

IMPROVING TECHNICAL TRAINING PERFORMANCE WITH KNOWLEDGE MANAGEMENT PRINCIPLES

Taufiqurokhman*

Faculty of Social and Political Sciences, Universitas Muhammadiyah Jakarta

Watriningsih

Faculty of Economics and Business, Universitas Prof. Dr. Moestopo (Beragama), Jakarta

Lilik Sumarni

Faculty of Social and Political Sciences, Universitas Muhammadiyah Jakarta

*Correspondence: taufiqurokhman@umj.ac.id

ARTICLE INFO

Article History:

received: 24/10/2023

revised: 29/11/2023

accepted: 30/12/2023

Keywords:

Performance; Knowledge; management principles

DOI:

10.32509/mirshus.v3i2.53

ABSTRACT

Corporation implements “Khatulistiwa” Program as one of its Employee Development Programs (EDP) which main purpose is to accelerate learning process for fresh graduate new employees in the first five years of their career. Based on the survey result and the focus group discussion, there are two valid root causes of the problem, which are training planning process quality and training execution quality. The focus group discussion also resulted in business solutions to solve the problem by considering KM Metrics (Participation, Capture and Reuse) including: improve planning process and availability of training information by improving web-based information system, add more Guided Experience (GE) program and utilize IBU Subject Matter Expert (SME) to reduce dependency on overseas instructor as well as to encourage participation, capture and reuse of information within business unit, and using technology for implementing long distance learning (tele-conference training, etc).

INTRODUCTION

Employee development is a key contributor to a company's competitive advantage (Theodoridis & Kraemer, n.d.-a). It helps employees to understand their strengths, weaknesses, and interests. It is a necessary component of a company's effort to compete in the new economy, to meet the challenges of global competition and social changes, and to incorporate technological advances and changes in work design. Four approaches are used for employee development: formal education, assessment, job experiences, and interpersonal relationship (Theodoridis & Kraemer, n.d.-b). Concluded that mentoring, job

assignment, 360-degree feedback, executive coaching, and action learning are the most prevalent leadership development practices in the 21st century. Further study (Theodoridis & Kraemer, n.d.-b) concluded that training activities have an impact on the relationship of “leadership development” on “organizational effectiveness” and is a necessary part of leadership development program. Therefore, it can be concluded that employee development method consists of many approaches: formal education (courses, seminar), assessment/feedback, job assignment, interpersonal relationship (mentoring, coaching), action learning and training. From knowledge management

perspective, some of these employee development program approaches, which are courses and seminars, are part of knowledge sharing activities. This statement is a conclusion from four modes of knowledge sharing mentioned by Nonaka & Takeuchi (2022) and the statement (Theodoridis & Kraemer, n.d.-a).

XYZ is one of the world's leading integrated energy companies. In Indonesia, XYZ operates through three of its subsidiaries, XYZ Sumatera, XYZ Kalimantan and XYZ Geothermal and is organized in IndoAsia Business Unit (IBU). Employee Development Program in XYZ IBU is managed by Human Resource (HR) Department which by hierarchy is located under XYZ Sumatera organization. HR Department scope of service covers all of XYZ IBU, including XYZ Sumatera, XYZ Kalimantan and XYZ Geothermal (Management et al., 2020).

XYZ Corporation implements "Khatulistiwa" Program as one of its Employee Development Programs which the main purpose is to accelerate learning process for out-of-college or fresh graduate new employees in the first five years of their career. The program's curriculum is divided into three components: trainings, job assignment and mentoring. Currently XYZ in IBU-Indonesia faces some challenges related to the implementation of one component of the program, which is training (Geoghegan et al., 2021).

Based on its November 2021 HR People Development Scorecard, there are only 48 person of IBU-Indonesia "Khatulistiwa" Participants who are "On-Track" for technical trainings compliance. The other 52 persen are either in "Flag" or "Off-Track" status (see **Error! Reference source not found.**). Definition of each status is shown in Table 1.

If this condition is remained unresolved, this will delay the graduation of many "Khatulistiwa" Participants which in turn could not meet the main purpose of this program to accelerate the participant's technical competency in the first five years.

