S method can be applied

18. The difference between 5S administrative and 5S Social

The extent to which the difference between the two concepts is known to the respondents is the following:

Academic environment	Business environment
5,6% - to the highest extent; 27,8% - not to a high, not to a low extent; 23,6% - to a low extent; 43,1 % - to the lowest extent.	22,2% - to the highest extent; 27,8% - to a high extent; 22,2% not to a high, not to a low extent; 16,7% - to a low extent; 11,1% - to the lowest extent.

In the academic environment, the difference between the concepts is known to the lowest extent, although, part of the respondents know the 5S technique and the scope of applying it in the work spaces.

On the other hand, the respondents from the business environment have mentioned that the 5S administrative applies in organizations, public institutions and in the administrative services with the purpose of increasing performance, while 5S Social or 5S Public⁹ aims at improving the social environment and the relations between the local administration, private companies and citizens by promoting a pro-active approach of improving the environment. In other words, the 5S Public actions aim at the improvement of the public space by involving volunteers in cleaning, arranging and standardizing the cleaning practices so that the nice visual aspect from the urban centres to be kept, and the quality of life to increase.

19. KAIZEN Social at national level

As it was mentioned in the references the main KAIZEN Social projects that took place at national level are organized by the KAIZEN Institute Romania and are part of the program “KAIZEN Education for Romania”.

Focused on five levels of development, starting with the individual level and ending with that of the natural environment, this program offers the possibility of each participant to evolve personally through participation, learning and change.

Developing the social and natural environment is done by organizing *5S Public* workshops and forestation actions under the name “KAIZEN for People and Nature”. The scope of these actions is to develop the KAIZEN conscience amongst the population.

The extent to which the respondents of the business environment know the KAIZEN Social projects is pictured in Fig. 20.

Respondents have stated that, at a mass level, actions tend to be associated with other greening and cleaning activities that take place at national level, an example being the campaign “Let’s do it, Romania!” This confusion is justified by the weak medialization of the KAIZEN Social actions at national level.

⁹ Trademark of the KAIZEN® Institute Romania, <http://ro.kaizen.com/> (last time accessed: March 20, 2019).

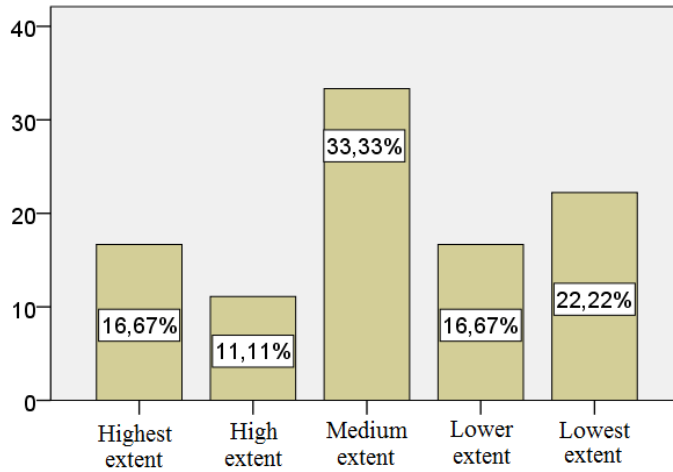


Fig. 20. Knowledge of the KAIZEN Social projects at national level

The extent to which respondents in the business environment have participated at the KAIZEN Social actions is represented in the graph below.

