

## EVALUATION OF THE KNOWLEDGE OF BENCHMARKING IN THE EDUCATION PROCESS AND IN PRACTICAL APPLICATIONS

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**Purpose:** The aim of this elaboration has been to get to know the opinions of students on benchmarking, its practical application and a possibility of improving the classes.

**Design/methodology/approach:** With the applicable literature and own experience supported with the results of a preliminary (pilot) survey questionnaire performed among students, a need to facilitate public higher education provider's classes was justified.

**Findings:** The results of the study justify the use of benchmarking in the process of education in management, management and production engineering as well as finance and accounting programmes.

**Research limitations/implications:** The considerations covered in this elaboration determine further directions of theoretical and practical studies. Interesting research problems are e.g. the benefits of using benchmarking, management system improvement, the role of the measurement system and reporting of accomplishments in benchmarking.

**Originality/value:** Benchmarking, as a research tool, is an important source of information indispensable for an adequate operation and development of the organisation. The multi-dimensionality of the tool allows its application both to evaluate the entire organisation for respective results accomplished, and the processes, procedures, standards, etc.

**Keywords:** benchmarking, education process, organisations.

**Category of the paper:** Research paper.

### 1. Introduction

A possibility of organisation development by applying adequate standards or procedures requires the improvement of the processes and resources as well as their effective use. It means a need to take actions focused on the amount and effectiveness of accomplishing a specific goal. A high effectiveness of the actions taken is possible with benchmarking. Using this tool in organisations often involves e.g. observing, making comparisons to the best and taking

decisions to balance or to enhance the competitiveness of the offer, including also the quality and the organisation itself (Olkiewicz, 2016).

Benchmarking is currently one of the most frequently applied enterprise improvement methods. Public sector institutions have also started implementing it to the operation practice. Public higher education providers have also recognised benchmarking as a tool enhancing education quality. Interestingly, it is mostly used to identify the best practices and to adapt them in a creative manner. Higher education undergoes changes as a result of growing requirements mostly due to competition perceived as a possibility of making a choice from an abundant educational offer (Kuźmicz, 2015). A growing competition is also observed among state and private higher education providers. Benchmarking facilitates identifying processes which need improving as well as better adaptation of teaching to market requirements. The assumption in that case is an enhancement of the domestic or international position of the higher education provider (Śpiewak, Januszewski, and Graul, 2015).

As for higher education, benchmarking should respond to real education system requirements. Public higher education providers have been searching for new forms of education. Their initiatives go beyond the existing standard academic education (Kuźmicz, 2015). The programme of education at the Faculty of Management, the UTP University of Science and Technology in Bydgoszcz (the major of management, management and production engineering, as well as finance and accounting) covers research of the education programme evaluation (Grochowski, and Januszewski, 2016; Januszewski, 2016; Śpiewak, Januszewski, and Graul, 2015; Zwierzchowski, and Graul, 2016).

The final objective of education is preparing the students to take an active and positive role in the society. As for the educational outcomes, the focus is on the results seen as knowledge, understanding and the skills acquired by the student throughout the process of education, and not on the measures taken by the teachers to accomplish those outcomes. Using the educational outcomes is a change of thinking; it means going from the teacher-oriented system based on teachers, workload-oriented, to the student- and outcomes-oriented approach (Szulc, 2004; Woźnicki, 2008).

Benchmarking is currently one of the most frequently applied enterprise improvement methods. The analysis of literature has provided the assumptions of the practical application of benchmarking in enterprises (Horzela, 2015; Kowalewski, 2015; Szydelko, M., and Szydelko, Ł., 2013):

- benchmarking can determine the competitiveness of the organisation and its development,
- benchmarking can be a tool enhancing the effectiveness of processes and cost cutting,
- benchmarking is a tool related to the method used to evaluate the environment around and to monitor the organisational processes indispensable for an adequate enterprise management,

- benchmarking is a tool supporting the quality standard enhancement,
- an adequate benchmarking analysis is the key factor conditioning the implementation of the adequate quality-enhancing management system.

The aim of this elaboration has been to get to know the opinions of students on benchmarking, its practical application and a possibility of improving the classes. With literature and own experience supported with the results of a preliminary (pilot) survey questionnaire performed among the students, a need to facilitate classes in the public higher education provider's teaching process has been justified.

