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ACADEMIC FIT AND WORKPLACE REALITY: AN EVALUATION OF THE INFORMATICS INTERNSHIP PROGRAM AT UHN I GUSTI BAGUS SUGRIWA DENPASAR

Luh Gede Surya Kartika1, I Putu Adi Saskara2, I Gede Wahyu Sanjaya3
[1](Dept. of Informatics, UHN I Gusti Bagus Sugriwa Denpasar, Indonesia, suryakartika@uhnsugriwa.ac.id)
[2](Dept. of Informatics, UHN I Gusti Bagus Sugriwa Denpasar, Indonesia, putuadisaskara@uhnsugriwa.ac.id)
[3](Dept. of Communication Studies, UHN I Gusti Bagus Sugriwa Denpasar, Indonesia, wahyu_sanjaya@uhnsugriwa.ac.id)

ABSTRACT

Internships are widely recognized as a key mechanism for bridging academic learning and professional practice, yet their effectiveness depends on multiple contextual and pedagogical factors. This study aims to evaluate the effectiveness of an Informatics internship program by examining (1) the relationship between the academic relevance of internship tasks and students' theory-to-practice experience, and (2) differences in applied learning outcomes across placement types. A mixed-method approach was employed, combining quantitative analysis of questionnaire data (n = 33) with qualitative feedback from students and partner institutions. Simple linear regression was used to assess the predictive effect of academic relevance, while one-way ANOVA with Tukey HSD post-hoc testing compared outcomes across placement contexts. The results indicate that academic relevance does not significantly predict theory-to-practice experience, suggesting that other factors—such as task diversity, supervision quality, and organizational learning environment—play more substantial roles. However, significant differences were found across placement types ($F = 3.25$, $p = 0.026$), with students in private IT companies and village offices reporting higher levels of applied learning compared to those in state-owned enterprises. Qualitative findings further reveal that technically engaging tasks, active supervision, and opportunities for real-world problem solving are critical in enhancing experiential learning, whereas administrative-dominated placements tend to limit skill development. These findings highlight that internship effectiveness extends beyond curriculum alignment and is strongly influenced by the quality and context of workplace learning. This study contributes to the refinement of work-integrated learning models within the Merdeka Belajar–Kampus Merdeka (MBKM) framework and offers practical implications for improving internship design, industry collaboration, and curriculum alignment in Informatics education.

Keywords: Internship program, academic relevance, theory-to-practice experience, internship placement, higher education

INTRODUCTION

Internships serve as a critical bridge between academic learning and professional practice, particularly within applied disciplines such as Informatics. As a form of work-integrated learning (WIL) (Ferns et al., 2025), internships are designed to enable students to integrate theoretical knowledge with real-world professional contexts, thereby enhancing technical, interpersonal, and problem-solving skills. Within the Indonesian higher education landscape, this role has become increasingly significant under the Merdeka Belajar–Kampus Merdeka (MBKM) policy, which

emphasizes experiential and industry-linked learning to improve graduate employability. In this context, the Informatics Study Program at Universitas Hindu Negeri (UHN) I Gusti Bagus Sugriwa Denpasar has implemented an internship program that places students in diverse professional environments, including government offices, private IT companies, and village administration offices, with the aim of strengthening both technical and non-technical competencies.

However, the effectiveness of internship programs depends not only on their implementation but also on the extent to which internship tasks are academically relevant and capable of fostering meaningful learning experiences. Academic relevance defined as the alignment between internship tasks and curricular content. It has been identified as a key factor in supporting theory-to-practice integration. Empirical findings indicate that while internships can enhance employability (Sakapurnama & Hasan, 2023), their impact varies depending on factors such as task relevance, supervision quality, and learning environment (Baert et al., 2021; Prescott et al., 2021). Without proper alignment, students risk engaging in tasks that do not adequately reflect their field of study, thereby limiting the development of professional competencies (Khalib et al., 2022) (Khalib et al., 2022). These variations highlight the importance of systematically evaluating internship programs to identify both strengths and areas for improvement (Pianda et al., 2025; Wolinsky-Nahmias & Auerbach, 2022).

