

# Literature Review on Applying Kaizen in University and Lessons for Vietnamese Universities

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## ABSTRACT

The rapid changes of the higher education system for world integration are requiring universities to manage the quality of training more effectively. The applications of Kaizen in higher education are reported by a lot of case studies in the literature as a good solution for continuous quality improvement. The purpose of this paper is to synthesize and analyze lessons from previous studies on Kaizen application at universities, then, evaluate whether Kaizen can be a useful methodology to improve the quality of education in Vietnam Universities and how Vietnam Universities can apply Kaizen effectively. Results of research show that applying Kaizen in Vietnamese Universities is good solution for continuous quality improvement in both university management level and course management level, but it's a difficulties process that requires a lot of effort from stakeholders: Universities managers, faculty systems and staff, students and organizations related to school activities. Finally, basing on previous experiences, some lessons for Vietnamese Universities was proposed for applying Kaizen more effectively.

**Keywords:** *Continuous improvement, Kaizen, Learning and teaching, Management, University.*

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### Highlights of this paper

- The purpose of this paper is to synthesize and analyze lessons from previous studies on Kaizen application at universities, then, evaluate whether Kaizen can be a useful methodology to improve the quality of education in Vietnam Universities and how Vietnam Universities can apply Kaizen effectively.

## 1. INTRODUCTION

According to statistics of the Ministry of Education and Training, by the end of 2017, the system currently had 235 universities and institutes (including 170 public universities, 60 private and people-founded universities, 5 universities with 100% foreign capital). The number of universities increased rapidly with the emergence of more and more non-public universities and 100% foreign-owned universities, the competition between universities to attract students has become increasingly fierce.

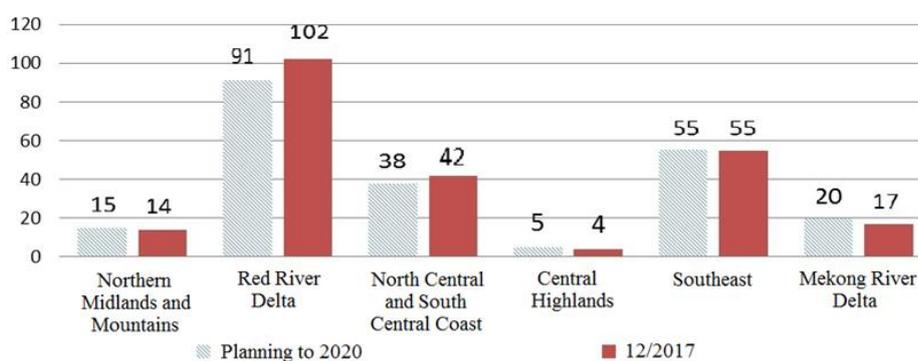


Figure-1. Distribution of universities by region.

Source: Ministry of Education and Training.

For international integration, the implementation of regulations to increase points on prestigious international educational rankings is one of special interest to schools. Therefore, management of quality has become even more important for universities in some recent years as education rankings and accreditation standards continuously postulate appropriate procedures and standards (Bryant, 2013; Ingo, 2017).

There has been a lot of researches on the application of Kaizen principles in universities in different countries and at different management levels. This study was conducted to assess the success and limitations of previous studies to propose solutions to apply Kaizen principles in universities in Vietnam effectively.

## 2. METHODOLOGIES

Desk research referring to secondary data is used to synthesize, analyze, compare and evaluate experiences of applying Kaizen in universities around the world and in Vietnam.

This paper highlights various benefits of applying Kaizen in Universities and shows factors that affect on applying process by reviewing a lot of different researchers and practitioners in some recent years.

## 3. RESULTS

### 3.1. Literature Review on Kaizen Concept

#### 3.1.1. What is Kaizen?

Kaizen is a Japanese word that indicates a process of continuous improvement of the standard way of work (Chen, Dugger, & Hammer, 2001). It is a compound word involving two concepts: Kai (change) and Zen (for the better) (Palmer, 2001).

