

Proposed Improvement of Learning Course Development in Digital Telecommunication Company

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Abstract. PT Digital Telecommunication Company (DTC) is a telecommunication company in Indonesia that is currently facing dynamic and competitive challenges in the telecommunication industry. The Corporate University Center (CUC), a support unit of PT DTC, is dedicated to enhancing the skills and knowledge of PT DTC employees in order to help the company achieve its strategic goals. This study focuses on the Learning Team at CUC, which aims to produce learning materials that enhance employee capabilities. To analyze this process, the study uses the ADDIE and Project Management framework to identify the operational process of learning design & development. By using the frameworks, CUC is expected to deliver high-quality learning materials that align with the company strategy effectively. Data collection is conducted by semi-structured interviews with five participants from the learning team, to explore the business strategy of the company and the day-to-day learning operations. The data was analyzed using NVivo 15 software, which generated word frequency queries to identify emerging themes. These themes were further analyzed through quotation analysis to understand the contextual situation in the learning process. Data analysis results revealed six areas of improvement: Resource Management, Scalability Planning for High-Impact programs, Stakeholder Communication, Learner Participation, Learning Impact Measurement, and AI Technology Enhancement. Several project management tools can be implemented for further improvement. This study contributes to increasing the corporate university's role as people develop to face the dynamic business competition and highlights leveraging technology in facing digital competition.

Keywords: Corporate University, Learning, Project Management, ADDIE, Thematic Analysis

INTRODUCTION

The telecommunications industry is facing increasing competition. Due to this competition, companies are required to develop new business strategies to maintain their position in the market. According to Tan and Olaore (2020), a way to support companies in market competition is through human resources development. Increasing employee competencies will enhance productivity and organizational performance, thus helping the company achieve its long-term goals. One strategy that can be implemented by the company is to establish a corporate university to enhance human resource development in a more structured manner. Corporate universities ensure that employees possess superior skills and knowledge that are suitable for market needs (Munajat, 2021). The presence of corporate universities can support companies in preparing talent who can adapt to a competitive and rapidly growing industry. Yuniarto, Hubeis, and Sukmawati (2019) stated that improving the effectiveness of a corporate university can be achieved by identifying areas of improvement or aspects that can be optimized to ensure that the learning programs align with the company's long-term goals.

PT DTC is a digital telecommunication company in Indonesia that is currently facing competition and market dynamics in the telecommunications industry (Hadi & Setiawan, 2020). PT DTC is updating its business strategy, one of which is in the people development area (Amin et al., 2021). The Corporate University Center (CUC) is a support unit of PT DTC that focuses on people development and plays a role as a capability enabler, aiming to increase PT DTC employees' knowledge and capabilities to achieve the company's long-term goals (Bai

et al., 2020). Hence, CUC is establishing the Rencana Jangka Panjang Perusahaan (RJPP) for 2025-2027 to support PT DTC's strategy (Fauzi & Rachman, 2022). In general, the business core of CUC consists of three aspects: Learning, Research, and Innovation, which are expected to create competent human resources and innovations that sustain business goals in the digital era (Li et al., 2020). The focus of this study is on the scope of Learning Design and Development (LDD), which focuses on reskilling and upskilling employees that can be conducted both online and offline using a Learning Management System (LMS) (Sari & Wibowo, 2021). Before being launched on the LMS, the course goes through several production processes, starting from identifying competencies needed in the business unit, module design, review, and module conversion into video format, until the course is ready to be published (Wang & Zhang, 2021). This makes the LDD process in a corporate university a form of project work, involving defined objectives, limited resources, and a structured schedule (Dewi & Rini, 2020). Additionally, the ADDIE framework, which is generally implemented in learning, already provides a structured approach; however, this framework does not cover managerial aspects such as resource allocation, stakeholder management, and activity scheduling (Suryani & Santoso, 2019). Therefore, the perspective of project management (PM) is important to ensure that the LDD activity is efficient and meets the business needs and standards (Ghosh et al., 2020).

