doi: 10.15678/PG.2023.65.3.05

Journal of Public Governance
No. 3(65)/2023
ISSN 2956-6061
e-ISSN 2956-6398

Beata Detyna

Lean Management and Sustainable Development at Universities: Needs and the Possibilities of Implementation Within the Context of Strategic Provisions

Abstract

Objective: The aim of this article is to evaluate how university strategies align with sustainable development principles and integrate Lean Management for continuous improvement. The main research problem was finding the answer to the question: to what extent do the provisions (strategic goals) contained in the university's strategies relate to the concept of sustainable development and fit into the main idea of Lean Management, i.e. continuous improvement? The paper presents the partial results of the research project aimed at proposing a model for implementing Lean Management (LM) at a university and a self-assessment form of the effectiveness and efficiency of the methods and tools used by the university (as part of LM).

Research Design & Methods: The research methods used were a combination of qualitative content analysis, comparative analysis, and literature review to explore the integration of sustainable development and Lean Management concepts within university strategies. The data sources were strategic plans, sustainability reports, and other relevant documents from the Monash University, the Warsaw School of Economics (SGH), and other institutions.

Findings: Modern strategies of universities very often refer to the need to constantly adapt their offer (research, teaching) to contemporary social and economic needs. By balancing the development of universities, strategies and planned activities fit into the concept of sustainable local, regional, national, and global development. Therefore, it is important to recognise universities' current needs and possibilities regarding implementing sustainable development as part of research carried out in the academic environment and to search for effective and efficient methods and tools that will serve it.

Implications/Recommendations: The research advocates for universities to adapt strategies to meet contemporary societal needs, emphasising sustainable development and Lean Management principles. Addressing wastefulness and promoting continuous improvement encourages the integration of Lean Management into university strategies, aligning with sustainability goals and enhancing organisational efficiency.

Contribution/Value Added: The article recognises universities' current needs and the possibilities for implementing sustainable development and searching for adequate methods and tools for these challenges.

Article classification: research article

Keywords: lean management, university, sustainable development, strategic management, strategy, efficiency, governance

JEL classification: I2

Beata Detyna – Angelus Silesius University of Applied Sciences, Institute of Natural Sciences and Technology; ul. Zamkowa 4, 58-300 Wałbrzych; e-mail: bdetyna@ans.edu.pl; ORCID: 0000-0002-4854-8433.

Introduction

The main research problem was answering the question: to what degree do the provisions (strategic goals) contained in university strategies relate to the sustainable development concept and fit the main Lean Management idea, namely continuous development? The article falls in line with the need to define the current needs and abilities of universities to implement sustainable development and search for methods and tools to meet these challenges.

The objective of this article is to evaluate how university strategies align with sustainable development principles and integrate Lean Management for continuous improvement. It covers the partial results of the research that the author has been conducting as part of a research project financed by the Angelus Silesius State University, entitled "Lean Management at universities – implementation possibilities in the context of contemporary conditions and the changing stakeholder needs" (2022–2024). The project's main outcome will be a proposed model of LM implementation at the university and a self-appraisal form to assess the effectiveness and efficiency of methods and tools applied by the university (as part of Lean).

The article presents the fundamental premises behind LM implementation at universities, examples of strategic provisions at selected universities, as well as actions related to sustainable development and the Lean Management idea. The author intended to indicate areas, objectives, or actions already existing in university strategies that are compliant both with the concept of sustainable development and the LM concept of continuous improvement.

It presents the fundamental premises behind LM implementation at universities and provides examples of strategic provisions at selected universities as well as actions related to sustainable development and the Lean Management idea. The research results indicate numerous areas, objectives, or actions that already exist in university strategies that comply with sustainable development and the LM concept of continuous improvement.

Literature review

The sustainable development of higher education

In connection with the numerous challenges that universities face, their contemporary management model, including that of their university-society relationship, is changing (Avella, 2017; Gento et al., 2021). Activities aimed at Environmental, Social and Governance (ESG) have been observed in business and many academic centres. In November 2017, 23 universities signed the University Social Responsibility Declaration (Gałat, 2018). It emphasises the particular role of a university as a place of creating and forwarding knowledge on the surrounding reality, which obliges it to consider and apply principles of social responsibility in all areas of activity and disseminate these principles among stakeholders. The objective of this relatively new initiative is the sustainable development of higher education in Poland, including ensuring high-quality research and education, as well as comprehensive development of the academic community. The signatories to the Declaration formally undertook to:

1) cultivate academic values written down in, among others, "Academic's Code of Ethics", diligence, objectivity, independence, openness and transparency, in particular;
2) shape social and civic attitudes of future elites, favouring community development, creativity, openness, and communication, as well as social sensitivity and work culture;

