

ANALYSIS OF PERFORMANCE AND KEY PERFORMANCE INDICATORS IN THE LEAN COMPANIES

Marija Savković^{1,a}, Snežana Nestić^{2,b}, Nikola Komatina^{3,c}, Nastasija Mijović^{4,d}

^{1,2,3,4} University of Kragujevac, Faculty of Engineering, Serbia

^amarija.savkovic@kg.ac.rs, ^bs.nestic@kg.ac.rs, ^cnkomatina@kg.ac.rs,

^dnastasija.mijovic@kg.ac.rs

Abstract The aim of this paper is to analyze the performance and key performance indicators (KPI) in the lean companies. The paper points out the importance of analysis of performance and key performance indicators in lean enterprises taking into account the specific characteristics of these enterprises. Also, the paper identifies the most significant performance and key performance indicators. Modern business environment imposes a need for detailed analyzes of performance and key performance indicators. Analysis of key performance indicators is very important because key performance indicators measure the achievement of the vision, strategy and objectives of the company. Also, key performance indicators provide measurable, reliable, real information for the implementation of appropriate corrective action if performance are not aligned with the company goals. Identification and analysis of performance and KPI provides the basis for their further improvement in order to adapt and achieve better results of enterprises in modern changing business conditions. Lean means modern business philosophy characterized by striving for the elimination of all forms of loss and waste of productive resources, while simultaneously improving the quality, flexibility and speed of response to impulses coming from the turbulent environment. Lean concept allows that with an investment of less human effort, less equipment, less time and less space achieve better performance. The main objectives of the application of this philosophy are improving product quality, delivery of the product at the appropriate time and at an appropriate price, increase productivity, reduce inventories, building solid, reliable and long-term relationships with suppliers, business partners and customers. Therefore, analysis of performance and key performance indicators in these companies is crucial.

Keywords: Key performance indicators; lean enterprise; performance.

1. INTRODUCTION

In this era of globalization, growing competition, increased customer demands, application of modern production, information and communication technologies detailed analysis of performance and key performance indicators enables to gaining comparative advantages of modern enterprises, and in long-term a necessary condition for survival. Management of lean company focuses on increasing the efficiency of business operations, long-term value creation for customers, improving business processes and improving knowledge, skills and competencies of employees. The main goal of any lean company is to provide the best quality, lowest cost and highest level of safety, while maintaining the highest employee morale. Analysis of performance and key performance indicators in such a company is essential.

The basis of any successful business enterprises constitute a vision, mission, objectives, policies and plans. The main aim of lean enterprises is to create "current value" through the company, so as to create greater value for customers over its competitors and thus achieve and improve competitive advantage. Performance analysis provides information about the achieved goals of the company and

is the basis for improvements in accordance with the objectives of the company. Production and delivery of high-quality products, without defects, at low cost and in a short period of time lean enterprises successfully meet the needs of customers.

Lean manufacturing focuses on building continuous flow which creates value, with eliminating activities that do not add value, in order to speed up the production cycle. The goals and outcomes of the production units and flow values must be consistent with the objectives and strategies of lean enterprise. According [1] KPI contribute to achieving the following objectives: planning of implementation and successful execution of production plans, assurance quality of products, processes and technologies, improving the efficiency of production processes, increasing motivation and satisfaction of employees.

This paper is presented in the following way: after the introduction, the first part of the paper provides an overview of the relevant literature in this field. The third part of the paper presents the definitions of performance and the most important performance of the lean enterprise. The focus of the fourth part of this paper is to define key performance indicators and the identification and classification of the key performance indicators of the lean enterprise. In conclusion, concluding observations are given.

2. LITERATURE REVIEW

Bhasin presented the basic objectives of lean company, framework of the performance measurement in lean enterprises and indicates on the specificity of the performance measurement in lean enterprises [2]. Susilawati et al. showed the framework for measuring the performance in the lean environment [3]. Also, in this paper the most important key performance indicators in the lean enterprise is identified and this paper provides a detailed overview of the basic model for measuring performance. Sanchez and Perez [4] gave tabular overview of key performance indicators in lean production. They key performance indicators in the lean manufacturing classify on: key indicators for the elimination of activities with zero value, key indicators for continuous improvement, the key indicators of functional teams, key indicators of delivery and key indicators of integration of suppliers and the key indicators of a flexible information system.