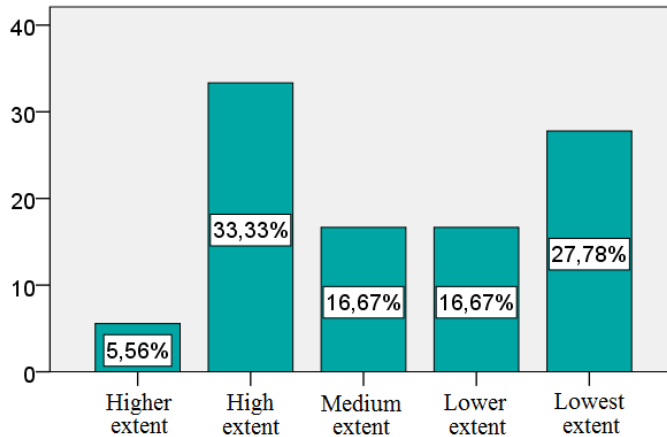


Fig. 21. Participation in KAIZEN Social projects

20. The impact of the KAIZEN Social projects on the society

The fifth part of the research has analysed the impact of the KAIZEN Social projects on the society and the potential of developing the social environment by extending the projects at national level.

For 61.1% of the respondents from the business environment, the KAIZEN Social projects have effects on the society to the highest extent and high extent, 16.7% say that this influence is not high, not low, while 11.1% consider that these effects are felt to a low and very low extent.

The respondents consider that the KAIZEN Social actions currently have a low impact, visible at local level, at most. In order to increase this impact, informing the community regarding the scope of the actions, the nature of the event and the benefits of participating for both the community and the volunteer, is suggested. For visible changes the implication of a high number of volunteers is necessary, action which is found in a tight connection with the promotion efforts.

21. Communicating the KAIZEN practices after participation in the KAIZEN Social projects

The practices obtained after participating in the KAIZEN Social projects are further communicated by 27.8% of those involved to a high extent, by 44.4% not to a low, not to a high extent, by 16.7% to a low extent, while 11.1% of the respondents communicate these practices to a very low extent.

Respondents consider that the mentality of the person to whom the message is directed to makes the communication of the practices possible to the highest, to a high or low extent. Resistance to change, lack of clear information, inconsistencies in communicating the message and the different perceptions of the actions may harden the efficient communication of practices outside the actual actions. It is also considered that a single participation does not offer enough support to understanding the essence of the activities, as a consequence, consistency and patience are also required. An efficient way of communicating the practices is represented by the honest enthusiasm of participants and the power of example.

The extent to which respondents consider that the KAIZEN Social projects could change Romanians' mentality developing self-conscience is reflected in the following graph:

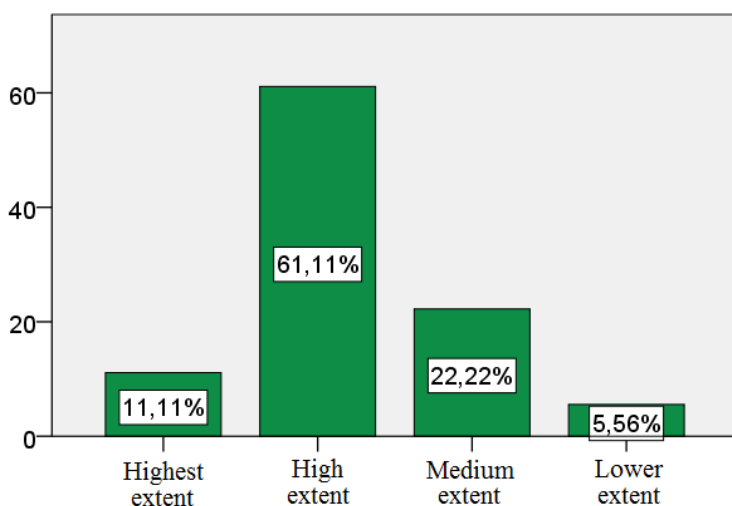


Fig. 22. The extent to which the KAIZEN Social projects could change Romanians' mentality

It is considered that at a small scale and on short term, these projects are not able to significantly change Romanians' mentality.