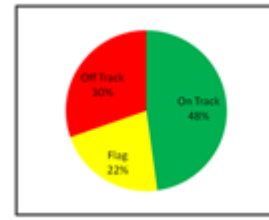


Figure 1. IBU-Indonesia "Khatulistiwa" Technical Training Performance Metrics as of November 2021

Table 1. Definition of "Khatulistiwa" Technical Training Compliance Status

Status	Definition
On Track	Completed 95 persen or more of recommended technical training based on the number of months in Programs.
Flag	Completed less than 95 persen and more than 75 persen of recommended technical training.
Off Track	Completed 75 persen or less of recommended technical training years.

On the other hand, XYZ Corporation has implemented Knowledge Management to improve its competitive advantage by enabling the corporation to create organization that learns faster and better than competitors through benchmarking, sharing and implementing best practices, learning from experience and continuous individual learning and personal growth (Eka et al., 2012).

This research is conducted to help solve the low "Khatulistiwa" Technical Training performance. In line with XYZ CEO's message to utilize Knowledge Management in solving knowledge related problem in PT. XYZ, this research will, therefore, integrate employee development at "Khatulistiwa" with Knowledge Management Framework. By using KM Framework (People-Process-Technology), this study will:

1. Investigate the root-causes of low training performance in "Khatulistiwa" program.
2. Develop improvement plan to resolve that condition.

The scope of this research is limited to the following extents:

1. The scope of the study covers only the technical training components of the “Khatulistiwa” Program.
2. The scope of the study covers only XYZ IBU Indonesia organizations.
3. The improvement plans which will be implemented are the ones which are under the authority or job circumstances of HR department. Any other improvement plans that must be done by other department/supporting department should be assessed in a separate study.

Business Issue Exploration: Conceptual Framework

Based on Knowledge Management Framework (Liebowitz, 2012), there are three major components for successful Knowledge Management program implementation: People, Process and Tools (Hamdan et al., 2019). This research will be studied based on the abovementioned components as can be seen in Figure 2.

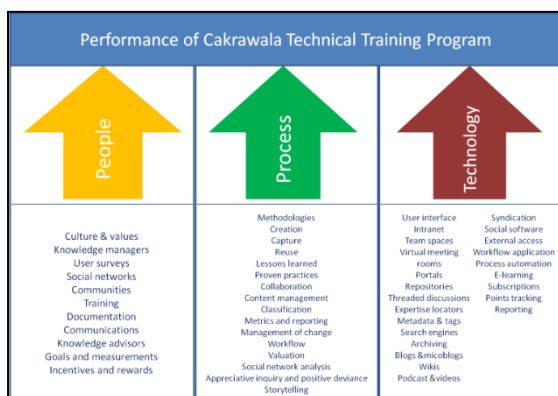


Figure 2. Conceptual Framework

People play important part in the success of implementation of knowledge management program. It serves as enabler as well as the doer of the program. Participants as doers have significant impact on the program success by their participation and ability to implement the

learning to the real jobs. Leaders as enablers also have significant impact on the program success. Leaders have the authority to release or not release their members to attend the training based on the consideration of business needs and their organization situation. Leaders also have the responsibility to ensure that their “Khatulistiwa” participant’s members meet with the program objective and that they are able to implement their learning in order to improve their capability (Theodoridis & Kraemer, n.d.-b).

Process plays important part in the success of the program. “Khatulistiwa” Program is basically arranged and facilitated by HR department. HR department has the responsibility to ensure the program is well managed and measured so that the objective can be met. HR department also responsible to ensure the training content is aligned with corporate curriculum. HR must also maintain good workflow in planning and executing the program.

For “Khatulistiwa” technical training program, technology is required especially for tracking, archiving and reporting technical training implementation (Models, 2016).

Procedure in Exploring the Problems

To identify the possible root causes of the problem faced by “Khatulistiwa” program, an email was distributed to 12 people who are “Khatulistiwa” participants, “Khatulistiwa” alumni, and “Khatulistiwa” mentors. The respondents were chosen based on following criteria:

1. “Khatulistiwa” participants who has been in the program for at least 3 years. This is to ensure that they already have certain level of knowledge and experience in “Khatulistiwa” Program execution.
2. “Khatulistiwa” alumni who graduated from the program within the last 2 years. This is to ensure that they still remember their experience during joining “Khatulistiwa” Program.

3. “Khatulistiwa” mentors who are currently active in mentoring “Khatulistiwa” participants.