According to Bubenik et al. (2022), digital transformation brings new strategies for the company, impacting the change in internal processes. The research stated that there are improvements that can be executed to increase organizational performance, thus supporting the implementation of the new strategy (Yang & Li, 2021). In the context of DTC, the new strategy that will be implemented is RJPP 2025-2027 (Jin & Wu, 2020). This study will respond to the following research questions: (RQ1) What are the key areas of improvement in Learning in CUC, and how can the Project Management approach optimize them? (Zhao et al., 2019) and (RQ2) What solutions can be offered to optimize the Learning process to maintain its alignment with the DTC strategy? (Chen & Lee, 2020). The integration of project management principles into learning design is crucial for the success of organizational development strategies (Li & Huang, 2021).

This study contributes to leveraging the role of the corporate university in developing human resources and supporting the company in achieving its long-term goals.

RESEARCH METHOD

According to Creswell (2012), research consists of six stages: identifying research problems, reviewing literature from previous work, determining research questions, collecting data, analyzing and interpreting the data, and reporting the research results.

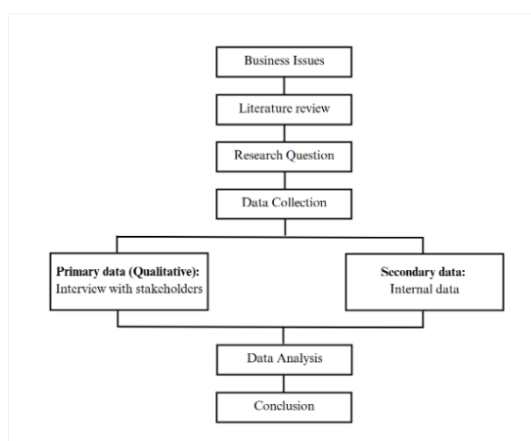


Figure 1. Research Design (Creswell, 2012)

Primary Data

This research will be conducted using a qualitative method, an approach to explore the phenomenon and generate in-depth data from participants (Creswell, 2012). Participants for data collection will be determined by using purposeful sampling, which selects participants based on specific criteria relevant to the research questions. Primary data will be obtained through interviews with five stakeholders who will provide insights regarding business strategy and the *LDD* process. The interviews are expected to give insights into the participants' perspectives on *PM* and *ADDIE* practices in *LDD*. Content analysis is a method used to analyze qualitative data, aiming to categorize keywords from interview results into specific themes (Bengtsson, 2016). In general, this method begins with qualitative data collection through interviews, identifying words that are relevant to research themes, categorizing these words into different categories, mapping them to a framework, and finally interpreting the data patterns. Data obtained from interviews will be processed using NVivo 15 software to identify emerging words and thematic clusters.

Secondary Data

This study will utilize secondary data as additional information regarding the existing condition of the company. Secondary data will be obtained from the company's internal documents, which aim to comprehend the strategic position of *LDD* and its contribution to business strategy, analyze operational processes regarding learning and innovation in the *CUC* ecosystem, and identify the learning development process. This data will be analyzed using the Document Analysis method, a qualitative method used to interpret official texts, internal reports, strategic plans, or other written materials to understand organizational structures, values, or expectations.

RESULTS AND DISCUSSION

General Overview

Learning in PT DTC started with identifying the competency required by PT DTC's business units. This competency will be developed into learning design, learning journeys, and learning materials by CUC's Learning Team which is divided into three subdivisions: LPS, LDS, and LDV. The Learning Programs created by CUC will be distributed to Business Units that play a role as users of the learning outcomes and are used to reskilling and upskilling their employees as shown in figure below:

