EVALUATING THE BLADE LEADERSHIP DEVELOPMENT PROGRAM IN SUPPORTING PT BUKIT ASAM'S BUSINESS TRANSFORMATION

Andrika Lestari Rumahorbo[1]
Institut Teknologi Bandung, Bandung, Indonesia
andrikalestari95@gmail.com

Hary Febriansyah[2]
Institut Teknologi Bandung, Bandung, Indonesia
hary@sbm-itb.ac.id

Abstract

This study evaluates the effectiveness of the Bukit Asam Leadership Acceleration and Development (BLADE) Program in supporting PT Bukit Asam's (PTBA) strategic transformation agenda towards sustainable energy. Using the Kirkpatrick Evaluation Model (Levels 1–3) and Transfer of Training Theory, this qualitative case study explores how leadership competencies are learned and transferred into workplace behavior, as well as the alignment of the program with PTBA's transformation target of generating 30% non-coal revenue by 2030. Data were collected through semi-structured interviews with alumni, program organizers, and top management, supported by secondary data such as annual reports and program documentation. Findings indicate that the program successfully enhanced participants' leadership, interpersonal, and business management skills. However, transfer of learning varied across divisions, influenced by work environment and organizational support. While BLADE is aligned with PTBA's long-term strategy, the absence of a structured post-program monitoring system limits its sustainable impact. The study highlights the importance of post-training interventions and organizational alignment to maximize leadership development outcomes in state-owned enterprises.

Keywords: Leadership Development, Kirkpatrick Model, Transfer of Training, Business Transformation

INTRODUCTION

The coal mining industry in Indonesia is currently under significant pressure to transform. On the one hand, global energy markets are increasingly shifting toward renewable sources, while on the other, the Indonesian government has committed to ambitious carbon reduction targets. Through Presidential Regulation No. 98/2021, Indonesia aims to achieve Net Zero Emission (NZE) by 2060, supported by the Nationally Determined Contribution (NDC) to reduce emissions by 29% independently and up to 41% with international support by 2030. These policies signal a clear direction for energy transition and force coal-based companies to adapt in order to remain relevant.

For PT Bukit Asam Tbk (PTBA), one of Indonesia's strategic state-owned enterprises in the energy sector, this challenge is also an opportunity. The company has developed a carbon management roadmap until 2050, combining emission reduction efforts with diversification into renewable energy and coal-based chemical products. A key target is to generate 30% of revenue from non-coal businesses by 2030. Achieving this ambitious goal requires not only technological and business model innovations, but also organizational readiness, particularly in human capital. Past evidence suggests that many transformation initiatives fail due to internal factors such as weak strategy execution, resistance to change, and lack of leadership readiness. Therefore, leadership capacity is a critical enabler of PTBA's transformation.

To address this need, PTBA introduced the Bukit Asam Leadership Acceleration and Development (BLADE) Program, targeted at third-level leaders (BOD-3). Positioned as a strategic investment, BLADE aims to prepare future leaders with strong leadership, interpersonal, and business management skills relevant to the challenges of energy transition. The program combines classroom learning, cross-functional projects, mentoring, and strategic exposure, ensuring that leadership development is embedded within real business contexts.

Despite its potential, the effectiveness of BLADE remains unclear. Current evaluations have been limited to administrative aspects such as attendance, participant satisfaction, or facilitator performance, without assessing whether the learning is truly internalized, transferred to workplace behavior, and aligned with PTBA's strategic transformation agenda. Without systematic evaluation, leadership programs risk becoming symbolic initiatives rather than strategic drivers of change.

Against this backdrop, this study aims to evaluate the effectiveness of the BLADE program using the Kirkpatrick Evaluation Model (Levels 1–3), complemented by Transfer of Training Theory, to examine how participants learn, apply, and sustain leadership competencies in the workplace. Furthermore, the study explores the alignment between BLADE outcomes and PTBA's strategic transformation targets.

