

## **Lean Management as a Tool of Management in Non-Public Higher Education Institution (HEI)**

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### **Abstract**

*The primary task of a modern university is to educate students focused on continuous renewal of their knowledge in order to prepare them for future careers. Although some activities of a non-public university should involve implementation of business solutions, such institution is by no means a typical company. However, it is with no doubt an economic organization. Such organization cannot remain indifferent to the changes taking place in its near and far environments. Higher Education Institutions in Poland are currently operating in very complex, rapidly changing conditions, which make their efficient management difficult. For these reasons, the author proposes lean management as a modern concept for institutional governance.*

**Keywords:** lean management, management, non-public HEI.

### **1. Introduction**

Increasingly competitive education market and growing expectations of its customers call not only for improving the quality of existing services, but also new, effective management methods. With the impending population decline, to maintain their current status or gain competitive advantage private universities must turn towards modern concepts and management methods which have proved successful in other sectors of the economy for years. The concepts, of course, are beneficial only when properly implemented and used. It is therefore important to involve all staff and management, ensure timely implementation and provide relevant training. Modern management methods and concepts, by providing relevant solutions and tools, allow non-public institutions to adapt to external and internal conditions and allow them to either maintain or improve the competitive edge in the educational services market. Increasingly competitive education market and growing expectations of its customers call not only for improving the quality of existing services, but also new effective management methods. The purpose of this article is to show the "transferability" and use of lean management for academic governance purposes.

### **2. Management of a non-public school as a business unit**

Higher education, both public and private, has to fulfil three functions: educating students, conducting research and benefiting its environment (both local communities and the economic environment of the region). It must be remembered that universities do not operate on the market independently. They both exert an influence and are dependent on other entities in its near (sector-specific competition, geographics) and far (macro environment, a universal system of threats and opportunities for all universities in the country) environment.<sup>1</sup> When developing strategic plans, a university should be on top of changes in its environment and react to them by taking appropriate adaptive actions. It should also be emphasized that, especially for private universities currently struggling with problems like turbulent environments and population decline, it is important to not only formulate a strategy but also to constantly adapt it to changes taking place both in the environment of the university and within it. In the period analysed in this paper private education sector was very dynamic. Its attractiveness is confirmed by a constantly growing number of universities and their revenue. However, statistical projections indicate that over the next 10 years the number of students is expected to drop by approximately one third.

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<sup>1</sup>G.Gierszewska, M.Romanowska, *Analiza strategiczna przedsiębiorstwa*. PWE, Warszawa 2003, p. 92

Private universities will face growing competitive pressure resulting not only from a progressive population decline, but also competing international universities and public universities subsidized by the state. To secure further development and maintain their current market position, universities are in urgent need of effective management.

### 3. The concept of Lean Management

Originating from efforts to reduce amounts of resources required to produce products while consistently meeting customer needs, the concept of lean management was first introduced by Toyota's head of production Taiichi Ohno.<sup>2</sup>

**Fig. 1 the principles of lean enterprise**



Source: <http://www.benson.pl/?k=strony&m=&ns=131&pns2=38&pns=14> of 10.09.2012

There are many definitions of this concept in literature. Its three main principles are: being close to the customer, changing corporate culture and the "game", teamwork<sup>3</sup>.

**Table 1: Overview of Lean Management definitions**

Author	Definition
Wiesław Kowalczewski, Joanicjusz Nazarko	Lean Management is based on the principle of gradual, evolutionary improvement. It is a method consisting in activities towards making the enterprise more "lean". These actions regard hierarchy and departmental structures.
Tadeusz Wojciechowski,	Lean management is a set of principles and techniques towards maximizing cost-effectiveness of the business organization and the production process, usually through a reduction in the number of organizational units and employment, as well as changes in the organization and production technology, sales, internal and external logistics bringing a reduction in costs.
Leszek F. Korzeniowski	Lean Management is what it literally means. The concept assumes constant evolution and transformation of the enterprise, its organization and performance.
Jacek Luczak	Lean management is a concept whose main message is to avoid any kind of waste through a continuous process of rationalization of the entire company and its relationship with the environment, consisting in reducing the scope of the internal functions of the company to a bare minimum. It is a concept involving the elimination of steps which do not add value to the product, i.e. activities for which the customer doesn't want to pay.