3) disseminate the idea of equality, diversity, tolerance, as well as respecting and protecting human rights in relation to the entire academic community and its environment;
4) expand curricula with issues in the field of ethics and corporate social responsibility, sustainable development, and social innovations;
5) complete projects that implement social responsibility principles, in particular those regarding managing diversity in the workplace, employee volunteering, promoting ethical principles, multi-sectoral cooperation, and socially-engaged marketing;
6) undertake research and deployment work that may contribute to solving significant social problems in cooperation with other academic centres worldwide, the enterprise sector, public administration, and NGOs;
7) develop domestic and international inter-university cooperation that enables adapting and strengthening the best practices in terms of university social responsibility;
8) take care of the university organisational order, with university management based on social responsibility foundations (both in strategic documents and the resulting activities), aimed at the comprehensive development of the academic community and effective implementation of the university's mission;
9) ensure the transparency of the university activities through, among others, measuring results, promoting and disseminating the accomplishments, and indicating a person or team to coordinate these actions;
10) operate in such a manner so as to minimise the negative impact of the activities conducted by the academic community and its stakeholders on the natural environment, in all of its aspects;
11) consult the stakeholders with respect to the priorities of the university social responsibility policy and notify of its outcomes;
12) follow the principles of ethics and responsibility in the teaching and research process in order to provide stakeholders with optimum conditions to utilise the knowledge, intellectual capital, and the university's achievements (Deklaracja, 2018).

The Scientific Social Responsibility Congress – "Science for You" – was held in Kraków in April 2019. It involved extending the list of Declaration signatories with 60 more universities (currently 83 in total). These are universities with various teaching profiles and scientific disciplines, such as economic, humanistic, and artistic universities. The signatories include both public and private universities, colleges, technical universities, academies, and vocational schools (educating mainly based on practical profiles). The wording of the Declaration was drawn up by the Ministry of Investments and Development, in cooperation with the Ministry of Science and Higher Education (currently the Ministry of Education and Science) and experts from a Working Group for the Social Responsibility of University, which operate as part of a Team for Sustainable Development and Corporate Social Responsibility – as a subsidiary body of the Ministry of Investments and Development (Nowi sygnatariusze, 2019).

The provisions in the Declarations clearly show that university presidents, vice-presidents, and chancellors who signed the document see a need or even a necessity to take multifaceted actions for their sustainable development – continuous improvement. This continuous improvement is nothing else but the main idea of the Lean Management (LM) concept that is falsely associated with the "leaning" of the entire organisation, painful especially to the employees (llaoui & Benmoussa, 2020). People contesting the legitimacy of LM implementation within an academic environment often emphasise, repeating like a mantra, that a university is not an enterprise, that nothing is manufactured "here", and profit is not the objective (implying that we do not have to observe

the economic balance and be effective). The process-based approach that forces the university administrators to implement many changes – including these related to the organisational structure and its greater flexibility – is often misunderstood in the academic community (Mcguire et al., 2008; Radnor, 2008; Osborne et al., 2012; Maciąg, 2016b; Wiśniewska & Grudowski, 2016; Wyciślak, 2017; Ribeiro et al., 2019; Vasilieva et al., 2021). Many authors of scientific publications (Wawak, 2017; Maciąg, 2018; Grudowski & Wiśniewska, 2019; Piasecka et al., 2021; Grudowski, 2021; Adam et al., 2021; Yeh, Arthaud-Day & Turvey-Welch, 2021) and practitioners who have to make difficult management decision every day, including organisational or investment-related, do not agree with this critical (or even pessimistic) reasoning with respect to LM implementation initiatives.

Lean Management concept at a university – premises

The concept of Lean Management, usually referred to as Lean, is an enterprise management philosophy developed based on the TPS (Toyota Production System) principles. Its founding father was T. Ohno, who wrote in his book entitled *The Toyota Production System* that "…today, the market direction is determined by the customers or users, depending on the value stream, who, you might say, extract the products they need in the most convenient quantities and time" (2008). As part of the TPS, Ohno distinguished seven wastefulness categories:

1) overproduction – which is the production of greater quantities that is required by customers or for the implementation of a subsequent process (Ohno called it the worst type of wastefulness since it forces all of its other forms);
2) downtime – during which employees wait for something necessary for them to continue working;
3) transport – as unnecessary movement of a product or parts;
4) excessive processes – as an excessive amount of work on a product, e.g. due to poor process engineering;
5) stock – excess of finished products, work in progress, subassemblies, raw materials and materials, relative to customer demand;
6) movement – as unnecessary employee movements, e.g. bending down, reaching for something remote, looking for something;
7) defects – understood as the production of a faulty product that will later require, e.g. repair work (will entail losses) (Ohno, 2008).

At the turn of the 20th and 21st centuries, LM became a universal concept, present in offices, banks, or health care. Implementations of such techniques as: 5S, standardised work, visual management or value stream mapping (e.g. in the office, customer service process) were becoming more and more frequent (Loher, 2012; Detyna, 2016; Hafidzoh et al., 2016; Adzhienko et al., 2021). The popularity of "Lean" management techniques in human resources management, finances, and customer service is growing (Benuyenah, 2021). Key Lean requirements include leadership and commitment of all employees – so that each effort put in process improvement contributes to saved time, movements, or lower stress. According to D. Locher (2012), it is then when the "feeling of authorship replaces (…) learned helplessness common in many facilities, and questions about the perpetrator – focus on the process".

Proper and effective implementation of LM assumptions and goals requires the management staff and team members to be familiar with and understand the basic concepts and definitions.

Table 1 shows selected terms and concepts that are crucial for its correct implementation and deployment.