However, if one starts from a vision and a national project on long terms, supported by authorities and organizations which have implemented the KAIZEN management into their structure, and the project is efficiently and consistently promoted with the help of media means, non-governmental organizations and schools, there are chances for an ever growing number of persons to get involved. Increasing the frequency of the actions and the number of participants, the risk of previously held actions' effect to be annulled or diminished by the persons who do not understand the nature of the projects and do not contribute in maintaining the landscaped areas, is lowered. It is estimated that, if the KAIZEN Social actions will be supported, in time, the visibility of the projects will increase, and the level of self-conscience will be improved, changing the attitude of society toward the public spaces.

22. Extending the KAIZEN Social actions at national level

Regarding this issue, opinions are divided. On the one hand, it is considered that the 5S Public actions and greening actions should be done in as many locations as possible, especially considering that the budgets allocated are minimal. On the other hand, it is rumoured that it is precisely the financial resources that hinder the extension of the actions at national level.

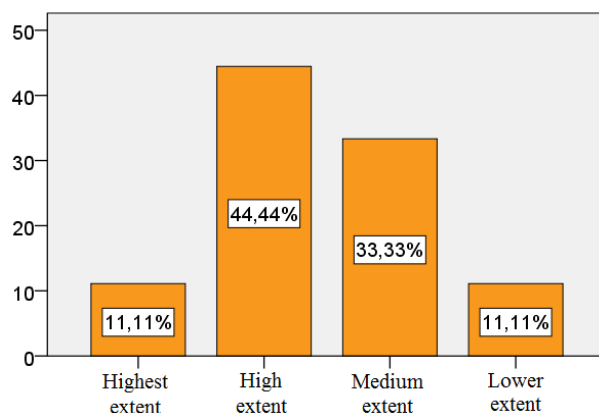


Fig. 23. The extent to which the respondents from the business environment consider that the KAIZEN Social projects could be extended at national level

However, the general available opinion is that, for organization, openness and the involvement of economic agents and local authorities and a vaster promotion, focused on informing so that volunteers can gather, is required. It is considered that, as long as people understand the simplicity and logic of the actions, as well as the benefits obtained, the interest of participation can increase. Contrary, resistance to change will linger as a barrier in the path of extending the KAIZEN practices at social level.

Currently, the respondents from the business environment consider that the KAIZEN Social projects could be extended at national level to the extent presented in Fig. 23.

23. Developing the social environment through the KAIZEN concept

The extent to which the respondents of both environments consider that the KAIZEN philosophy, KAIZEN management and the 5S technique are necessary for the development of the social environment is reflected by the following data.

Academic environment	Business environment
27,8% - to the highest extent; 31,9% - to a high extent; 22,2% - not to a high, not to a low; 6,9% - to a low extent; 11,1% - to the lowest extent.	56,5% - to the highest extent; 27,8% - to a high extent; 16,7% - not to a high, not to a low.

The respondents resume the idea according to which a more powerful promotion of the KAIZEN concept could lead to raising social responsibility in the social environment yet, they also consider that an explanation of the KAIZEN principles in such a manner that anyone could understand them is required. It is considered that in this way, more and more persons could bring their contribution, deliberately, in the improvement actions, both in the professional and the personal are.

At the opposite end, it is considered that we face barriers raised by the differences in the national cultures that make the deep and lasting changes difficult. It is considered that the process of implementing the KAIZEN values in the Romanian society could be a difficult one, with unsatisfactory final results. Additionally, it was mentioned that the number of organizations that contribute to the non-formal education of the society (especially of young people) is restricted, this factor hardening the process of the social environment's development through the KAIZEN actions.

24. The evolution of the KAIZEN concept nationally

The last aspect that was analysed followed the identification of the main predictions regarding the evolution of the KAIZEN concept at national level.

According to respondents, this evolution will take place in the following manner.

Academic environment	Business environment
6,9% - ascending to the highest extent; 29,2% - ascending to a high extent; 34,7% - ascending not to a high, not to a low extent; 12,5% - ascending to a low extent; 16,7% - to the lowest extent.	16,7% - ascending to the highest extent; 33,3% - ascending to a high extent; 50,0% - ascending not to a high, not to a low extent.