**Source:** Based on: Kowalczewski W., Nazarko J.(ed.) (2006). *Instrumenty zarządzania współczesnym przedsiębiorstwem*, Difin, Warszawa, p.36; Wojciechowski T. (2011). *Marketingowo-logistyczne zarządzanie przedsiębiorstwem*, Difin, Warszawa, p.210; Korzeniowski L.F. (2010). *Management. Podstawy zarządzania*, EAS, Kraków, p.122; Luczak J. (2007). *Metody i techniki zarządzania jakością: kompendium wiedzy*, Quality Progress, Poznań, p.206.

According to Z. Martyniak, people involved in the implementation of lean management should be characterized by:

- dynamism (ability to use all available resources),
- economy (elimination of waste),

<sup>2</sup>The observations by Toyota pioneers are contained in *The Birth of Lean: Conversations with Taiichi Ohno, Eiji Toyoda, and Other Figures Who Shaped Toyota Management* by by Koichi Shimokawa (Editor), Takahiro Fujimoto (Editor), Brian Miller (Translator), Lean Enterprise Institute.

<sup>3</sup>For more see: *Konieczność większej samodzielności pracowników*, in: „Managing the World” in 1993, No. 4, p.25.

- global thinking (seeing a bigger picture),
- forward thinking (predicting)
- Sensitivity to changes<sup>4</sup>.

The author also lists ten principles of lean management:

- Collaboration - tapping into the potential and performance of groups of employees (synergic effect),
- personal responsibility - decentralization of decision (responsibility for tasks is transferred to the lowest possible levels of organization),
- feedback - the information is quickly passed on to the appropriate decision-making level,
- customer is right - customer orientation (in a bid to connect customers with the products of the company all activities must be subordinate to their expectations),
- prioritizing added value - all processes must be carried out in order to achieve added value,
- standardization - standardized operations and activities help maintain consistent quality and allow rotation of employees,
- continuous improvement (kaizen) - of processes, products or services; employee involvement in submitting improvement proposals,
- instant elimination of causes of errors - detection and immediate reaction at the source of the problem,
- forecasting - collaborative decision-making,
- gradual improvement - implementing improvements should be assessed from the point of view of their profitability and the risk of introduction<sup>5</sup>.

Almost identical components are listed by German authors F. Gendo and R. Korschaka<sup>6</sup>. The overall aim of lean management is to achieve high economic efficiency while maintaining a high level of quality and flexibility. Due to the complexity of these operations, the measures taken by the organization to meet this goal should never cease<sup>7</sup>. The method of lean management is described by five principles:

- assessment of the needs, values essential for the client, who pays for them,
- identifying the stream of values (i.e. what constitutes value for the customer),
- making the value stream flow, consistently,
- implementation of the pull system (adjusting the production process to customer needs),
- Constant striving for perfection<sup>8</sup>.

M. Lisiński proposes a procedure for the application of lean management divided into sequences of phases and steps and specific auxiliary methods and techniques (Table 2).

Implementation of tools offered by lean management allows to achieve tangible benefits on multiple levels:

#### **Company:**

- Increased competitiveness
- Streamlined organization management
- Shortened decision making process

#### **CUSTOMERS:**

- Flexible response to the needs and wishes of customers
- Significant improvement in the quality of production and services, which increases customer satisfaction

<sup>4</sup> Martyniak Z., *Metody organizacji i zarządzania* ed. Cracow University of Economics, Kraków 1999, p.207.

<sup>5</sup> Martyniak Z. (1997). *System lean management*, in: "Instrumenty zarządzania we współczesnym przedsiębiorstwie", Poznań, p.25.

<sup>6</sup> cf.: Gendo F., R. Korschak. (1999). *Mythos Lean Production. Die Wahren Erfolgskonzepte japanischer Unternehmen* Essen pp.53-94.

<sup>7</sup> Lipecski J. (1998). *Lean management jako metoda restrukturyzacji zarządzania* in: „*Ekonomika i Organizacja Przedsiębiorstwa*”, , No. 8.