REVIEW OF LITERATURE

Training and Development in Organizations

Training and Development (T&D) is an important part of human resource management. Training is short-term and focuses on skills needed for the current job, while development is long-term and prepares employees for future roles and challenges (Noe et al., 2017). T&D is useful at three levels: individual, team, and organization. It increases knowledge and motivation, improves teamwork, and supports productivity and innovation

(Aguinis & Kraiger, 2009). From the Resource-Based View, employees are a strategic asset that is unique and hard to copy (Wright & McMahan, 2011). Continuous investment in T&D helps the company maintain a competitive advantage. Without T&D, organizations face risks such as lower skills, less innovation, higher turnover, and weaker public image (Arthur et al., 2003).

T&D is also important for organizational change. Studies show that changes in strategy or structure will not succeed if employees are not prepared with the right capabilities (Burke & Litwin, 1992; Kotter, 1996). In the era of globalization and Industry 4.0, T&D supports organizational learning and helps companies adapt to change (Cascio & Boudreau, 2016). For PT Bukit Asam (PTBA), T&D is very relevant because the company is transforming from a coal-based business to renewable energy and sustainable chemical products. The BLADE Program is one of PTBA's main investments to prepare future leaders. However, the effectiveness of such programs must be evaluated systematically. Without evaluation, training may only be ceremonial. With proper evaluation, T&D becomes a real driver of competitive advantage and long-term transformation success.

Leadership Development Programs

Leadership Development Programs (LDPs) are systematic efforts to improve leadership capacity and prepare organizations for future challenges. Leadership development is a continuous process that combines formal and informal learning to build skills, values, and behaviors needed for strategic goals (Day, 2000). An effective LDP must include five elements: clear needs assessment, correct participant selection, relevant curriculum, support from supervisors and the organization, and structured evaluation (Leskiw & Singh, 2007). Studies also show that programs using multiple methods—such as classroom training, action learning, mentoring, and coaching—are more successful in improving leadership skills (Collins & Holton, 2004). In modern organizations, experiential learning is especially important. This includes real assignments, job rotation, and cross-functional projects, which are then reinforced through reflection, feedback, and integration with formal training (McCauley & Van Velsor, 2004).

The main challenge of LDPs is ensuring learning transfer, meaning the knowledge and skills gained are applied in daily work. Transfer depends on participant characteristics, training design, and workplace support (Baldwin & Ford, 1988). Without these, LDPs risk being only classroom exercises without impact. Organizations therefore need to provide strong support systems such as coaching, monitoring, and linking learning results with performance management (Burke & Hutchins, 2007). In state-owned enterprises and the energy sector, LDPs are especially strategic because they help organizations face business transitions. Research shows that LDPs tied directly to transformation projects create leaders who are more adaptive and ready for strategic challenges (DeRue & Wellman, 2009). PT Bukit Asam's BLADE Program is one example. It combines training, mentoring, project-based learning, and business immersion to prepare BOD-3 leaders for the company's energy transformation. However, its effectiveness has not yet been fully evaluated, making systematic evaluation essential to ensure BLADE contributes not only to individual growth but also to PTBA's transformation agenda.

Learning Transfer Theory

Learning transfer is one of the most important indicators of training effectiveness. It does not only mean that participants understand the material, but also that they can apply the

learning in their work and contribute to the organization. Baldwin and Ford (1988) define transfer of training as the degree to which knowledge, skills, and attitudes gained in training are applied on the job. This definition includes three aspects: acquisition of knowledge, retention over time, and application in real work settings. Later studies expanded this to include generalization to different contexts and long-term maintenance (Grossman & Burke, 2023). Without transfer, training produces only "latent knowledge," not real change in behavior. In fact, many studies show a "transfer gap," where less than half of what is learned in training is actually used at work (Saks & Belcourt, 2020).