Internship evaluation benefits from comprehensive frameworks and mixed-method approaches that combine quantitative and qualitative data to capture multiple dimensions of learning outcomes, including participant reactions, learning achievements, behavioral changes, and organizational impact (Pianda et al., 2025; Suhartanta et al., 2024). Recent studies also emphasize the importance of developing valid and context-sensitive measurement instruments, as well as incorporating multi-source feedback to obtain a holistic evaluation (Çalış et al., 2022; Yu Mon et al., 2023). For study programs, such evaluation serves as an essential component of curriculum quality assurance, providing empirical evidence for curriculum improvement, accreditation processes, and the strengthening of collaboration with industry partners (Ferns et al., 2025). At the same time, partner institutions benefit by gaining insights into student performance, task suitability, and resource allocation, while students receive valuable feedback that supports professional reflection and skill development (Baert et al., 2021; Gutiérrez-Pulido & Orozco-Rodríguez, 2025; Wolinsky-Nahmias & Auerbach, 2022).

In Informatics education specifically, internships provide unique opportunities for students to engage in real-world software development practices, participate in authentic projects, and utilize industry-standard tools that are rarely replicated in academic settings (Fong et al., 2025). Furthermore, integrating internship experiences with academic components such as capstone projects has been shown to enhance students' autonomy, project management skills, and technical readiness for the workforce (Álvarez-Huerta et al., 2024; Safitri et al., 2023). Nevertheless, differences in placement contexts and supervisory practices may influence the extent to which students can effectively translate academic knowledge into practice, underscoring the need for empirical investigation.

Therefore, this study aims to evaluate the effectiveness of the Informatics internship program by examining the relationship between the academic relevance of internship tasks and students' theory-to-practice experiences, as well as identifying differences in learning outcomes across various types of internship placements. By adopting a mixed-method approach, this research provides empirical evidence to

support the continuous improvement of internship design and implementation within the MBKM framework, while also offering practical insights for aligning Informatics education with the evolving demands of the technology industry.

METHODS

A. Research Design

This study employed a mixed-method research design integrating quantitative and qualitative approaches to evaluate the effectiveness of the internship program implemented by the Informatics Study Program at UHN I Gusti Bagus Sugriwa Denpasar. The quantitative approach was used to examine the relationship between the academic relevance of internship tasks and students' theory-to-practice experience, as well as to identify differences in learning outcomes across internship placement types. The qualitative approach was incorporated to provide deeper contextual insights into students' experiences and institutional perspectives.

A convergent design was adopted, in which quantitative and qualitative data were collected and analyzed in parallel, and the results were subsequently integrated to strengthen interpretation through triangulation.

B. Population and Sample

The population in this study consisted of 39 Informatics students who had completed their internship activities in the 2024/2025 academic year. A purposive sampling technique was applied, focusing on students who undertook internships in three types of institutions: government agencies, private companies, and village administration offices. These placements were selected independently by students but required approval from the study program, with the main criterion being relevance to Information Technology or the institution's need for digitalization support. Out of the total population, six responses were excluded due to incomplete questionnaire data. Therefore, 33 valid responses were included in the final analysis.

C. Research Instrument

Data were collected using structured questionnaires designed to measure key variables related to internship effectiveness. The independent variable, academic relevance of internship tasks, was measured using a 5-point Likert scale (1 = very irrelevant, 5 = very relevant). The dependent variable, theory-to-practice experience, was also measured using a 5-point Likert scale (1 = very low, 5 = very high). In addition, internship placement type was treated as a categorical variable (government office, private company, village office).

Instrument validity and reliability were assessed using construct validity and Cronbach's Alpha, with values above 0.6 indicating acceptable internal consistency (Zakariya, 2022). In addition to closed-ended items, open-ended questions were included to capture qualitative feedback from students and partner institutions regarding task relevance, supervision, skill development, and internship implementation.

D. Data Analysis Technique

Quantitative data were analyzed using Python with supporting libraries including Pandas, Statsmodels, Scipy, and Seaborn. Simple linear regression analysis was conducted to examine the influence of academic relevance on students' theory-to-practice experience. The analysis produced key indicators, including the coefficient of determination (R^2), regression coefficient (β), and p-value, with statistical significance determined at $p < 0.05$.