On the one hand it is considered that the evolution could be ascending out of the need of continuous improvement on a personal and professional level, but also from the companies' need to reduce risks and expenses in a fluctuant economy whose customers are more and more exigent.

On the other hand, opinions have been expressed according to which the evolution of concepts will not be significant due to the national culture and the current economic and political context. About the national culture it is considered that it is not capable of absorbing and supporting the concepts. Regarding the environment of the Romanian organizations, respondents consider that its tendency is to focus more on obtaining benefits on a short term, individually, than on aiming performance on long term, through collaboration. Also, it was mentioned that changing behaviour can be done only to the extent to which the action comes deliberately and from within each individual. Contrary, the results are visible only on short term and they can be reversible thus confirming the previous statement. Last but not least, the political sector is seen as a factor that can influence both positively and negatively, the extension of the KAIZEN Social projects at national level.

IV. Conclusions

Through the benefits it brings into the structure of the organizations it is applied in, the KAIZEN strategy represents one of the most viable alternatives of our days under the conditions of developing the work market and competitively. Based on a solid structure, with clear principles, the KAIZEN management represents the perfect balance between adaptability, continuous improvement through change and reliability.

Yet at the same time, KAIZEN management is a system for improving life, a philosophy which promotes and makes value of the human potential starting from a medium- and long-term vision and a makeable number of strategies for reaching it.

In conclusion, the analysis of the academic and business environment's perception of the KAIZEN philosophy, of KAIZEN management and 5S technique has identified that the level in which the three concepts are known and used by the respondents in order to improve the quality of the professional and personal life, is found in tight connection with the level in which the respondents are exposed to an environment in which the KAIZEN concept exists.

In other words, it is only theory that does not develop an attitude focused on improvement in all aspects. Once the values of the concept, the practices and techniques it supports but also the benefits it offers are understood, the tendency to use the concept in personal life is higher.

At organizational level it has been noted that as long as management has a good understanding of the essence of the KAIZEN concept, the employees support the management system. However, if the trainings offered put emphasis only on the benefits obtained by the company by implementing the system, the risks exists for employees; enthusiasm to be lower than in the case it is made aware that one will work daily for improving the quality of personal life. This enthusiasm and predisposition toward commitment is also diminished by the communication of

some passive behaviour by managers. In short, the employee copies with more ease the behaviour that he can than the “*taught lesson*”.

Regarding the extension of the KAIZEN practices at the level of the educational environment, for starters, a practical way could be opening the academic environment and the business environment toward collaboration. By organizing information sessions, free courses and seminars through the representatives of the bodies with expertise in the field, visits and internships in the companies with a KAIZEN management system, but also through study grants offered to the most promising students, masters students and PhD students, the theoretical study could turn more easily and more lasting in skills and abilities to the benefit of all parties: the academic environment, the economic environment and the un- employed young people. To these, the implication in the KAIZEN Social actions is added. According to the results obtained from these initiatives one can take into consideration the extension of the KAIZEN practices to other levels of education.

Also, the possibility of extending the KAIZEN concept at national level through the KAIZEN Social actions, but not only these, in order to generate a significant change one can do that only through the cumulated efforts of educational institutions, the business environment and of the public authorities.

It is also important to consider the fact that including the strategies analysed within the paper have their own limits. As a consequence, one improvement possibility of the educational system, of the business environment and an improvement of the level of awareness of society regarding the social environment and the environment comes from harmonizing the most suitable strategies of improving the quality of life for each organization and system. Though universal, the analysed model is adaptable and this is exact what one must consider in the strategic planning of the evolution of the human capital, of the organizations, social environment and natural environment.

Starting from the individual, organizational, social and regional level, then extending toward the national level, taking however, into consideration the standards acknowledged globally, with conscience and consistent effort, one will be able to see more profoundly the development of the KAIZEN social concept at national level, to the benefit of all parties involved.

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