EVALUATING MASTER'S THESIS COMPLETION AND ACADEMIC OUTCOMES THROUGH A CONTEXT-INPUT-PROCESS-PRODUCT FRAMEWORK

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ABSTRACT
Timely thesis completion is central to master's-program quality, yet aggregate completion statistics can obscure process bottlenecks. This study evaluates academic progression and thesis completion in the 2024 cohort of the Master of Economics Program at Pattimura University using a descriptive-critical program-evaluation case design guided by the Context-Input-Process-Product framework. Institutional evidence comprised five Rector's Decrees issued from February to April 2026 and a SIAKAD academic-record snapshot dated June 18, 2026 for all 35 active regular students, supplemented by document review, one unstructured interview with the Head of Program, and observation of system functions as qualitative corroboration. Milestones were coded as Proposal Seminar, Research Results Seminar, Thesis Defense, and formal graduation clearance. By the snapshot date, 28 of 35 students (80.0%) had completed formal graduation clearance, 33 of 35 (94.3%) had completed both seminars, and 28 of 33 (84.8%) had progressed from the Results Seminar to Thesis Defense. Mean GPA was 3.91 (range 3.80-3.98). The principal bottleneck occurred after the Results Seminar, while progress monitoring remained largely retrospective. Findings support explicit milestone governance, documented supervision, privacy-conscious progress monitoring, and targeted early support. Because evidence derives from one program, one cohort, and limited qualitative corroboration, conclusions are analytical rather than causal or statistically generalizable.

Keywords: academic progression; learning analytics; master's education; quality assurance; thesis completion

INTRODUCTION

Timely academic progression and degree completion are central concerns in higher education because delayed or discontinued study affects students, institutions, and the efficiency of educational systems. Contemporary retention research emphasizes that persistence cannot be reduced to individual motivation or prior achievement; it also reflects the fit between students and their programs, access to institutional support, financial and social conditions, and the quality of academic processes (Bargmann et al., 2022; Belando-Montoro et al., 2022; Heritage et al., 2023). These considerations are particularly relevant in postgraduate programs, where progress is often organized around research milestones rather than coursework alone.

Master's thesis work is a distinctive stage of postgraduate education because it requires sustained interaction among students, supervisors, program administrators, and institutional procedures. Evidence from the supervision literature shows that clear expectations, constructive feedback, structured student-supervisor interaction, and appropriate care and support can shape the quality of the research journey (Bastola, 2021; Kreber, 2023; Marnewick, 2023). A recent systematic synthesis further demonstrates that effective master's thesis supervision is best understood as an input-process-outcome system in which student and supervisor characteristics, relationship quality, and concrete supervisory actions interact over time (Grohnert et al., 2024). Consequently, a program-level evaluation should examine not only final completion rates but also the institutional conditions through which students move between thesis milestones.

The Context-Input-Process-Product (CIPP) model provides a suitable decision-oriented framework for such evaluation. Originally developed to move evaluation beyond end-point testing, CIPP examines needs and policy conditions (Context), resources and strategies (Input), implementation processes (Process), and achieved outcomes (Product) (Stufflebeam, 1971; Stufflebeam & Coryn, 2014). The model has been used in higher-education and program-evaluation settings because it can support both formative improvement and summative

judgment (Alkin & Vo, 2017; Saad et al., 2018; Turan, 2022; Yüksel & Duman, 2012). In this study, CIPP is used as an analytical architecture linking academic outcomes to identifiable progression conditions and program decisions rather than merely as a set of section labels.

Institutional data systems also create opportunities to move from retrospective reporting toward earlier and more targeted support. Systematic reviews indicate that learning analytics can assist higher-education institutions in identifying patterns associated with study success and in providing timely feedback, although rigorous evidence of large-scale effectiveness remains uneven (Banihashem et al., 2022; Ifenthaler & Yau, 2020; Guzmán-Valenzuela et al., 2021). In postgraduate education, learning analytics can inform program and curriculum decisions when indicators are linked to meaningful educational processes rather than treated as purely technical outputs (Dennehy et al., 2023). Dashboard research likewise shows a shift toward designs that foreground learning and decision support rather than visualization alone (Paulsen & Lindsay, 2024).