This is to ensure that they understand the expectations from “Khatulistiwa” programs. The email consists of problem overview about training compliance. The respondents were given 4 days to provide their opinions about possible root cause of the problem. Other than that, they were also asked for relevant survey questions related with those possible root causes. Survey questions that were gathered from the respondents were then used to further

develop the questionnaire for this study. From all of the respondents, some of them responded via email, and some of them responded via verbal discussion or interview (Geoghegan et al., 2021).

Based on email responses, there are several possible root causes have been identified that could affect “Khatulistiwa” Technical Training Performance related to each KM components mentioned earlier. These possible roots caused are then validated by “Khatulistiwa” Process Advisor. The summary of the possible root causes is shown in **Error! Reference source not found..**

Table 2. Possible Root Causes for Low “Khatulistiwa” Technical Training Performance

Components	Possible Root Causes	Variables
People	Lack of awareness from “Khatulistiwa” Participant, because of: a. Lack of program knowledge from participants b. Participants put training in lower priority compared to personal leave/days off. c. Participants don’t think graduating from “Khatulistiwa” program is important.	Participants Awareness
	Lack of awareness and support from the Leader of the “Khatulistiwa” Participants related with “Khatulistiwa” Technical Training, because of: a. Lack of socialization b. Leaders are not willingly support the program (merely to comply with company regulation)	Leaders Awareness and Support
Process	Leaders didn’t find the outcome of training program has significant contribution to their organizations.	Training Program Quality
	1. Training schedule was conflicted with other important schedule (Business trip, leave or day off). 2. Leader of the “Khatulistiwa” Participants were aware of the requirement however they were hesitate to release their members to attend training because of too many training days required in one year for “Khatulistiwa” Participants. 3. Leaders of the “Khatulistiwa” Participants were hesitate to release their member because they didn’t have enough resources to cover the jobs during training. 4. Leaders of the “Khatulistiwa” Participants didn’t allocate budget for the required training at that year	Planning Process Quality
	Training class was not available/cancelled.	Execution Quality
Technology	Lack of tracking tool	Tracking Tools Quality

METHOD

In order to validate those possible root causes, questionnaire surveys have been conducted to Leaders and Participants separately. Different set of question are distributed to 112 “Khatulistiwa” Leaders and 320 “Khatulistiwa” Participants through

company survey system. The study is conducted through questionnaire without changing the natural environment of the organization (minimally interference study). Response rate is 38 percent for leaders and 54 percent for participant. Questionnaire survey is used as primary data. “Khatulistiwa” Program Tracking database

and literature study are used as secondary data (Models, 2016).

The survey questions were derived by email responses from email respondents who provided their opinions on possible root causes and relevant survey questions. The questions are then sorted and grouped into several categories based on each possible root cause variables. The questionnaires were then validated by “Khatulistiwa” Process Advisor who reviewed and provided feedback on the questions, their applicability and the correlation with each parts or variables (Models, 2016).

Leaders’ Questionnaire Set consists of 54 questions, which are divided into seven parts: general information, awareness & support, training program, training planning and scheduling, training execution and availability, tracking and tools, suggestions for improvements. Participants’ Questionnaire Set consists of 35 questions, which are divided into six parts: general information, awareness & support, training program, training execution and availability, tracking and tools, suggestions for improvements.

The collected data is analyzed by descriptive statistic to find the tendency of each variable. Every survey question may have different step for analysis based on its type as follow:

1. Multiple choice question with 4 scale answers: Extremely aware (4), Aware (3), Not Aware (2), Extremely Not Aware (1) and extremely agree (4), Agree (3), Not Agree (2), Extremely Not Agree (1). Four scales is chosen to avoid neutral response. Data analysis for this type of question is to count the frequency of occurrence for every answer. The frequency of each answer is then multiplied by respective scores and summarized as total score for each question which will be converted to percentage by dividing it by maximum score of the question. Total scores (percent) of several questions from same variables/factors are then

averaged to find the average score (%).

To interpret the score, assessment criteria is required. Assessment criteria consist of 4 criteria each with range of score which are ranging from minimum to maximum possible score as shown in

Table 3. These assessment criteria refer to the same criteria used by Ningrum (2012).