The Baldwin and Ford model identifies three main factors that influence transfer: trainee characteristics, training design, and work environment. Trainee characteristics include cognitive ability, self-efficacy, and motivation to apply learning. Training design focuses on how relevant the content is, the use of participatory methods like case studies and simulations, and opportunities for structured practice with feedback. The work environment plays a very important role, including supervisor and peer support, organizational culture, and opportunities for practice and monitoring. In the case of the BLADE program, some participants came from supportive units where supervisors gave them room to try new leadership skills, while others returned to rigid environments where new behaviors were harder to apply.

Recent research has added two more important elements: transfer climate and follow-up interventions. Transfer climate refers to the signals and consequences in the workplace that shape how safe and worthwhile it is to apply new skills (Burke & Hutchins, 2007). When the organization provides recognition, psychological safety, and reinforcement, participants are more likely to use new behaviors. Follow-up interventions are also critical. Studies show that post-training coaching, action learning projects, and supervisor check-ins help maintain and expand learning transfer, especially for leadership programs that require long-term behavioral change (Blume et al., 2024). Without these supports, training effects fade quickly, even if the classroom experience was positive.

Based on this framework, evaluating leadership programs like BLADE must go beyond Level 1 (Reaction) and Level 2 (Learning) of Kirkpatrick's model. It should also focus on Level 3 (Behavior), where real transfer can be observed in the workplace. For PT Bukit Asam, this means asking whether BLADE alumni are applying transformational leadership in cross-unit projects, showing initiative, and contributing to strategic change. Transfer is not an automatic outcome of training design; it is the product of interaction between individual readiness, quality of training, and organizational support. In short, without transfer, training is only a cost; with transfer, training becomes a tool of transformation.

Training Evaluation Theory: Kirkpatrick Model

Training evaluation is important to know how far a program meets its goals and produces real impact for participants and the organization. One of the most well-known frameworks is the Kirkpatrick Four-Level Training Evaluation Model, first introduced in 1959 and later updated to fit modern organizations (Kirkpatrick & Kirkpatrick, 2006). The model measures training at four connected levels: reaction, learning, behavior, and results. Each level builds on the one before it, moving from basic participant satisfaction to organizational outcomes.

Level 1 (Reaction) measures how participants feel about the training, including satisfaction with facilitators, materials, methods, and logistics. Positive reaction is important because it increases motivation to learn, but it does not guarantee real learning. Level 2 (Learning) looks at the knowledge, skills, and attitudes that participants gain. This can be measured with pre-tests and post-tests, case studies, quizzes, or simulations. In leadership programs, learning also includes understanding leadership concepts and values, not just technical skills. Studies show that participatory and experience-based methods produce stronger learning outcomes than traditional lectures. Level 3 (Behavior) focuses on how much participants apply what they learned in the workplace. This is often the hardest to achieve, because it depends not only on the participant but also on the work environment, culture, and supervisor support.

Level 4 (Results) is the highest and most complex. It measures the impact of training on organizational performance, such as productivity, employee retention, customer satisfaction, or return on investment. However, as Bates (2004) notes, this is difficult because many external factors also affect results. Organizations often use triangulation or balanced scorecard methods to connect training to broader performance indicators. For PTBA's BLADE program, results can be seen in alumni contributions to strategic projects, promotions, and team leadership effectiveness. Overall, the Kirkpatrick model provides a systematic and comprehensive framework to evaluate training effectiveness. In the context of PTBA's transformation, it helps connect leadership development programs with real organizational change. Still, its success depends on integrating evaluation from the program design stage and ensuring that post-training follow-up is carried out.

Conceptual Framework

The conceptual framework illustrates the logical flow of this study, starting from PTBA's urgent business transformation needs. With over 98% of its revenue still derived from coal in 2023–2024, the company faces a strategic challenge to diversify its portfolio and achieve the target of 30% non-coal revenue by 2030. Addressing this challenge requires adaptive and transformational leadership capable of guiding the organization through energy transition and sustainability demands. The BLADE Program is positioned as PTBA's strategic leadership development initiative to prepare BOD-3 leaders as drivers of change who can translate corporate strategies into operational realities.

