

MONIKA JEDYNAK

Jagiellonian University
 Institute of Economics and Management
 Chair of Marketing and Operational Management

USING KAIZEN TO IMPROVE COMPETITIVENESS OF SUPPLIERS

INTRODUCTION

The need to maintain competitiveness of a company, region, city or a country is becoming a prerequisite from the management sciences perspective. Nevertheless, in order to achieve the required level of competitiveness it is necessary to reach for various management tool. M. Imai [1986] in his paper under the highly expressive title of *Kaizen: The Key to Japan's Competitive Success* indicates the groundbreaking significance of applying kaizen from the point of view of Japanese economy. In this philosophy M. Imai seeks the key success factor both for individual Japanese companies and the Japanese economy as a whole. From the date of publication of the famous above mentioned work we have been dealing with a certain kind of phenomenon of a difficult to quantify kaizen diffusion. The diffusion is manifested among others in:

- immense popularisation of applying kaizen principles in numerous countries and organizations,
- continuous enhancement of kaizen methodology,
- dynamic rise in the number and diversity of kaizen applications,
- stimulating with the use of kaizen creation and development of other management concepts, methods and tools,
- growth and professionalization of consulting and training services in the kaizen area.

The above outlined global kaizen tendencies, occurring in practice in operations of organizations of various sectors, do not remain neutral against management sciences both in cognitive and pragmatic dimension. For, if a research subject of a science field or discipline (management in this case) undergoes some changes, it requires some reflection from the researchers representing this field. The above premise justifies the kaizen studies started

by the author of the present paper. Among the fundamental objectives of the publication there are:

- attempt to determine the formal status of kaizen,
- identification and arrangement of current directions and research problems concerning kaizen,
- specification of possibilities to use kaizen in a new manner in order to increase competitiveness of suppliers in their relations with client.

1. FORMAL STATUS OF KAIZEN - REVIEW OF LITERATURE

The above mentioned study of M. Imai [1986] triggered an “cascade” of scientific research dedicated to kaizen. In majority of the scientific publications their authors formulate views on formal status of kaizen. It is worth to start deliberations on the subject from revising terminological issue. The term of kaizen was coined as a combination of two components [Suarez-Barraza, Lingham 2008, p. 3]: *kai* (change) and *zen* (to become good).

In the first stage of its development kaizen was an offer to complete, or at times to replace, change management theories and models worked out and used in the West [Pettigrew 1990; Mintzberg, Westley 1992]. Thanks to kaizen, processes of transformation of solutions applied in organizations became oriented towards continuous improvement. The last term is sometimes regarded synonymous to kaizen and very well clarifies the essence of approach towards organization improvement as understood in kaizen. Therefore, change and improvement are inseparable conceptual correlates of kaizen. The third complementary element of kaizen results from the main objective of its application which originally is elimination of muda [Suarez Barraza, Smith, Dahlggaard-Park Su Mi 2009, p. 146], that is waste.

From the point of view of selected management concepts and some solutions used in business practice, kaizen functions as principles creating them, usually of fundamental character. Such perception of kaizen concerns, among others, such management concepts as: Total Quality Management [Imai 2006; Doolen, Van Aken, Farris, Worley, Huwe 2008, p. 640], Lean Management [Emiliani 2005, p. 39], Six Sigma [Doolen, Van Aken, Farris, Worley, Huwe 2008, p. 639], as well as Toyota Production System [Suarez Barraza, Smith, Dahlggaard-Park Su Mi 2009, p. 144]. Understanding of kaizen as a principle gives it solely a status of a component of the listed concepts.

In the literature of the subject [Suarez-Barraza, Lingham 2008, p. 3] one can also find definition of kaizen as a procedure methodology. In this respect kaizen methodology can be explained either with the use of its key principles or by the set of detailed methods and techniques comprised and used by this methodology.

It is not infrequently that kaizen is regarded as philosophy. According to M.F. Suarez-Barraza and T. Lingham [2008, p. 3], kaizen as a philosophy consists of two concepts, i.e. Kaizen (Continuous Improvement) and Kairyo (Process Improvement). Defining kaizen as a philosophy is the highest status in the hierarchy and refers to fundamental assumptions of organization functioning and views of the top management. Nevertheless, such a definition indicates general and relatively abstract nature of kaizen which can be questioned.

Assigning kaizen the status of management concept does not raise this sort of doubts. With respect to its conceptual meaning kaizen is described by the set of key rules of conduct, implementation of which will be possible by way of operationalization with the use of selected models and methods. In the classical proposal of M. Imai [1986] the key kaizen principles are as follows:

- Kaizen is process-oriented;
- Improving and maintaining standard;
- People orientation.