Table 1. Selected terms and concepts used in Lean Management

Concepts terms	Brief characteristics
Automatic maintenance	A practice, which involves employees take care of their own equipment (devices they work with)
Unit	A work area or workstation that is usually arranged as the letter "U" or "L" – to facilitate operation by a single employee
5S	A concept that constitutes the grounds for Kaizen, LM and Total Quality Management (TQM), aimed at systematically striving to create and maintain a clean and orderly work environment. 5S means: Selection (Jap. *Seiri*), Set (Jap. *Seiton*), Shine (Jap. *Seiso*), Standardize (Jap. *Seiketsu*) and Sustain (Jap. *Shitsuke*).
5 × Why?	The process of asking the "why?" questions five times. – for correct recognition of the true causes behind a given issue. A tool useful, e.g. during team work, which involves drawing up a cause-and-effect Ishikawa diagram (so-called "fishbone diagram").
Gemba	In Japanese, it literally means "a real place". In the LM context, understood as a workplace, where value is created
Hosbin kanri	In Japanese, it literally means "policy deployment" – understood as setting goals and implementing solutions using a set of selected management tools and methods
Jidoka	A principle, according to which management or a process must be suspended immediately upon detecting a defect or hazard that cannot be remedied (repaired) straight away
Just in Time	The "just in time" concept – according to which the materials and processes are delivered (implemented) in due time and in the right quantities – pursuant to actual demand
Kaizen	In Japanese, "kai" literally means "a change", and "zen" – "good". The term *Kaizen* is understood as continuous improvement. Solving problems at the workplace may be simplified (*Quick Kaizen*) or extended (*Kobetsu Kaizen*)
Kanban	Literally, "kan" in Japanese means "to see", and "ban" means "a card". It is a system for signalling the demand (needs) from a "downstream process" to an "upstream process", using cards, badges, baskets or other visual indicators. According to this system, work at a given position depends on the needs reported by another station that is directly associated with it, it is the so-called "suction" system – where an action is a response to demand reported by customers (including internal, which are the employees)
Muda	Means "wastefulness". A sign of wastefulness may be, e.g., work or expenditure not related to the right process. According to Masaaki Imai, *muda* refers to actions that do not generate added value. The seven fundamental *muda* categories include overproduction, stock, shortages, redundant activities, process errors, waiting and unnecessary transport.
PDCA	It is a cycle of improvement (streamlining) activities, in line with the concept by W. Edwards Deming – so-called "Deming wheel of quality": *Plan – Do – Check – Act*. A universal tool that can be successfully used when implementing various tasks, e.g., project management. PDCA is the pillar of, among others, TQM.
TQM	It is a philosophy of "total" quality management, often described as a concept of comprehensive quality management. The essence of TMS comes down to an approach that emphasizes the importance of each employee within the continuous quality improvement process. The system-based and process-based approaches are crucial in TQM; the role of the customer (external and internal) is also stressed
Value stream mapping	A conceptual representation of the entire process, since the appearance of a demand, until it is fulfilled. Value stream mapping is a process of drawing the flow of materials and information in order to define signs of wastefulness and take corrective (remedial) actions.

Source: Own study based on: Gajewski, 2007; Lareau, 2009; Stoller, 2015; Singh & Singh, 2015; Detyna, 2018; Randhawa & Ahuja, 2017; Wonarski 2017; Gajdzik, 2017; Spychalski, 2017; Imai, 2018.

Signs of wastefulness may be revealed in practically all processes, regardless of the sector of the economy. According to the data of the Kaizen Institute and the Fraunhofer Institute, the *muda* category in the services sector covers as much as 27% to 38% of the weekly working time (Imai, 2018). Losses typical of higher education may be classified into four main categories, namely time, system, processes, and employees (Maciąg, 2016b; Detyna, 2018). Selected examples of wastefulness and losses in these areas are shown in Table 2 – it is a reference to the classification by M. Imai (2018).

Table 2. The classification of wastefulness and losses encountered in higher education – selected examples

Wastefulness and losses at universities
System
– organisation structure not adapted to the needs and possibilities;
– over-formalisation;
– ineffective work environment, including technology;
– the lack of consistency between strategic, tactical, and operational goals;
– unrealistic strategic objectives;
– imprecisely defined objectives;
– the lack of appropriate tools for measuring goal achievement progress;
– organisational chaos;
– failure to adapt the university's offer to actual needs of the students and other stakeholder groups;
– waste of space;
– ineffective use of the owned infrastructure;
– reckless and unjustified purchases (e.g. equipment, software, etc.);
– the lack of good communication between the employees and the university's organisational units;
– the lack of information;
– the lack of activity coordination;
– the duplication of competences.
Processes
– the lack of value stream analysis;
– the lack of knowledge of processes crucial to the university;
– the lack of proper and careful activity (stage) planning within individual processes;
– excess of processes;
– excess of work, e.g. per a specific employee;
– unnecessary physical effort for the implementation of various tasks, due to, e.g., poorly designed processes;
– improper and ineffective procedures;
– mistakes in assigning and implementing tasks;
– redundant stock of materials and items;
– the lack of clear and unambiguous procedures in terms of making corrective (remedial) or preventive decisions;
– communication interference;
– competence-related conflicts – blurring of responsibility;
– human errors;
– redundant supplies.

