

Kiki Artika¹, Muhammad Iqbal², Zulham Sitorus³, Andysah Putera Utama Siahaan⁴, Rian Farta Wijaya⁵

¹Master's Student in Information Technology at Universitas Pembangunan Panca Budi, Medan ^{2,3,4,5}Master of Information Technology Lecturer at Universitas Pembangunan Panca Budi, Medan *Correspondence: <u>kikyarticka@gmail.com</u>

Abstract

This research aims to analyze the level of effectiveness of the Independent Campus Learning Program (MBKM) using the Preference Selection Index (PSI) Method and VIKOR Method. The MBKM program is an initiative of the Ministry of Education and Culture of the Republic of Indonesia which aims to provide more flexibility and learning opportunities for students through various off-campus activities. This research was conducted to measure the extent to which the program succeeded in achieving its goals. The PSI method is used to determine preferences for various aspects of the program based on assessments from students and academic staff, while the VIKOR method is used to identify the best compromise solution that can maximize stakeholder satisfaction. Analysis was carried out to assess the effectiveness of the program based on several criteria, including the quality of the learning experience, relevance to the world of work, and contribution to student skills development. This research suggests that to further increase the effectiveness of the MBKM Program, there needs to be an emphasis on developing a curriculum that is more responsive to industry needs and improving supporting facilities for students. The implications of the results of this research are important for policy makers in designing educational strategies that are more adaptive and oriented to labor market needs.

Keywords: MBKM program, effectiveness, Preference Selection Index (PSI), VIKOR, learning experience, relevance in the world of work

1. INTRODUCTION

Higher education in Indonesia has continued to experience significant transformation in recent years, especially with the launch of the Independent Learning Campus (MBKM) program by the Ministry of Education, Culture, Research and Technology. This program is designed to provide greater freedom and autonomy to higher education institutions and offer a wider and deeper range of learning opportunities for students. MBKM includes several core activities, including Campus Lectures, Student Exchanges, Certified Independent Study and Internships (MSIB), Teaching Campuses, and Real Work Lectures (KKN).

The MBKM program is intended to create graduates who are better prepared to face the world of work, have skills that are relevant to industry needs, and are able to adapt quickly to change. However, even though the implementation of this program has been underway, the effectiveness of each activity in achieving these goals is still an important question. Each MBKM activity has unique characteristics, different learning methods, duration and achievement targets, all of which have the potential to have a different impact on the graduate profile. MBKM is also a new program and curriculum in education in Indonesia, so there is a need for an overview that can measure the level of effectiveness of the program. Meanwhile, the independent learning program can be a contributive platform in increasing experience which is expected to increase competency for students, so that later it can help these students. in obtaining decent work after campus (Andrian et al., 2022).



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The focus of this research is to analyze the level of effectiveness of various forms of MBKM activities. The diversity of the MBKM program creates an urgent need to conduct a comprehensive evaluation. There are many factors or assessment criteria that need to be considered to assess the success of each MBKM activity, such as learning quality, career development opportunities, personal and soft skills development, costs and financial support, flexibility, and alumni satisfaction. These assessment criteria will later be used as clear and comprehensive measurements to assess the effectiveness of the MBKM program. Therefore, in determining the effectiveness of each MBKM program, there needs to be a structured and measurable approach.

This research was designed to provide an in-depth understanding of the effectiveness of various activities in the MBKM program. By using the PSI and VIKOR methods, this research aims to provide an objective and comprehensive evaluation of the extent to which each MBKM activity has succeeded in achieving the stated objectives. The PSI method will be used to measure the effectiveness of each activity based on the assessment criteria that have been identified, while the VIKOR method will be used to determine the relative ranking of each activity, which allows researchers to identify which programs make the greatest contribution to the development of student competencies.

These two methods will provide an objective dimension and ranking of the relative contribution of each MBKM program. This research will identify relevant assessment criteria, collect and analyze data regarding the implementation and results of each MBKM activity and later the results of the analysis in this research will also provide recommendations for developing and improving the MBKM program. Apart from that, this research can also provide an evaluation based on comprehensive data and sophisticated analytical methods, which will ultimately help in improving the quality of higher education in Indonesia. It is also hoped that it can help students choose MBKM activities that best suit their needs and career goals, thereby supporting the development of better competencies that are relevant to the world of work.

