

RESEARCH AND COMMUNITY SERVICE PERFORMANCE IMPROVEMENT STRATEGY: A STUDY OF THE FACULTY OF AGRICULTURE, UNIVERSITAS SEBELAS MARET (UNS)

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ABSTRACT

Research and community service performance are key indicators of a college's quality. This Research aims to analyze performance and formulate alternative improvement strategies for P2M performance of lecturers at the Faculty of Agriculture, UNS. This Research employs a descriptive qualitative method, utilizing key informants who are stakeholders in the agricultural faculty at UNS. Primary data consists of strengths, weaknesses, opportunities, and threats related to P2M and supported by secondary P2M data. Results show that P2M performance is generally already relatively good. However, some aspects of performance, such as Scopus publications, patents, and books, still need improvement. Alternative strategies formulated are the SO strategy: improvement of competence achievement, grant research, and community service at internal, external, and international levels, improvement of actualization of P2M through international indexation, utilization of journals at the faculty for increasing global cooperation, and increasing the contribution of lecturers in the food self-sufficiency program. WO Strategy: Optimizing the utilization of assets to capture demand opportunities for agricultural-based products as a source of income-generating, increasing the participation and capabilities of lecturers in international publications. ST Strategy: Increasing personal productivity and strengthening P2M innovation to encourage commercialization of research results, optimizing the role of lecturers to increase competitiveness in the external environment, strengthening branding through international publications, and improving the quality of journal media. WT Strategy: Monitoring and evaluation of collaboration sustainability and develop partnerships with external parties, developing innovation and strengthening commercialization through increasing the number of patents and books.

Keywords: research, performance, publication, strategy, SWOT

ABSTRAK

Kinerja penelitian dan pengabdian kepada masyarakat merupakan indikator utama kualitas sebuah perguruan tinggi. Penelitian ini bertujuan untuk menganalisis kinerja dan merumuskan strategi alternatif perbaikan untuk kinerja P2M dosen di Fakultas Pertanian UNS. Penelitian ini menggunakan metode deskriptif kualitatif, dengan memanfaatkan informan kunci yang merupakan pemangku kepentingan di fakultas pertanian UNS. Data primer terdiri dari kekuatan, kelemahan, peluang, dan ancaman terkait P2M dan didukung oleh data P2M sekunder. Hasil penelitian menunjukkan bahwa kinerja P2M secara umum sudah relatif baik. Namun, beberapa aspek kinerja, seperti publikasi Scopus, paten, dan buku, masih perlu peningkatan. Strategi alternatif yang dirumuskan adalah strategi SO: peningkatan pencapaian kompetensi, hibah penelitian, dan pengabdian kepada masyarakat di tingkat internal, eksternal, dan internasional, peningkatan aktualisasi P2M melalui indeksasi internasional, pemanfaatan jurnal di fakultas untuk meningkatkan kerja sama global, dan peningkatan kontribusi dosen dalam program swasembada pangan. Strategi WO: Mengoptimalkan pemanfaatan aset untuk menangkap peluang permintaan produk berbasis pertanian sebagai sumber penghasilan, meningkatkan partisipasi dan kemampuan dosen dalam publikasi internasional. Strategi ST: Meningkatkan produktivitas pribadi dan memperkuat inovasi P2M untuk mendorong komersialisasi hasil penelitian, mengoptimalkan peran dosen untuk meningkatkan daya saing di lingkungan eksternal, memperkuat branding melalui publikasi internasional, dan meningkatkan kualitas media jurnal. Strategi WT: Memantau dan mengevaluasi keberlanjutan kolaborasi serta mengembangkan kemitraan dengan pihak eksternal, mengembangkan inovasi, dan memperkuat komersialisasi melalui peningkatan jumlah paten dan buku.

Kata Kunci: riset, performa, publikasi, strategi, SWOT

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INTRODUCTION

Within the framework of the Tri Dharma of Higher Education in Indonesia, research and community service represent two essential pillars collectively referred to as Research and Community Service (P2M). Quality Research will produce findings that can be adopted by various parties, including the government, other researchers worldwide, and the broader community. P2M can enhance community knowledge and skills, fostering collaboration between educators and the community through research, community service, outreach, training, and empowerment (Wijaya, 2022). Through P2M outputs, such as scientific articles, grant proposals, collaborative involvement, and the quality of publications (as measured by citations and impact), lecturer performance productivity can be assessed (Harahap et al., 2020; Tuan et al., 2022).