Table 2 – continued

Employees
– the lack of leadership;
– the lack of actual change leaders;
– the lack of commitment of administration, as well as research and teaching staff;
– the lack of creativity;
– the lack of know-how;
– unproductive conflicts;
– the lack of communication between university management, administration, and the research and teaching staff;
– unproductive meetings and assemblies;
– inconsistency in actions (so-called 'flash in the pan');
– professional burnout;
– the lack of the willingness to help and support new initiatives;
– the lack of the understanding of organisational goals;
– lack of understanding of hierarchical relations;
– difficulties with pushing through a bottom-up initiative;
– the lack of actual dialogue between management and employees;
– the lack of motivation to work and commit;
– employee absence.
Time
– excessive waiting time (e.g. for signatures, colleagues, new software);
– excessive searching time (e.g. for documents, files, information);
– information over-abundance;
– inactivity – downtime in the implementation of specific tasks associated with interference;
– seeking the attention of hard-to-reach staff (e.g. management personnel);
– participation in prolonged and ineffective meetings (e.g. assemblies, trainings);
– ordering excessive information including e-mails, spam, advertisements, etc.;
– clarification of poorly assigned, unclear, and often misworded tasks;
– observance of overly complicated and unnecessary procedures, which require bureaucratic actions;
– unnecessary transport (movement) of people, items, and documents, e.g. to a photocopier or scanner.

Source: Own elaboration.

Given the continuous improvement of the processes, management and the quality of educational services, as well as the minimisation of wastefulness, university administrators should define (identify) potential sources of errors and the lack of effective actions (Ciarniene & Vienazindiene, 2014; Bacoup et al., 2015; Tutko, 2016; Detyna, 2018; Alefari Salonitis & Xu, 2017; Piasecka et al., 2021; Grudowski, 2021; Adam et al., 2021; Gómez-Molina & Moyano-Fuentes, 2021; Klein et al., 2021). The Kaizen Institute proposed a rather universal model of Kaizen reforms for the public sector, which, according to the author, can be successfully used in the higher education environment. Four stages are crucial for the success of the improvement actions (the so-called 4P Model):

1) Stage I – People Involvement – where employee commitment, including top-tier management, and employee training in terms of implemented Lean concepts play the main role; this stage also involves, among others, assigning Kaizen leaders;

2) Stage II – Physical Workplace Improvement – is the improvement of workplace conditions, based on the application of, e.g., the 5S method, visual management, and is aimed at identifying and eliminating *muda*;
3) Stage III – Process Improvement – is the improvement of processes (their streamlining, improving efficiency and effectiveness, etc.);
4) Stage IV – Policy Review – which involves the verification of adopted solutions (Imai, 2018). The 4P model, which corresponds to the specificity of higher education, is shown in Figure 1.

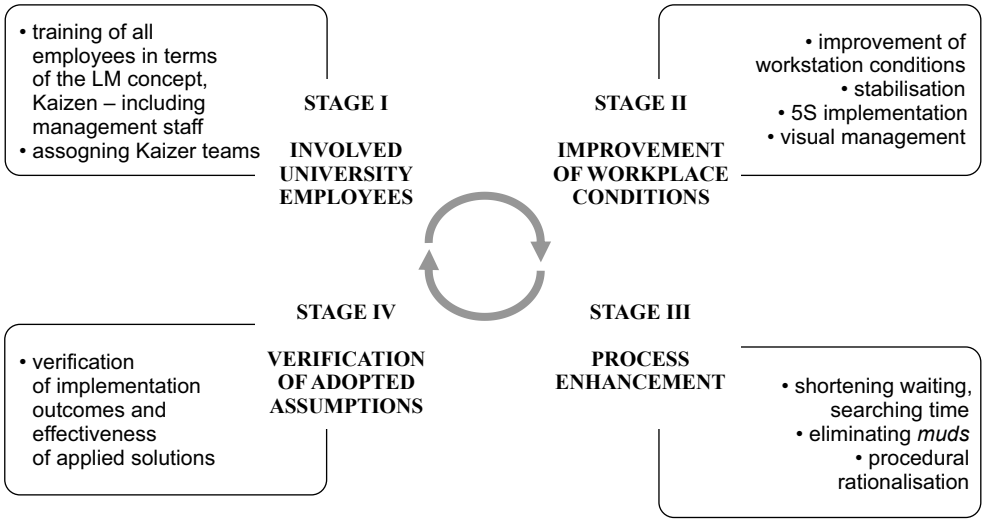

Figure 1. 4P model at a university

Source: Own study based on Detyna, 2018.

The basic stages leading to Lean implementation include:
– stabilisation – aimed at creating predictable and repeatable results. It also requires identifying causes behind process instability, which often results (in the course of implementing service processes) from misunderstanding customer needs;
– standardisation – involves developing practices consistently observed by the employees. The basic standardisation areas include work simplification and rationalisation;
– visualisation – to create conditions where a workplace will "speak" to the employees. One of the most effective means of communication is visual communication. For this purpose, e.g., work instructions, prioritisation principles, etc. are put in visible places;
– continuous improvement – includes encouraging employees to improve upon the work they perform. The continuous improvement philosophy should become a part of the organisational culture and apply to all system elements and processes (Locher, 2019).