To evaluate its effectiveness, this study employs the Kirkpatrick Evaluation Model (Levels 1–3) combined with Transfer of Training Theory. These models ensure that the analysis captures not only participant satisfaction and learning, but also the transfer of competencies into workplace behavior and the organizational conditions that enable or hinder this process. The evaluation results are then analyzed through thematic and conceptual approaches, including gap analysis and SWOT analysis, to identify alignment with PTBA's transformation agenda. This comprehensive framework ultimately leads to conclusions about program effectiveness, the degree of alignment with organizational transformation, and evidence-based recommendations for improvement. The conceptual framework of this study is presented in Figure 2.1, which illustrates the logical flow of the research design.

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Figure 1.
Conceptual Framework

RESEARCH METHOD

Research Design

This study employed a qualitative case study design to evaluate the effectiveness of the Bukit Asam Leadership Acceleration and Development (BLADE) Program in supporting PT Bukit Asam's business transformation agenda. A case study approach is considered appropriate because it enables researchers to explore complex social and organizational phenomena in depth and within their real-life context (Yin, 2018). Rather than attempting to generalize findings across organizations, this design focuses on obtaining a rich and detailed understanding of leadership development in one strategic case, namely PTBA, a state-owned enterprise that is currently undergoing an energy transition.

The research design is also aligned with an interpretivist paradigm, which assumes that organizational realities are socially constructed and best understood through the perspectives and experiences of individuals involved (Creswell, 2014). By engaging directly with program alumni, Human Capital representatives, and managers, the study seeks to uncover meanings, perceptions, and interpretations regarding the effectiveness of the BLADE program. The design follows an Input–Process–Output (IPO) logic: the input being PTBA's transformation needs and BLADE's objectives, the process being the implementation and learning experiences, and the output being leadership competencies and their transfer to workplace behavior.