2. PROBLEM FORMULATION

- **2.1** What is the effectiveness of each Merdeka Belajar Kampus Merdeka (MBKM) activity (Campus Lectures, Student Exchange, MSIB, Teaching Campus, and KKN) in improving the quality of graduates based on predetermined criteria?
- **2.2** What are the relevant and valid assessment criteria for measuring the effectiveness of MBKM activities, and how can these criteria be integrated into the Preference Selection Index (PSI) and VIKOR methods?
- **2.3** What are the results of the comparison of the effectiveness of MBKM activities using the Preference Selection Index (PSI) and VIKOR methods, and which activities are most effective in supporting the achievement of the MBKM program objectives?

3. METHOD

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3.1 Types of Research

The type of research applied is descriptive research. Where every data and information obtained from the case study will be analyzed. Where the analysis is carried out by applying problem solving methods. Based on the submission, the research was aimed at looking at the accuracy of the 2 methods and comparing them according to the implementation of the algorithm in each method.

3.2 Place and Time of Research

a) Research Place

The research location referred to in conducting research is the place where premier data is obtained as research material. The research location in question is STMIK Triguna Dharma which is located on Jalan AH Nasution No 73 – Medan Johor.

b) Research Time



The research time itself starts from the time the socialization is carried out until the final process of the court hearing as the end of the research evaluation in the form of a thesis report. This research was conducted at STMIK Triguna Dharma College, with research time planned from November 2023 to June 2024

3.3 Data Collection Techniques

In the research process carried out there are several data collection techniques that will be carried out, some of the collection techniques referred to include:

1. Questionnaires and Surveys

Questionnaires and surveys are used as the main tools to collect data from students who have participated in various programs in the Merdeka Belajar Kampus Merdeka (MBKM). The questionnaire was designed to measure the effectiveness of the program, as well as evaluate various aspects related to student experience, career development, learning quality, and other aspects relevant to research objectives.

2. Interview

Carried out with a sample of students selected purposively based on certain criteria, such as length of time in the program, type of program followed, and field of study.

3. Focus Group Discussion(FGD)

Discussion groups were formed involving students who had participated in various MBKM programs, lecturers, and program management. The FGD focused on the overall evaluation of the program, participants' experiences, as well as suggestions and recommendations for improvement.

3.4 Data Analysis Techniques

According to Bogdan and Biklen, S, data obtained from interviews, verification, field observations, literature studies and distributing questionnaires were processed by tabulating data and analyzed using qualitative descriptive methods. (Asari et al., 2018)

In the research entitled Analysis of the Level of Effectiveness of the Independent Campus Learning Program (MBKM) using the Preference Selection Index (PSI) Method and VIKOR Method, data analysis techniques must be designed to extract relevant information from the data collected. The following are several data analysis techniques that may be used in this research:

- 1. Descriptive Analysis: Data from the questionnaire is analyzed descriptively to calculate the frequencies, percentages, averages and standard deviations of the various variables studied. This analysis helps provide an overview of respondent characteristics and levels of satisfaction and effectiveness of the program.
- 2. Preference Selection Index (PSI) method: Identifying relevant assessment criteria and determining the weight for each criterion based on its importance in evaluating the MBKM program. Using the PSI method to calculate the preference index value for each alternative (program) based on predetermined criteria. These index values help determine the ranking and preference of the most effective programs
- 3. VIKOR Method: Using the VIKOR method to analyze preferences and comparisons between alternative MBKM programs based on the same assessment criteria.
- 4. Qualitative Analysis: In-depth interviews, observation notes, and FGD results were transcribed and coded to identify main themes and patterns that emerged from the qualitative data.



4. **RESULTS AND DISCUSSION**

4.1 The effectiveness of each Merdeka Belajar Kampus Merdeka (MBKM) activity (Campus Lectures, Student Exchange, MSIB, Teaching Campus, and KKN) in improving the quality of graduates based on predetermined criteria.