Material and methods

The objective of the article was achieved through a literature review as well as analysing and critically evaluating development strategies of sample universities. The research approach combined qualitative content analysis, comparative examination, and a literature review to

investigate how sustainable development and Lean Management concepts are integrated into university strategies. The university documentation such as strategic plans, sustainability reports, and other relevant documents from the Monash University and the Warsaw School of Economics (SGH) were examined. The analysis identified specific provisions, goals, and actions related to sustainable development, social responsibility, and Lean Management within the strategic documents.

Results and discussion

The analysis identified specific provisions, goals, and actions related to sustainable development, social responsibility, and Lean Management within the strategic documents. It included categorising and summarising the content related to these themes, as presented in Table 3.

According to M. Dąbrowski (Chancellor of the Warsaw School of Economics – SGH), the social responsibility of Polish enterprises and their actions related to sustainable development have an increasing impact both on their business success and valuation. He believes that "[t]he Warsaw School of Economics has been functioning, from an operational perspective, as an enterprise; maintaining numerous buildings and their technical infrastructure, providing also supporting services for its employees and students, so that they could conduct their daily tasks". Besides the educational and scientific activities, universities conduct operational and business activities that should bring added value and a positive financial result. Universities cooperate but also compete with each other in many fields (similarly to enterprises). This is why SGH has been analysing technical processes in terms of sustainable development and optimising the functioning of its infrastructure, as well as external services and subcontractor operations since 2018. This university was covered by an external audit in 2020, aimed at evaluating the activities for sustainable development. Sustainable development indicators for the coming years are also being determined (Cygonek & Dąbrowski, 2021).

Examples of similar actions can also be found at the Monash University, where a statement that the university is operating for the benefit of ESR development, including social responsibility, was introduced to the strategic provisions in 2016. At the same time, the need to improve all processes conducted within the university – teaching, organisational, and research – is highlighted (Environmental, Social and Governance, 2021; Monash University's Strategic Plan, 2021).

Examples of provisions in university strategies and actions related to sustainable development and the Lean Management idea are shown in Table 3.

Study results show that universities are more and more eager to have their strategies refer to the concept of sustainable development. However, they rarely contain a direct reference to the Lean concept. Strategic initiatives and priorities of a university most often do not refer to developing process management, activity flexibility, team work, or effectiveness. In numerous strategies, the issue related to university administration – and its management and organisational actions – is omitted or almost neglected. Attention is usually focused on teaching and research processes, which is natural in a way, since these two areas are the functional domain of a university. The research conducted by the author indicates that, despite the observed many changes in the approach to university management, we can still witness a relatively low awareness in terms of the impact of auxiliary processes (HR, financial, recruitment, etc.) on university results (including its effectiveness).

Table 3. Examples of strategic provisions of universities and actions related to sustainable development and the Lean Management idea

University	Reference of strategic provisions to the sustainable development concept	Actions as part of implementing the university strategy, in line with the main idea of Lean Management – continuous improvement
Monash University	• indication that the university is a global pioneer in sustainable development and social responsibility, • goals and actions for ESG development stressed in the university's strategy, • emphasizing that the results of university operation are significantly impacted by the correct use of its educational and research resources, proper coordination of its activities and cooperation with external institutions, • indication of sustainable development goals (SDGs), • strong correlation with the United Nations Framework for Sustainable Development, • inclusion of CSR and ESG into the student teaching concept, • emphasized importance of continuous academic leadership in ESG and sustainable development through research, • commitment to an approach based on circular economy and optimal use of resources, • integration of ESG actions with other university processes, • emphasized importance of investments oriented at social outcomes,	• development of principles to govern the use of funds for the university's investment portfolio, in line with Monash values and ethics, • activities aimed at improving the organizational order, including process improvement, • proactive, multifaceted approach to environmental, social and management aspects, • use of scientific and technical expert opinions supporting SDGs and problem solving, • screening of university investments and influencing investment managers through active engagement in environmental, social and management issues, • clear monitoring and reporting, • activities improving planning, implementation, monitoring and reporting processes, • optimized use of held resources, • reuse of resources, • actions aimed at tackling wastefulness, • integration of reports on the impact of ESG activities on the university's results, • continuous process improvement,
Warsaw School of Economics (SGH)	• priority for CSR issues within the university's strategy • use of ESG factors as one of the tools for building a university development policy, • sustainable development strategy as one of the key cross-cutting strategies, planned for implementation, together with the main strategy, • SGH strategy was based on extensive consultation with university stakeholders, • emphasized growth of the importance of relationships with university stakeholders – internal and external, • strategic initiatives and priorities concerning work condition improvement, professional development, as well as continuous improvement of university infrastructure, • internal relationships that are the backbone of creating an educational offer, conducting research and establishing external relations that are considered the pillar of the university's strategy, • fundamental values in SGH strategy are truth, professionalism, honesty, respect and cooperation, • the strategy covers such areas as relations with the environment and management, • social responsibility is one of the four cross-cutting dimensions of strategic areas,	• analysis of technical processes in terms of sustainable development, • optimization of university infrastructure operation, • outsourcing services and contracting subcontractors, • conducting an external audit evaluating the activities for sustainable development, • developing sustainable development indicators for the coming years, • activities for improving ESG indicators, • activities of the Rector's Committee for Social Responsibility of SGH, • striving for the sustainable development of the university operating as an "enterprise", • implemented procedures concerning investment prioritization, taking into account the needs of the academic community, • self-assessment of the implementation of the provisions in the University Social Responsibility Declaration, • currently, preparing for the first university social responsibility report (2022), • systematic digitization of administrative processes.