Since Imai introduced the concept of Kaizen in management field in 1986, many researchers and managers conducted in-depth studies of Kaizen from their interested fields.

The term comes from Gemba Kaizen meaning ‘Continuous Improvement’ (CI). Continuous Improvement is one of the core strategies for excellence in production, and is considered vital in today’s competitive environment (Schroeder & Robinson, 1991). It calls for endless effort for improvement involving everyone in the organization (Malik & YeZhuang, 2006).

According to Imai (1986) Kaizen means improvement without spending much money, involving everybody and using common sense. Imai (1986) also said that “The PDCA cycle is a series of activities pursued for improvement”. This is the foundation of Kaizen and also one of the application methods of Kaizen. It can be applied in any field that needs to be improved not only in quality control but also in general management process.

Womack and Jones (1996) refer to Kaizen as a Lean thinking and lay out a systematic approach to help organizations systematically to reduce waste. They describe waste as any human activity that absorbs resources but creates or adds no value to the process.

### 3.1.2. Advantages and Disadvantage of Applying Kaizen in Quality Management

Basing on many many experimental studies, some advantages and disadvantage of applying Kaizen in quality management can be found as in Table 1.

**Table-1.** Advantages and disadvantage of applying Kaizen in quality management.

Advantages	Disadvantages
Worthy targets	Difficult to implement in existing systems
Improved teamwork	Could cause frictions
Builds leadership skills	Training requirement
Improved efficiency	Enthusiasm could wane easily
Improved Standard Work Document	Few bad eggs could ruin the whole batch
Improved employee satisfaction	
Better safety	
Waste reduction	

In Vietnam, Hoang (2017) conducted a research on the implementation and transferability of basic principles and methods of Kaizen in Vietnamese companies. The research conducted explored the relationship between Kaizen implementation and the improvement of organizational performance by carrying out a survey of 99 manufacturing factories in Vietnam. According to the data from the survey, it was concluded that “most dimensions of Kaizen practices related significantly to the performance improvement” by applying Kaizen methods in the organizational management process.

### 3.2. Literature Review on Applying Kaizen on University

#### 3.2.1. Applying Kaizen in University Management Level

Gains from Kaizen for higher education institutes were mentioned in many researches, included maintaining a balanced financial performance, achieving planned growth, improving research performance, promoting a shared sense of purpose, improving teaching/learning performance, recruiting/retaining outstanding staff and maximizing benefits from information technology infrastructure (Clayton, 1995).

Isaksson, Kuttainen, and Garvare (2013) investigated opportunities available in the education service and research publication at Gotland University, Sweden to adopt the Lean principle (primarily relate to Kaizen philosophy) by using Best Available Technology (BAT) and Best Available Practice (BAP). By using value flow analysis, they found that the distance learning process can be improved by reducing 10% the time when the

knowledge is needed to the time when the knowledge can be used. The in campus learning process can be improved if the whole structure of the programmes is changed to the apprenticeship system. By using BAT, they also found that the ability to produce a journal article in the university can be improved by shortening the publishing time by 10%.

Lynn (2018) introduces 8 universities that have used Lean solutions to improve their business processes. In that catalogue, Miami University is a very successful case with completion of 1300 Lean Projects Figure 2.

By means of a clear organisational structure of lean process improvement, they managed to get everyone on board and engage all university divisions in Lean Initiatives.

Most importantly, the Miami University Lean Initiatives team practiced continual improvement for 9 years through 'evolution' and not 'revolution'.

The thorough application of Lean principles rendered the University of Miami's processes more efficient than ever before. The success of Miami University did not go by unnoticed: the University was named the most efficient U.S. national university by U.S.News in 2017.



Figure-2. Organisational structure of Lean process improvement and result of applying.

Source: Lynn, 2018.