Bhatti et al. pointed to the role of key performance indicators to improve the performance of the organization [5]. In the paper [6] De Toni and Tonchia presented the most important performance of the manufacturing companies. They classify performance on the financial performance and non-financial performance. Rosemary et al. presented financial and operational performance. They gave a detailed overview of the financial and non-financial measures in lean production [7]. In the paper [8] Digalwar and Metro proposed framework for measuring the performance of the world-class companies and indicated the most important measures of performance in world-class companies.

3. LEAN ENTERPRISE

Lean philosophy is derived from the Toyota Production System (TPS). TPS is based on the postulate of continuous production of adequate quantities of high-quality products with fewer resources, investments and costs. Application of Lean business concept has contributed to a high number of

improvements. Therefore, the application of this concept extended to all business processes and all activities. Extended application of lean concepts led to the formation of lean enterprise [9]. The primary focus of management of lean companies is to increase the efficiency of business operations, long-term effort to meet customer needs and maintain competitive advantage.

Lean companies strive to continuously improve the business environment by maximizing the use of resources and eliminating waste and losses in production. Waste is any human activity which absorbs resources but creates no value. Lean companies are trying to eliminate all seven types of waste or losses in transportation, inventory, motion, waiting, overproduction, over-processing and defects. Lean enables achieve better performance with investments of less human effort, less equipment, less time and less space. The production cells are based on lean business processes. A manufacturing cell is focused to the increase of efficiency, achieving the tact time and the stability of the system i.e. pull system.

The basic advantages of lean concepts are [2]:

- shorter cycle time,
- shorter lead time,
- continuous improvement of product quality,
- decrease in inventories,
- lower costs,
- reducing defects and delays,
- increased production flexibility,
- increase productivity,
- better customer service,
- increase in profit.

Lean manufacturing is the set of practices intended to attain perfection in the identification and elimination of waste through continuous improvement flowing the product at the pull of the customer [10]. The value created in the lean enterprise is defined by consumers. Lean enterprise seeks to respond to consumer demand by delivering the required value [11]. Customers determine the characteristics of the products that will best meet their needs and thus increase their loyalty. Managers lean companies accept such a defined value as a goal to be achieved.

The value flow includes all activities performed in the company (those that add value and those that do not add) to the product moved through the company and ensure customer satisfaction. Value flow includes all activities to be carried out from the moment of creation of the idea of the product, through production to the delivery of the product to consumers [12]. The focus of this principle is to eliminate activities that do not add value. This is achieved by a detailed review of each operation and work processes to determine whether they add value or ne. Right established "current value" indicates the potential congestion and bottlenecks that may arise in the process of creating value.

Given that the purpose of lean companies reduce inventory, reduce waste and losses introduction of pull system is a very important principle of lean company. Pull system focuses on customer requirements and the creation of products that will meet their needs [13]. Production of product begins when the managers request obtained from the market. Introducing pull systema allows the

company to have an adequate stock levels to deliver the required value at some point, all this in order to meet the required demand for the product.

Continuous improvement is based on a belief in people's inherent desire for quality and worth, and management has to believe that it is going to "pay" in the long run. Lean thinkers are aiming for perfection and in doing so the improvement cycle is never ending. For many in the process industries this culture change is the hardest change of all [11] focus on high-quality products and services, motivated and skilled employees, responsive and robust internal processes alongside satisfied and loyal customers.

Pull production system focuses on producing and delivering exact quantity of products at the right time in order to satisfy customer demands, and different from traditional mass production or push system, the production in a pull system is driven by customer needs. Flexible manufacturing system is one of the most successful examples of pull production system. The primary objective of pull system is to provide higher responsiveness to customer demands which are highly variable and difficult to be accurately forecasted. Further, another advantage of pull system is the reduction of waste from over-production through balancing production and demands.

Perfection is based on the earlier mentioned four major principles of Lean philosophy and aims at maximizing value creation for the customers through continuous improvement and works towards a perfect solution.

4. PERFORMANCE IN LEAN ENTERPRISE

The performance of enterprises represents a effect or the success of the company, expressed in some size. The performance is an indicator of the results of operation of the enterprise [14]. The analysis of performance shall be determined by the success of enterprises in achieving the mission and achieve the objectives. The performance of the lean enterprise arising from the strategy and goals of the company, directing the company to eliminate the identified shortcomings in the business enable development and improvement of production processes.

According to Bond, the most significant performance in the lean enterprise are:

- quality,
- cost,
- time,
- supplies,
- delivery and
- production flow [2].