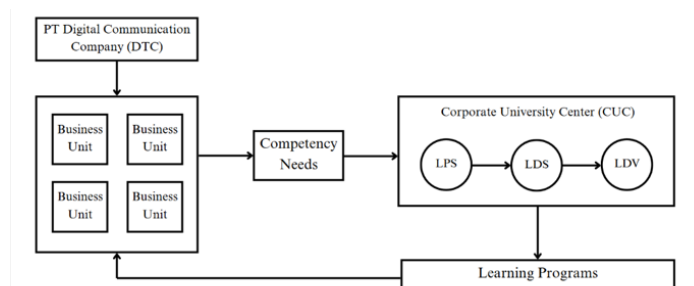


Figure 2. Learning Flow in DTC

Data will be analyzed in two parts, from a business strategy perspective and an operational perspective (ADDIE and PM). The data analysis is conducted using NVivo 15 software to identify the word query to determine the most emerging words in the interview results. The data analysis is conducted using NVivo 15 software to identify the word query to determine the most emerging words in the interview results.

Business Strategy

Based on the query, it found that the most emerging word in Business Strategy topic is “programs” (3.41%), followed by “processes” (2.96%), “employee” (2.82%), “standards” (2.72%) and “performances” (2.56%) as shown in figure below. This became thematic clusters that analyzed deeper by content analysis.

Word	Length	Count	Weighted Percentage (%)	Similar Words
programs	8	17	3.41	performance, plan, programs, strategy, supervisor
processes	9	25	2.96	adjustment, assessment, coordination, deliver, developing, development, effect, feedback, impact, knowledge,
employee	8	9	2.82	employee, employees
standards	9	16	2.72	adjustment, alignment, evaluate, measure, measured,
performances	12	22	2.56	business, direct, executed, functional, functions, make, performance, performances
evaluate	8	20	2.33	assessment, assessments, evaluate, evaluation, evaluations, grade, identify, make, measure, measured, measurement

Figure 3. Word Frequency for Business Strategy

CUC positioned their company as a strategic partner in supporting the direction of business transformation of PT DTC, not only as a training provider. All of the learning programs are developed and frequently maintained to comply with the annual business strategy. As described by the participant: *“We are the units that play a role in supporting business from the people development field. If PT DTC has a business unit that needs support, for example in building the infrastructure, we can enhance the capability of the employee through learning journeys.”* To achieve the goals, CUC sees its people or talents as the key resources. CUC's strength lies in its comprehensive and structured talent mapping, specifically in leadership development to ensure that all employees capable to face the digital transformation, as explained by the management: *“PT DTC has a leadership program for all employee levels. The leadership program is designed based on clusters from the annual 360-degree assessment. From the result we can identify the top-talent employee and ready to be promoted, also the sleeping tiger which still needs to be developed.”*

In the context of process, CUC collaborate with consultants, academic institutions, and experts, is expected to enrich the perspective of learning, specifically in learning materials, use cases, and with various expertise areas: *“The external parties provide us with several learning scenarios, and we can evaluate it based on 10 competencies and all aspects so it aligns with our business strategies and needs.”* This process is maintained by establishing standards to ensure the consistency between strategic direction with technical and operational program executions. To measure the program success rate, CUC conducted Learning Impact Measurement: *“For 2025–2027, CUC focuses on supporting the DTC strategy. CUC is stating their success with learning impact, especially in how learning programs can impact business performance.”* By this year, CUC committed to achieve level 5, which is return on training investment.

From business strategy analysis, we can conclude that the analysis of the five clusters shows that PT DTC has a strategic business that is executed systematically, from external collaboration to the utilization of technology. The main objectives of CUC are supporting business strategy by developing its talent and enhancing their readiness to face the digital transformation and emerging company strategies. This strategy implementation strictly adheres

to internal standards, to ensure that the output is aligned with business needs and strategy. The success is measured and evaluated by Learning Impact Measurement (LIM), to determine the impact of the learning program

ADDIE and PM Operational Process

Interview results analyzed using ADDIE & PM framework by Allen & Hardin (2008). The obtained data clustered based on the ADDIE stages and its correlation with PM Process Groups. This aims to gain a deep understanding of the LDD process in specific stages. Following this initial overview, a more in-depth analysis will be carried out using direct quotation analysis to interpret the context behind each response. Selected excerpts will be categorized into relevant phases of the ADDIE framework and Project Management process groups. This combined approach is intended to provide both surface-level patterns and deeper insights into how participants perceive and experience the learning development process.