## **2. Practical application of benchmarking**

The process of organisation improvement takes place with the use of various management tools. One of them is benchmarking which involves a comparison to the best ones and an indication of the methods of accomplishing better results. The applicable literature provides many definitions which highlight complexity of the problem. R.C. Camp presents benchmarking as searching for the most effective methods for a specific organisation facilitating the achievement of a competitive advantage (Camp, 1989). A universal, possible to apply for various initiatives, is the definition by Z. Martyniak stating that benchmarking is a method to compare own solutions with the best ones and to improve them by learning from others and using their experience (Gajda, 2015). Interestingly, its essence is mostly the identification of the best practices and their creative adaptation; it is how a possibility of ordinary copying is excluded (Zwierzchowski, 2016).

Analysing the definitions represented above it can be stated that most authors describe benchmarking as a continuous and regular process or method. The process mostly involves comparison, measurement, search and investigation as well as confrontation. In the opinion of the authors, in most cases those actions aim at products, services, specific practices, practices, methods of actions and effectiveness of the organisation. The key objective of the actions taken as part of benchmarking is improving the products and processes, enhancing the effectiveness of the actions, accomplishing and maintaining a competitive advantage, and, finally, establishing who is the best of the best. On the other hand, the intermediate objectives, leading to the execution of the main benchmarking objectives, are: acquiring information, the use of the experience of others, learning and getting adapted to the best models. In the process executed, as the points of reference the most frequently indicated ones are: the sector leaders and business leaders from all over the world, the most serious competitors, organisations which can be considered excellence models and the best available practices used inside or outside the organisation.

Only recapitulating the theoretical considerations on a possibility of using benchmarking to improve the enterprise, adequate conclusions can be formulated.

Contemporary organisations keep on searching for new approaches to management and instruments which enhance the effectiveness of the management actions and systems. They cannot rely only on their own ideas, solutions and experience. It is benchmarking which is a response to the needs of the organisations searching for solutions to increase the effectiveness of the actions and to enhance competitiveness. Planning a possibility of benchmarking application, one must consider various factors, including time, costs and expected outcomes of the project executed. The adequate application of benchmarking requires performing actions in the right order. To improve various quality management system areas, one must consider the right cycle of benchmarking actions: project planning, data accumulation and analysis and adaptation to the best practices. The scope and number of detailed tasks to be performed as part of benchmarking depend on the processes executed, the results of self-evaluation, placing the benchmarking in the corporate organisation structure, the competences of the persons executing the process of measuring and comparing various practices and results with partners and, mostly, on the approach of the management to the concept of benchmarking. In terms of such considerations, an extremely important consideration is the fact that sharing information as part of benchmarking, in principle, does not aim at triggering anti-competitive effects (Szydełko, 2016; Gajda, 2015).

### **3. Methodology**

The students at the Faculty of Management of the UTP University of Science and Technology in Bydgoszcz follow the education programme in the major of management, management and production engineering as well as finance and accounting. Those are both the first- and the second-degree programmes. The education programme covers the courses delivered in lecture halls, tutorial rooms as well as in computer labs and project labs. The aim of the classes is for the students to acquire and to learn the knowledge on the principles of management in contemporary institutions and companies. The classes are to ensure a good preparation for a professional job in the future. Depending on the degree programme, the students covered by the survey were acquiring knowledge in one of the following majors: management – B.Sc. and M.Sc. programmes, management and production engineering – B.Sc. and M.Sc. programmes, finance and accounting – B.Sc. programme.

The development of this article was preceded by empirical studies. In April 2018 a survey was made among 214 students. The e-survey developed with the Google Form was used as a research tool. The survey questionnaire was addressed to 3 groups of students taking the indicated courses in the academic year 2017/2018 (Table 1).

**Table 1.**  
*Characteristics of the respondents*

Major	Management	Management and production engineering	Finance and accounting
Level of studies	the first- and the second-degree programmes (B.Sc. and M.Sc.)	the first- and the second-degree programmes (B.Sc. and M.Sc.)	the first-degree programme (B.Sc.)
Profile of the studies	general academic	general academic	practical
Number of survey questionnaires	52	68	94

Source: the author's own study.