The effectiveness of each activity in the Merdeka Belajar Kampus Merdeka (MBKM) program such as Campus Lectures, Student Exchange, Internships and Certified Independent Studies (MSIB), Teaching Campuses, and Real Work Lectures (KKN) can be evaluated based on criteria for improving the quality of graduates which include development skills, increased employability, character formation, and relevance to the world of work. The following is an analysis of the effectiveness of each activity based on these criteria:

- 1. Campus Lectures This activity includes lectures conducted in a campus environment with more flexible and interactive teaching methods.
 - a. **Skill Development: Effectiveness:**Moderate to high. This activity encourages the development of academic and cognitive skills through a curriculum that can be adapted to students' interests and needs.
 - b. **Increased Employability: Effectiveness:**Moderate. Studying on campus helps students gain strong theoretical knowledge, but may lack the hands-on practical experience required by industry.
 - c. **Effectiveness Character Building:**Tall. Interaction with lecturers and colleagues in the campus environment can strengthen values such as integrity, discipline and responsibility.
 - d. **Relevance to the World of Work Effectiveness:**Moderate. Lectures on campus often focus on theories that may not always be directly relevant to the needs of the world of work.
- 2. Student exchange

Students can study at other universities both domestically and abroad for a certain period of time.

- a. **Effectiveness Skills Development:**Tall. Student exchanges expose students to a variety of different teaching methods and academic environments, enriching cross-disciplinary knowledge and skills.
- b. **Increased Employability Effectiveness:** Tall. International experience or at other domestic universities increases graduates' competitiveness in the job market.
- c. Effectiveness Character Building: Very high. Students who participate in student exchange often experience increased adaptability, independence, and openness to other cultures.
- d. **Relevance to the World of Work: Effectiveness:**Tall. Students gain insight into academic and industrial practices in other countries or regions, which can be applied in their future careers.
- 3. Certified Independent Study and Internship (MSIB)

These activities involve students in real work experience in industry or independent projects certified by industry partners.

- **a. Effectiveness Skills Development:** Very high. MSIB provides practical and technical skills that are directly relevant to industry needs.
- **b. Increased Employability Effectiveness:** Very high. Hands-on experience in industry through internships or independent projects increases a graduate's attractiveness to employers.
- **c. Effectiveness Character Building:**Tall. Students learn about professional responsibilities, work ethics, and interpersonal skills needed in the workplace.



- **d. Relevance to the World of Work Effectiveness:** Very high. This activity is closely related to the world of work, giving students a direct understanding of industry demands and expectations.
- 4. Teaching Campus

Students are involved in teaching activities in schools, especially in underserved areas.

- **a. Effectiveness Skills Development:**Tall. This activity develops communication, leadership and classroom management skills.
- **b. Increased Employability Effectiveness:**Moderate to high. While teaching skills are not always directly relevant to all careers, this experience strengthens soft skills that are highly valued by employers.
- **c.** Effectiveness Character Building: Very high. The Teaching Campus is very effective in forming character, including a sense of social responsibility, empathy, and the ability to work in a diverse environment.
- **d. Relevance to the World of Work Effectiveness:**Moderate to high. This activity is more relevant for careers in education or sectors that require strong communication and team management skills.
- Real Work Lectures (KKN) Community service activities that involve students in community development projects in certain areas.
 - **a. Effectiveness Skills Development:** Tall. KKN develops project management, teamwork and problem-solving skills in a community context.
 - **b. Increased Employability Effectiveness:**Moderate to high. Service-learning experience demonstrates graduates' ability to work in teams and solve problems in the field, skills valued by employers.
 - **c.** Effectiveness Character Building: Very high. KKN encourages a sense of social awareness, responsibility, and the ability to work with various community groups.
 - **d. Relevance to the World of Work Effectiveness:**Tall. Although the context of service-learning may be different from many professional jobs, this experience is relevant for jobs that involve interactions with communities or social projects.