Analyze – Initiating

This process aims to identify competency needs from business units, align business strategies with learning demands, and form a direction for learning development projects. Based on NVivo 15 analysis, the most emerging term was “competencies” (9.68%), followed by “unit” (7.26%), “information” (6.18%), and “coordinated,” (5.65%).

Word	Length	Count	Weighted Percentage (%)	Similar Words
competencies	12	6	9.68	competencies, competency
unit	4	5	7.26	development, gap, unit
information	11	8	6.18	clear, format, information, list, schedule, time, translate
coordinated	11	4	5.65	coordinated, correct, manage

Figure 4. Word Frequency for Analyzing - Initiating

In the initial stage (Analyze - Initiating), the main focus relies on the identifying competency needed according to a business unit strategy with the cross-functional coordination between stakeholders being the key factor. As described by participants: *“Identify the business strategy of the unit, so we conduct one-on-one sessions with the unit and participants until we find the competency gap. After that, we list the competencies, what is already available, and what needs to be developed.”* This phase will define the scope of learning design and development in determined competencies, as well as the role of each stakeholder involved, both internal and external. This initiation phase requires cross-functional coordination that involves an internal learning team, an external team, and experts from various fields. *“We manage time and schedule because we have a targeted delivery schedule and numerous stakeholders to manage.”*

Design – Planning

Based on the word frequency analysis, shows that several words appear more frequently, such as “expert” (6.67%), “competencies” (6.30%), “development” (5.56%), and “resource” (5.56%).

Word	Length	Count	Weighted Percentage (%)	Similar Words
expert	6	4	6.67	expert, experts, proficient, technical
competencies	12	5	6.30	capable, competencies, competency, start
development	11	3	5.56	development, original
resource	8	4	5.56	capable, resource, resources

Figure 5. Word Frequency for Design – Planning

Design - Planning addressing the competency gap between current condition and expected competencies, then translating those competencies to the learning journey, as explained by participants: *“We need to identify which competency level is being targeted, each level related to their delivery method”*. This phase also contains resource allocation, from determining experts' availability based on their specialization and relevance to the competencies, to leveraging the team knowledge, and technical resources such as learning references: *“.....normally the expert is already plotted by the management, so there are several experts for leadership and others for technical fields”*. Schedule planning is also determined in this stage. *“We have a specific course to increase the learning development competencies, from start to end.”*

Develop – Executing

Based on the word frequency analysis, the most frequent terms in this phase are “skill” (8.06%), “communicate” (6.45%), “implementation” (6.45)” and “developing” (4.84%).

Word	Length	Count	Weighted Percentage (%)	Similar Words
skill	5	3	8.06	complete, mastery, skill
communicate	11	2	6.45	communicate, communication
implementation	14	3	6.45	complete, implementation, server
developing	10	2	4.84	developing, workflow

Figure 6. Word Frequency for Develop – Executing

Develop - Execute focusing on how learning materials are developed. The success of this stage relies on the team’s ability to accurately understand and communicate participants and business needs to all stakeholders involved, including experts, the operational team, and another technical division. *“...our understanding regarding participant and business needs, we need to accurately communicate this too involved stakeholders.”* This phase involves several crucial points from the team's capability to develop learning material, collaboration with external parties, and communication between stakeholders. *“Communication skill is the key. The next is the team’s mastery and understanding of the learning process, particularly in developing learning materials”*

Implement – Monitoring & Controlling

Based on the word frequency analysis, the word “experts” (5.28%) is the most emerging term, followed by “work” (5.19%), and “set” (5.15%). The Implementation process also emphasizes the term “facilitators” (2.44%).