The promise of analytics must nevertheless be balanced by organizational and ethical safeguards. Stakeholders may differ in expectations about what student data should be collected, who should have access, and how insights should trigger intervention (Gray et al., 2022). Consent patterns can vary across student groups, potentially creating inequities in the data available for analytic systems (Li et al., 2022), while inclusion-oriented research warns against assuming that analytics benefits are distributed equally across all learners (Khalil et al., 2024). These concerns reinforce the need for transparent purposes, data minimization, role-based access, human review, and supportive rather than punitive use of progress indicators.

The national quality-assurance context has also changed. Indonesia's current framework is Regulation of the Minister of Higher Education, Science, and Technology Number 39 of 2025 on Higher Education Quality Assurance, which governs national higher-education standards, internal and external quality assurance, accreditation, and higher-education data systems (Ministry of Higher Education, Science, and Technology of the Republic of Indonesia, 2025). For descriptive historical benchmarking, this study also refers to the BAN-PT IAPS 4.0 rubric, under which a mean graduate GPA above 3.75 occupied the highest category (BAN-PT, 2019). The historical rubric is used only as a descriptive reference and not as a current statutory threshold.

Within this context, the Master of Economics (MIE) Program at the Graduate School of Pattimura University (UNPATTI), Ambon, provides an instructive case. Postgraduate study in the Maluku archipelago may involve geographical dispersion, mobility constraints, and coordination challenges that make explicit milestone governance especially important. The 2024 cohort entered its second year during the Even Semester of 2025/2026 and was the first cohort to progress through the complete thesis sequence under the program's latest curriculum arrangement. The available institutional records therefore provide a bounded opportunity to examine how program processes align with observed academic outcomes.

The research gap is twofold. First, the literature cited in this study contains limited CIPP-based evaluation of master's program progression in Indonesian archipelagic settings. Second, program evaluations do not necessarily connect cohort-level milestone conversion rates with operational monitoring categories and concrete governance actions. The novelty of this study therefore lies not in geography alone but in integrating CIPP interpretation, milestone-conversion evidence, an explicitly non-predictive risk-zonation scheme, and quality-improvement recommendations within one decision-oriented evaluation.

Accordingly, the study aims to evaluate the alignment between program context and academic outcomes, identify input and process conditions associated with observed differences in thesis progression, and formulate feasible quality-improvement actions for the 2024 MIE cohort. The analysis addresses three questions: how contextual policies and program

arrangements align with actual outcomes; which input and process conditions are associated with progression differences; and which interventions can reasonably address the observed bottlenecks.

METHOD

This study adopts a descriptive-critical program-evaluation case design with the CIPP framework as its analytical structure. Quantitative academic indicators provide the core evidence, while documentary review, one brief unstructured interview with the Head of the MIE Program, and observation of SIAKAD functions are used as qualitative corroboration. Because the qualitative component is limited and no formal mixed-method integration protocol is reported, the study does not claim a full mixed-method design, causal explanation, or statistical generalization.

The evaluated population comprises all 35 active students in the regular 2024 MIE cohort during the Even Semester of 2025/2026. Cooperation and executive classes were outside the evaluation scope, and no student in the evaluated cohort was recorded as being on academic leave. The analysis therefore uses the full accessible cohort rather than a statistical sample.

The principal instruments were an institutional record-extraction matrix and a CIPP evidence-to-decision matrix. Record sources included five Rector's Decrees: Numbers 661, 662, and 663/UN13/SK/2026 documenting Proposal Seminar and Research Results Seminar activities, and Numbers 838 and 857/UN13/SK/2026 documenting Thesis Defense activities (Pattimura University, 2026a, 2026b). SIAKAD UNPATTI, accessed on June 18, 2026, provided academic-status, GPA, and formal graduation-clearance records for the cohort.