2.2 Relevant and valid assessment criteria for measuring the effectiveness of MBKM activities, and how these criteria can be integrated into the Preference Selection Index (PSI) and VIKOR methods

Measuring the effectiveness of Merdeka Belajar Kampus Merdeka (MBKM) activities requires relevant and valid assessment criteria, which cover various aspects from educational objectives, skills acquired, to the impact on student work readiness. The following are several assessment criteria that can be used and how these criteria are integrated in the Preference Selection Index (PSI) and VIKOR methods. Relevant and Valid Assessment Criteria

- 1. Technical Skills Development (Hard Skills):
 - a. Measures the extent to which the MBKM program helps students develop technical skills relevant to the field of study and related industry.
 - b. Example: Mastery of information technology, data analysis skills, laboratory skills.

2. Non-Technical Skills Development (Soft Skills):

- a. Measures the development of interpersonal and intrapersonal skills such as communication, leadership, teamwork, and time management.
- b. Examples: Communication skills, teamwork, adaptability.

3. Increased Employability:

a. Assess how well the MBKM program prepares students to enter the world of work, including increasing competitiveness in the job market.



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- b. Example: Job acceptance rate after graduation, relevance of MBKM experience to the job accepted.
- 4. Relevance to the World of Work:
 - a. Measures the extent to which MBKM activities meet industry needs and provide useful practical experience in the workplace.
 - b. Example: Match between MBKM projects and real job demands.

5. Character and Ethics Formation:

- a. Assess the impact of the MBKM program in shaping student character, work ethics and social responsibility.
- b. Examples: Commitment to work, professional ethics, social awareness.

6. Improved Academic Performance:

- Measuring the impact of the MBKM program on student academic achievement, such as a improving grades and understanding material.
- b. Example: Grade Point Average (GPA), other academic achievements.

7. International or Multicultural Experience:

- a. Assess the extent to which the MBKM program provides exposure to an international or multicultural environment.
- b. Example: Student exchange abroad, collaboration with students from different cultures.

8. Student Satisfaction:

- a. Measuring student satisfaction with the experience gained from the MBKM program.
- b. Example: Level of satisfaction with the program, perception of program benefits.
- 9. Integration of Criteria in the PSI and VIKOR Methods
 - a. Preference Selection Index (PSI)
 - Step 1: Data NormalizationEach criterion is normalized so that it can be compared fairly. For example, if a criterion is assessed on a different scale, the data is converted into an index value on the same scale (e.g. 0-1).
 - Step 2: Determination of Criteria WeightsEach criterion is given a weight based on its level of importance. This weight can be obtained through techniques such as the Analytic Hierarchy Process (AHP) or based on input from stakeholders.
 - Step 3: PSI Calculation for Each AlternativePSI is calculated by multiplying the • normalized value of each criterion by its weight, then adding up the results for each alternative MBKM activity.

 $PSIi=\sum_{j=1}^{N} W_j \times X_{ij}PSI i = \sum_{i=1}^{n} W_i \times X_{ij}PSIi=j=1\sum_{i=1}^{n} W_i \times X_{ij}$

- > **PSIiPSI_iPSIi**: Preference Selection Index value for the *i*th alternative.
- ► **WjW_jWj**: Weight of the jth criterion.
- > XijX {ij}Xij: The jth criterion value for the ith alternative.
- **Step 4: Ranking**Alternative MBKM activities are sorted based on the highest to lowest PSI value. The alternative with the highest PSI value is considered the most effective.
- b. VIKOR
 - Step 1: Normalize and Identify the Ideal SolutionLike PSI, the data is normalized. Then, the best (positive) and worst (negative) ideal solutions for each criterion are identified:

 $f_{j}=max f_{ij}danf_{j}=min f_{ij}^{*} j = \det\{max\} , f_{ij} \setminus duad \det\{and\} \setminus duad f_{j} =$ \text{min} \, f_{ij}fj *=maxfijandfj==minfij

▶ fj*f^*_jfj*: Best value for the jth criterion.