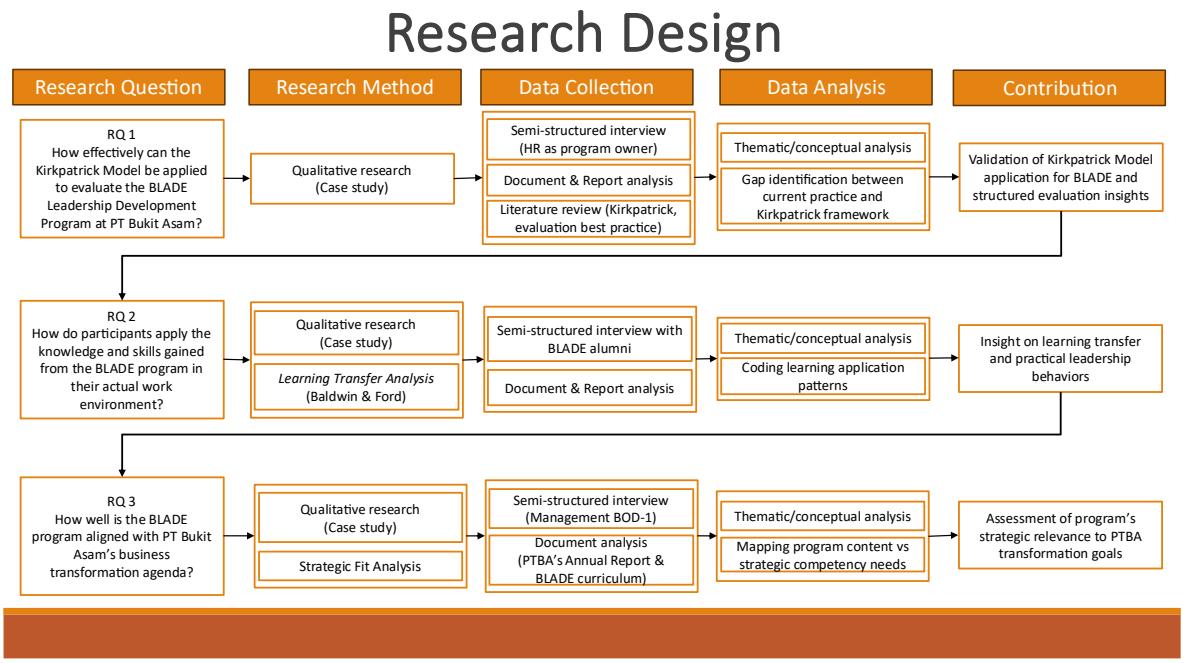

Figure 2.
Research Design Flow

Data Collection Method's

Primary Data

Primary data were obtained through semi-structured interviews with three key stakeholder groups:

1. BLADE alumni to capture their reactions to the program (Level 1), their perceived learning outcomes (Level 2), and their ability to apply knowledge and skills in their workplace (Level 3). Alumni perspectives are essential for understanding how training is experienced and whether competencies are transferred into real behavior.
2. Human Capital Division representatives to provide insight into the program's design, objectives, selection mechanisms, and implementation. Their inputs help to understand the organizational rationale behind BLADE and the challenges in execution.
3. Line managers and senior management (BOD-1 level) to assess behavioral changes among alumni and the perceived contribution of the program to strategic projects. This perspective is crucial for linking individual learning outcomes with organizational needs.

Interviews were guided by an interview protocol developed based on the Kirkpatrick Model and Transfer of Training Theory, ensuring that questions covered reaction, learning, behavioral change, and organizational support. Open-ended questions encouraged participants to reflect and share narratives, while probes were used to clarify and expand on critical points. All interviews were conducted in a confidential setting, recorded with consent, and later transcribed verbatim for analysis.

Secondary Data

To complement the interview data and strengthen triangulation, secondary data sources were also utilized. These included PTBA's corporate reports (annual and sustainability), official documents outlining the company's transformation agenda, as well as internal reports and materials related to the BLADE program, such as training curricula,

participant profiles, and evaluation forms. The use of secondary data not only allowed interview findings to be cross-checked against organizational evidence but also enhanced the validity of the research by situating participant perspectives within the broader strategic and operational context of the company.

Data Analysis Method's

This study employed thematic analysis as the primary method for interpreting qualitative data, which is widely recognized for its ability to identify, analyze, and report recurring patterns of meaning (Braun & Clarke, 2006). Thematic analysis was considered suitable because of its flexibility in capturing both explicit and latent content, allowing the researcher to explore how participants experience leadership development, apply learning in their workplace, and perceive the relevance of the BLADE program to PTBA's transformation. The process involved a series of six iterative steps, beginning with familiarization through repeated reading of interview transcripts and organizational documents, followed by the generation of initial codes to highlight significant features of the data related to leadership competencies, learning transfer, and program outcomes. These codes were then grouped and refined into broader categories, which evolved into themes representing core ideas across the dataset. Once themes were established, they were reviewed for internal consistency and external distinctiveness, before being clearly defined, named, and aligned with the conceptual framework of the study. Finally, the themes were synthesized into a coherent narrative that directly addressed the research questions.

To enhance the robustness of the findings, thematic analysis was complemented with two additional approaches, namely Gap Analysis and SWOT Analysis. Gap Analysis was used to identify discrepancies between the actual outcomes of the BLADE program and PTBA's expected leadership competencies to support its strategic transformation. This step enabled the study to highlight where program outputs fell short and what adjustments might be necessary to ensure alignment with organizational needs. Meanwhile, SWOT Analysis provided a structured lens to assess the program's internal strengths and weaknesses, as well as external opportunities and threats. This dual perspective allowed the researcher not only to evaluate effectiveness but also to derive strategic insights for the continuous improvement of the program.

The integration of thematic analysis with gap and SWOT analysis created a comprehensive analytical framework. Thematic coding ensured that insights remained grounded in the lived experiences of participants, while gap and SWOT analysis translated those insights into organizationally relevant implications. Together, these methods bridged the micro-level—how individuals learn and transfer leadership behaviors—with the macro-level—how leadership development aligns with PTBA's transformation agenda. As a result, the analytical process not only generated academically rigorous findings but also produced practical recommendations to strengthen BLADE as a strategic instrument for preparing PTBA's future leaders.