Source: Own study based on: Monash University's Strategic Plan 2021–2030 Impact 2030, 2021; Strategia Społecznej Odpowiedzialności SGH, 2021; Strategia rozwoju Szkoły Głównej Handlowej w Warszawie na lata 2022–2032, 2021; Cygonek & Dąbrowski, 2021; Environmental, Social and Governance, 2021.

Universities that are considering Lean implementation should remember about the holistic nature of this approach (Halling, 2013; Rymaszewska, 2014; Kumar, 2015; Jedynak, 2015; Maciąg, 2016a; Yorkstone, 2016; Stańczyk, 2017; Maciąg, 2018; Detyna, 2019; Krdžalić et al., 2020) and the principles known from the TQM concept and the 9001:2015 standard:

– customer-orientation (among others, students, employees);
– leadership;
– commitment of all employees;
– process-based approach;
– continuous improvement – designing enhancements and preventing negative impacts of conducted activities;
– evidence-based decision-making;
– good mutual relationships with partners (stakeholders).

Actual observance of these principles requires constantly raising the awareness of all university employees in terms of importance, as well as continuously improving system conditions (including organisational structure optimisation), which significantly determine the efficiency of processes implemented within any organisation.

Conclusions

Modern university strategies often refer to the need for continuous adaptation of its offer (research, teaching) to contemporary social and economic needs. Strategies and planned actions, through balancing university development, fall in line with the concept of local, regional, domestic, and global sustainable development. This is why making efforts aimed at identifying the current needs and possibilities of a university in terms of implementing sustainable development ideas is crucial. At the same time, it is important to search for efficient methods and tools to be applied for this purpose. The author believes that it is worth promoting the Kaizen as idea of continuous improvement at universities – which is the essence of Lean Management. This is supported by, among others, the experience of universities that have adapted LM to their own needs and possibilities – it is an inspiration for them to rationalise taken actions that take into account both social and economic aspects. Tackling manifestations of wastefulness concerning university resources is particularly important today, i.e. in the era of a global conflict caused by the war in Ukraine and the complicated, hard-to-predict social and economic situation in the world.

The results presented in this article may encourage some universities to implement the LM idea. All this because coherence between the concept of sustainable development, including CSR (being accounted for in university strategies more and more often) and the main LM idea – continuous improvement – is clear.

Reference List

Adam, M., Hofbauer, M., & Stehling, M. (2021). Effectiveness of a lean simulation training: Challenges, measures and recommendations. *Production Planning and Control*, *32*(6), 443–453. doi: 10.1080/09537287.2020.1742375

Adzhienko, V., Vermennikova, L. V., Davydova, N. S., & Kuizheva, S. K.. (2021). A lean university as an innovative model of university management. *New Technologies*, *17*(2), 111–120. doi: 10.47370/2072-0920-2021-17-2-111-120 [in Russian].

Alefari, M., Salonitis, K., & Xu, Y. (2017). The role of leadership in implementing lean manufacturing. *Procedia CIRP*, *63*, 756 –761.

Allaoui, A., & Benmoussa, R. (2020). Employees attitudes toward change with lean higher education in Moroccan public universities. *Journal of Organizational Change Management*, *33*(2), 253–288. doi: 10.1108/JOCM-08-2018-0232

Avella, L. (2017). Reinforcing university-companies ties: Implementation of the "Specialist Programme in Operations Management and Lean 6 Sigma" in response to the training requirements of industry. *WPOM-Working Papers on Operations Management*, *8*, 54–57. doi: 10.4995/wpom.v8i0.7135

Bacoup, P., Michel, C., Pralus, M., & Habchi, G. (2015). Implementation of ISO and LEAN management into administration. Application in a University Department. *Qualita,* March.

Benuyenah, V. (2021). Can the concept of "lean management" be applied to academic recruitment? – a quasi-theoretical discourse. *Rajagiri Management Journal*, *15*(2), 105–112. doi: 10.1108/ramj-07-2020-0039.

Ciarniene, R., & Vienazindiene, M. (2014). How to facilitate implementation of lean concept? *Mediterranean Journal of Social Science*, *5*(13), 177–183.

Cygonek, K., & Dąbrowski, M. (2021). Zrównoważony rozwój SGH. *Życie Uczelni. Gazeta SGH*, 10. Available at: https://gazeta.sgh.waw.pl/meritum/zrownowazony-rozwoj-sgh [accessed at: 17.05.2023].

Deklaracja społecznej odpowiedzialności uczelni. Ministerstwo Rozwoju. Ministerstwo Nauki i Szkolnictwa Wyższego (2019). Available at: https://phavi.umcs.pl/at/attachments/2019/1018/142120-deklaracja-spolecznej-odpowiedzialnosci-uczelni.pdf [accessed: 17.05.2023].

Detyna, B. (2016). Analiza i ocena wybranych systemów zarządzania jakością w kontekście ich wykorzystania przez uczelnię wyższą. In T. Wawak (Ed.), *Zarządzanie w szkołach wyższych i innowacje w gospodarce* (pp. 91–106). Wydawnictwo Uniwersytetu Jagiellońskiego.