To identify differences in learning outcomes across internship placements, a one-way analysis of variance (ANOVA) was performed, followed by a Tukey HSD post-hoc test when significant differences were detected. Prior to analysis, statistical assumptions were tested using the Shapiro–Wilk test for normality and Levene's test for homogeneity of variance. Scatter plots were used to visualize the linear relationship between variables.

Qualitative data obtained from open-ended responses were analyzed using thematic analysis. This process involved coding the data, grouping codes into categories, and identifying recurring themes related to internship effectiveness. The qualitative findings were used to complement and explain the quantitative results, enabling a more comprehensive interpretation of students' experiential learning.

FINDINGS

The findings reveal that students generally experienced a moderate to high level of theory-to-practice integration during their internships, with the highest relevance reported in private IT companies and village administration offices, and the lowest in state-owned enterprises (SOEs). The one-way ANOVA test confirmed significant differences across placement types ($F = 3.25$, $p = 0.026$), with post hoc analysis showing that students in SOEs gained fewer practical learning opportunities than those in private or village-based placements. However, the simple linear regression indicated that academic relevance alone did not significantly predict theory-to-practice experience ($p > 0.05$), suggesting that other contextual factors—such as task variation, supervisory support, and workplace culture—play more influential roles.

Qualitative feedback supported these findings: students emphasized the need for better tsask alignment with informatics competencies, exposure to emerging technologies, and extended internship duration. Partner institutions similarly highlighted the importance of improving student readiness and strengthening coordination with the study program to ensure mutual benefits. Overall, the results underscore that effective internships depend not only on academic alignment but also on the contextual quality of the learning environment and institutional collaboration.

DISCUSSION

Through these analyses, the study aims to provide empirical evidence on how the alignment between academic preparation and real-world internship tasks contributes to students' professional readiness, and whether institutional contexts shape the depth of applied learning experiences.

The Differences In Theory-To-Practice Experience Across Different Placement Types

Understanding how internship placement types influence students' theory-to-practice experience is essential in evaluating the overall effectiveness of work-integrated learning within Informatics education. Internship environments often differ in terms of organizational structure, task relevance, and opportunities for independent problem-solving, which may shape how students apply academic knowledge in real-world contexts. In the context of the Informatics Study Program at Universitas Hindu Negeri I Gusti Bagus Sugriwa Denpasar, students undertake internships across diverse settings—such as government offices, private IT companies, state-owned enterprises, university IT departments, and village administration offices. These varying contexts present distinct opportunities and challenges for the transfer of theoretical

understanding into professional competence. Therefore, this section examines the differences in students' perceived theory-to-practice experience across these placement categories to identify which environments most effectively foster the integration of academic learning into practical application.