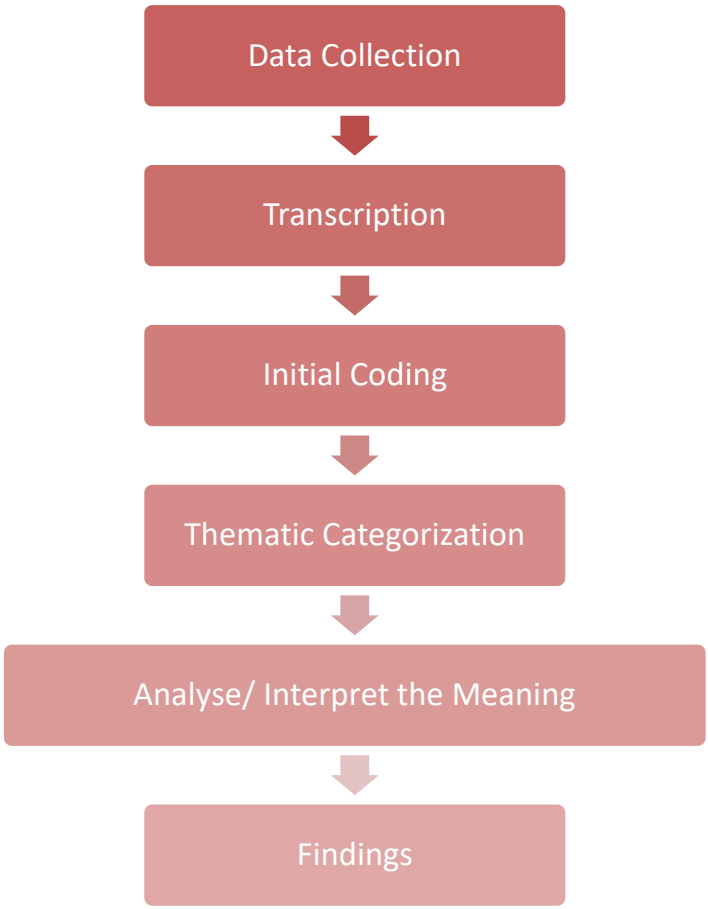

Figure 3.
Flowchart of Thematic Data Analysis Procedure

RESULTS AND DISCUSSION

Effectiveness of the BLADE Program (RQ1)

The BLADE Program was formally designed to build leadership, interpersonal, and business–management competencies (BLADE Report, 2024). Evaluation using Kirkpatrick's framework confirms that the program achieved positive results at Level 1 (Reaction) and Level 2 (Learning). Alumni consistently reported satisfaction with the program structure, methods, and facilitators, with immersion and mentoring activities regarded as highly effective in creating new insights. These findings resonate with Day (2014) and McCauley & Van Velsor (2004), who argue that experiential and mentoring-based learning increases participant engagement and accelerates leadership identity development.

At the learning level, participants noted improvements in leadership self-awareness, communication, and strategic thinking—competencies that are also emphasized in PTBA's Annual Report (2024) as essential for driving diversification and transformation. However, the depth of learning varied: while some participants internalized new frameworks and tools, others struggled to connect conceptual material to daily operational challenges. This reflects the tension noted in Kirkpatrick & Kirkpatrick (2021), that positive reactions and knowledge gains do not automatically ensure retention or deep application. Thus, while BLADE is

effective in building foundational competencies, its contribution to transformational readiness remains incomplete without mechanisms for sustained learning.