When deliberating on kaizen as a management concept two approaches can be noticed. The first one, as above, treats kaizen as an autonomous management concept. Doolen, Van Aken, Farris, Worley, Huwe [2008, p. 639] rightly point that kaizen may concern all areas of company operations. Lack of functional or hierarchical restrictions indicates multithreaded and very universal character of kaizen.

Simultaneously, it can be observed that kaizen is treated as a management concept with its own character complementary to other management concepts, e.g. Lean management [Suarez Barraza, Smith, Dahlggaard-Park Su Mi 2009]. This type of perspective results in attempts to integrate kaizen with other management concepts with the intention to achieve the synergy effect. The recalled integration activities lead to coining new terms, e.g. Lean-kaizen. In such case, kaizen becomes the subject of integration.

Highly important cognitive findings can be reached by including the time factor in deliberations on kaizen. Traditional view [Sawada 1995] commonly shared is that kaizen is a process of activities that are implemented continuously. In line with this interpretation time span of implementing kaizen is unlimited. At the same time however, M.F. Suarez Barraza, T. Smith, Su Mi Dahlggaard-Park [2009] note that currently two approaches can co-exist:

- the first one, long-term, based on traditional Japanese quality management system;

- the second one, short-term (one or two weeks) based on projects where implementation of kaizen is restricted to a selected area.

With reference to the latter, treating kaizen as a programme or project can be found every now and then [Van Aken, Farris, Glover, Letens 2010; Doolen, Van Aken, Farris, Worley, Huwe 2008]. Introduction of this sort of formal status draws attention towards organizational conditions and instruments used in case of project and programme management – kaizen events management.

Kaizen can also be attributed with a process status [Emiliani 2005, p. 39]. Perceiving kaizen as a process directs attention particularly towards the sequence of activities taking place as part of improvement. The sequence has been presented in a series of framework reference models the most popular of which being the PDCA model which forms the basis for constructing a series of modern management standards, e.g. quality, environment, occupational health and safety, risk management, etc.

Similarly to the above, kaizen also happens to be regarded as a management technique [Suarez Barraza, Smith, Dahlgaard-Park Su Mi 2009, p. 147]. Such an understanding of kaizen refers to its operational character. In this case the above given models of procedure gain the status of management technique by specifying them and multiple verification in practice.

Summary of the above deliberations on the formal status of kaizen are included in Table 1.

Table 1. Main interpretations of kaizen's status

Author	Status	Description
Imai 2006 Doolen, Van Aken, Farris, Worley, Huwe 2008 Emiliani 2005 Suarez Barraza, Smith, Dahlgaard-Park Su Mi 2009	Kaizen as a principle	Kaizen as a principle co-creates the conceptual foundation of superior management concepts or practical solutions. Degree of implementation of kaizen as a principle partly determines the success of implementation of a management concept or practical solutions.
Suarez-Barraza, Lingham 2008	Kaizen as a methodology	Kaizen integrates and uses detailed methods and techniques which are applied in specific configuration. It is possible to characterize kaizen as a methodology with the use of framework principles and management guidelines.
Suarez-Barraza, Lingham 2008	Kaizen as a philosophy	Understanding kaizen as a philosophy refers to the general collection of assumptions which result from beliefs of top management in an organization.

Author	Status	Description
Doolen, Van Aken, Farris, Worley, Huwe 2008 Suarez Barraza, Smith, Dahlgaard-Park Su Mi 2009	Kaizen as a management concept	Kaizen as a management concept, with the use of a set of principles it outlines formal framework for management models and methods. Kaizen can be regarded as an independent or complementary management concept.
Van Aken, Farris, Glover, Letens 2010 Doolen, Van Aken, Farris, Worley, Huwe 2008	Kaizen as a program	Implementation of kaizen is embedded in time and concerns a selected area. In kaizen implementation methodology adequate for project management is used.
Emiliani 2005	Kaizen as a process	Proceeding as part of kaizen follows in a specified sequence. There are reference kaizen models.
Suarez Barraza, Smith, Dahlgaard-Park Su Mi 2009	Kaizen as a technique	Verified in previous implementations proceeding as part of kaizen is regarded as a routine tool for solving management problems.

Source: own elaboration.

2. EXISTING RESEARCH

Scientific studies of kaizen can be categorized within four dominating streams outlined below. Interpretative stream covers meditations on ontology and origin of kaizen. Furthermore, it determines the status and qualities of kaizen with particular attention paid to other management concepts, such as [Doolen, Van Aken, Farris, Worley, Huwe 2008; Suarez-Barraza, Lingham 2008]: TQM, Six Sigma, business process reengineering, continuous process improvement, just in time and others. The nature of research results of this stream have above all cognitive and systematizing nature. Scientific knowledge of current relations between kaizen and other management concepts is being completed along with quantification of changes occurring within the formal status of kaizen.