Bhasin believes that the most significant performance in the lean enterprise are:

- customer satisfaction
- quality and
- innovation [2].

Wade identifies

- customer satisfaction,
- employee satisfaction,
- improving relations with suppliers,
- productivity,
- growth and innovation, and
- financial performance as the most important key performance [2].

According Sangwan et al. the most significant performance in the lean enterprise are:

- quality,
- cost,
- flexibility,
- reliability of delivery,
- time,
- employee satisfaction,
- customer satisfaction and
- performance relationship with suppliers [15].

De Toni Tonchia and classify the performance on [6]:

- performance based on the cost (financial performance) and
- non-cost (operational) performance.

Financial performance are the economic indicators of success of the company. They include the costs and realized productivity. Non-financial or operational performance of the company performance is to be measured in relation to the prescribed standard or indicators of effectiveness, efficiency and environmental responsibility. Hill's performance is classified to: operational performance that involve companies able to produce higher quality products than the competition, operational performance related to time and flexibility of enterprises in relation to competition [16]. De Toni classify non-financial performance into three groups: the performance of time, the performance of flexibility and the performance of quality [6]. Performance time are further classified into internal and external. Internal performance include the time duration of the process, the time of changes in the production and waiting times in production. Performance of external times include the time of transport, time of procurement and delivery time.

Flexibility indicates the willingness of companies to effectively provide the necessary resources and meet the set business goals. Suarez identify to flexibility of material resources (stocks of raw materials or finished products, the capacity of means of work) and flexibility of information systems (information flows, documentation) [2]. According to Atanasov quality performance include: product quality, customer perception of quality achieved, quality of supply and the cost of quality assurance [17].

Lean company must produce quality products in accordance with the requirements of customers at a lower price than the competition. Inadequate quality of the product leads to a disruption of flows, a smaller customer satisfaction and reduce productivity. Quality performance contribute to the prevention of production nonconforming products and the delivery of nonconforming products to customers. Application standardization work allows the detection of products of lower quality and

continuous improvement reduces the rate of defects and reduces material consumption. Reducing defects leading to increased productivity, because the time is now only used for the production of quality products.

According Mačuzić quality assurance requires a comprehensive approach that defines all the factors that influence the production process, including workers, products, equipment and machinery and production processes [9]. Quality performance include: customer satisfaction, product performance, the relative suitability of products with specifications compared with competing products, the effectiveness of the system in identifying non-compliant quality manufacturer and update the quality management system [18].

The essence of the lean concept involves continuous aspiration to reduce costs by improving business processes and the elimination of unnecessary spending (wasting, loss). Performance costs include the costs of storage of raw materials and finished products, the costs of the application of information technology, product costs, costs of after-sales service and warranty and costs of the maintenance of the production plant [18]. De Toni and Tonchia identified the cost of materials, labor costs, energy costs, inventory costs and staff costs [6].

Flexibility is the ability to react quickly to changes in demand and requirements for product improvements. Flexibility is achieved by reducing the time of production of the product, process optimization, control the fulfillment of customer requirements and motivation of employees. De Toni Tonchia identified flexibility of modification of the product and the flexibility of modifications of the process [6]. Performance of flexibility include: delivery performance due to changes in the types of products or changes in the quantities of products, quality performance due to changes in the types of products or changes in the quantities of product, performance of production costs due to changes in the types of products or changes in the quantities of the product.

Time is a very important performance in lean enterprise. De Toni and Tonchia identified lead time, tact time and the time of delivery as the important performance [6]. Tact time is the time that was necessary for the production of a product and represents the frequency of consumer demand. Lead time is the total time that elapses from the receipt of order through to delivery of finished products to consumers. According Neely and Platts the most important performance include: time of distribution, production lead time, standard time of labor, real time of work and waiting time [19].

Employee satisfaction is the key to the success of any organization. If the employees are satisfied then customers will be satisfied and overall efficiency of the organization will increase. The performance of employees include: encouraging the production workers to participate in problem solving and the development of multi-functional teams with members from different business functions of companies [18].

Management of lean company is focused on continuous education and improvement of knowledge, skills and competencies of employees since they are the most valuable resource companies. Performance of training of employees include performance of internal training, performance of external training, performance of training organized its own initiative, the participation of employees in knowledge transfer through training aimed at other employees [18].