<sup>8</sup> Womack J.P. , Jones DT. (1997). *Lean thinking, Banish waste and create wealth in your corporation*, Touch-stone Books, London pp.29-98.

**COSTS:**

- Improved financial performance by eliminating waste
- Minimizing waste at every level of the company
- It helps to achieve better efficiency of work

**EMPLOYEES:**

- Highly motivates employees and enables them to identify themselves with the company successes
- Thanks to better communication between managers and employees, the employees morale increases resulting in deeper commitment,
- The organizational culture gets focused on innovation and improvement<sup>9</sup>.

**Table 2: Summary of methods and techniques of lean management**

Phases of the method	Stages of study	Detailed methods and techniques
Choice of the concept of methodical restructuring	Determining the level of lean management	Evaluation systems: the level of lean management and effects of its application
	Developing a vision of business transformation	Checklist
	The choice of lean management implementation approach	Matrix of lean management implementation approach
Determination of the area, the object and purpose of the study	Establishing business improvement area	Analysis method
	The choice of research subject	Techniques for process mapping and value stream, ABC method, Delphi method, NGT technique, interview, survey
	Determining the purpose of the study	Analysis method
Analysis and assessment of current condition	Determining the current condition	Techniques for process mapping and value stream, direct observation, timing, photography working day, self-observation, index compilation, evaluation of the current state
	Assessment of current state	Critical analysis and evaluation
Drafting improvements	The choice of method of implementation of improvements	Analysis method
	The choice of auxiliary methods and techniques	Model of lean management methods and techniques implementation
	Designing improvements	Mapping techniques for process and value stream, brainstorming, simulation methods, flow of materials technique controlled by pull system, JIT method, technology of machine deployment in work and technology centres, TPM system, TQM method, SMED method, poka-yoke system to prevent errors, technology of alignment the level of production, engineering quality at the source, the technique of signaling abnormalities, deficiencies detection system
	Preparation of a plan for the implementation of improvements	Schedules, network methods, Gantt chart
Preparation of the project for implementation	Determination of principles and methods for monitoring restructuring actions	Methods of analysis, evaluation systems of: the level of lean management and effects of its implementation, sets of indicators to assess the improvement actions
	Setting up a process of restructuring actions management	Techniques for mapping processes and value stream
	Determination of the worker development methods	Simulation methods
Application of improvement project	Implementation of the solution	PERT method, CPM method, technique of standardization of operations and procedures, Gantt chart, systems of Integrated Task Forces and Production
	Control over the implementation of improvements	Disappearing continuous and random control of the evaluation system of: the level of lean management and effects of its application

**Source:** Lisiński M., *Założenia metodyczne zastosowania lean management do restrukturyzacji przedsiębiorstwa*, in: Lisiński M., Ostrowski B. "Lean management w restrukturyzacji przedsiębiorstwa", ed. Roman, Krakow Kluczbork 2006, p.175

While the concept of lean management has its advantages, there are also some disadvantages (Table 3).

<sup>9</sup> <http://www.leanidea.pl/lean-management.html> of 10.09.2012.

**Table 3: Advantages and disadvantages of Lean Management**

Advantages of LM	Disadvantages of LM
<ul style="list-style-type: none"> <li>• Increase of competitive capacity by reducing costs, elimination of waste and improvement of quality</li> <li>• Increased work efficiency, flattening of hierarchy, shortened decision-making processes</li> <li>• More focus on the actual needs and wishes of customers</li> <li>• Increase employee satisfaction through better communication between managers and inferiors</li> <li>• Stronger employee motivation and their identification with the success of the company</li> </ul>	<ul style="list-style-type: none"> <li>• Transformation of the concept into a simple streamlining, with the threat of a reduction in liquidity, deterioration of quality and neglect of services</li> <li>• Stress and a decline in employee motivation</li> <li>• Staff reduction</li> <li>• Increased demand for professionals, while neglecting the problems of workers with lower qualifications</li> </ul>

**Source:** own study based on <http://lean-management.pl/lean-management/94-koncepcja-lean-management.html> of 10.09.2012