The second but nonetheless important and vast scientific stream is methodological. The stream embraces a series of detailed research problems connected with development of kaizen instruments. Exemplary, the more momentous research issues of the methodological current concern:

- Kaizen events programme; modelling and verification of organizational solutions for designing, management and improvement of kaizen programmes [Doolen, Van Aken, Farris, Worley, Huwe 2008; Van Aken, Farris, Glover, Letens 2010].

- Integration of kaizen with other management concepts. For instance integration of kaizen with lean management [Suarez Barraza, Smith, Dahlgaard-Park Su Mi 2009]. The integration attempts are accompanied with the care for efficiency of applying kaizen. Integration from the perspective of its subject usually tackles general concepts, dominating principles and management techniques.
- Application of detailed techniques allowing to implement kaizen in operations of an organization. Among these techniques there are among others [Suarez Barraza, Smith, Dahlgaard-Park Su Mi 2009]: the kanban method, TPM, 5S method, SMED, process mapping, supplier development and many others.

The discussed methodological stream forms a strong part of implementation of projective function of management sciences.

The third research stream in order is the efficiency one. As part of this stream efficiency of implementation of kaizen is studied. In detail, it concerns evaluation of kaizen programme results as well as creating measures of this evaluation [Doolen, Van Aken, Farris, Worley, Huwe 2008; Suarez-Barraza, Lingham 2008]. What is more, efficiency of functioning of kaizen teams can also be a specific research issue. Formulation of the efficiency stream results from a fundamental change in perception of kaizen. Namely, with time the traditional view that continuous improvement is an aim in itself has given way to the belief that improvement process should periodically end with measurable results. These results are nowadays the measure of success or failure of kaizen programmes.

The presented research streams are complemented with the exemplification current. As its part kaizen instruments are tested in organizations of various sectors. As much as traditionally kaizen was applied in industry now it can be implemented in organizations of various sectors, including for instance the public one [Emiliani 2005; Suarez-Barraza, Lingham 2008; Suarez Barraza, Smith, Dahlgaard-Park Su Mi 2009]. It needs to be added that scientific research conducted within the exemplification stream play, at the same time, a significant popularizing role by strengthening the phenomenon of kaizen diffusion.

It should be emphasized that the above discussed streams are tightly connected what is represented on Figure 1.

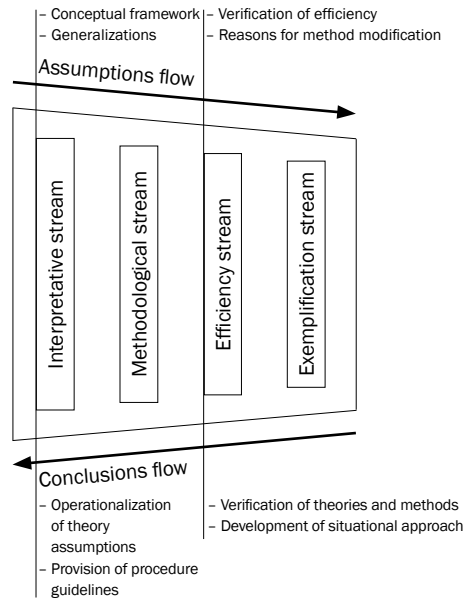


Figure 1. Relations between kaizen research streams

Source: own elaboration.

3. RESEARCH METHODOLOGY

The research covered relations between two organizations one of which, Toyota Tsusho Europe (TTE), functions as the supplier while the other one Toyota Motor Manufacturing (TMM) acts as the client. The research scope has been limited exclusively to the relations which concern one of the services, i.e. waste management, provided by TTE to the benefit of TMM. The key qualities of the studied service have been included in Table 2.

Table 2. Key qualities of the studied service, waste management, provided by TTE to TMM

Service qualities	Description
Foundation for providing the service	The service is provided on the basis of framework agreement concluded between the parties. TTE has been selected as the service provider by way of beauty contest.
Scope of the service	The service covers collection, sorting, temporary storage, transport and sale of selected production waste generated in the TMM plants. The service scope, initially specified by the agreement, can be and is modified depending on the needs what is legitimized with annexes. Both parties can initiate change of the scope of the agreement.

Service qualities	Description
Method of service performance	The service in terms of collection, sorting, temporary storage of waste is executed on the site of TMM production plants, in designated areas, by employees delegated by TTE at all production shifts. In the process of waste transport and sale TTE uses providers' services.
Payment terms for the service	TTE as the service provider is entitled to lump sum remuneration and shares in profit from waste sale. The amount of the remuneration changes together with the scope of the service.