The Faculty of Agriculture at Universitas Sebelas Maret (UNS) has 22 active Research groups (RG) that conduct P2M annually. Knowledge-demand researchers not only produce work of scientific quality but also ensure that their research has a meaningful impact. Based on P2M data from 2024, it is evident that P2M publications are still predominantly dominated by Scopus-indexed publications. The total number of research outputs produced through P2M in the Faculty of Agriculture includes 105 Scopus-indexed articles and 83 non-Scopus-indexed articles. Efforts to improve the performance and impact of lecturer P2M activities are still required. Aspects such as human resources and qualified educators are essential components in improving the quality of higher education institutions. Effective management, supported by competent educators, can enhance efficiency in utilizing external resources, thereby improving the overall quality of the university. (Aketch, 2025; Sanda et al., 2022).

The Coordinator of Research and Community Service at the Faculty level (KPPMF) needs to evaluate the performance of all Research Groups to oversee the implementation of the P2M roadmap and measure the annual achievement of P2M performance, including its contribution to achieving university performance. A SWOT (Strengths, Weaknesses, Opportunities, and Threats)-based strategic analysis is essential for strengthening individual lecturer performance by optimizing strengths and mitigating the risks associated with weaknesses. Institutions that conduct regular strategic reviews tend to be more responsive to research challenges. (Brown & Donnelly, 2023). This enables higher education institutions to adapt policies to changing contexts and dynamics, while simultaneously encouraging faculty to play a more active and productive role. SWOT is useful for analyzing and linking internal and external factors in the form of tactical strategies to improve educator performance (Liu et al., 2025), and develop a development strategy performance-based on the analysis of the situation, so that known internal and external factors that can influence (Ary & Sanjaya, 2020; Khan et al., 2016). Departing from the problem, this research aims to analyze P2M performance and formulate strategies to enhance P2M performance within the Faculty of Agriculture at UNS.

RESEARCH METHODOLOGY

The basic method used in this study is a descriptive qualitative approach. The primary data used are data on strengths, weaknesses, opportunities, and threats related to P2M at the Faculty of Agriculture, UNS. Meanwhile, secondary data are data on the condition and performance achievements of P2M at the Faculty of Agriculture, UNS, obtained from the Intelligent Research and Innovation Services database (IRIS: www.iris1103.uns.ac.id), including the number of P2M publications (Scopus and non-Scopus), lecturer involvement in P2M, books, and patents/IPR. Primary data collection was conducted through interviews with key informants, including the Dean, Head of Study Program, and Head of RG in this faculty.

The data analysis method used descriptive methods and SWOT analysis. The SWOT analysis was conducted by identifying internal factors (strengths and weaknesses) and external factors (opportunities and threats) related to P2M in the Faculty of Agriculture at UNS. Then, alternative

strategies were formulated for SO, WT, WO, and WT strategies. According to Rangkuti (2019), SWOT is a systematic identification of various factors to formulate organizational strategies. The analysis is based on a logical approach that maximizes strengths and opportunities while minimizing weaknesses and threats. The strategy formulation is based on the following SWOT matrix.

	Strength Tentukan 5 – 10 faktor kekuatan	Weaknesses Tentukan 5 – 10 faktor kelemahan
Opportunities Tentukan 5 – 10 faktor peluang	Strategi SO Ciptakan strategi yang menggunakan kekuatan untuk memanfaatkan peluang	Strategi WO Ciptakan strategi yang meminimalkan kelemahan untuk memanfaatkan peluang
Treath Tentukan 5 – 10 faktor ancaman	Strategi ST Ciptakan strategi yang menggunakan kekuatan untuk mengatasi ancaman	Strategi WT Ciptakan strategi yang meminimalkan kelemahan dan menghindari ancaman

Figure 1. SWOT Matrix
Source: Rangkuti (2019)

RESULTS AND DISCUSSION

P2M Performance in the Faculty of Agriculture

The achievements of the lecturer, as measured by P2M performance at the Faculty of Agriculture, UNS, are evaluated based on productivity in the form of P2M grants, international research, publications in Scopus journals, publications in non-Scopus journals, and Patent achievements. These achievements are presented in Table 1 below.