Word	Length	Count	Weighted Percentage (%)	Similar Words
experts	7	5	5.28	experts, practical, technical
work	4	9	5.19	business, play, practical, review, role, set, work
set	3	8	5.15	align, level, play, provide, set, work
objectives	10	9	5.12	business, content, divide, lot, material, module,
detailed	8	3	3.66	detailed, detailing, discussion
operational	11	5	3.05	operational, planning, practical, work
participants	12	3	2.68	back, participants
solutions	9	3	2.56	set, solutions
deadline	8	2	2.44	deadline, deadlines
facilitators	12	2	2.44	facilitators

Figure 7. Word Frequency for Implement – Monitoring & Controlling

Implement - Monitoring & Controlling has two main focuses: the implementation of learning programs and monitoring and controlling the development of learning materials. The learning team implemented a quality assurance method by the review process, to ensure that the learning materials have met the SOP based on company standards. *“Material development handled by LDV with the review from experts, while the alignment with business needs handled by LDS.”* Meanwhile, in implementation, the learning is deployed by the online and offline learning sessions. Facilitators need to ensure that they are able to accommodate the learning process of the participant, by providing solutions and relevant use cases, as described by participants: *“....and the experiences of the facilitators also play a big role, thus they can provide practical solutions for the participants”*.

Evaluating – Closing

The word frequency analysis shows several emerging terms, such as “content” (6.91%), followed by “evaluation” (6.08%)

Word	Length	Count	Weighted Percentage (%)	Similar Words
content	7	11	6.91	business, challenge, content, design, feedback, fulfill, material, result, topic
evaluation	10	5	6.08	challenge, evaluation

Figure 8. Word Frequency for Evaluating – Closing

The last stage is Evaluating - Closing highlights the importance of learning measurement which is conducted by using LIM metric from levels 1-5. Several points of evaluations from the participants regarding the learning process are the learning content and the delivery method from the facilitators. This shows that content and delivery are still dominant factors that impact the learning experiences. *“The most frequent topic is regarding the learning content, and then the way facilitators deliver the learning topics in class.”* The quantitative data such as pre and post-test and qualitative feedback from the participants become the basis of evaluation discussion between involved stakeholders. *“Level 1 in questionnaire form, Level 4 targeting business performances, and Level 5 is targeting the return of training investment.”* The evaluation result will ensure that the learning process is already completed and will impact the growth of business unit performance.

Area of Improvement

Business Strategy and ADDIE & PM analysis illustrate that several strategic areas have potential for further improvement. Area of Improvement identification will utilize the People, Process, and Technology (PPT) Framework. According to Prodan, Prodan, and Purcarea

(2015), this framework has been widely used across industries to improve organization and focus on these three areas (People, Process, and Technology).

People

People area is referring to individuals within organizations. This area focuses on the team's skills, knowledge, and capabilities that will support in achieving the company goals. This is also related to employee development, culture, and availability. Based on data analysis, we can conclude that the resource management area became an area that can be improved to support the company strategy. Resource in CUC can be categorized into three parts: expert, as they play a role in developing learning materials and maintaining the quality of the learning; team knowledge and ability to ensure that they can produce the learning outcomes that adhere to company standards; and theoretical references also considered as a resource due to its importance in building high-quality learning materials.

For internal resources such as team capability and knowledge, the company can utilize the Lesson Learned Register (LLR) to record the project situation, including tasks, challenges, risks, mitigation, and other related content that can be updated over time. This is important as it plays a role as documentation, ensuring that the evaluation of the project has been recorded, and is a benchmark for the next project. LLRs can be stored in Knowledge Management Repositories (KMR) so they can be accessed by the LDD team. Meanwhile, in managing external resources, CUC can evaluate performances based on the alignment between the initial requirements and outcomes produced. This becomes important to maintain the quality of the course. Therefore, CUC can implement Seller Performance Evaluation Documentation (SPED) that contains to assess the performance of the external parties.