Source: own elaboration.

3.1. ASSUMPTIONS, OBJECTIVES AND RESEARCH QUESTIONS

Empirical research refer partly to each of the above outlined research streams. The following key assumptions have been adopted:

- Assumption 1. Competitiveness of the supplier, TTE, is understood as the ability to maintain long-term, mutually beneficial relations with TMM.
- Assumption 2. Kaizen is regarded as a potential tool for increasing the above defined competitiveness of TTE.

The fundamental objectives of empirical research include:

- Objective 1. Identifying the possibility to apply kaizen in the provision of the studied service of waste management.
- Objective 2. Specifying the mechanisms of potential influence of kaizen on increasing competitiveness of TTE as the supplier of TMM.

In relation to the above objectives the following research questions have been formulated:

- Q 1. How can kaizen be applied to improving provided service of waste management?
- Q 2. How can implementation of kaizen contribute to increasing competitiveness of TTE as the supplier of TMM?

3.2. RESEARCH PROCEDURE AND METHODS

Empirical researches have been carried out in several stages with the use of numerous research methods. The key research methods were case study and Action Research method, completed with a series of detailed methods.

First stage of research

The basic objective of the first stage of research was identification of the existing state of formal and organizational conditioning of execution

of the studied service of waste management provided by TTE. As part of this stage the following research activities took place: 1) analysis of the content of agreements concluded between the parties, 2) analysis of the content of agreements between TTE and providers of services of collecting and transporting waste, 3) analysis of the process of provision of the studied service on the basis of written procedure P09 – Waste management TMM, 4) analysis of adopted measurements and results of implementation of the process, 5) interviews with employees engaged in performance of the service in the TMM plant in Wałbrzych, Poland, 6) interviews with management of Waste Management Department and TTE plenipotentiary for quality management, 7) observation of the process of providing the service of waste management in the TMM plant in Wałbrzych, Poland.

Second stage of research

The second stage involved an attempt to develop an example of a kaizen program which would obtain approval of TMM. As a superior assumption it was adopted that the program as a tool for shaping client relations would realize the win-win strategy, i.e. it would generate measurable benefits for both parties. The author of the present paper played the role of a coordinator of a working team which was appointed for the purpose and consisted of individuals listed in Table 3.

Table 3. Members of the working group developing kaizen program at TTE

Participant	Key functions in the working group
Author	Coordination of team works Supervision over work methodology of the team
Waste Management Department Manager	Quantification of kaizen results for TTE and TMM Developing improved solution
TMM Customer Service Leader	Identification of the area for improvement of the service of waste management Designing an improved solution
Representative of employees delivering the service	Identification of the area for improvement of the service of waste management Designing an improved solution
TTE Plenipotentiary for quality management	Codification of the kaizen program from the perspective of the requirements of Quality Management System
Lawyer	Evaluation of compliance of kaizen with formal conditions

Source: own elaboration.

Third stage of research

In the third research stage efforts were made to conceptualize directions and mechanisms of using the kaizen programme as a tool for increasing competitiveness of TTE as a TMM supplier. The nature of this stage was of strategic reflection. Apart from the author, representatives of TTE top level management took part in this process. Participants of several sessions implemented, among others, assumptions of M. Porter's 5 forces analysis.

Fourth stage of research

In the final, fourth, stage an attempt was made to develop a solution connected with continuous application of kaizen programmes as a tool for shaping client relations of TMM which would allow for long-term improvement of competitiveness of TTE. The discussed solution referred to existing in TTE guidelines as part of implemented quality management system compliant with ISO 9001. As a result, representative of TTE for quality management was a leader in this research section apart from the author.

4. RESULTS

4.1. EXEMPLIFICATION OF USING KAIZEN FOR IMPROVEMENT OF THE STUDIED SERVICE OF WASTE MANAGEMENT

As a result of research works carried out as part of the second stage of research a kaizen programme proposal addressed for organization – client (TMM) was formulated. The proposal was prepared in such a graphic form (Figure 2) which can at the same time be presented for approval of TMM.

The subject of the proposed kaizen programme is improvement of existing practices of plastic and cardboard waste management. Firstly, the weak points of the current solution were identified which included lack of full segregation of the mentioned waste already on the TMM site. They concerned mostly:

- financial issues related to high costs of waste transport relatively low prices obtained for not segregated waste,
- issues related to the risk of lack of total control over the generated waste and becoming dependent from one sub-contractor which segregates waste outside the TMM area,

- organizational issues connected to being forced to expand the scope of control over the process and coordination requirements related to substantial participation of sub-contractors in implementation of the process.