Khayum (2017) show that applying Kaizen can make all the individuals in a university perform better and continue the process of improvement in every aspects of their operations. But, because of the differentiations in psychology and other factors of these people, this paper briefly shows how the implementation process should be designed according to the structure of their mindset. The paper shows how and by what means Kaizen can help the sources of higher education to improve and compete more effectively by concentrating on the human resource they've got. The paper also give the universities, students and faculties, exclusively the chance to set out and analyze their own quality management practices and methods with applying the Kaizen approach and philosophy through 3 steps process: 1. Segmentation of the Stakeholders; 2. Design the Process; 3. Recommendations for Transformation.

### 3.2.2. Applying Kaizen in Course Management Level

Emiliani (2005) was used Kaizen process for ten courses contained in a part-time executive MS degree program in management in Lally School of Management and Technology, Rensselaer Polytechnic Institute, Hartford, Connecticut, USA.

The application of Kaizen to improve each of the courses was modified to suit the circumstances. For example, the initial kaizens were two days in duration because it was thought that the objectives could be achieved in

this time frame. However, objectives were achieved sooner, so subsequent kaizens were reduced to one day, with a second day held in reserve if needed.

The same data forms used for kaizen in industrial settings were used in this activity, but with minor modifications. These forms included (Emiliani, 2005): 1. Pre-kaizen self-assessments to define the current state; 2. Kaizen activity sheet, to define the future state; 3. Kaizen target sheet, to measure improvement; 4. Daily record, to summarize accomplishments; and 5. Kaizen 30-day follow-up chart, to document follow-up activities.

Kaizen teams were smaller than that normally found in industrial settings, typically five to six people from the following areas: faculty member whose course was the subject of kaizen; other faculty members, both subject matter and non-subject matter experts from the school of management, engineering or computer science; senior manager or staff member; students (i.e. voice of the customer); and facilitator.

Team members were solicited through presentations and via e-mail, with follow-up visits if necessary to further explain the kaizen process, the role of team members, etc.

The Kaizen process resulted in rapid improvement, without creating undesirable trade-offs that might negatively impact other stakeholders, such as academic freedom or students' perception of value. In addition, team members identified many benefits associated with kaizen that are not typically found in traditional approaches used to identify, implement, and evaluate improvement opportunities.

Wilson (2012) described that; students will be able to implement new things by keeping the Kaizen concept in their minds. There will not be any clash or conflict in the thinking process. Instructors will get the opportunity to reconsider even substantial teaching methodologies to seek improvement. Kaizen in the education will also help them to implement new ways of teaching whereby students will be able to grasp the teachings easily and they will be able to remember the concepts for ever. It is possible to review the way examinations are conducted. It is possible to frame exams in such a way that student's logical thinking and understanding power are traced in a better way.

Aishah (2016) described the systematic application of Kaizen and its learned lessons during three years in the Operations Management course from the Master in Business Administration graduate programme taught at the Mexican Business School. An exploratory qualitative study was conducted to find out how Kaizen's continuous improvement cycle (PDCA) enables better results in students who have taken the subject of OM in a business school. The findings in each phase of the cycle show the Kaizen-oriented improvement actions and the results obtained in final grades (exam) and written reports.

According to Ingo (2017) the success and application of applying Kaizen in course management is highly dependent on the involvement and view of the lecturers (their flexibility to continuous changes in their routine, open to replying to evaluation grades and comments every week and encourage the student to participate in the feedback circle). Other influential factor for a successful long-term implementation is the handling of evaluation results. Counseling and didactical support in combination to student evaluation proved to be significantly more successful.

Continuously, Kregel (2019) used a pilot action research to combine the continuous improvement philosophy of Kaizen with student course evaluations. The results of the research shown that Kaizen could successfully improve course quality, especially in the first two years of newly developed courses. The limitation of this research is that the data had been collected from one course over four years in one institution.