The part of the survey questionnaire used for the description of the study covered 4 questions and it referred to:

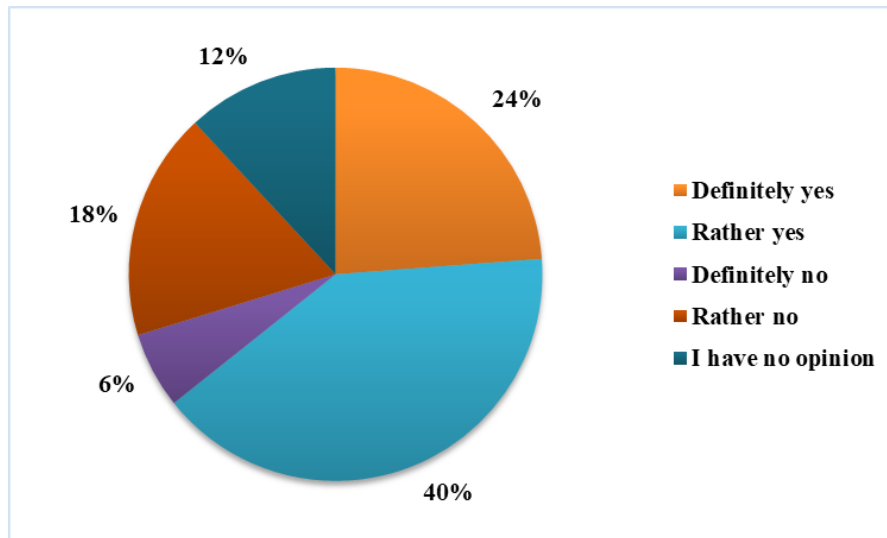
- class level evaluation,
- making the classes more efficient,
- having the knowledge of benchmarking,
- justifiability of the use of benchmarking during class execution.

For each question at least one answer had to be ticked as applicable. The results presenting the answers to the questions in the survey questionnaire to get to know the opinion of the students are discussed and presented in a graphic form in the next chapter.

#### **4. Level of knowledge of benchmarking; students' opinion**

With the students' evaluation of the class level at the Faculty of Management, UTP in Bydgoszcz, it can be noted that 64% of the respondents provided positive feedback on the class quality (Figure 1).

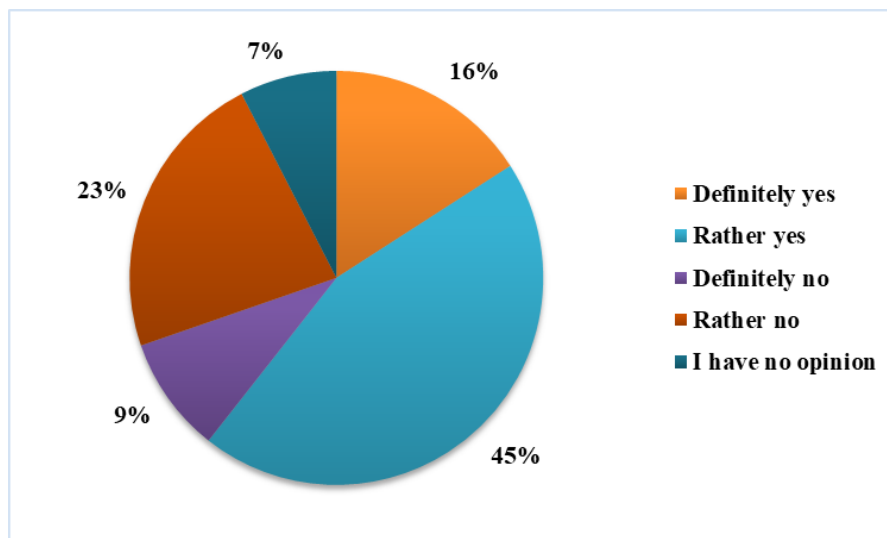
Classes at the Faculty of Management were performed in a way as to present in detail, at the start, all the information related to the course to the class participants. An example can be provided by an e-learning platform available to the students. It is often the case that the students for the first time deal with e-learning (it mostly refers to the students of the first-degree programme and, less considerably, to the second-degree programme). It is essential not to discourage young people from working with a new method of accessing information. Neither can one deprive the students of an immediate contact with the lecturer. After introductory classes, one must note the students' self-reliance so that they try to deal with the task.



**Figure 1.** Question: How do you evaluate the level of the classes provided?

As for the question on class improvement, as many as 61% of the students are of the opinion that the classes should be made more efficient (definitely yes, rather yes). 32% of the respondents are against any changes and 7% of the respondents cannot indicate whether the classes should be more efficient (Figure 2).

Even though a vast majority of the students are positive about the classes quality, more than half is also of the opinion that, to some extent, the classes must be made more efficient. All that makes it possible to apply benchmarking, namely a comparison of the adequate processes and practices; a comparison of the right processes and practices so that they facilitate the class improvement.

