The KAIZEN and the Japanese Company Culture

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Abstract: In the March of 2005 I have participated in a nearly one month long training program for the acquirement of the japanese management and production culture, organized and financed by the japanese and the hungarian government. The highly intensive training procedure was prepared and realized by the most authentic representatives of the japanese KAIZEN philosophy and the participants were selected from the circle of the special experts and the professors of this area from Hungary and the other newly joined EU member countries.

The presence of the best managers and advisors of the japanese company culture and the real multicultural character of the group of the participants made it possible the spiritually deep analysis and the practice oriented acquirement of the KAIZEN philosophy, which has its roots in the strongly impressive japanese history and the characteristical japanese national culture.

At the beginning of the course we acquired the principal bases and then, in full cooperation with the japanese trainers, we made workshop practices introducing ourselves into the KAIZEN management. At the next phase we visited and studied some of the hungarian firms having the best KAIZEN system in the east-european region, and finally we made a field practice at the ACTARIS CO., evaluating and improving their inventory and packaging system. The whole training procedure was determined and deeply influenced by the japanese company culture, but the participants strongly and fluently represented their own national and company culture, so it was a good possibility to learn that how can we use the positive developments of the interference and the synergie effect of the cross-cultural operation of a multi-cultural working group.

Summarizing the main results of the training and the researching work of the last one and a half year it can be stated that the whole procedure made us possible the acquirement of the KAIZEN approach.

In the first part of this study I give a small introduction to the basic elements of the KAIZEN management, then I give some details how we could use these methods in the analysis of the situation, the elaboration and the presentation of our recommendations for solving the inventory and the packaging problems at ACTARIS CO., and finally I underline the importance of the results of the japanese company culture in the management of an up to date and globally competitive company.

Keywords: KAIZEN philosophy, KAIZEN management, company culture, cross-cultural effects, multi-cultural group, continuous improvement, productivity, profitability
1 The KAIZEN and its Possibilities in Hungary

The Japanese word KAIZEN means gradual and orderly made, continuous improvement. The KAIZEN business strategy involves everyone in an organization working together to make improvements without large capital investments. KAIZEN is made of two elements improvement or change for the better and continuity. Lacking one of these elements would not be considered KAIZEN. This system can improve company productivity through Quality Improvement, Cost Reduction, shortened delivery, reduced lead time, inventory control improvement, safety improvement. Innovation can be carried out on traditional way and by utilizing KAIZEN. The attributes of the traditional productivity improvement; introduction of new machinery and system, top down, big investment, result is not sure (a few big results) and on the other hand KAIZEN relies on improvement of current machinery and system, bottom up, small investment, result is sure (a lot of small result), idea from all employees.

KAIZEN is a widely used company management and productivity improvement method. Response of workers of different cultures to the introducing of KAIZEN varies region to region. There are major difference between the European and the Japanese behaviour of workers when they have to face changes and have to apply new systems. There are also historical reasons of aversion in Hungary. The 45 years planned economy, the misused brigade movement and the distorted improvement movement planted a sceptical and pessimistic mentality deep into the peoples mind. Difficulties can be overcome by trainings, lectures and study tours etc. With highly committed leadership that guides people to continuously improve their ability to meet the expectations of high quality, low cost and on-time delivery KAIZEN well proven profitability can change people’s mentality.

2 The PULL, the JIT Production and the LEAN Manufacturing

JIT is a Japanese management philosophy which has been applied in practice since the early 1970s in many Japanese manufacturing companies. It was developed and perfected within Toyota manufacturing plants by Taiichi Ohno for meet the consumer demands with minimum delays. Taiichi Ohno is frequently referred to as the father of JIT. Toyota realised that JIT can only be successful if every individual within the organisation is involved and committed to it. JIT manufacturing has the capacity, when property tailored to the organisation, to strengthen the organisation’s competitiveness by reducing wastes and improving product quality and efficiency. In Japan There are strong cultural aspect associated with the emergence of JIT. Another aspect is that the production has to be switched over to PULL System from PUSH System. In case of push system the producing quality is based on the demand and stock. The components are made in
a sequential manner using the time standards for each operation. With PULL system the required quantity is withdrawn by the final process centre and in this way that process work centre withdraws the required quantity from its previous centre and so on. Thus this procedure works in reverse order.