## 4. DISCUSSION

### 4.1. Kaizen Can Apply in Vietnamese Universities?

Teian (1992) describes that Kaizen is more than just a means of improvement because it represent the daily struggles occurring in the workplace and the manner in which these struggles are overcome. Kaizen can be applied to any area in need of improvement.



Figure-3. Barriers and driving forces of applying Kaizen in Vietnamese universities.

Figure 3 shows some main barriers and driving forces of applying Kaizen in Vietnamese universities.

Universities were slow and difficult to adopt process improvement in Vietnam because Kaizen requires approaching the institution with a business mentality rather than through the lens of an education service provider while for a long time, education are considered as non-profit and subsidized organizations.

However, nowadays, with global integration, increasing of competition and tendency to remove higher education subsidies, we know universities can be both an institution that cares about its students and an organization making business decisions that improve efficiency and save money.

Therefore, experiences of applying Kaizen successfully in many universities over the world are proofs that Kaizen can be a good solution for continuous quality improvement of Vietnamese Universities to gain a better position in the global higher education system. Applying Kaizen can make a lot of change for Universities: 1. Kaizen helps universities improve the quality of training, teaching and learning, researching and other functional activities; 2. Kaizen brings immediate results by continuously solving a large number of small problems; 3. The real power of Kaizen is to continuously improve processes and minimize waste; 4. Motivate individuals to have innovative ideas and create teamwork and solidarity; 5. Stakeholders' satisfaction; 6. Building a culture in the university.

### 4.2. Lessons for Vietnamese Universities

Applying Kaizen in university both at university management level and course management level and even individual level for members of University and their students (Figure 4).

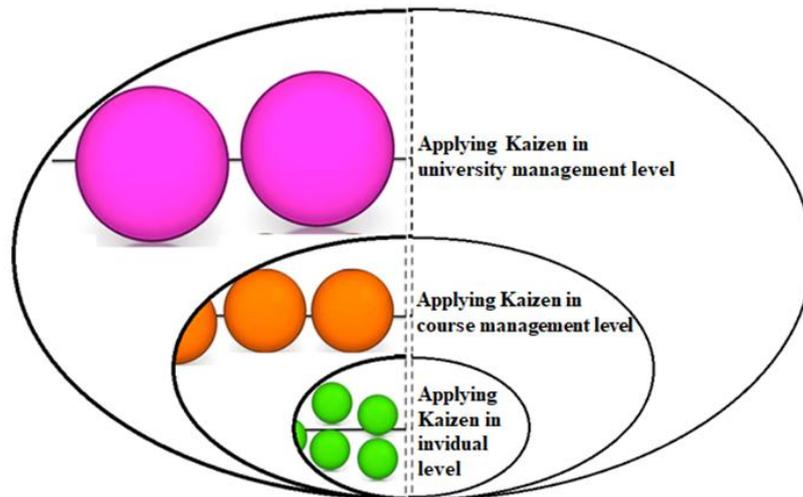


Figure-4. Three level in applying Kaizen in universities.

*Applying Kaizen requires a lot of effort to change continuously from stakeholders:* Universities managers, faculty systems and staff, students and organizations related to school activities.

*Folow 5 principles of Kaizen for organization:* Know your Customer, Let it Flow, Go to Gemba, Empower People and Be Transparent.

*Applying Kaizen flexibly according to problems and organization characteristics.* Larger problem need larger Kaizen: Longer time to implement, more effort of more related people, process with more step (primary data collection).

*Applying Kaizen for a long time to maintain the results of continuous improvement to Universitties quality.*

## 5. CONCLUSION

Kaizen was found to be an effective process for improving quality of many kinds of organizations including higher education organizations. Applying Kaizen in Vietnamese Universities is good solution for continuous quality improvement in both university management level and course management level, but it's a difficulties process that requires a lot of effort from stakeholders: Universities managers, faculty systems and staff, students and organizations related to school activities. Universities need apply Kaizen flexibly according to problems and organization characteristics and for a long time to maintain the results of continuous improvement to Universitties quality.

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