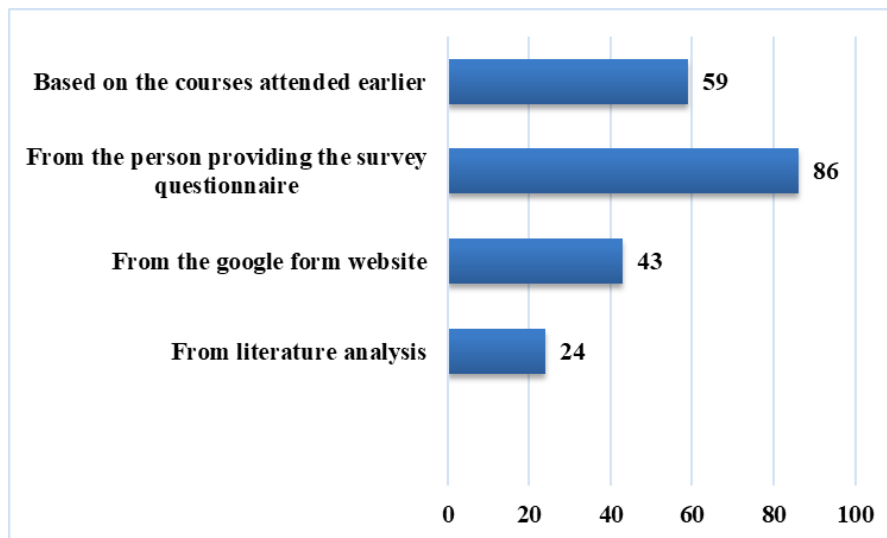


**Figure 2.** Question: Should, in your opinion, the classes be all the time improved?

The successive question concerns information where the students have acquired knowledge of benchmarking from. The respondents could choose one out of the four responses (Figure 3).

In the opinion of the students (86 responses), it is the person providing the survey questionnaire who has, for the first time, provided information on what benchmarking is.

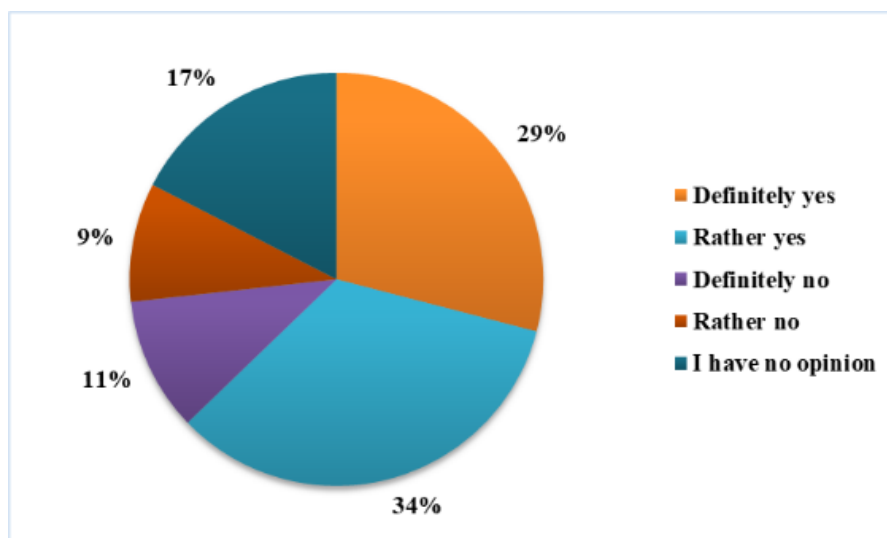
The respondents have also indicated others teaching classes at the Faculty of Management (59 responses); which must be due to the fact that the students attended management-related classes which covered the concept of benchmarking. 43 persons indicated the source being the Google Form; those are probably the students who have completed the questionnaire online from their computer. Interestingly, only 24 students pointed to literature as the source of knowledge of benchmarking.



**Figure 3.** Question: Where have you learned about benchmarking?

The last question refers to the justifiability of using benchmarking for class preparation, which is confirmed by the analysis of the study results. As many as 63% of the respondents consider, by answering definitely yes and I think so, providing classes with the use of benchmarking justifiable (Figure 4).

With that index one can make an assumption that the students are aware of the usefulness of such tool for class preparation. Acquiring additional practical skills can be important for choosing your own career path.



**Figure 4.** Question: In your opinion, is it justifiable to use benchmarking for class preparation?

## 5. Conclusions

The execution of the current tasks in developing higher education providers should be based on benchmarking the use of which is becoming a standard in effective management support. One must note the significance of the student education stage. The results of the study justify the use of benchmarking in the process of education in management, management and production engineering as well as finance and accounting programmes.