Table 3. Assessment Criteria Based on Percentage

No	Percentage	Assessment Criteria
1	25% - 43.75%	Very Poor
2	> 43.75% - 62.5%	Poor
3	>62.5% - 81.25%	Good
4	>81.25% - 100%	Excellent

2. Multiple choice question with yes/no answer. Data analysis for this type of question is to count the frequency of occurrence for every answer. The result is shown in pie chart.
3. Multiple choice questions with several choices depend on the question. Data analysis for this type of question is to count the frequency of occurrence for every answer. The result is shown in pie chart.
4. Multiple choice question with frequency choices: never, 1x, 2x, >2x. This is to measure the frequency of occurrence of any event. Data analysis for this type of question is to count the frequency of occurrence for every answer. The result is shown in bar chart.
5. Open ended question for improvement suggestion for e-Hoist tracking tools, technical training program and overall “Khatulistiwa” program. Data analysis for this type of question is to count the frequency of occurrence for similar answers. The result is shown in table.

Survey analysis results were then validated by Focus Group Discussion (FGD) involving

“Khatulistiwa” Process Advisor and HR Training Specialist.

RESULT AND DISCUSSION

Table 4.

Survey Result Analysis: Leaders’ Awareness
The distribution of respondent’s feedback related with Leaders Awareness is shown in

Table 4. Respondents Feedback for Leader Awareness Variable

Question	EA	A	NA	ENA	Total Count	Total Score	Max Score
LA1. Are you aware of training requirements that must be completed by your Cakrawala team member in order to graduate?	2	38	3	0	43	128	172
	5%	88%	7%	0%	100%	74.42%	
LA2. Are you aware that the trainings that will be counted as Cakrawala Graduation Requirement are only Technical Training (Soft skills training and other compliance training are not counted)?	3	31	9	0	43	123	172
	7%	72%	21%	0%	100%	71.51%	
LA3. Are you aware that your Cakrawala members are targeted to attend, in average, 17 days of Technical Training for one year in order to meet Cakrawala Program	2	32	9	0	43	122	172
	5%	74%	21%	0%	100%	70.93%	
LA4. Are you aware that your Cakrawala members Technical Training progress are monitored by IBU Scorecard?	3	31	9	0	43	123	172
	7%	72%	21%	0%	100%	71.51%	
Average Total Score	124						
Average % Score	72.09%						

As shown in

Table 4, 94 persen of the leaders are either aware or extremely aware of the training requirement that must be completed by their team members in order to graduate from “Khatulistiwa” program. Majority of them also either aware or extremely aware of the training requirement for graduation. Majority of them also either Aware or Extremely Aware that they are targeted to attend, in average, 17 days technical training in year and that their training progress are monitored in IBU Scorecard. The average score for this variable is 72.09 percent. Based on assessment criteria shown in

Table 3, this score is considered as Good.

Figure 3 shows the respondent response on “Khatulistiwa” program socialization and its effectiveness. Most of the respondents have ever received the socialization. Most of them received the socialization through newsletter/email and the rest from workshop or other method. More than half of the respondents find that the socialization process is effective. However, based on respondents’ responses, half of the respondents which receive the socialization through newsletter/email

think that that method is not effective enough. This is quite different compared to workshop which all of the respondent gave positive feedback on the effectiveness of the method.

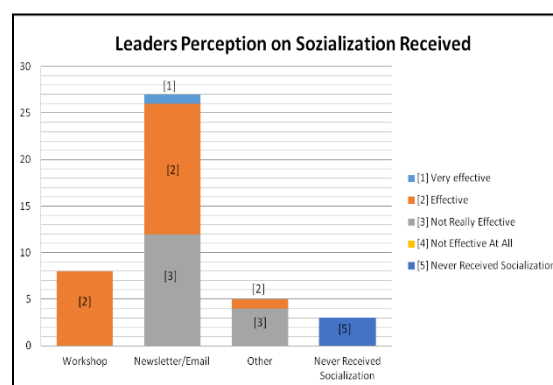


Figure 3. “Khatulistiwa” Program Socialization and Its Effectiveness

Based on survey, 100% of the leaders said that they are willingly support their members join “Khatulistiwa” program. From all of the leader respondents, 91% of them stated that their reason to support is to develop their members’ capability and 4% of them stated that it is to comply with company regulation. The rest 5% answer other reason and when further asked to

specify, they answer that their reason to support their members joining “Khatulistiwa” program are both to develop their members capability as well as comply with company regulation (see Figure 4).