Performance of relationship with customers are the following: the level of cooperation with customers, feedback information of performance quality, delivery, price etc [18]. According Digalvar and Sangwan performance of customer satisfaction include product availability, achieved sales for each product group and performance of distribution of products [18]. The performance of service to consumers based on customers' requirements and performance include the following: the ability and competence of the service representative, ease of process services, speed troubleshooting, implementation of information systems, technical support to consumers etc [18].

Suppliers are an integral part of the process of delivering the required value to consumers. It is important to establish a close, long-term partnership. When establishing partnerships taken into account in addition to the quality of the delivered of raw materials, price of resources and their availability at the right time. Performance relationships with suppliers include performance delivered materials and raw materials, the reliability of delivery, and the possibility of co-operation [18]. Susilawati classify performance of lean company into six groups: performance of relationship, performance relationships with suppliers, performance of production management, the performance of research and development, performance of management of employees performance of production efficiency [3].

5. KEY PERFORMANCE INDICATORS IN LEAN ENTERPRISE

Indicators represent the financial and non-financial metrics that management of the company is used in order to evaluate the performance and to achieve the previously established long-term goals. According Bhasin indicators are used for measuring, monitoring and managing the business results for quantitation of the efficiency and / or effectiveness of the enterprise actions [2]. Key performance indicators (Key Performance Indicators- KPI) are a special group of indicators, which the management activities directed towards improving key performance. Key performance indicators are quantitative measure, which is pre-designed / re-project and reflect the critical success factors of a company [20]. Key performance indicators are used to measure the performance of an industrial plant or of a single segment and are used to report on the progress toward the achievement of the set objectives. They must be aligned with the vision, goals and strategies of companies.

De Toni and Tonchia classify indicators on the costs indicators and non-cost indicators [6]. Performance indicators related to costs are further classified on: the costs of production indicators and indicators of productivity.

Indicators of production costs are further classified on [6]:

- cost of materials,
- cost of energy,
- cost of workforce,
- equipment costs, etc.

Key performance indicators include [6]:

- the productivity on an enterprise-wide,
- the productivity of the manufacturing plant,
- the productivity of production lines or work center,

- the productivity of the workplace etc.

Non-cost indicators relating to the non-financial performance of the company: time, flexibility and quality. Time is viewed as a factor of internal efficiency (related to reducing costs and creating new value for a predefined time interval) as a factor external efficiency of the company (shorter delivery times, faster response to customer orders, delivery accuracy, etc.). Quality indicators show the performance related to the characteristics of the product in relation to the requirements of customers and the elimination of scrap in production. Indicators of flexibility related to the company's ability to promptly react on changing business conditions [6].

Key performance indicators provide insight into the adequacy of the business and defining problematic area in lean enterprise. For each key performance indicator in a lean company must precisely define the name, the desired value, the method of calculation, the frequency of measurement, evaluation method, connection with other indicators, as well as the nature of the link with the processes.

Sangwan et al classified KPI in the lean company on:

- KPI in production,
- KPI in purchasing,
- KPI in research and development,
- KPI in marketing,
- KPI in sales,
- KPI in finance,
- KPI in human resource management [15].

The most important key performance indicators in production are [15]:

- the percentage increase in production volume,
- percentage of conforming products with the procedures,
- number of justified claims,
- batch size and
- percentage of total time delay in production.

The key process indicators of purchasing include [15]:

- overall cost,
- cost of materials and spare parts,
- the percentage of the cost of procurement of spare parts,
- percentage of the cost of storage of spare parts,
- unit costs of materials and equipment,
- the average time for the procurement,
- the number of annual contracts with suppliers,
- the average time for the procurement,
- average time delay delivery,
- the percentage of late deliveries by suppliers,
- percentage of broken / damaged equipment.

Key performance indicators include development [15]:

- cost of introduction of new technologies,
- number of new machines / equipment a certain type,
- number of innovations of the current year.

Key performance indicators of marketing include [15]:

- percentage share of the market,
- market coverage in a specific region,
- rate of capturing new markets,
- number of organized promotion/fairs.

Key performance indicators of research and development include [15]:

- the rate of innovation,
- number of patents,
- involvement of suppliers in product development,
- knowledge management,
- training employees.

Key indicators of sales include [15]:

- the amount of goods in stock,
- costs of distribution,
- the average time of delivery,
- the time of receipt of the complaint to prepare a response to the user,
- sales revenue,
- annual sales volume,
- exported quantity,
- number of lost regular customers,
- the number of contacts with the 20 most important customers.