#### 4. Lean Management in Non-Public Higher Education Institution

Implementation of Lean Management can be a very intense stimulus towards identifying and eliminating waste in the University. Lean alters the process of educational services into a pull system, according to the current needs of the customer (student) rather than a push system focusing on capacity. This is how it directly translates into a reduction of costs of services provided by the University. A proposal for the implementation of lean concepts in non-public schools has been described in the subject literature only in the area of university library activity<sup>10</sup>. The implementation of the concept of lean management in non-public schools could allow institutions to improve the quality of services (as well as introduce new services), maintain good relationship between universities and the environment, ensure continuous increase of competitiveness, flatten their structures and help them make better use of the skills and potential of their employees. It should also be emphasized that the concept is most likely to prove effective in non-public schools, which can precisely identify the needs of their clients (students) and immediately adapt to any changes<sup>11</sup>.

#### Conclusion

Private education sector has been very dynamic over the last decade. Attractiveness of this sector is confirmed by a constantly growing number of universities and their revenue. However, statistical projections indicate that over the next 10 years the number of students is expected to drop by approximately a third. Private universities will face growing competitive pressure, resulting not only from a progressive population decline, but also increasingly competitive international universities, and public universities subsidized by the state. To secure further development and maintain their current market position, universities are in need of effective management, with finance management in particular. The implementation of the concept of lean management in non-public schools could allow to improve the quality of services (as well as introduce new services), a good relationship between universities and the environment, continuous increase of competitiveness, flattening of structures and better use of the skills and potential of its employees.

#### Bibliography

- Gendo F., Korschak R. (1999). *Mythos Lean Production. Die wahren Erfolgskonzepte japanischer Unternehmen*, Essen
- G.Gierszewska, M.Romanowska (2003). *Analiza strategiczna przedsiębiorstwa*, PWE, Warszawa
- Janczyk-Strzała E. (2013). *Controlling we wspomaganiu zarządzania uczelnią niepubliczną w Polsce*. DeDeWu, Warszawa
- Konieczność większej samodzielności pracowników* (1993) in: „Zarządzanie na Świecie”, No 4, p.25

<sup>10</sup> More information about the importance of knowledge management cf.: Nogalski B., A. Kowalczyk. (2007) *Zarządzanie wiedzą. Koncepcja i narzędzia*. Difin.

<sup>11</sup> More on lean management at the university cf.: Janczyk-Strzała E. (2013). *Controlling we wspomaganiu zarządzania uczelnią niepubliczną w Polsce*. DeDeWu, Warsaw.

*Lean Management. Narodziny systemu zarządzania. Rozmowy z Taiichi Ohno, Eiji Toyoda i innymi osobami, które ukształtowały system zarządzania w Toyocie*, ed. K.Shimokawa and T.Fujimoto,ed. Lean Enterprise Institute Polska, Wrocław 2011

Lipecki J. (1998). *Lean management jako metoda restrukturyzacji zarządzania*, in: „Ekonomika i Organizacja Przedsiębiorstwa”, No 8

Lisiński M. (2006). *Założenia metodyczne zastosowania lean management do restrukturyzacji przedsiębiorstwa*, in: Lisiński M., Ostrowski B. “Lean management w restrukturyzacji przedsiębiorstwa”, wed. Antykwa, Kraków-Kluczbork,

Martyniak Z. (1999). *Metody organizacji i zarządzania*, wyd. AE w Krakowie, Kraków

Martyniak Z. (1997). *System lean management*, w: „Instrumenty zarządzania we współczesnym przedsiębiorstwie”, Poznań

Nogalski B., Kowalczyk A. (2007). *Zarządzanie wiedzą. Koncepcja i narzędzia*. Difin,

Womack J.P. , Jones D.T. (1997). *Lean thinking, Banish waste and create wealth in your corporation*, Touchstone Books, London

<http://www.benson.pl/?k=strony&m=&ns=131&pns2=38&pns=14>

<http://lean-management.pl/lean-management/94-koncepcja-lean-management.html>

<http://www.leanidea.pl/lean-management.html>