For operational consistency, on-time completion is defined in this evaluation as formal graduation clearance (yudisium) by the end of the fourth semester, reflecting the program's two-year monitoring target. Four milestones were coded: Proposal Seminar (SemPro), Research Results Seminar (SemHas), Thesis Defense, and yudisium. Each student was mapped to the four milestones using binary status coding. Risk zones were used solely as operational monitoring categories: Green = yudisium completed; Yellow = SemHas completed but Thesis Defense not documented; Orange = SemPro completed but SemHas not documented; and Red = SemPro not documented. These categories are not presented as a validated predictive model.

Data processing proceeded through record reconciliation, milestone coding, conversion-rate calculation, and CIPP synthesis. The named Rector's Decrees and the June 18, 2026 SIAKAD snapshot were treated as the authoritative record set. Absence of a milestone was recorded as 'not documented as completed' rather than as proof of a personal or academic cause. Observed conversion rates were calculated directly from the counts: 33/35 for SemPro and SemHas, 28/33 for SemHas-to-Defense, and 28/28 for Defense-to-yudisium. The findings were then interpreted within Context, Input, Process, and Product dimensions and linked to decision options.

The source manuscript does not report a formal research-ethics approval number; therefore, no ethics approval is claimed. For the publication version, student names and individually identifying GPA data are removed. Students requiring follow-up are represented only through aggregate counts or pseudonymous monitoring codes (Y1-Y5 and R1-R2). Any future digital monitoring should apply documented institutional authorization, purpose limitation, data minimization, access controls, and human review, consistent with the ethical issues identified in contemporary learning-analytics research (Gray et al., 2022; Khalil et al., 2024; Li et al., 2022).

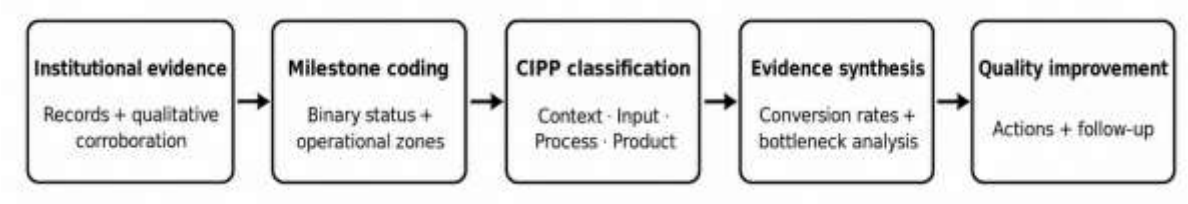

Figure 1. Program-evaluation data flow and analytical procedure

RESULTS AND DISCUSSION

CIPP Evidence Integration

The integrated CIPP analysis shows that the program's strong Product outcomes coexist with Process and Input weaknesses that become visible only when aggregate statistics are disaggregated into thesis milestones. Table 1 links each evaluation focus to the evidence source, observed indicator, and intended decision use. This integration is important because CIPP is most useful when evidence from the four dimensions informs a coherent decision cycle rather than four independent descriptions (Stufflebeam & Coryn, 2014; Turan, 2022).

Table 1. CIPP Evidence-to-Decision Integration Matrix

Research focus	CIPP dimension	Evidence source	Key indicator/finding	Decision use
Policy-goal alignment	Context	National quality-assurance framework; program monitoring target; cohort status	80.0% formal completion within the study-specific two-year target	Assess whether milestone expectations and monitoring responsibilities align with quality goals
Resources and monitoring capacity	Input	Administrative records; program documents; SIAKAD observation	Official records available, but thesis-progress monitoring is largely retrospective	Identify information-system and governance gaps requiring program action
Thesis progression	Process	Rector's Decrees; SIAKAD snapshot; limited qualitative corroboration	33/35 reached SemPro and SemHas; 28/33 progressed from SemHas to Thesis Defense	Locate the principal bottleneck and prioritize follow-up
Academic outcomes	Product	SIAKAD and yudisium records	28/35 completed; mean GPA 3.91; 22/28 had GPA ≥ 3.90	Interpret outcomes alongside process evidence and identify areas for further quality audit

Context: Policy and Milestone Governance

The Context dimension indicates that the program operates within a national quality-assurance environment that emphasizes institutional responsibility for standards, quality assurance, accreditation, and educational data governance. The 2025 national regulation provides the current legal framework, while the historical IAPS 4.0 rubric is retained only for descriptive benchmarking (BAN-PT, 2019; Ministry of Higher Education, Science, and Technology of the Republic of Indonesia, 2025). A central program-level issue is the absence

of a documented mechanism that translates the overall study period into explicit thesis milestones with routine progress review.