The most important key financial indicators are [15]:

- net working means,
- percentage of unpaid invoices / credits,
- average delay from the debt collection,
- average number of days from when invoice to payment,
- number of debts over 90 days,
- number of invoices paid after the agreed deadline,
- percentage of taxes and contributions that are not paid on time.

Key indicators of human resource management including [15]:

- number of signed contracts,
- average degree of education,
- number of allocated bonus,
- percentage of employees who did not receive new equipment for work,
- the number of workers who have received additional specialization / training / seminar,
- the number of new workers,

- employee satisfaction, working conditions,
- the rate of wage growth,
- the number of hours of training,
- the number of acquired skills,
- number of functional teams.

The key indicators of the health and safety of employees include [15]:

- the rate of absenteeism,
- number of injuries annually,
- degree of security staff.

Lean production is a set of techniques by mutual combining reduction and elimination too much wastes and activities in the manufacturing process, improvement of the quality, increase capacity, eliminating the bottlenecks, decreasing of time of manufacturing and cost reduction. Reduction of losses in human resources, inventory, delivery time of products and production space has a positive effect on rapid response to customer requirements production of high quality products in a more efficient and economical way. Reducing and eliminating losses and activities is achieved by improving the flow of materials and information across business processes.

According Mačužić most frequently used key performance indicators in lean production are: productivity, quality, inventory, space utilization and real-time of production [9]. Productivity is expressed in the number of units produced per employees. It is a direct impact on costs and improved through less effort expended, with less using of equipment and other resources. Product quality is monitored through a number of customer complaints during the month or expenses arising in resolving complaints (costs of warranty, the cost of hiring of employees of troubleshooting), costs in the internal processes (costs of repairs, costs related to the amount of waste generated during the manufacturing process, the percentage of the product of poor quality and so on.). The high level of quality can be achieved by: reducing the number of poor-quality products, the excessive reduction of product processing, reducing the amount of waste during the manufacturing process and reducing the number of customer complaints. Key quality indicators include: percentage of the product agreed with the procedures, the percentage of products that differ from the procedure, the number of the preventive measures, the percentage of rejects, the percentage of waste, a percentage of the supplied goods without damage, the number of products that have received the CE mark etc [15].

Inventories are an important indicator of performance in lean manufacturing. Increase of inventories of materials, work in process, finished goods negatively affect the profitability of the company. Excessive inventories are cause for big problems such as storage costs, quality problems caused by poor manipulation of the product during storage, damage during storage and transport, footprint etc. Key performance indicators of stock include: percentage of the stock material, the percentage of finished goods and inventory turnover [15]. Efficient use of space is directly contributes to improving the cost, quality and delivery. Bad machines and tools schedule required movement of workers from one operation to another in search of the appropriate tools for work. Real-time of production is the time the product spends in the manufacturing and assembly process. It affects on the delivery time. Long production lines, more jobs of workers, tools, conveyor parts and additional material extends lead time.

The most important key performance indicators of costs are:

- costs per unit of production,
- the percentage of the cost of materials,
- the percentage of labor costs,
- the percentage of maintenance costs,
- the percentage of the cost of materials,
- the percentage of the cost of development,
- the percentage of marketing costs,
- the costs of the projects with respect to the budget [15].

Key performance indicators of flow of process include:

- the overall effectiveness of the equipment (OEE),
- the efficiency of the workers,
- productivity and
- number of activities which do not add value [15].

Martinez Sanchez and Perez classify key performance indicators in lean manufacturing according different directions of operation lean production on [4]:

- key indicators for the elimination of activities with zero value,
- key indicators of continual improvement,
- key indicators of multifunctional teams,
- key indicators of delivery,
- key indicators integrations supplier and
- key performance indicators of a flexible information system.

Applying lean concepts enables to: improving business processes in the enterprise, eliminating activities that do not add value to the products and the elimination of losses and unnecessary spending. Lean concept of business process improvement is achieved through the elimination of processes and activities that do not add value, ie. ensuring that losses and waste of resources converted into activities that add value. Inventories are a major source of inefficiency of production companies and necessary if it is possible to strive for their elimination. Transport of parts is an activity that does not add value to the products and increases lead time.

Key performance indicators for eliminating the activity with the zero value are [4] :

- percentage of common parts in the products of enterprise,
- the value of the work in progress in relation to the sales,
- inventory turnover,
- number of times and the distance at which the parts are transported,
- the time required for die changes
- percentage of preventive maintenance in the overall maintenance.