Table 1. P2M Performance Achievements of the Faculty of Agriculture

Aspect Achievements	Year				
	2021	2022	2023	2024	2025
Number of Research Projects	139	145	118	126	98
Research Funding (in million IDR)	7,000	8,148	7,504	9.102	5,208
Number of Community Service Projects	104	140	129	84	50
Community Service Funding (in million IDR)	983	975	969	1,628	1,092
Lecturer Involvement in Research and Community Service (P2M)	126	128	126	134	133
Titles of International Research Projects	1	3	4	4	3
Lecturer Involvement in International Research	9	7	10	8	6
Lecturer Involvement in Scopus-Indexed Journals	126	102	116	105	64
Lecturer Involvement in Non-Scopus Journals	112	108	102	83	55
Number of Patents	8	12	14	6	3
Number of Books	97	82	80	46	11

Source: IRIS UNS, 2025

Although external research and community service tend to decrease, P2M grant funding in 2024 was the highest for 4 years. Lastly, the mandatory one scholar, one publication obligation for every lecture research group is abolished to improve quality. Decreasing the number of publications in non-Scopus journals is possible because the lecturer has already started prioritizing publications in journals and proceedings indexed by Scopus. Although grant RG research allows publication in

journals classified as Sinta 6 to Sinta 2, lecturers prioritize proceedings in Scopus, citing that it is easier and faster to absorb the budget for the financial accountability report that the grant requires. Declining productivity in writing a book may occur because the lecturer focuses on the external publication of articles in international journals and proceedings. Meanwhile, outside of RG grants that are not obligatory, writing an e-book and a book can cause a decrease in productivity for lecturers who produce books.

Dynamics productivity lecturer in various forms, external influences, and little Lots influenced the demands and output that must be produced at the end of the grant. Changes to regulations from internal UNS grants can be addressed by maintaining a focus on the outside promised obligations. However, external additions can be developed and returned after external commitments are fulfilled. This is insufficient, as the lecturer is not selective enough to meet the administrative and financial accountability report targets, resulting in a study of suboptimal quality and impact. (Ahmar et al., 2018; Fahlevi et al., 2023). Working with the same team in RG is also crucial for practical distribution tasks. To improve productivity, focus on this, especially with the availability of AI tools that can help speed up work publication and writing. Suhartika et al. (2024) highlighted the low productivity of lecturers as the main issue, as well as a lack of collaboration and an uneven distribution of publications among lecturers. This is possible because the lecturer only entrusts the name in every article RG output.

P2M Performance Improvement Strategy

Strategy is a plan of action designed to achieve advantages and objectives, including policies, programs, and the allocation of resources, which drives increased research output and dedication to public lectures. (Rahmawati & Wibowo, 2023). Various strategies are necessary to enhance the output and impact of P2M activities that have been implemented. The lecturers have routinely carried this out. The following are alternative improvement strategies for P2M performance in the Faculty of Agriculture at UNS.

Table 2. Alternative SWOT Matrix Strategies for Improving the Performance of P2M, Faculty of Agriculture, UNS.

	Strength (S):	Weaknesses (W):
IFE	1. Good quality graduates 2. The majority of lecturers have doctoral qualifications 3. The majority of study programs have been accredited as superior and internationally accredited. 4. Able to achieve P2M funding progressively 5. Having a reputable journal at both national and international levels 6. The output of internationally recognized lecturers is increasing 7. Have a good relationship with alumni	1. The study completion period has not met the target 2. The ability to obtain external and international grants is still low. 3. Utilization of assets as a source of income generation is not yet optimal 4. The use of digital-based media and communication is not yet optimal 5. Lack of control over the sustainability and duration of cooperation 6. The number of P2M activities with foreign partners is still limited
EFE		