LEAN production system is an assembly-line manufacturing methodology developed originally for Toyota. The goal of lean production is described as to get the right time, the first time, while minimizing waste and being open to change. Engineer Ohno, who is credited with developing the principles of LEAN production, discovered that in addition to eliminating waste, his methodology led to improved product flow and better quality. Instead of devoting resources to planning what would be required for future manufacturing Toyota focused on reducing system response time so that the production system was capable of immediately changing and adapting to market demands. In effect, their automobiles became made-to-order. The principles of lean production enabled the company to deliver on demand, minimize inventory, maximize the use of multi-skilled employees, flatten the management structure, and focus resource where they were needed. The following principles pronounced by Womack: SPECIFY what does and does not create value from the customer’s perspective. IDENTIFY all the steps necessary to design, order and produce the product. Make those actions that create value. FLOW without preemption, detours, backflows, waiting or scrap. Only make what is PULLED by continually removing successive layers of waste as they are uncoverd.

3 The 5S Method and the Total Productive Maintenance

One of the targets of a company is to create Value Added by production. The way to generate more VA is to increase income or/and decrease costs. The method of increasing VA is to improve productivity by increase quantity and/or reduce waste. The fields of productivity improvement are as follows: production, quality, cost, delivery, safety and moral. The definition of 5S: SEIRI Sort out unnecessary items in the workplace and discard them. SEITON Arrange necessary items in a good order so that they can be easily picked up for use. SEISO Clean your workplace completely so that there is no dust on floor and equipment. Seiketsu Maintain high standard of housekeeping and workplace organisation at all times. When 3S (Seiri, Seiton, Seiso) is implemented correctly your workshop floor will change and become beautiful. This state is called „Seiketsu”. Shitsuke Train people to follow good housekeeping disciplines autonomously. The three main management system TQM, JIT and TPM are all based on 5S and continuous improvement and this system helps a company to generate profit.
Maintenance makes easy for technology to perform appropriate effect for business. In the competitive environment technology is the physical manifestation of knowledge. TPM combines American Preventive Maintenance practice and Japanese Total Quality Control. The result is an innovative system that optimizes efficiency, prevents machine breakdowns and supports the autonomous maintenance in the daily practice. TPM target is to maximize the efficient use of the machine during the whole life cycle. The operation of TPM needs the involvement of all organization units at all levels. This motivates the teamwork and the autonomous activity. TPM includes the improvement of the operational and maintenance system, the implementation of good housekeeping and the improvement of problem solving ability to be able to achieve „ZERO” breakdown. The top management should prepare an evaluation system. Based on the evaluation system, the ability and responsibility of the employee should be appreciated or rewarded as well.

4 Field Practice at ACTARIS Company

Actaris is the only international group entirely dedicated to metering products and systems for the distribution and allocation of electricity, gas, water and heat. The word leader in its market, for all metertypes and classes, Actaris is the preferred partner of public and private water and energy suppliers, utility services companies as well as industrial organisations. In order to respond to all customers’ needs, Actaris offers a complete range of products covering all market segments: residential, commercial and industrial, transport and distribution, etc. With the aim of delivering the best service at a local level, Actaris relies on a network of 6,500 employees spread over thirty countries, with a significant presence in Europe, Asia and South America.

For the field practice the following tasks were given by management: Packaging and inventory. The target 2000 units/shift output at packaging, reduce WIP<1000 units, optimize calibration. Assembly and precalibration recommendations and scenarios for improving productivity and quality of C-114 meter: Estimate the maximum productivity of Assembly lines. Decrease the defected items by 5%.