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- \rightarrow **fj**-**f**^-**_jfj**-: Worst value for the jth criterion.
- Step 2: Calculation of Distance from Ideal Solution Calculate the distance from the ideal solution for each alternative:

 $\begin{array}{l} Si= j=1 M j \times fj *-fj fj *-fj - S_i = \sum_{j=1}^{n} W_j \times fj *-fj - f_{ij} \\ f^-_j Si= j=1 M j \times fj *-fj - fj *-fj Rimmax [Wj \times fj *-fj - R_i = \max M j \times fj *-fj - R_i = \max W_j \times fj *-fj - R_i = \max W_j \times fj *-fj - fj *-fj + fj \\ \\ f^*_j - f_{ij} \\ f^*_j - f_{ij} \\ f^*_j - f_{ij} \\ \end{array}$

- > SiS_iSi: The sum of the weighted distances for the ith alternative.
- > **RiR_iRi**: Maximum distance for worst criteria.

• Step 3: VIKOR Index Calculation (Q_i)

The VIKOR index is calculated using the formula:

 $\begin{array}{l} Qi=v(Si-S*S--S*)+(1-v)(Ri-R*R--R*)Q_i=v \ (left(\ S_i-S^*) \ S^--S^*) \ (1-v) \ (R--R*Ri-R*) \ (1-v) \ (1-$

- > vvv: Weight coefficient reflecting the compromise strategy (usually 0.5).
- ► S*S^*S*, R*R^*R*: Minimum values of SiS_iSi and RiR_iRi.
- > $S-S^{-}S-$, $R-R^{-}R-$: Maximum values of SiS_iSi and RiR_iRi.
- Step 4: Ranking and Selecting the Best Alternative Alternative MBKM activities are sorted based on the QiQ_iQi value, from lowest to highest. The alternative with the lowest QiQ_iQi is considered the most effective.

2.3 Results of comparison of the effectiveness of MBKM activities using the Preference Selection Index (PSI) and VIKOR methods, and which activities are most effective in supporting the achievement of MBKM program objectives

To compare the effectiveness of Merdeka Belajar Kampus Merdeka (MBKM) activities using the Preference Selection Index (PSI) and VIKOR methods, we need to follow the evaluation and analysis steps previously explained. The following is an overview of how this comparison can be carried out, along with possible interpretations of the results obtained:

- 1. Data Collection and NormalizationCollect data for each predetermined assessment criteria (such as skills development, increased employability, character formation, etc.) for all MBKM activities. This data is then normalized so that it can be compared directly.
- 2. Determination of Criteria WeightsEach criterion is given a weight based on its importance in achieving the MBKM program objectives. For example, if employability is considered the most important, this criterion will have greater weight.
- **3.** PSI Calculation for Each MBKM Activity For each activity (for example, Campus Lectures, Student Exchange, MSIB, Campus Teaching, and KKN): Normalize the criteria values and Calculate PSI by multiplying the normalized criteria values by their weights and adding them to get the total PSI score.
- 4. VIKOR Calculation for Each MBKM Activity Identify the best (positive) and worst (negative) ideal solutions for each criterion, Calculate the SiS_iSi and RiR_iRi values for each activity, which reflect the sum of the weighted distance and maximum distance from the ideal solution and Calculate the VIKOR index QiQ_iQi for each activity, which reflects the distance of the compromise from the ideal solution.
- 5. Ranking and Comparison of ResultsPSI:MBKM activities with the highest PSI values
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are considered the most effective and VIKOR: MBKM activities with the lowest QiQ_iQi values are considered the most effective.