Table 1. Area of Improvement - People

<i>Area of Improvement</i>	<i>Aspect</i>	<i>Current State</i>	<i>Improvement Area</i>	<i>Ideal State</i>	<i>Tools</i>
Resource Management	Expert	External vendor quality has varied standards.	Standardization and quality validation for the outcomes produced by external parties.	External experts have guidelines or SOPs that align with CUC learning materials development.	Seller Performance Evaluation Documentation (SPED)
		The need of internal experts	Internal expert mapping to ensure their availability based on their expertise	Organizing internal expert pool that is distributed based on their availability on schedule and topics of expertise	
	Team Knowledge & Availability	Internal team has the required certification to enhance their competency	Maintain knowledge management within the team	The team has competency that aligns with their respective roles	Lesson Learned Register (LLR)
	Theoretical References	Limited theoretical references	Strengthen integrated reference access, such as repositories and	The learning team has access to original references that are valid and	

	licenses.	relevant to developing learning materials
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Process

Process refers to a set of activities that are conducted to produce the outcomes, including protocols, standards, and dynamics during the process, such as communications, collaborations, participation, and evaluations. Based on interview results, we can identify four areas of improvement to enhance the learning process: Scalability Planning for High Impact Programs aims to document best practices that serve as a benchmark for the future program; Stakeholder Communication, mapping the communication stream between stakeholders involved; Learners Participation, highlights the learner's engagement in giving feedbacks for evaluation; and Learning Impact Measurement (LIM) to measure the impact of the learning outcomes. To optimize this improvement, the company can utilize organization tools such as a communication plan and stakeholder matrix. All of the information and knowledge obtained from the project can be stored in the repository with access for all stakeholders, to ensure that the transfer of knowledge and management can be executed properly. The measurement tools such as Phillips ROI can be a reference to assess the impact of learning outcomes, and its alignment with business strategy.

Table 2. Area of Improvement - Process

<i>Area of Improvement</i>	<i>Aspect</i>	<i>Current State</i>	<i>Improvement Area</i>	<i>Ideal State</i>	<i>Tools</i>
Scalability Planning for High Impact Programs	Program Scalability	A successful program has not been documented and replicated.	Require structured lessons learned and program documentation on systems.	High-impact programs could be documented properly and be replicated or adopted in the next program.	Knowledge Management Repository
Stakeholder Communication	Stakeholder Communication	No integrated communication system	Require integrated communication system that can be accessed by all stakeholders to provide real-time and documented communication	Providing structured communication system to ensure that the stakeholders hold the aligned information	Communication Management Plan
Learners Participation	Participant feedback engagement	Evaluation conducted through interview and feedback form, but the participation from learners is still low.	Requires a strategy to increase learners' engagement and participation to give active and	Learners contributed actively in evaluation, both from feedback form and discussion, thus the	Stakeholder Engagement Assessment Matrix

<i>Area of Improvement</i>	<i>Aspect</i>	<i>Current State</i>	<i>Improvement Area</i>	<i>Ideal State</i>	<i>Tools</i>
			consistent feedback.	result can be more representative.	
	Feedback Driven Learning Content Development	The minimum feedback from learners limiting learning team to capture the learners experiences and understand their needs comprehensively	Require evaluation systems that can integrate feedback results and learning materials improvement .	Feedback result can be the main source in learning improvement so it can be more relevant with learners needs.	
Learning Impact Measurement (LIM)	Learning Impact Measurement	Learning evaluation conducted until Level 4 (business performances), not yet conducted to Level 5 (ROI).	Need evaluation learning mechanism that could measure learning contribution to ROI.	Proven impact of learning on return on investment.	Phillips ROI

Technology

Technology refers to tools and systems utilized for the execution of the project. This can be in the form of software, hardware, and emerging technologies such as AI. CUC stated that they have a vision to be the first AI-based corporate university. Currently, AI has become an element in CUC's business strategy, growing from the beginning of AI implementation in 2024 and the enhancement to business performance in 2025.