In the proposed kaizen programme it was suggested to introduce changes of organizational nature which involved:

- restriction of the role of TMM production employees in the process exclusively to storing waste in designated areas,
- taking over by TTE the function of in-plant waste transportation,
- introduction of internal waste segregation,
- resignation from the sub-contractor's services who segregated waste outside the TMM plant.

Introduction of the suggested modifications would require finance expenses connected with: 1) purchase of pressing machines, 2) purchase of several trolleys, 3) changes in power supply installation, 4) modifications of work environment. In relation to the fact that in case of approval of the kaizen program TMM would be its fundamental beneficiary, it was assumed in the program that this organization would cover the costs of the above mentioned investments.

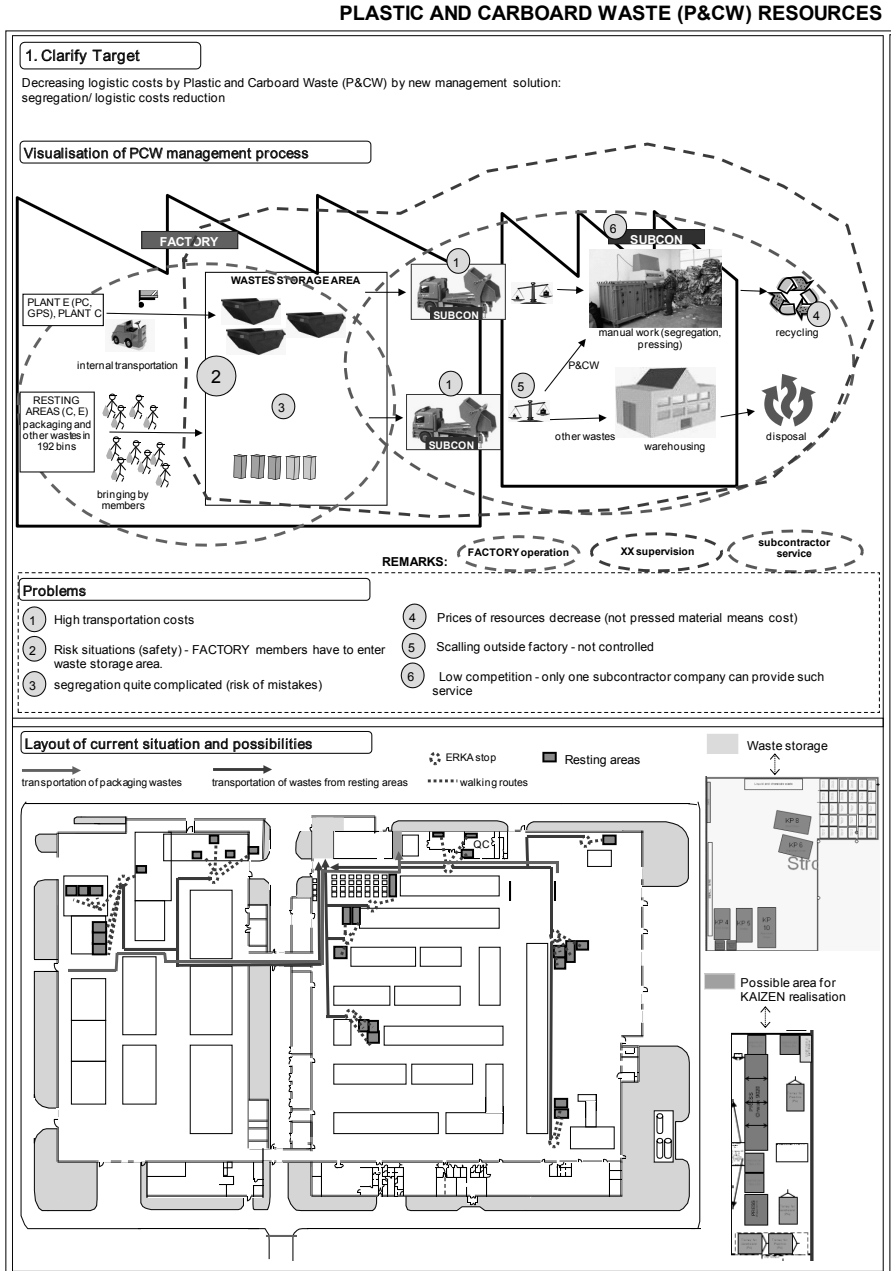
In the kaizen program (see Figure 2) costs and benefits of the current and modified solutions were estimated. The modified solution proved to be far more financially profitable. Taking into consideration the amount of finance expenses related to introducing the changes which would equal PLN 176 962 the payback period amounted to 1.8 year. Therefore applying the modified solution after this period would mean continuous generating financial profits in relation to:

- lowering the costs of waste transport,
- obtaining higher prices for segregated and pressed waste,
- entering the competitive waste market thanks to the segregation and pressing.