Detyna, B. (2018). Implementation of lean management concept at the university. *Zeszyty Naukowe Wyższej Szkoły Humanitas*, *19*(2), 65–81. doi: 10.5604/01.3001.0012.2039

Detyna, B. (2019). *Lean Management jako koncepcja zarządzania uczelnią – możliwości i bariery implementacji,* In Ł. Sułkowski, K. Wach (Eds.), *Doskonalenie systemów organizacyjnych* (pp. 43–60). Wydawnictwo Uniwersytetu Jagiellońskiego.

Environmental, Social and Governance Statement 2021–2025 (2021). Monash University. Available at: https://www.monash.edu/__data/assets/pdf_file/0004/2707483/ESG-Statement-2021-2025.pdf [accessed: 17.05.2023].

Gajdzik, B. (2017). Prezentacja zastosowania rozwiązań organizacyjnych zespołowego doskonalenia przy wykorzystaniu koncepcji Kaizen. *Problemy Jakości*, *5*, 20–25.

Gajewski, A. S. (2007). *Wstęp do zarządzania jakością*. Wydawnictwo Małopolskiej Szkoły Ekonomicznej.

Gałat, W. (2018). Deklaracja społecznej odpowiedzialności uczelni jako wzmocnienie etosu akademickiego. *Cracow Review of Economics and Management*, *6*(978), 137–151. https://doi.org/10.15678/ZNUEK.2018.0978.0608

Gento, A. M., Pimentel, C., & Pascual, J. A. (2021). Lean school: an example of industry-university collaboration. *Production Planning and Control*, *32*(6). doi: 10.1080/09537287.2020.1742373

Gómez-Molina, D. L., & Moyano-Fuentes, J. (2021). Lean management in universities: A systematic literature review. *International Journal of Lean Six Sigma*. doi: 10.1108/IJLSS-12-2020-0224.

Grudowski, P. (2021). Koncepcja Lean Management w uczelniach – przegląd wyników badań międzynarodowych. In S. Tkaczyk, T. Wawak (Eds.), *Stan i perspektywy rozwoju jakości w XXI wieku* (pp. 113–123), Wydawnictwo UMCS.

Grudowski, P., & Wiśniewska, M. (2019). Lean Management in higher education institutions? How to begin? *Scientific Papers of Silesian University of Technology. Organization and Management Series*, *137*, 49–61.

Hafidzoh, N., Romle, A. R., Rozai, A. A. M., & Rodzi, S. M. (2016). Lean management approach at University Library in Malaysia: A new insight. *World Applied Sciences Journal*, *34*(4). doi: 10.5829/idosi.wasj.2016.34.4.15676

Halling, B. (2013). *Lean Implementation: The Significance of People and Dualism*. Licentiate dissertation, KTH Royal Institute of Technology.

Imai, M. (2018). *Gemba kaizen. Zdroworozsądkowe podejście do strategii ciągłego rozwoju*. MT Biznes–Profes.

Jedynak, P. (2015). Lean management implementation: Determinant factors and experience. *Jagiellonian Journal of Management*, *1*(1), 51–63.

Klein, L. L., Tonetto, M. S., Avila, L. V., & Moreira, R. (2021). Management of lean waste in a public higher education institution. *Journal of Cleaner Production*, *286*, 125386. doi: 10.1016/j.jclepro.2020.125386

Krdžalić, A., Brgulja, A., & Duraković, B. (2020). Implementation of lean practices in a higher education institution's student affairs office: A case study from a Bosnian University. *International Journal on Advanced Science, Engineering and Information Technology*, *10*(2), 567–577. doi: 10.18517/ijaseit.10.2.10822

Kumar A. (2015). The challenges to the implementation of lean manufacturing. *International Journal of Engineering Science & Advanced Technology*, *4*(4), 307–312.

Lareau, W. (2009). *Filozofia kaizen w biurze*. Wydawnictwo Helion.

Locher, D. (2019). *Lean w biurze i usługach*. MT Biznes.

Maciąg, J. (2016a). Uwarunkowania wdrożenia koncepcji Lean Service w polskich szkołach wyższych. *Zarządzanie Publiczne*, *1*(33), 51–64. doi: 10.4467/20843968ZP.16.005.4939

Maciąg, J. (2016b). Zastosowanie podejścia procesowego w zarządzaniu publicznymi szkołami wyższymi – wyzwania teorii i praktyki. *Nauka i Szkolnictwo Wyższe*, *1*(47), 163–180. doi: 10.14746/nsw.2016.1.7

Maciąg, J. (2018). Kultura Lean Management w polskich szkołach wyższych (wyniki badań pilotażowych). *Nauka i Szkolnictwo Wyższe*, *1*(51), 69–95. doi: 10.14746/nisw.2018.1.3

Mcguire, D., Stoner, L., & Mylona, S. (2008). The role of line managers as human resource agents in fostering organizational change in public services. *Journal of Change Management*, *8*(1), 73–84.

Monash University's Strategic Plan 2021–2030 Impact 2030 (2021). Available at: https://www.monash.edu/__data/assets/pdf_file/0009/2680389/Strategic-Plan-2030.pdf [accessed: 17.05.2023].