	8. Have increasing cooperation with external parties	7. The number of books and patents has decreased 8. Not all lecturers are involved in international publications
Opportunity (O): 1. Research and community service grants are numerous and varied. 2. High demand for agricultural-based products and services 3. The availability of various external platforms that can be used to improve indexation, both individually and institutionally 4. There are many opportunities for lecturer competency improvement programs organized by external parties. 5. Opening of P2M funding opportunities from various CSRs, both national and international 6. Open opportunities for collaboration with various parties at the national and international levels 7. Opportunity to contribute to the food self-sufficiency program	SO STRATEGY: 1. Improving competency in obtaining research grants and community service, both internal, external, and international grants (S2, S4, S7, S8, O1, O4, O5, O5, O6, O7) 2. Increasing the actualization of lecturers in the field of research and community service through indexing on international indexing platforms (S6, O4) 3. Utilization of journals within the Faculty of Agriculture to increase cooperation at the national and international levels (S6, O7) 4. Increasing lecturers' responsibility in contributing to the food self-sufficiency program (S9, O8)	WO STRATEGY: 1. Optimizing asset utilization to capture opportunities for demand for agricultural-based products and services as a source of income generation (W4, O3) 2. Increasing the participation and capabilities of lecturers in international publications
Threat (T): 1. The number of agricultural universities is increasingly competitive, especially in the field of P2M. 2. Demands for innovation in the agricultural sector from	ST STRATEGY: 1. Increasing personal productivity and strengthening P2M innovation to encourage downstreaming and commercialization of	WT STRATEGY: 1. <i>Monitoring</i> and evaluation of cooperation to maintain sustainability and develop cooperation with external parties (W9, T6) 2. Development of innovation and

the industrial world and society	research results (S3, S5, T2, T3)	strengthening commercialization through increasing the number of patents and book outputs
3. PTNBH status demands independence and creativity in commercializing assets and downstream research results.	2. Optimizing the role of lecturers in increasing the competitiveness of the Faculty of Agriculture in the external environment (S3, T1, T5)	
4. <i>Cybercrime</i> threats on various academic platforms	3. Strengthening branding through international publications and improving the quality of journal media at the Faculty of Agriculture (S6, S7, T1)	
5. Competition to find potential international cooperation partners is very tight.		

SO strategy. Implementation of SO strategy is carried out through 4 activities namely ; (1) Increasing competence in obtaining research grants and community service, both internal, external and international grants (S5, O2); (2) Increasing the actualization of lecturers in the field of research and community service through indexing on international indexing platforms (S6, O4); (3) Utilization of journals within the Faculty of Agriculture to increase collaboration at the national and international levels (S6, O7); and (4) Increasing the responsibility of lecturers in contributing to the self-sufficiency program food (S9, O8). Increase competence, achievement, grant research, and PKM get attention. Remember, the more diverse the source of funding, the better it includes opportunities, both internal and external, as well as national and international opportunities. Search and community service financing from external sources is widely available, in addition to internal UNS grants. Various P2M grant opportunities are available from local, national, and international sources, including institutions collaborating with UNS, alumni collaborations, industry/CSR initiatives, and contributions to the Ministry of Agriculture programs. Recommendations from these conditions emphasize the importance of mentoring workshops in reducing the mortality rate of the proposed P2M proposal lecturer. This is crucial, as they provide training on passing tips, and practical training becomes a key component. (Avianti & Utami, 2024; Azhari et al., 2025; Sánchez et al., 2025). The use of system-supported decision-based technology for proposal selection can also increase transparency and objectivity, so that lecturers feel the selection process is fairer and are motivated to participate in the following year. (Alwendi & Andi Saputra Mandopa, 2023; Avianti & Utami, 2024; Azhari et al., 2025; Nyden, 2003). Increasing lecturers' actualization in the field of research and community service needs to be done through indexing on international indexing platforms (S6, O4). UNS innovation research data on the page <https://risnov.uns.ac.id/id/rida/h-index?fakultas=FP&tahun=2024> shows that most lecturers at the UNS Faculty of Agriculture still have a low H-index for research and community service, with more than 50 lecturers having an H-index of 0. Lecturers' awareness of updating P2M performance still needs improvement, not only to continue increasing the quantity and quality of P2M, but also to raise awareness and attention to the existence of national and international indexing platforms.