Simultaneously for the organization – the client, there will be other benefits, such as:

- improvement of waste control,
- lowering the probability of errors in waste management,
- improvement of occupational health and safety in the areas of waste storage.

Table 4. Exemplification of using kaizen for improvement of the studied service of waste management



MANAGEMENT IMPROVEMENTS PROPOSAL FOR ONE-SHIFT PERIOD (KAIZEN)

3. Kaizen proposal

Advantages of kaizen proposal

<p>1 Transportation cost decrease</p> <p>2 Better price for materials due to segregation and pressing.</p> <p>3 Competitive prices for materials (possibility of using different receivers)</p>	<p>4 Better control of wastes management - scalling inside factory</p> <p>5 Decreasing mistakes of segregation in wastes area</p> <p>6 Safety at waste storage area improvement (FACTORY members will not have to enter during container loading/unloading)</p>
---	---

4. Kaizen investment and profit calculation

Investment cost

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>1 Pressing machines</td><td style="text-align: right;">150 720</td></tr> <tr><td>2 Trolley for wastes from resting area</td><td style="text-align: right;">3 016</td></tr> <tr><td>3 Trolleys for packages (4 units)</td><td style="text-align: right;">5 976</td></tr> <tr><td>4 Trolleys for packages transport</td><td style="text-align: right;">7 296</td></tr> <tr><td>5 Power supply installation</td><td style="text-align: right;">1 750</td></tr> <tr><td>6 Weight</td><td style="text-align: right;">5 000</td></tr> <tr><td>7 Window and antileakage protection</td><td style="text-align: right;">3 204</td></tr> </table>	1 Pressing machines	150 720	2 Trolley for wastes from resting area	3 016	3 Trolleys for packages (4 units)	5 976	4 Trolleys for packages transport	7 296	5 Power supply installation	1 750	6 Weight	5 000	7 Window and antileakage protection	3 204	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total PLN</td> <td style="width: 50%; text-align: right;">176 962</td> </tr> </table> <p style="font-size: small;">Non-investment equipment: - ERKA, - forklift (taken unused from FACTORY)</p>	Total PLN	176 962
1 Pressing machines	150 720																
2 Trolley for wastes from resting area	3 016																
3 Trolleys for packages (4 units)	5 976																
4 Trolleys for packages transport	7 296																
5 Power supply installation	1 750																
6 Weight	5 000																
7 Window and antileakage protection	3 204																
Total PLN	176 962																

Estimation of costs and profits for current situation

	Waste/Service	Recycling/disposal wastes [PLN]			Transport/Service [PLN]			GRAND TOTAL
		Quantity [Mg]	Purchase / Cost	Total	Unit	Cost	Total	
Current yearly amount (calculation for decreased production)	Cardboard/Paper	200.000	0	0	500	-80	-40000	-40 000.00
	Plastic	90.000	0	0	300	-80	-24000	-24 000.00
	Oiled foil	40.000	-1200	-48 000	134	-80	-10720	-58 720.00
								-122 720.00

Estimation of costs and profits after kaizen

	Waste/Service	Recycling/disposal wastes [PLN]			Transport/Service [PLN]			GRAND TOTAL
		Quantity [Mg/Unit]	Purchase / Cost	Total	Unit	Cost	Total	
Estimated yearly amount (calculation for decreased production)	Cardboard/Paper	61.530	+100	+6 153	22	-290	-6380	-227.00
	Foil	30.660	+200	+6 132	17	-290	-4930	1 202.00
	Oiled foil	13.560	-1200	-16 272	20	-290	-5800	-22 072.00
	Maintenance	12	-410	-4 920			0	-4 920.00
								-26 017.00