Table 3. Area of Improvement - Technology

<i>Area of Improvement</i>	<i>Aspect</i>	<i>Current State</i>	<i>Improvement Area</i>	<i>Ideal State</i>	<i>Tools</i>
Technology	AI Tools	AI custom provided to support learning material development.	Integration of the utilization of AI in SOP, documentation, and system improvement, thus it can support daily tasks.	AI automatization can be implemented with integrated system cross units.	AI Technology Enhancement program by leveraging current LMS
	AI Literacy	CUC provides AI training for employees to increase their AI competency.	Strengthen AI literacy to implement AI in daily tasks.	AI can enhance the effectiveness and efficiency in the operational process, and	

			increase productivity.
Monitoring	No established monitoring & controlling system that can be used to evaluate the effectiveness of AI utilization.	Create the monitoring system of AI utilization in the LDD process.	Impact of AI implementation can be measured and can be evaluated to increase business performances.

Therefore, it is important to design a proposed process flow for enhancing AI Tools and AI Literacy. This aims to be a systematic and comprehensive approach to achieve the goal of CUC, which is “to be the first AI-based corporate university and implement AI to increase business performance in 2025”. The LMS will serve as the primary platform to deliver training, compile resources, assign tasks, and collect feedback from learners. Below is the process flow for AI enhancement in CUC:

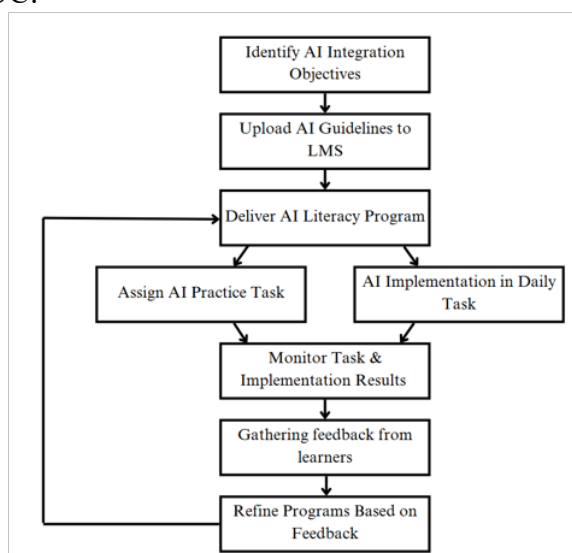


Figure 9. Proposed Process Flow for Enhancing AI Tools and AI Literacy

CONCLUSION

Proposed solutions focus on how *PM* tools and strategies could improve the areas identified. The proposed solution is classified based on the areas of improvement mentioned in the previous section: People (Lesson Learned Register to enhance internal team knowledge and Seller Performance Evaluation Documentation to maintain the quality of outcomes from external parties); Process (Communication Management Plan to clarify stakeholder communication flows, Stakeholder Engagement Assessment Matrix to measure learners' participation in the evaluation process, *Phillips ROI* as a proposed method for increasing Learning Impact Measurements to level 5, and utilizing the Knowledge Management Repository for Scalability Planning for High-Impact Programs); and Technology (AI Technology Enhancement program to increase employees' AI literacy and the implementation of AI tools in daily tasks).

Based on the conclusion, this study recommends the following actions to enhance the areas of improvement in *CUC*: optimizing the use of technology, especially AI, for implementing the integrated system; standardizing the documentation process to improve accountability,

transparency, and coordination throughout the *LDD* projects; and strengthening partnerships with external parties, as this has the potential to give *CUC* a wider perspective on the industries and competencies. The study is limited to the *LDD* process and does not include the learning process as a whole (such as delivery and measurement). Future studies could explore more regarding the measurement of learning, particularly its impact on long-term business goals.

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