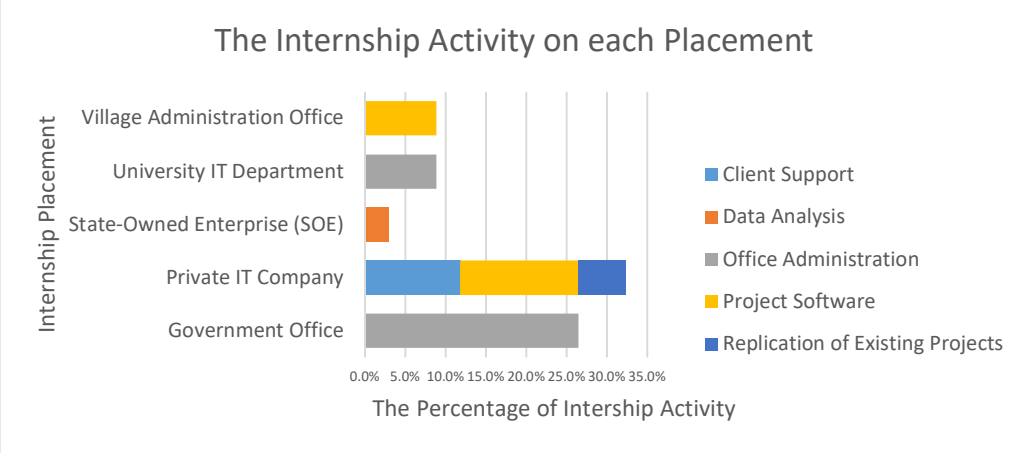

Figure 1. The Internship Activities on Each Placement

The data shows a clear variation in the type of internship activities of students of the Informatics Study Program, State Hindu University I Gusti Bagus Sugriwa Denpasar, depending on the category of internship place. The five categories of internship locations recorded are: Government Office, Private IT Company, State-Owned Enterprise / SOE, University IT Department, and Village Administration Office.

Figure 1 represents the distribution of internship activities across different placement types within the Informatics Study Program. The data indicate clear variations in the nature of students' work, reflecting the diversity of institutional contexts and task orientations.

Students interning in government offices were predominantly assigned office administration tasks (39.39%), such as managing documents, assisting in administrative workflows, or supporting digital record systems. This suggests that the internship experience in public institutions tends to emphasize organizational and procedural understanding rather than technical implementation. These findings indicate that government offices may serve as environments for developing administrative discipline and public sector awareness, though they provide limited exposure to advanced technical practices.

In contrast, private IT companies offered the most technically diverse and industry-relevant experiences, including client support (12.12%), software project development (9.09%), and replication of existing IT projects (6.06%). This diversity implies that students placed in private companies are more likely to engage in real-world software development cycles, troubleshooting, and product adaptation for client needs. Such environments foster applied learning, bridging academic knowledge with professional technical practices, and align closely with industry expectations for Informatics graduates.

Internships in SOEs were relatively limited in scope, with finance data management activities accounting for only 6.06% of total tasks. This type of work provided students with some exposure to financial information systems and data

governance, but lacked the breadth of technical engagement found in other placement types.

Students interning in university IT departments were primarily involved in academic data management (9.09%), focusing on handling institutional databases, student records, or academic information systems. This setting provided a controlled environment for applying informatics skills within the context of educational technology and administrative systems, representing an intermediate level between purely administrative and technically intensive placements.

At the village administration offices, students mainly participated in software project development (12.12%), often linked to digitization initiatives at the local level, such as e-service systems, BUMDes cashier system (cashier system for Village-Owned Enterprise (VOE). This placement type illustrates how students could contribute to grassroots digital transformation efforts, applying informatics solutions to real community needs while enhancing problem-solving and system design skills.

These patterns reinforce the notion that the relevance and richness of internship experiences depend on institutional context and the extent to which placements align with informatics-related competencies. While government and educational institutions contribute to organizational literacy, private IT companies and local administrative offices appear to provide more opportunities for students to translate theoretical knowledge into applied practice, thereby enhancing their professional readiness.

To confirm the analysis, a test was carried out using One-Way Variance Analysis (ANOVA). The test was followed by a post hoc Tukey HSD to identify which groups were significantly different. The results of the post hoc Tukey HSD are shown by Figure 2.

```
=== The Turkey HSD ===
                    Multiple Comparison of Means - Tukey HSD, FWER=0.05
=================================================================================================
           group1                         group2            meandiff p-adj   lower  upper  reject
-------------------------------------------------------------------------------------------------
           Government Office            Private IT Company   0.1329 0.9806 -0.5661 0.8319  False
           Government Office  State-Owned Enterprise (SOE)  -1.2308 0.0689 -2.5268 0.0652  False
           Government Office      University IT Department  -0.2308 0.9715 -1.3236 0.8621  False
           Government Office Village Administration Office   0.5192 0.5398 -0.4564 1.4948  False
          Private IT Company  State-Owned Enterprise (SOE)  -1.3636 0.0386 -2.6752 -0.052   True
          Private IT Company      University IT Department  -0.3636 0.8733  -1.475 0.7477  False
          Private IT Company Village Administration Office   0.3864 0.7895 -0.6099 1.3826  False
State-Owned Enterprise (SOE)      University IT Department      1.0 0.3558 -0.5576 2.5576  False
State-Owned Enterprise (SOE) Village Administration Office     1.75 0.0142  0.2723 3.2277   True
    University IT Department Village Administration Office     0.75 0.4638 -0.5532 2.0532  False
-------------------------------------------------------------------------------------------------
```

Figure 2. The Results of Post-hoc Tukey HSD

The results of the one-way ANOVA test showed that there was a significant difference in *theory-to-practice experience based on the type of internship placement, with values* $F(2, 30) = 3.25$ and $p = 0.026$. These findings indicate that the type of institution where students carry out internships has an influence on their level of experience in applying theories obtained in lectures into work practice.