The program's stated monitoring target of 80% on-time completion was met exactly, with 28 of 35 students completing formal graduation clearance by the snapshot date. This is a strong descriptive outcome, but it also means that 20% of the cohort remained outside the completed category. Contemporary retention research cautions that non-completion and delayed progression emerge from interacting academic, motivational, social, and institutional conditions rather than a single deficit located in the student (Bargmann et al., 2022; Belando-Montoro et al., 2022; Heritage et al., 2023). For this reason, the 80% aggregate outcome should be interpreted together with milestone patterns and the program's capacity for timely support.

Input: Supervision Capacity and Information Systems

Input evaluation focuses on the resources and organizational conditions available to support thesis progression. Table 2 distinguishes documented conditions from provisional interpretations. This distinction is important because the record set can establish that a condition exists, but it cannot by itself establish that the condition caused an individual student's delay.

Table 2. Input Evaluation Matrix for the 2024 Master of Economics Cohort

Input aspect	Data/condition	Critical assessment
Student profile	35 students; 60% women and 40% men	The aggregate composition describes the cohort but does not support gender-specific conclusions. R1 and R2 require participant-level inquiry before any personal barrier is inferred.
Supervisor support	Five Rector's Decrees issued within approximately three months (February-April 2026)	The sequence indicates substantial formal thesis-related activity, but decree frequency is not a proxy for supervision quality. Systematic supervision-log data would be needed.
SIAKAD system	Official academic records available; no real-time thesis-progress monitoring function identified in the evaluated workflow	SIAKAD functions primarily as an academic record system. A progress dashboard may improve the timeliness of follow-up, but this evaluation does not establish a causal effect on completion.
Lecturer-student ratio	Provisional estimate only: 35 active students and approximately 8-10 lecturers identified in thesis-related decrees, suggesting roughly 1:4 to 1:5	The estimate should not be used for a firm accreditation or workload conclusion until official home-base staffing data are verified.

The supervision literature supports a more nuanced interpretation of these inputs. Effective master's supervision depends not merely on the number of available supervisors but on the quality of expectations, feedback, relationships, and process support (Bastola, 2021; Grohnert et al., 2024; Marnewick, 2023). Kreber (2023) further argues that timely completion pressures should not displace care and educational responsibility in postgraduate supervision. Accordingly, program monitoring should strengthen structure without reducing supervision to administrative compliance.

Process: Thesis-Milestone Progression

The Process dimension reveals the clearest bottleneck. Thirty-three students (94.3%) had documented SemPro and SemHas completion, but only 28 of those 33 students (84.8%) had documented Thesis Defense by June 18, 2026. All 28 students with a documented defense also had documented yudisium. Table 3 summarizes the conversion pattern.

Table 3. Thesis-Milestone Progression in the 2024 Cohort

Academic stage	N	Percentage	Evaluative notes
Proposal Seminar (SemPro)	33	94.3%	33/35 had documented SemPro completion; 2 students had no documented thesis milestone.
Research Results Seminar (SemHas)	33	94.3%	SemPro-to-SemHas conversion: 33/33 (100.0%).
Thesis Defense	28	80.0%	SemHas-to-Defense conversion: 28/33 (84.8%); five students remained between these milestones.
Formal graduation clearance (yudisium)	28	80.0%	Defense-to-yudisium conversion: 28/28 (100.0%) in the available records.

The 33-to-28 conversion identifies the post-SemHas stage as the principal observed attrition point. Five students, coded Y1-Y5, had completed SemHas but did not yet have a documented Thesis Defense. The study did not systematically interview these students, so the reasons for delay cannot be established at the individual level. Program-level evidence nevertheless suggests three institutional conditions that may contribute to delayed progression: the absence of a standardized post-SemHas revision pathway, reliance on individual coordination for defense scheduling, and limited public documentation of administrative submission requirements. These conditions are treated as plausible contributors rather than demonstrated causes.