Nowi sygnatariusze Deklaracji Społecznej Odpowiedzialności Uczelni (2019). Available at: https://www.gov.pl/web/fundusze-regiony/60-nowych-sygnatariuszy-deklaracji-spolecznej-odpowiedzialnosci-uczelni [accessed: 17.05.2023].

Ohno, T. (2008). *System produkcyjny Toyoty. Więcej niż produkcja na dużą skalę*. ProdPress.com.

Osborne, S. P., Radnor, Z., & Nasi, G. (2012). A new theory for public service management? Toward a (public) service-dominant approach. *American Review of Public Administration*, *43*(2), 135–158.

Piasecka, A., Ludwiczak, A., & Tutko, M. (2021), *Projakościowe koncepcje zarządzania w szkołach wyższych: TQM, lean management, kaizen*. Instytut Spraw Publicznych Uniwersytetu Jagiellońskiego.

Radnor, Z. (2008). Lean in public services: Panacea or paradox? *Public Money & Management*, *28*(1), 3–7.

Randhawa, J. S., & Ahuja, I. S. (2017). Examining the role of 5S practices a facilitator of business excellence in manufacturing organizations. *Measuring Business Excellence*, *21*, 191–206.

Ribeiro, D. V., Silva T. O., & Ames, D. (2019). University management: The lean production allied to the program quality of life at work. *Gestão & Produção*, *26*(4). doi: 10.1590/0104-530X2259-19.

Rymaszewska, A. D. (2014). The challenges of lean manufacturing implementation in SMEs. *Benchmarking: An International Journal*, *21*(6), 987−1002.

Singh, J., & Singh H. (2015). Continuous improvement philosophy – literature review and directions, *Benchmarking: An International Journal*, *22*, 75–111.

Spychalski, B. (2017). Wdrażanie i funkcjonowanie sytemu zarządzania jakości w szkole wyższej. *Problemy Jakości*, *49*(4), 6–11.

Stańczyk, I. (2017). Rola komórek personalnych w organizacji – wyniki badań. In M. Bugdoł & P. Jedynak (Eds.), *Jakość zarządzania – refleksje, wymiary, problemy* (pp. 179–186). Wydawnictwo Uniwersytetu Jagiellońskiego.

Stoller, J. (2015). *Lean Ceo. W drodze do doskonałości*. MT Biznes.

Strategia rozwoju Szkoły Głównej Handlowej w Warszawie na lata 2022–2032. (2021). Uchwała nr 87 w sprawie strategii rozwoju Szkoły Głównej Handlowej w Warszawie na lata 2022–2032 z dnia 28 kwietnia 2021 r.

Strategia Społecznej Odpowiedzialności Szkoły Głównej Handlowej w Warszawie. (2021), Załącznik do zarządzenia Rektora nr 43 z dnia 8 czerwca 2021 r., Szkoła Główna Handlowa, Warszawa.

Tutko, M. (2016). *Wybrane aspekty jakości zarządzania w szkolnictwie wyższym*. In T. Wawak (Ed.), *Zarządzanie w szkołach wyższych i innowacje w gospodarce* (pp. 99–106). Wydawnictwo Uniwersytetu Jagiellońskiego.

Vasilieva, G. N., Pletneva, T. V., & Bornyakova, E. V. (2021). Application of lean technologies of educational process control under the conditions of epidemiological uncertainty. *Bulletin of Udmurt University. Series Economics and Law*, *31*(2), 196–203. doi: 10.35634/2412-9593-2021-31-2-196-203.

Wawak, T. (2017). Ekonomia jakości zarządzania. In M. Bugdoł & P. Jedynak (Eds.), *Jakość zarządzania – refleksje, wymiary, problemy* (pp. 64–73). Wydawnictwo Uniwersytetu Jagiellońskiego.

Wiśniewska, M., & Grudowski, P. (2016). High-quality academic teachers in business school. The case of The University of Gdańsk, Poland. *Total Quality Management & Business Excellence*, *27*(10), 1158–1170. https://doi.org/10.1080/14783363.2015.1064766

Wonarski, M. (2017). Rola pilota, *Kaizen*, *1*, 26–29.

Wyciślak, S. (2017). Implikacje szczupłych i zwinnych koncepcji i praktyk dla elastyczności organizacji. In M. Bugdoł & P. Jedynak (Eds.), *Jakość zarządzania – refleksje, wymiary, problemy* (pp. 251–260). Wydawnictwo Uniwersytetu Jagiellońskiego.

Yeh, S. T., Arthaud-Day, M., & Turvey-Welch, M. (2021). Propagation of lean thinking in academic libraries. *Journal of Academic Librarianship*, *47*(3). doi: 10.1016/j.acalib.2021.102357

Yorkstone, S. (2016). Lean universities. In T. Netland & D. Powell (Eds.), *The Routledge Companion to Lean Management* (pp. 1–23). Edinburgh Napier University.

Funding

A research project financed by the Angelus Silesius State University, entitled "Lean Management at universities – implementation possibilities in the context of contemporary conditions and the changing stakeholder needs" (2022–2024).

Research Ethics Committee

Not applicable.

Conflicts of Interest

The author declares no conflict of interest.

Data Availability Statement

All data will be available and shared upon request.