Continuous improvement of products and processes requires the involvement of all employees. Workers take on the role of quality control and identification of defective products. In some cases,

workers have the ability to stop production and thus prevent that products with defects go further in the process.

The key performance indicators of continuous improvements include [4]:

- number of suggestions per employee and year
- percentage of implementing proposal
- savings and/or benefits of the proposal,
- the percentage of inspections carried out by the autonomous control of defects
- the percentage of defective parts that are customized workers on the production line
- percentage of machine downtime due to poor functioning
- the value of fracture and treatment in relation to the sale
- the number of people dedicated primarily to quality control

The basis of lean enterprises make a dynamic, proactive, innovative, creative and highly motivated teams of workers, with a multidisciplinary and multifunctional knowledge. The organization functional teams facilitates rotation of tasks and flexibility to change.

Key performance indicators of multifunctional teams are [4]:

- the percentage of employees who work in teams
- the number and percentage of tasks to carry out teams
- the percentage of employees who rotate jobs in the company
- average frequency of rotating assignments
- percentage team leaders elected by their team colleagues

Lead time represents total time elapsed from receipt of order through to delivery of finished products, but also the time that is spent to perform activities that do not add value. Reducing of lead time leads to decreasing the time that is spent on carrying out activities that do not add value.

Key performance indicators of delivery include [4]:

- lead time of user orders,
- percentage of parts delivered just in time by the supplier,
- percentage of parts delivered just in time between the parts of the production line
- competitive advantage in the market. Some of the indicators show the degree of involvement of the size of series of production and delivery

Suppliers play an important role in the design of parts causing a decrease development time of prototypes and gaining suppliers in the design of parts and some of the indicator measures the number of mutual visits of engineers and technicians with suppliers of production and the number of documents that were exchanged with suppliers.

Key performance indicators of integration of suppliers are [4]:

- percentage of parts designed together with the supplier,
- number of proposals made to suppliers,
- frequency of visits technicians vendor company,
- frequency of visits vendor to company technicians

- the percentage of documents exchanged with suppliers through EDI or Intranet,
- average length of contracts with key suppliers,
- the average number of suppliers of the most important parts.

Lean concept means decentralization of responsibilities to employees and simplifying of the organizational structure of enterprise. Effective functioning of lean manufacturing requires the dissemination of information in order to useful information promptly forwarded to all employees. The frequency and increasing the number of meetings, the autonomy of employees in decision making, the ability of employees to perform tasks without the supervisor control and the existence of written procedures for the control operations contribute to simplifying management.

Key performance indicators include a flexible information system [4]:

- frequency of providing information to employees,
- number of information meetings of top management with employees,
- the percentage of procedures that are written in the company,
- percentage of production equipment that is computer integrated,
- number of decisions that employees can meet without control of supervisor.

6. CONCLUSION

In this paper authors identified the specifics aspects of lean enterprise. Lean company is characterized by: delivery on time, the elimination of losses and inventory, continuously improving quality, perform only activities that add value, reduce defects and downtime, shorten the response time to consumer demand, flexible production in small batches, establishing close cooperation with suppliers and similarly. The primary focus of lean management companies is to increase the efficiency of operations, realization of high-performance, long-term value creation for customers and maintain competitive advantage. Lean company is characterized by: delivery on time, the elimination of losses and inventory, continuously improving quality, perform only activities that add value, reduce defects and downtime, shorten the response time to consumer demand, flexible production in small batches, establishing close cooperation with suppliers and similarly.

Lean manufacturing as a special form of organization of production, characterized by: a defined number of quality products in a defined period of time, lowering costs, zero defect levels and inventories, reducing production time and a large variety of products. Lean manufacturing allows decreasing and eliminating unnecessary losses and activities. Waste from the lean enterprise are related to: overproduction, waiting, transportation, over-processing, inventory, unnecessary motion, defects, repairs, finishing and others.

Contemporary business environment imposes a need for detailed analyzes of performance and key performance indicators. Analysis of key performance indicators is very important because key performance indicators measure the achievement of the vision, strategy and objectives of the company. Also, key performance indicators provide measurable, reliable, real information for the implementation of appropriate corrective action if performance are not aligned with the company goals. Identification and analysis of performance and KPI provides the basis for their further improvement in order to adapt and achieve better results of enterprises in modern changing business

conditions. The most significant performance in the lean enterprise are: quality, cost, flexibility, delivery time, employee satisfaction, performance, customer relations and performance relationships with suppliers. For each of these performances in paper authors are given key performance indicators.

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