The post-hoc Tukey HSD test (Figure 2) revealed significant differences between internship placement types. Students interning in State-Owned Enterprises (SOEs) reported significantly lower levels of theory-to-practice experience compared to those placed in Private IT Companies (mean diff = -1.36, $p = 0.0386$) and Village Administration Offices (mean diff = 1.75, $p = 0.0142$)**.** No other pairwise comparisons reached statistical significance ($p > 0.05$). These findings suggest that the organizational context and work environment may play a role in the extent to which students can apply theoretical knowledge during internships.

These results show that the environment and characteristics of the internship place play an important role in shaping the student's practical experience. Students placed in private companies and village offices seem to have a greater opportunity to apply academic theory into real-life work contexts. This can be due to organizational flexibility, direct involvement with technology projects, as well as higher levels of participation in the completion of practical tasks.

On the other hand, the results of the activity records of students who intern at State-Owned Enterprises (SOEs) or State-Owned Enterprises show that their daily activities are processing finance data with Ms. Excel. Students argue that the opportunity to implement theory from the campus directly is more limited. These results are also consistent with the research (Minnes et al., 2021) which affirm that *academic relevance* and *task autonomy* are the main factors that determine how effectively students can apply theory to professional practice. Thus, universities and internship partner agencies are advised to consider aspects of the relevance and characteristics of the work environment in the internship placement process.

The findings have several practical implications. For the study program, these results are the basis for improving the *matching process* between the student's scientific field and the type of internship placement. For partner agencies, these results encourage the provision of tasks that are more applicable and relevant to academic theory. Meanwhile, for students, choosing an internship location that provides a wider practice space can increase meaningful learning experiences and *work readiness*.

The Academic Relevance Of Internship Tasks And Students' Theory-To-Practice Experience