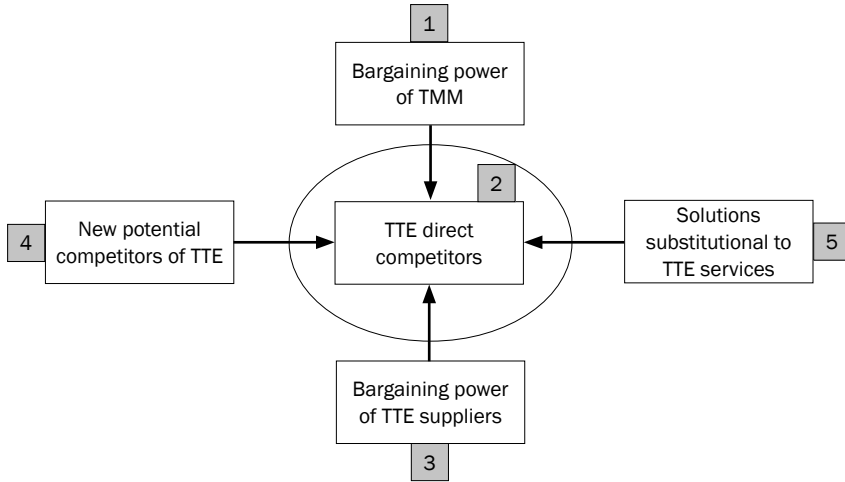
Summary

Yearly costs saving	96 703.00	PLN	
Investment reimbursement	1.8	years	(remark - for higher production like in 2007 and normal market of resources: 1 year)

Source: own elaboration.

4.2. APPLICATION OF KAIZEN FOR IMPROVEMENT OF COMPETITIVENESS OF TTE AS A SERVICE SUPPLIER

The search for mechanism for increasing competitiveness of TTE as a supplier of waste management services for TMM, thanks to applying kaizen, was based on the M. Porter's analysis of 5 forces. Model of this methodology adjusted to the studied situation is presented on Figure 3.



- 1 – meeting and exceeding of requirements and expectations of TMM thanks to kaizen
- 2 – quality leadership and generating value for TMM to a greater extent than competitors thanks to kaizen
- 3 – restriction, thanks to kaizen, of participation of suppliers of great bargaining power, shift to competitive supplier markets
- 4 – creating, thanks to kaizen, entry barriers for new, potential suppliers for TMM
- 5 – continuous improvement, thanks to kaizen, of provided service of waste management, preventing substitution

Figure 3. Impact of kaizen on improvement of competitive situation of TTE according to M. Porter's analysis of 5 forces

Source: own elaboration.

Impact of kaizen on the client's bargaining power TMM (1), may concern:

- Exceeding by TTE, thanks to kaizen, the requirements of TMM; in particular obtaining the effect of very high client satisfaction which is according to Kano's proposal [Lee, Lin, Wang 2011].
- It may result from exceeding functional requirements in terms of expected quality level. Usually, high satisfaction level is closely followed by loyalty.
- Active participation of TTE in the processes of creating value by TMM [Ippolito 2009]. The role of TTE will be to provide TMM with relational capital and to remain in interaction allowing to co-par-

ticipate in implementation of TMM development strategy. While kaizen will be here a tool for realization of policy of co-creating of value.

- Thanks to kaizen practical and active use of Customer Relationship Management. Kaizen may be helpful in achieving such CRM objectives as [CRM Kotorov 2003; Nguyen, Mutum 2012] conceptualization of benefits expected by TMM, gaining trust of TMM, commitment of TMM to improve the quality of services provided to it, etc.

With reference to direct competitors (2) application of kaizen should support the following competitive actions of TTE:

- Continuous improvement of services provided to TMM, especially in terms of their comprehensiveness. Kaizen should support TTE implementation of quality leadership strategy. Thanks to its differentiation TTE may gain the status of unique supplier.
- Providing TMM with a greater “dose” of relational capital than other competitors [Castro, Lopez Saez, Navas Lopez 2004; Delerue-Vidot 2006]. Providing by TTE relational capital will become the source of additional benefits for TMM, at least in the form of structure externalization. Kaizen, as a supporting tool, may serve e.g. current determination of the value of relational capital.

In the context of competitive advantage of TTE suppliers (3) using kaizen heads towards [Lasch, Janker 2005]:

- Current analysis of suppliers market, in particular due to its structure and competitiveness.
- Reaching decisions of potential internalization of these functions performed by suppliers in the case of which their policies or restrictions hindered relation policy of TTE towards TMM.
- Reduction of TTE risk in its relations with suppliers, e.g. by the back-up suppliers policy.

When it comes to the new potential competitors (4), application of kaizen by TTE should lead to creating specific, endogenous entry barriers [Pehrsson 2009]. At the same time, these barriers should not be standard solutions (e.g. promotion, trade war, advertising) but should co-create high level of expectations of TMM reaching of which would not be possible for competitors.

Finally, with regard to the substitutes of services provided by TTE (5) applying kaizen should lead to such a continuous maintenance of these services which would be greater than analogous attractiveness of alternative solutions.

5. CONCLUSION

In the present paper a new application of kaizen has been presented which increases supplier's competitiveness.

Since current policy of clients addressed to suppliers usually leads towards continuous rise of requirements, the suppliers, if they intend to maintain their competitiveness, should undertake actions allowing to successfully solicit clients' satisfaction and loyalty.