Two students, coded R1 and R2, had no documented SemPro, SemHas, Thesis Defense, or yudisium milestone in the evaluated record set. Their status signals a need for timely academic follow-up, but the available data do not explain whether the absence of milestones reflects personal, supervisory, administrative, financial, health-related, or other circumstances. This evidentiary boundary is important because contemporary retention research emphasizes multi-causal explanations and warns against interpreting risk labels as deterministic student characteristics (Belando-Montoro et al., 2022; Heritage et al., 2023).

The observed process pattern is consistent with the broader argument that graduate progress should be monitored through meaningful milestones and that support should be triggered by evidence of stalled progression rather than delayed until final non-completion. Structured supervision approaches emphasize agreed expectations, timely feedback, and explicit next steps across the research journey (Bastola, 2021; Grohnert et al., 2024; Marnewick, 2023). In this cohort, a documented post-SemHas pathway could therefore function as a coordination mechanism while preserving case-by-case academic judgment.

Product: Academic Outcomes and GPA Interpretation

At the Product level, completion and GPA outcomes are descriptively strong. Twenty-eight students (80.0%) completed formal graduation clearance, the mean GPA among graduates was 3.91 on a 4.00 scale, and 22 of 28 graduates (78.6%) had a GPA of at least 3.90. Table 4 summarizes these outcomes and the limits of interpretation.

Table 4. Product Evaluation of Academic Outcomes

Outcome indicator	Value	Comparison and critical analysis
On-time graduation rate	80.0% (28/35)	Meets the program's stated monitoring target of ≥80%; no unsupported national comparator is used.
Average GPA of graduates	3.91 / 4.00	High relative to the historical IAPS 4.0 top-category benchmark (>3.75), but the narrow range alone does not establish uniform academic quality.
Proportion of GPA ≥ 3.90	78.6% (22/28)	The concentration warrants examination of assessment patterns but is not evidence of grade inflation by itself.
Graduates with GPA < 3.80	0	No graduate in the available cohort summary had a GPA below 3.80; fuller distributional and assessment-level evidence is needed for stronger inference.

The GPA evidence should be interpreted conservatively because the available dataset provides a mean, range, and one threshold proportion but not the median, standard deviation, interquartile range, or full frequency distribution. A narrow high range therefore cannot establish right-skewness, grade inflation, or equal academic quality. Recent higher-education research treats grade inflation as a contextual and temporal phenomenon requiring evidence that distinguishes changes in achievement from changes in grading practice, rather than a conclusion drawn from a single high-scoring cohort (Karadag & Ciftci, 2026). The appropriate quality-assurance response is thus to review thesis rubrics, examiner calibration, and grading consistency across cohorts without presuming either genuine exceptional performance or inflation in advance.

Digital Monitoring, Early Support, and Data Governance

The evaluation suggests a need to complement retrospective record keeping with transparent progress monitoring. Systematic evidence shows that learning analytics can support study success and timely intervention, but the strongest claims about effectiveness require careful evaluation rather than technological optimism (Banihashem et al., 2022; Ifenthaler & Yau, 2020; Guzmán-Valenzuela et al., 2021). Postgraduate curriculum research similarly argues that analytics should inform educational decisions and program design, not function as an isolated technical system (Dennehy et al., 2023). Dashboard research increasingly emphasizes learning-oriented design, meaningful indicators, and interpretability (Paulsen & Lindsay, 2024).

For the MIE Program, a dashboard could display milestone status and elapsed time since the last documented progression event, but the current study does not test such a system and therefore makes no claim about predictive accuracy or causal impact. Implementation would also require attention to stakeholder expectations and data governance. Students and staff may prioritize different forms of access and action on analytic data (Gray et al., 2022); opt-in behavior can vary across student groups (Li et al., 2022); and inclusion-focused reviews show that analytic systems should be evaluated for unequal effects as well as average benefits (Khalil et al., 2024). These findings support a model in which automated flags prompt human review and supportive contact rather than automatic classification or sanction.