The alignment between academic coursework and the nature of internship tasks plays a crucial role in determining how effectively students can apply theoretical knowledge in professional settings. When the tasks assigned during internships closely correspond to the concepts, methods, and technical skills taught in the Informatics curriculum, students are more likely to experience meaningful learning that bridges theory and practice (Álvarez-Huerta et al., 2024; Fong et al., 2025). Conversely, limited academic relevance can reduce opportunities for cognitive transfer, leading to internships that are more administrative than developmental in nature. In the context of this study, the relationship between the academic relevance of internship tasks and students' perceived theory-to-practice experience is examined using simple linear regression analysis. This analysis aims to determine whether a higher degree of alignment between academic preparation and practical assignments contributes significantly to the depth of students' experiential learning during internships.

```
=== Results of the Simple Linear Regression Analysis ===
                            OLS Regression Results
==============================================================================
Dep. Variable:     Theory-to-practice experience   R-squared:                       0.509
Model:                                     OLS   Adj. R-squared:                  0.493
Method:                          Least Squares   F-statistic:                     32.16
Date:                         Wed, 22 Oct 2025   Prob (F-statistic):           3.14e-06
Time:                                 13:43:25   Log-Likelihood:                -21.007
No. Observations:                           33   AIC:                             46.01
Df Residuals:                               31   BIC:                             49.01
Df Model:                                    1
Covariance Type:                     nonrobust
=========================================================================================================================
                                            coef    std err          t      P>|t|      [0.025      0.975]
-------------------------------------------------------------------------------------------------------------------------
const                                     1.4917      0.319      4.669      0.000       0.840       2.143
Academic relevance of internship tasks    0.5720      0.101      5.671      0.000       0.366       0.778
==============================================================================
Omnibus:                        0.227   Durbin-Watson:                   1.955
Prob(Omnibus):                  0.892   Jarque-Bera (JB):                0.173
Skew:                          -0.154   Prob(JB):                        0.917
Kurtosis:                       2.824   Cond. No.                         13.5
==============================================================================

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.
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Figure 3. The Result of Simple Linier Regression Analysis

A simple linear regression analysis (Figure 3) was performed to determine the extent to which *the academic relevance of internship tasks affected the theory-to-practice experience* of students during the implementation of the internship program.

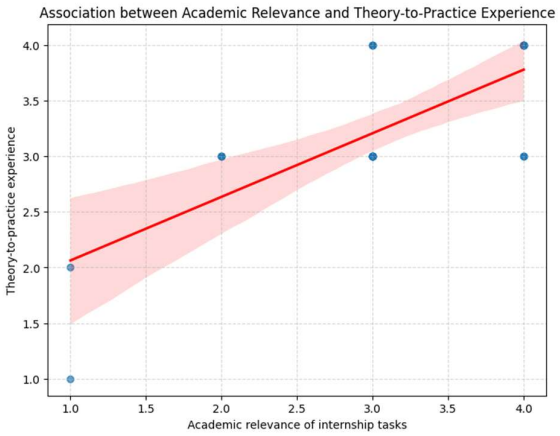

Figure 4. The Scatter Plot for Academic Relevance and Theory-to-Practice Experience

Based on the results of the calculation, the regression equation was obtained:

$$Y = 1.4917 + 0.5720X$$

A regression coefficient of 0.5720 shows that every one unit increase in *the academic relevance of internship tasks* will increase the *theory-to-practice experience* score by 0.572 points. A p< value of 0.001 indicates that the effect is statistically significant at a significance level of 0.05. Thus, it can be concluded that the higher the academic relevance of the assignments given during the internship, the greater the students' experience in applying the theories that have been obtained in lectures into work practice.

In addition, the value of $R^2 = 0.509$ indicates that approximately 50.9% variation in the experience of applying theory to practice can be explained by the academic relevance variable of the internship assignment. The remaining 49.1% were likely influenced by other factors such as academic guidance (Mensah et al., 2025), the work environment, or the level of suitability of the internship field with the student's major.

The visualization of the regression (Figure 4) results shows a pattern of positive relationships between the two variables. The data dots are scattered in an upward direction as academic relevance increases, while the red regression line shows a strong linear trend. This pattern reinforces empirical evidence that academic relevance is an important factor contributing to the experience of applying theory in the context of student internships.

These results are in line with previous research findings that confirm that the fit between internship duties and the academic field plays a role in improving the integration of theoretical knowledge into professional practice (Sunnemark et al., 2024). Thus, the preparation of internship activities that have high relevance to the academic curriculum is an important strategy in strengthening *students' work readiness* and *experiential learning*.

Thematic Analysis of Student Suggestions and Input to Internship Partner Agencies

Based on the results of collecting student responses to the question *"Additional suggestions or inputs to the institution related to the implementation of internships,"* a number of inputs were obtained that described students' experiences and assessments of the institution where they carried out internship activities. The analysis was carried out thematically to identify the main patterns that emerged from the participants' answers.

The implementation of the internship program among informatics students shows that the intensity of guidance and communication from partner agencies is a key factor in the success of the internship experience. Many students say that structured guidance, open communication, and regular feedback help them understand work standards, correct mistakes, and increase productivity. This is in line with the findings that open communication and high feedback correlated with satisfaction and motivation of interns (Chadwick et al., 2025).