The paper presents several possibilities of perceiving kaizen status, next key kaizen research streams are identified and analyzed, finally in order to move on to empirical studies involving exemplification of using kaizen in the above mentioned application.

Based on the carried out literature and empirical studies it is possible to formulate the following conclusions:

- In case of kaizen, similar to other "beings" of management sciences, it is possible to ascertain complexity of its formal status. Kaizen may be treated among others as: a principle, methodology, philosophy, management concept, programme, process, technique. As it can be noticed, concept quantificators of kaizen are substantially different and its selection is not neutral for further interpretation. To date multiplication of meanings of kaizen does not need to be the source of conflicts according to the author. In her opinion, several interpretations of kaizen can be used parallel what only proves the wealth of the research subject.
- The indicated significance dilemmas of kaizen are confirmed in the great number of research streams as part of which attempts are made to clarify and solve various research problems. The author has identified four main kaizen research streams: interpretative, methodological, effectiveness and exemplification.
- Kaizen may be used as a holistic tool for increasing supplier's competitiveness in its relation with client. Application of kaizen allows to operationalize organization strategy and policy towards its clients, including application of assumptions of many contemporary management concepts and models (e.g. co-creation of value, building relational capital, customer relationship management, outsourcing).
- Thanks to application of kaizen suppliers can increase their competitiveness in their relations with clients impacting at the same time all leading competition forces in the sector. As understood by Porter, these forces are: bargaining power of clients, intensity of competitive rivalry, bargaining power of suppliers, threat of new entrants and substitutes.

- Applying kaizen, under assumption, should lead to supplier's creating long-term mutually beneficial client relations. In the analyzed hereby case of relations on B2B market such supplier policy may lead to making efforts to create, thanks to kaizen, entry barriers for other potential suppliers in the sector, what is usually a very difficult task due to the rising competitiveness on the market of waste management services providers. Nevertheless, compared to traditional competing tools, kaizen may prove to be difficult to imitate and allowing the supplier to maintain its competitive advantage.

REFERENCES

- Castro G., Lopez Saez P., Navas Lopez J. (2004). The role of corporate reputation in developing relational capital. *Journal of Intellectual Capital*, No. 5.
- Delerue-Vidot H. (2006). Opportunism and unilateral commitment: the moderating effect of relational capital. *Management Decision*, No. 44.
- Doolen T.L., Van Aken E., Farris J., Worley J.M., Huwe J. (2008). Kaizen events and organizational performance: a field study. *International Journal of Productivity and Performance Management*, No. 8.
- Emiliani M.L. (2005). Using kaizen to improve graduate business school degree programs. *Quality Assurance in Education*, No. 1.
- Imai M. (1986). *Kaizen: The Key to Japan's Competitive Success*. New York: Random House.
- Imai M. (2006). *What is total flow management under kaizen focus?* Three days Conference Lecture in Barcelona.
- Ippolito A. (2009). Creating value in multiple cooperative relationships. *International Journal of Quality and Service Sciences*, No. 1.
- Kotorov R. (2003). Customer relationship management: strategic lessons and future directions. *Business Process Management Journal*, No. 9.
- Lasch R., Janker C. (2005). Supplier selection and controlling using multivariate analysis. *International Journal of Physical Distribution & Logistics Management*, No. 35.
- Lee Y., Lin P., Wang Y. (2011). A new Kano's evaluation sheet. *The TQM Journal*, No. 23.
- Mintzberg H., Westley F. (1992). Cycles of organizational change. *Strategic Management Journal*, No. 13.
- Nguyen B., Mutum D. (2012). A review of customer relationship management: successes, advances, pitfalls and futures. *Business Process Management Journal*, No. 18.
- Pehrsson A. (2009). Barriers to entry and market strategy: A literature review and a proposed model. *European Business Review*, No. 21.
- Pettigrew A.M. (1990). Longitudinal field research: theory and practice. *Organization Science*, No. 3.
- Sawada N. (1995). *The Kaizen in Toyota Production System*, Nagoya: Quality Control.
- Suarez-Barraza M.F., Lingham T. (2008). Kaizen within kaizen teams: Continuous and process improvements in Spanish municipality. *The Asian Journal of Quality*, No. 1.
- Suarez-Barraza M.F., Smith T., Dahlgard-Park Su Mi (2009). Lean-kaizen public service: an empirical approach in Spanish local governments. *The TQM Journal*, No. 2.
- Van Aken E., Farris J., Glover W., Letens G. (2010). A framework for designing, managing and improving kaizen event programs. *International Journal of Productivity and Performance Management*, No. 7.