The third strategy is implemented through optimizing the use of journals within the Faculty of Agriculture to enhance collaboration at the national and international levels (S6, O7). The Faculty of Agriculture UNS already has two journals indexed by Scopus, namely the Caraka Tani Journal (Q2) and the Soil Science Journal (Q3), as well as other journals in each study program that have been nationally accredited by SINTA. The existence of journals with an international reputation

(Scopus) and accreditation from SINTA is an attraction for hosting P2M seminars or conferences at both national and global levels. These activities offer the Faculty of Agriculture an opportunity to meet and collaborate with various colleagues, including academics, researchers, and policymakers.

The fourth step is the need to increase the responsibility of lecturers in contributing to the food self-sufficiency program (S9, O8). Study programs at the Faculty of Agriculture from the undergraduate program (S1) include Agrotechnology, Soil Science, Agribusiness, Agricultural Extension and Communication, Food Technology, and Crop Protection and Forest Management; the master's program (S2) includes Master's in Agronomy, Soil Science and Agribusiness, and the Doctoral Program in Agricultural Sciences. The richness of these disciplines is very supportive in contributing to the food self-sufficiency program, one of which is through research activities. Opportunities for contributions in the form of research are wide open, marked by the award of the 2025 UNS Award "Parasamya Anugraha Dharma Krida Upa Bogha" to Dr. Ir. Andi Amran Sulaiman, MP (Minister of Agriculture of the Republic of Indonesia). A series of activities for this award includes the implementation of FGD, which was conducted together with the expert staff of the Minister of Agriculture, Prof. Dr. Muhamad Arsyad, M.Si., PhD. The collaboration of research related to food self-sufficiency, encompassing climate change, technology, the role of millennials, and institutions, was explained. This requires an innovative approach to achieve a balance between food production and the growing global population, which necessitates preserving natural resources for future generations.

WO Strategy. Implementation of the WO strategy can be done with : (1) Optimizing the use of assets to capture opportunities for demand for agricultural-based products and services as a source of income-generating (W 4, O 3), and (2) Increasing the participation and capabilities of lecturers in international publications. Various assets owned by the campus can be utilized as a source of income-generating (W4, O3). The demand for data analysis services can be an opportunity to generate income for the UNS Faculty of Agriculture. With 23 laboratories, it can provide data analysis services, one of which is located in the Multimedia Laboratory. The types of data analysis that can be supplied include SPSS, EVIEWS, SmartPLS, Stata, and others. Experimental data analysis can also be carried out with the support of other laboratories, such as the Food Microbiology and Biotechnology Laboratory, the Chemistry and Soil Fertility Laboratory, the Plant Pest and Disease Laboratory, and others.

International publication productivity is a key indicator in evaluating the quality of university research. Research productivity can vary depending on an institution's reputation and the availability of research personnel. Faculty at prestigious universities tend to produce more publications due to greater access to postdoctoral fellows and research students, not solely due to institutional reputation. (Zhang et al., 2022). Publication in reputable international journals is not exclusively the domain of foreign-educated lecturers but also of each lecturer, so it is essential to increase the ability of lecturers in speaking English. (Arsyad et al., 2020; S. Arsyad et al., 2019; Leo et al., 2024); regular training and coaching that equip educators with the technical and strategic skills to write scientific articles worthy of publication in internationally reputable journals (Chidir et al., 2020).

ST strategy; this strategy implemented through steps : (1) Increasing personal productivity and strengthening P2M innovation to encourage downstreaming and commercialization of research results (S3, S5, T2, T3); (2) Optimizing the role of lecturers in increasing the competitiveness of the Faculty of Agriculture in the external environment (S3, T1, T5); and (3) Strengthening branding through international publications and improving the quality of journal media at the Faculty of Agriculture (S6, S7, T1). Research and community service are programs that can be continuously developed, allowing for variations in types and benefits. Training is a crucial factor in enhancing lecturer competence. Research and community service can help educators improve their understanding and skills. The training model in research and community service not only impacts the

number of submitted research papers but also the quality of performance and programs that are more relevant to community needs. (Hasibuan & Nasution, 2022).