Furthermore, in order for the results of the internship to really support the development of student competencies, the suitability of the assignment with the scientific field is important. Some students highlight that they are placed on tasks that are less relevant to the competencies learned on campus, so the work is less supportive of the completion of agency projects or their professional growth. Studies on the alignment between internship assignments and academic qualifications show that when assignments are in line with students' fields, they feel more prepared and motivated (Mokoena & Seeletse, 2024).

The support of facilities and technical infrastructure at the internship site is also an aspect that should not be ignored. Some students report that the work facilities are inadequate (e.g. work chairs, hardware, application systems) so that the work process is not optimal. Supportive work environment conditions and adequate facilities have been proven to affect the effectiveness of work-based learning, practice, and internship experience (Aan Savitri et al., 2025). The duration and scope of internship activities are also important input materials (Ling & Leong, 2025). Students propose that the duration of the internship program be extended (e.g. a minimum of three months) so that they have enough time to understand the work system in depth, complete projects, and contribute significantly to the agency. Research shows that longer practical work experience and meaningful assignments strengthen students' job readiness (Safitri et al., 2023). However, the results of the study by (Brodsky et al., 2024) mentioned that the duration of the internship has a curvilinear effect on employability, meaning that at the beginning of the internship, the increase in duration has a positive impact on job readiness, but after a certain point the effect actually decreases (the longer the internship, the more useful it is).

Initial orientation or training before students start working at partner agencies is also considered very important. Activities such as debriefing on work systems, organizational culture, communication flows, and task introductions can accelerate student adaptation and improve the quality of their work. This is in line with the literature that states that early preparation and clear goal setting improve the quality of the internship experience (Pujining Nugraheni et al., 2022). The collaborative work environment and atmosphere of solidarity among staff also contribute to the comfort and professional development of students. When students feel accepted, supported, and have the opportunity to express their opinions, they are more courageous to develop their skills. This is in line with research that emphasizes the importance of

supervisor support and a positive work atmosphere in internship programs (Philip & Capacio, 2025).

Finally, engaging students in real projects and additional technical training according to industry needs will reinforce the benefits of internships. Some students expressed a desire to gain more relevant experience, such as system development, data management, or digital marketing, so that the internship experience is not only an administrative activity but also adds real value to the institution and students. Research shows that internship assignments that are relevant and require high technical competence tend to improve learning outcomes and job readiness (Brodsky et al., 2024).

Overall, although the implementation of the internship program at partner agencies has been considered to be running well and providing valuable experience, there are several aspects that can still be improved. The intensity of the guidance, suitability of the field of work, quality of facilities, initial orientation, duration and scope of activities, collaborative work environment, and involvement in real projects are the keys to program improvement. By paying attention to these recommendations, it is hoped that collaboration between universities and partner agencies in the implementation of internships can run more effectively, more professionally, and provide optimal benefits for both parties.

Thematic Analysis of Internship Partner Agencies Suggestion for Campus and Students

Analysis of qualitative feedback from eight partner agencies indicates that the internship program implemented by the Informatics Study Program at UHN I Gusti Bagus Sugriwa Denpasar has been generally effective in fostering mutually beneficial collaboration between academia and industry/government institutions. All participating agencies reported that students contributed meaningfully to organizational activities and expressed willingness to host interns in the future, suggesting a high level of institutional satisfaction and reinforcing the role of internships as a strategic bridge between higher education and the professional sector (Martiwi et al., 2025).

From an operational perspective, students were perceived as active contributors rather than passive participants. Partner agencies reported that students supported a range of activities, including the development and enhancement of digital systems (e.g., cashier systems for BUMDes, digital forms, and institutional websites), as well as technical assistance in graphic design, social media management, and administrative tasks. This is reflected in statements such as *"mahasiswa sangat membantu dalam operasional dan pengembangan sistem yang sedang berjalan"* (students significantly assisted in operational activities and ongoing system development) and *"kontribusi mahasiswa cukup signifikan terutama dalam membantu digitalisasi layanan"* (students contributed substantially, particularly in supporting service digitalization). These findings indicate that students were able to apply both technical and transferable skills in real-world contexts, supporting the notion of internship as an effective work-integrated learning mechanism.