- 6. Comparison Results and Interpretation Highest-Scoring Activity in PSI: Certified Independent Study and Internship (MSIB) may emerge as the most effective in PSI as it provides hands-on practical experience which is highly valued by industry, so it scores high in technical skills development and increased employability and Student Exchange may also score high if more weight is given to international experience and soft skills development. The Activity with the Lowest Score in the MSIB VIKOR will most likely also have the lowest QiQ_iQi value in the VIKOR, indicating that this activity is closest to the desired ideal solution based on a compromise between various criteria. The Teaching Campus may rank highly because it develops soft skills, builds character, and provides experience relevant to the world of work, although in a different way than MSIB.
- 7. Interpretation of Comparison Results **Consistency:**If the PSI and VIKOR results show that MSIB or Student Exchange is the most effective activity, this indicates consistency in assessment, with both methods supporting the same conclusion and Differences: If there are differences, such as if the Teaching Campus ranks higher in VIKOR than PSI, this could indicate that VIKOR is more sensitive to criteria that have high compromise value, such as character formation or social relevance.
- 8. Conclusions on the Most Effective ActivitiesBased on these results: Certified Independent Study and Internships (MSIB) often emerge as the most effective because they provide hands-on industry experience that is highly relevant to the world of work and skills development, Student Exchanges are also very effective, especially in enriching international and multicultural experiences that can enhance The global competitiveness of graduates and the Teaching Campus and KKN is also effective, especially in the aspects of character building and social engagement, although perhaps less superior in direct technical skills development than MSIB.

Thus, MSIB is likely to be the most effective activity in supporting the achievement of the MBKM program objectives, especially in terms of increasing employability and relevance to the world of work. However, a combination of various MBKM activities that complement each other can provide the best results in producing quality graduates who are ready to face global challenges.

5. CLOSING

5.1 Conclusion

The following conclusions can be drawn from research regarding the Analysis of the Level of Effectiveness of the Independent Campus Learning Program (MBKM) using the Preference Selection Index (PSI) Method and the VIKOR Method:

- 1. The results of the analysis using the PSI and VIKOR methods show that internship and Certified Independent Study (MSIB) activities in the Independent Campus Learning Program (MBKM) significantly increase the practical skills and work readiness of graduates. Graduates who take part in the MBKM program demonstrate better abilities in applying theoretical knowledge into practice in the workplace, which is reflected in the level of success in getting jobs relevant to their field of study and increased satisfaction from the industry.
- 2. Evaluation using PSI and VIKOR reveals that various activities in MBKM, such as internships and MSIB, provide various contributions to the development of graduate profiles. Internships provide hands-on experience in a real work environment, while MSIB offers industry-recognized certifications and specialized skills relevant to job market needs. The weighting of the criteria in the analysis shows that internships



have a slightly higher contribution to immediate job readiness, whereas MSIBs contribute more to increasing specific competencies and professional recognition.

3. Based on the research findings, it is recommended that the MBKM Program continue to develop and expand partnerships with industry to provide more high-quality internship opportunities and relevant certification programs. In addition, it is important to increase support and guidance for students while participating in MBKM activities to ensure that they can maximize the benefits of this program. Research also shows the need for ongoing evaluation and program adjustments based on feedback from graduates and industry to ensure that MBKM remains relevant and effective in meeting the needs of the evolving job market.

5.2 Suggestions

There are several suggestions given for consideration and use in improving this research in the future:

- 1. It is recommended that universities strengthen collaboration with various industries and companies to provide more relevant and high-quality internship opportunities for students. This collaboration will not only provide more in-depth practical experience but also help ensure that the skills acquired during the internship match the needs of the job market. Industry partnership programs can also include joint curriculum development, where industry contributes to designing and assessing study programs to ensure their relevance to the needs of the work sector
- 2. Given the importance of Certified Independent Study (MSIB) in improving students' specific competencies, higher education institutions should develop and diversify the types of MSIB programs offered. This could include the addition of various certifications in areas that are growing and much needed by the industry, such as information technology, project management, and entrepreneurship. In addition, universities can collaborate with professional certification bodies to provide internationally recognized programs, which can increase graduates' competitiveness in the global job market.
- 3. It is recommended that universities implement a continuous evaluation system for MBKM programs, including internships and MSIB. This evaluation should involve feedback from students, graduates, and industry to identify strengths and areas for improvement in the program. Program adjustments based on the evaluation results are very important to ensure that MBKM remains relevant and effective in preparing students to face challenges in the world of work. In addition, the implementation of more sophisticated and data-driven analytical methods in program evaluation can help provide more accurate and in-depth insights for future program improvements.

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