The Faculty of Agriculture UNS faces an increasingly numerous and high-quality set of competitors, both nationally and internationally. Lecturers' proper roles can be realized through the optimal implementation of their academic duties, encompassing both teaching, research, and community service. Lecturers are also required to possess superior skills and competencies to support their performance, one of which is demonstrated through the P2M roadmap of each RG. In the field of research, lecturers are expected to publish optimally internationally and produce significant works to gain recognition both nationally and globally. Lecturers are also expected to make a meaningful contribution to society through research findings that are applied to society or industry. Efforts to encourage and facilitate the development of human capital within each lecturer at the Faculty of Agriculture are necessary to improve lecturer performance and competitiveness.

The Faculty of Agriculture is also committed to increasing international publications, both in terms of quantity and quality. Although the number of international publications is increasing, international publication competency is not evenly distributed and is still dominated by a small group of lecturers. Efforts to promote international publication competency, particularly in Scopus-indexed international journals, still need improvement. Various programs, including international publication training and workshops, as well as intensive publication coaching and clinics, are routinely conducted. Two Scopus-indexed international journals at the Faculty of Agriculture, *Caraka Tani* and *Sains Tanah* (Soil Science), serve as a capital to increase competitiveness and branding in the international environment. Through these two journals, it is hoped that there will be more potential for collaboration with various parties, including fellow international journals, universities abroad, and authors worldwide. The Faculty of Agriculture, UNS, will encourage the improvement of the quality of existing journals within the Faculty of Agriculture to increase the number of Scopus-indexed journals. Periodic mentoring and journal evaluation are needed to encourage the improvement of journal qualifications within the Faculty of Agriculture.

WT strategy, implemented through the following activities: (1) Monitoring and evaluation of cooperation to maintain sustainability and develop cooperation with external parties (W9, T6), and (2) Development of innovation and strengthening commercialization through increasing the number of patents and books. Signing a cooperation agreement with external parties is a significant milestone in the stages of cooperation between the two parties, but it often stops there. Therefore, monitoring and evaluation are necessary so that the cooperation produces an output that is beneficial for both parties. Both parties can also understand each other's shortcomings, allowing them to improve and plan more tangible cooperation in the future.

Recommendations that can be proposed For return raise productivity writing book can done with: pushing lecturer For prepare a book draft and target every lecturer one book/year; encourage lecturer follow grant writing book both those carried out by LPPM UNS, DIKTI, and other institutions; and introduce AI applications as tool help For help writing book for lecturer or representative every research group, so that every year targeted at least 1 RG/1 book so that minimum of 22 books achieved from 22 RG per year. Training lecturers to write textbooks, books, references, and monographs in a way that is both effective online and offline has been proven effective in increasing their understanding, skills, and readiness in writing. (Hakim et al., 2024; Khaeruman et al., 2023).

Temporary recommendation for improvement: The number of patents that can be obtained can be increased with the method : (1) promote study programs, especially those that can optimize findings that can be patented, (2) encourage more investment in research and development 3. Subsidies, fiscal incentives, and quantitative targets allocate funding in the budget and spending plan of the grant (4). International collaboration that encourages the emergence of patent opportunities. In addition, it is also necessary to support a user-friendly performance system that facilitates regulatory

submission, as well as a campus that encourages convenient patent applications.(Baldini et al., 2007; Gonzalez-Sanchez et al., 2022).

CONCLUSION

P2M Performance in the Faculty of Agriculture UNS is, overall, already relatively good; however, in some cases, aspects still require improvements and enhancements, such as performance in Scopus publications, patents, and books. Alternative strategies formulated are, SO strategy: improvement of competence achievement grant research and community service Good internal, external and international grants, improvement actualization lecturer in field research and community service through indexing on indexing platforms international, utilization journals in the environment Faculty Agriculture For increase cooperation at the level national and international, increasing lecturers' responsibility in contributing to the food self-sufficiency program. WO Strategy: Optimizing asset utilization to capture opportunities for demand for agricultural-based products and services as a source of income generation, increasing lecturers' participation and capabilities in international publications. ST Strategy: Increasing personal productivity and strengthening P2M innovation to encourage downstreaming and commercialization of research results, optimizing the role of lecturers in increasing the competitiveness of the Faculty of Agriculture in the external environment, strengthening branding through international publications, and improving the quality of journal media in the Faculty of Agriculture. WT Strategy: Monitoring and evaluation of collaboration to maintain sustainability and develop partnerships with external parties, developing innovation, and strengthening commercialization through increasing the number of patents and books.

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