Our general observations were: Limited monitoring of production process, uneven distribution of problems, claims from the customers disturbing the whole process. Lot size is too flexible lost capacity of calibration. No appropriate feedback to workers about daily performance. Quality circle meetings are not regular everywhere. There is no smooth communication. Quality control and final check up are used. Employees are not motivated to reduce the number of defective products. Material flow defects can be experienced. Data indicates waiting time because of lack of material. Data shows lack of packaging materials, lack of
plates. Average WIP is too high which slows down production, and takes up significant place.

On the other hand we experienced positive things as well. Workers sometimes do other jobs according to the capacities. There are standard lead times for calibration by type of meters. They have detailed analysis of the failures by type. Innovation team started his work almost one year ago with the support of the top management. 5S movement have been already started in October. There were lot of improvements in the last half-year. Management devoted to manage the change for the improvement. They develop the vendor’s network ambitiously. Goals in the field of calibration and packaging are as follows. They targeting to raise the units/shift output at packaging reduce WIP, optimize calibration.

At packaging various problems were found. There is no planning by product so the performance uneven and uncontrolled. Unbalanced work times, idle time in the process, lack of material, low cleaning standard at the lines creates quality problems. At the storage of components and parts there is no visualization. No colorcoding for different type of meters. Ad hoc allocation of workers. Workers decide their job allocation without supervision. Problems were found concerning WIP as well. Push system fills the WIP 1 (before calibration), the same push system fills WIP 2 (after calibration). No visualization of origin or product type of the WIP. Problems with the calibration. There were no planning, no types are taken into account, standard times for different categories are not realistic for some types, the push system can not optimize the usage of the calibration area, no in process standardization times only 7 types are defined, a waste in line capacity due to the mismatch with the order side, free capacity of workers is not utilized to increase production, lengthy process longer.

Our proposals for packaging area: By Planning the Output and Allocation of people we can increase the utilization of workstations. It is recommended to balance the work load, reduce idle time, improve supplier management for plates, introduce 5S. New target to achieve is 2300/shift, it is currently varies from 800 to 1800/shift. The present target is 2000/shift. During the implementation daily, weekly and monthly plan should be made. Job allocation ought to be changed, daily worker orientation is necessary at the beginning of the shift. Idle time reduction is needed. Other supplier must be found to avoid the lack of material. 5S pilot area should be designated. Proposals concerning W.I.P: Introduce 'KANBAN like’ system, cards should be used for pulling the material. The pull signal starts at packaging according to shift production plan. Kanban cards must be finalized during implementation. Teaching the use of 'KANBAN like’ cards is necessary as well as the one day teaching for the shipleaders and management. Employees should be trained by the supervisor.

Proposals for optimizing the calibration: Usage of standard times for each type of meter, new tools for work places and operations are recommended, to change plan by shift/day in calibration area in correlation with special orders. Use standard
operation times for each line operation. New tools for work places and operations. Decrease defective rate of meters. New target is to increase the calibration of meters from 1000 to 1400 units/shift current level is 810 units/shift.

Implementation: Proposals would be implemented in function of data collection and measurements. KAIZEN and continuous process improvement and monitoring is necessary.

Conclusions
At the end of this study after participating in the mentioned training course and after visiting a lot of companies using the KAIZEN management it can not be said that; it is the time to give the final conclusions of our topic, so we should make a lot of work in the future to reach some final results. But, of course, at this moment we have already some „preliminary” or „semi-final” results and these are as follows.

- the japanese management and production culture has a good position in the global competition
- this KAIZEN approach is in a close connection with the japanese national and company culture
- a lot of other companies (not japanese) apply these methods to improve their productivity and profitability with different results.
- the main reasons of the weak results are, the negligence of the strong connection between the national and the company culture the misunderstanding of the KAIZEN approach and the insufficient preparation work for the application of a management philosophy in an other cultural environment.
- after all of these we can state that; we should know the essence and the details of the japanese company culture, the new cultural environment and we should make very detailed and precise activity in the course of the adaptation of a KAIZEN system.

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