Benchmarking, as a research tool, is an important source of information indispensable for an adequate operation and development of the organisation. The multi-dimensionality of the tool allows its application both to evaluate the entire organisation for respective results accomplished, and the processes, procedures, standards, etc. All the actions based on benchmarking have an essential impact on the number, speed and the quality of the actions taken, including also the quality-enhancing ones.

The results of the preliminary (pilot) study support the justifiability of the knowledge of benchmarking in the process of education, which is seen from the opinions of the students of the Faculty of Management, the UTP University of Science and Technology in Bydgoszcz. Even though the respondents were positive about the quality of the classes, 61% of the students claim that the classes should be, to some extent, more efficient. The execution of the preliminary (pilot) study allows for performing successive higher quality studies at other faculties of the public higher education providers in Poland. The considerations covered in this elaboration determine further directions of theoretical and practical studies. Interesting research problems are e.g. the benefits of using benchmarking, management system improvement, the role of the measurement system and reporting of accomplishments in benchmarking.

## References

1. Camp R.C. (1989). *The Search for Industry Best Practices that Lead to Superior Performance*. ASQC Industry Press, Milwaukee Wisconsin, Quality Resources, New York.
2. Gajda, D. (2015). *Wykorzystanie benchmarkingu w pomiarze efektywności pracy zespołowej*. Studia Ekonomiczne/Uniwersytet Ekonomiczny w Katowicach, 230, pp. 184-202.
3. Grochowski, K., and Januszewski, A. (2016). *State of Knowledge of the ERP Systems – Results of the Pilot Study Performed Among Management Faculty Students*, EDULEARN2016 Proceedings, 4-6 July, Barcelona, Spain, pp. 154-160.



4. Horzela, A. (2015). Benchmarking jako podstawa doskonalenia w nowoczesnym przedsiębiorstwie. *Organizacja i Zarządzanie: kwartalnik naukowy*, 3(31), Gliwice, pp. 91-104.
5. Januszewski, A. (2016). *Evaluation of education programs and educational outcomes – Results of the Pilot Graduates Survey*. INTED2016 Proceedings, 7th-9th March, Valencia, Spain, pp. 5451-5458.
6. Kowalewski, M. (2015). Wykorzystanie benchmarkingu w pomiarze i zarządzaniu dokonaniai przedsiębiorstwa. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, 374, pp. 114-121.
7. Kuźmich, K. (2015). *Benchmarking procesowy jako instrument doskonalenia zarządzania uczelnią*. Warszawa: Wolters Kluwer SA.
8. Olkiewicz, M. (2016). Benchmarking jako element systemów zarządzania ukierunkowanych na jakość. *Zeszyty Naukowe Wydziału Nauk Ekonomicznych Politechniki Koszalińskiej*, pp. 211-226.
9. Szluc, T. (2004). Dynamika przemian w szkolnictwie wyższym w Polsce a realizacja procesu bolońskiego. *Nauka i Szkolnictwo Wyższe*, 2(24), Poznań, pp. 7-36.
10. Szydełko, M. (2016). Benchmarking jako fakultatywny instrument doskonalenia znormalizowanych systemów zarządzania jakością. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, 440, pp. 501-512.
11. Szydełko, M., Szydełko Ł. (2013). Benchmarking w podejściu procesowym w przedsiębiorstwie – wybrane zagadnienia. *Modern Management Review*, 18, Rzeszów, pp. 103-111.
12. Śpiewak, J., Januszewski, A., and Graul, C. (2015). *Concept of the academic programs evaluation system for the University of Science and Technology in Bydgoszcz*. EDULEARN2015 Proceedings, 6th-8th July, Barcelona, Spain, pp. 1297-1304.
13. Woźnicki, J. (2008). *Benchmarking w systemie szkolnictwa wyższego*. Warszawa: Oficyna Wydawnicza Politechniki Warszawskiej.
14. Zwierzchowski, D. (2018). Benchmarking w procesie doskonalenia zajęć z zakresu wykorzystania e-learningu. *Zeszyty Naukowe Politechniki Śląskiej, Organizacja i Zarządzanie*, 127, Gliwice, pp. 341-351.
15. Zwierzchowski, D., and Graul, C. (2016). *Evaluation of legitimacy of teaching and quality of students education in the area of ERP systems application*. EDULEARN2016 Proceedings, Barcelona, Spain, pp. 2517-2523.