Despite these positive outcomes, several partners identified gaps between students' competencies and evolving industry demands. While students were generally considered to possess relevant foundational knowledge in Informatics, there remains a need to strengthen advanced technical competencies, particularly in areas such as artificial intelligence, modern programming frameworks, database systems, and networking. As noted by one partner, *"perlu peningkatan dalam penguasaan*

teknologi terbaru seperti AI dan framework modern" (there is a need to improve mastery of emerging technologies such as AI and modern frameworks). This aligns with broader literature emphasizing the importance of aligning curriculum content with rapidly evolving technological trends.

In addition to technical competencies, partner agencies consistently highlighted students' positive professional attributes, including discipline, responsibility, adaptability, and initiative. For example, one agency reported that *"mahasiswa memiliki etos kerja yang baik dan cepat beradaptasi dengan lingkungan kerja"* (students demonstrated a strong work ethic and adaptability to new work environments). These findings suggest that students possess essential employability skills, particularly in interpersonal communication and teamwork, which are widely recognized as critical determinants of workplace readiness(Khalib et al., 2022).

Nevertheless, several areas for improvement were identified. Partners emphasized the need for deeper technical specialization (e.g., backend and frontend development, system security), as well as enhanced proactive communication skills. In particular, students were expected to demonstrate greater initiative in problem-solving and professional interaction, as reflected in the statement *"mahasiswa perlu lebih aktif bertanya dan mencari solusi saat menghadapi kendala"* (students need to be more proactive in asking questions and seeking solutions when encountering difficulties). Time management and task accuracy were also noted as aspects requiring further development.

Furthermore, partner agencies provided constructive recommendations to improve the overall design and implementation of the internship program. These include extending the duration of internships to enable more substantial contributions, developing clearer and more structured internship guidelines (including assessment criteria and supervisory roles), aligning academic content with current industry needs—particularly in AI, modern programming, and cybersecurity—and strengthening pre-internship preparation to ensure students are both technically and mentally ready for professional environments. Such recommendations reflect the need for a more integrated and adaptive internship framework that responds to both educational objectives and industry expectations.

Overall, the findings demonstrate that while the internship program has successfully facilitated meaningful experiential learning and institutional collaboration, continuous improvement is required to enhance its alignment with industry demands. The consistent willingness of all partner agencies to continue collaboration (100%) serves as a strong indicator of program credibility and sustainability, while also providing a foundation for further refinement of internship design and curriculum integration.

CONCLUSION

The findings of this study provide a comprehensive understanding of the internship program implementation within the Informatics Study Program at UHN I Gusti Bagus Sugriwa Denpasar. Overall, the internship program has generated positive impacts for both students and partner institutions. Students were perceived as having good work ethics, adaptability, and meaningful contributions to institutional activities.

However, the results of the simple linear regression analysis revealed that academic relevance did not have a statistically significant effect on students' theory-to-practice experience. This suggests that while aligning internship tasks with

academic coursework is desirable, other factors—such as the nature of work assignments, supervisory quality, and workplace learning culture—may play more critical roles in shaping students' applied learning.

The one-way ANOVA and Tukey HSD post-hoc analyses further indicated significant differences in theory-to-practice experience across internship placements. Students interning in State-Owned Enterprises (SOEs) reported significantly lower levels of applied learning experience compared to those placed in Private IT Companies and Village Administration Offices. This difference can be partly explained by the distribution of internship activities: government and university offices predominantly assigned administrative tasks, while private IT companies and village offices provided more technically oriented activities such as client support, project software development, and system replication. These variations in task complexity and technical exposure contribute to different levels of theory-to-practice learning outcomes.

Students' feedback also emphasized several aspects that require improvement, including mastery of emerging technologies, enhancement of professional communication, and extension of internship duration. Strengthening mentoring mechanisms and aligning project-based activities with academic competencies were also identified as key priorities.

At the program level, strategic actions should include extending internship duration, enhancing pre-internship preparation, and broadening partnerships with IT industries and government sectors. The faculty can support these efforts by organizing pre-internship training focused on technical and soft skills, promoting cross-program collaboration, and facilitating post-internship reflection sessions. Faculty mentors should play an active role in monitoring and co-designing problem-based projects with partner institutions to ensure that learning outcomes remain relevant and practice-oriented.

At the institutional level, reinforcing internship policy within the Merdeka Belajar–Kampus Merdeka (MBKM*)* framework, developing integrated internship information systems, and expanding formal cooperation (MoU/MoA) with external partners are essential. By combining academic relevance, supportive mentorship, and authentic task experiences, the internship program can more effectively bridge the gap between theoretical knowledge and professional competencies.

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