Application of Learning in the Workplace (RQ2)

At Level 3 (Behavior), evidence of transfer of training emerged but was uneven across organizational contexts. Alumni assigned to strategic initiatives such as downstream development or digitalization demonstrated greater application of leadership tools, including improved collaboration and proactive decision-making. Supervisors also confirmed observable changes in confidence and initiative. In contrast, alumni in highly operational units faced barriers, including workload pressure, rigid structures, and limited supervisory support, which restricted behavioral experimentation.

These findings align with Baldwin & Ford's (1988) classic transfer model, which highlights that learning outcomes depend on the interplay between trainee motivation, training design, and work environment. In PTBA's case, while design and individual motivation were adequate, the transfer climate varied significantly. Burke & Hutchins (2007) emphasize that supervisor support and organizational reinforcement are decisive in sustaining behavioral change; this was clearly reflected in the testimonies where supportive supervisors acted as enablers, while passive ones constrained application.

It is also notable that BLADE was originally designed with mentoring and action learning projects to promote transfer (BLADE Report, 2023). The inconsistent implementation of these mechanisms illustrates a design–practice gap. From a strategic lens, the PTBA Annual Report (2023–2024) underscores "people transformation" as a pillar for diversification. However, without consistent transfer, BLADE risks remaining at the level of latent knowledge, rather than serving as an engine of organizational transformation.

Evaluating the Alignment between BLADE and PTBA's Transformation Agenda (RQ3)

From a strategic perspective, BLADE demonstrates partial relevance to PTBA's transformation agenda. The program successfully cultivated adaptability, collaboration, and strategic awareness, all of which are highlighted in PTBA's Annual Report (2023–2024) as prerequisites for achieving the 30% non-coal revenue target by 2030 and contributing to the Net Zero Emission 2060 commitment. Alumni involved in renewable energy and digitalization projects provided tangible examples of applying program lessons, reinforcing its potential contribution.

Yet, interviews with top management reveal important curriculum gaps. The program remains relatively generic, emphasizing general leadership skills while insufficiently addressing transformational competencies such as sustainability leadership, digital transformation, foresight, and innovation. Literature on global energy transition leadership emphasizes these areas as critical (Schiuma et al., 2024; Zhang et al., 2025). Without explicit inclusion of such competencies, BLADE risks producing competent operational managers rather than visionary leaders equipped to navigate disruption in the energy industry.

The analysis deepens this picture. Strengths include management commitment, relevant content design, and high participant engagement. Weaknesses include the lack of post-program monitoring, inconsistent supervisor involvement, and weak linkage to performance systems. Opportunities exist to formalize alumni communities of practice and leverage them as change agents in transformation projects. Threats include organizational inertia, competing operational priorities, and external uncertainty in the energy market. These

results echo Ni, Xu, & Jiang (2022), who argue that leadership programs achieve organizational impact only when embedded in systemic processes.

CONCLUSION

This study evaluated the effectiveness of the Bukit Asam Leadership Acceleration and Development (BLADE) Program in supporting PT Bukit Asam Tbk's (PTBA) transformation agenda using the Kirkpatrick Evaluation Model (Levels 1–3) and Transfer of Learning theory. Three dimensions were analyzed: program effectiveness, workplace application of learning, and program relevance to PTBA's transformation strategy.

The findings indicate that BLADE is effective in generating positive reactions and knowledge gains, particularly through immersion, mentoring, and collaborative learning. Evidence of behavioral change was also observed, though uneven and highly dependent on supervisor support and organizational climate. From a strategic perspective, the program shows partial relevance to PTBA's transformation agenda, contributing to adaptability and strategic awareness but still limited in sustainability, digital leadership, and innovation competencies.

These findings reinforce Kirkpatrick's and Baldwin and Ford's theories by showing that program design alone does not guarantee transfer, and that organizational climate plays a decisive role. For PTBA, the implication is that leadership development can serve as a catalyst for transformation only when outcomes are embedded in performance systems and linked to strategic projects. In conclusion, BLADE has established a strong foundation but requires deeper curriculum enrichment and stronger organizational integration to fulfill its role as a driver of PTBA's transition toward a diversified and sustainable energy future.

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