Recommendations and Implementation Implications

The evidence supports a staged quality-improvement response. Short-term actions should focus on confidential follow-up with students who have no documented milestone or are stalled after SemHas, while medium-term actions should strengthen the institutional pathway through

documented supervision, clear administrative requirements, and pilot monitoring tools. The proposed eight-week revision window and 30-day inactivity flag are managerial thresholds for piloting, not empirically validated cut-offs. They should be reviewed against program policy, student circumstances, equity considerations, and subsequent cohort outcomes before institutionalization.

Table 5. Recommended Quality-Improvement Actions

Target	Recommended action	Responsible unit	Time horizon
R1-R2	Confidential academic follow-up, needs assessment, and an individualized completion plan with documented milestones and review dates.	Director of Postgraduate Studies and Head of Program	Immediate
Y1-Y5	Verify revision status, coordinate with supervisors, clarify administrative requirements, and establish a documented defense-readiness timeline.	Head of Program and supervisors	Short term
All thesis students	Offer a regular thesis-methodology clinic and structured referral route for methodological, writing, and administrative support.	Head of Program	Monthly
Program system	Pilot a digital supervision logbook and SIAKAD-compatible milestone dashboard with transparent rules, role-based access, and human review.	Program and authorized university units	Medium term

The recommendations are consistent with the broader evidence that retention and completion require institutional action as well as individual effort (Belando-Montoro et al., 2022; Bargmann et al., 2022). They also reflect the postgraduate supervision literature's emphasis on structured expectations, feedback, relational support, and clear process responsibilities (Grohnert et al., 2024; Kreber, 2023). The digital components should be evaluated as socio-technical interventions, because data access, stakeholder capability, and governance practices shape whether analytics can be meaningfully adopted (Dennehy et al., 2023; Gray et al., 2022).

Limitations and Transferability

This evaluation has four principal limitations. First, it examines one master's program and one cohort, so the results cannot support statistical generalization. Second, the analysis is a cross-sectional administrative snapshot dated June 18, 2026; students coded Yellow or Red may have progressed after that date. Third, qualitative evidence is limited to program documents, one unstructured interview with the Head of Program, and system observation; students and supervisors were not systematically interviewed. Fourth, GPA evidence is aggregate and does not permit robust distributional analysis, while the proposed timing thresholds were not empirically tested.

The framework is therefore analytically transferable rather than statistically generalizable. It is most applicable to master's programs that use explicit thesis milestones, maintain centralized academic records, and possess program-level authority to coordinate supervision and follow-up. Programs with different curricula, decentralized information systems, accreditation regimes, student profiles, or data-protection arrangements would need to adapt the zone definitions, monitoring intervals, and intervention responsibilities. Future evaluation

should incorporate student and supervisor perspectives, richer supervision-process data, complete GPA distributions, and pre/post assessment of any newly implemented monitoring or support system.

CONCLUSION

The evaluation shows that the 2024 Master of Economics cohort achieved strong descriptive Product outcomes while retaining identifiable Process and Input limitations. By June 18, 2026, 28 of 35 active students (80.0%) had completed formal graduation clearance and 33 of 35 (94.3%) had completed both SemPro and SemHas, with the principal bottleneck occurring between SemHas and Thesis Defense. The mean GPA of 3.91 is high, but the available summary statistics do not support claims of statistical significance, grade inflation, or uniform academic quality. The study's contribution lies in integrating milestone conversion, operational monitoring zones, and CIPP-based governance analysis into a decision-oriented quality-improvement framework. The evidence supports clearer milestone procedures, documented supervision, privacy-conscious progress monitoring, and early supportive follow-up, while proposed time thresholds and digital tools should be piloted and evaluated rather than treated as validated solutions. The 2024 cohort therefore provides a useful baseline for subsequent quality-assurance cycles and a cautiously transferable framework for comparable master's programs with milestone-based thesis processes and centralized academic records.

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