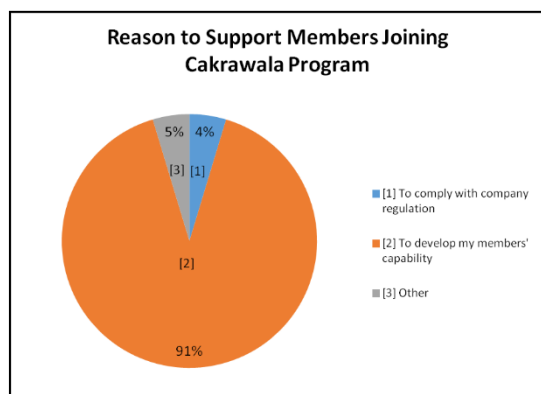


Figure 4. Leaders' Reason to Support Their Members Joining “Khatulistiwa” Program

Participants' Awareness

The distribution of respondent's feedback related with Participant Awareness is shown in Table 5.

Table 5. Respondents Feedback for Participant Awareness Variable

Question	EA	A	NA	ENA	Total Count	Total Score	Max Score
PA1. Are you aware that the trainings that will be counted as Cakrawala Graduation Requirement are only Technical Training (Soft skills training and other compliance training are not counted)?	37	103	32	0	172	521	688
	22%	60%	19%	0%	100%	75.73%	
PA2. Are you aware that you are targeted to attend, in average, 17 days of Technical Training for one year in order to meet Cakrawala Program requirement?	30	98	41	3	172	499	688
	17%	57%	24%	2%	100%	72.53%	
PA3. Are you aware that your Technical Training progress are monitored by IBU Scorecard?	12	99	57	4	172	463	688
	7%	58%	33%	2%	100%	67.30%	
PA4. Are you aware that fail to attend the technical training as scheduled can possibly delay your graduation?	46	118	8	0	172	554	688
	27%	69%	5%	0%	100%	80.52%	
Average Total Score					509.25		
Average % Score					74.02%		

Based on Table 5, it can be seen that more than 80% of “Khatulistiwa” Participants are either Aware or Extremely Aware of the training requirement for graduation. They are aware that soft skills training and compliance training are not counted as Technical Training. Majority of them also either Aware or Extremely Aware that they are targeted to attend, in average, 17 days technical training in year and that

their training progress are monitored in IBU Scorecard. Even more than 90% of them are either Aware or Extremely Aware that fail in attending technical training can possibly delay their graduation. The average score for this variable is 74.02%. Based on assessment criteria shown in

Table 3, this score is considered as Good.

Related with the possibilities that participants put the training in lower priority than their personal leave, based on survey response, 87% of participants are willing to reschedule their personal leave if necessary, to attend “Khatulistiwa” technical training (Figure 5). Majority of the respondents also thinks that it is important to immediately graduate from the “Khatulistiwa” program. Only 10% of them who thinks it is not really important, and 1% who prefer in “Khatulistiwa” program as long as possible (Figure 6).

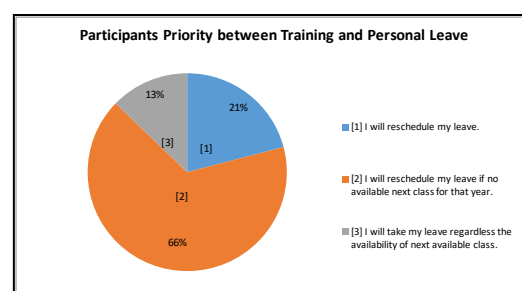


Figure 5. Participant's perception of training priority compared to personal leave

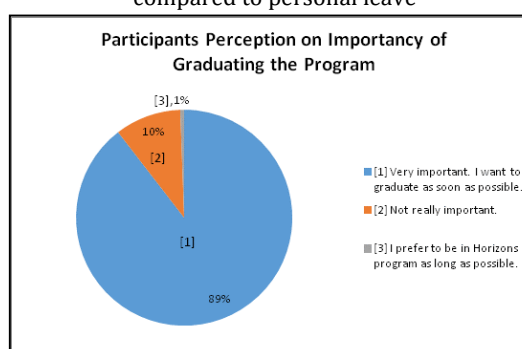


Figure 6. Participants Perception on Importance of Graduating the Program

Training Program Quality

The distribution of respondent's feedback related with Training Program Quality is shown in Table 6 and Table 7.

Table 6. Respondents Feedback for Training Program Quality – Participants Respondents

Question	EA	A	NA	ENA	Total Count	Total Score	Max Score
a. I feel excited to attend Cakrawala Technical trainings.	63	107	2	0	172	577	688
	37%	62%	1%	0%	100%	83.87%	
b. Training materials are relevant and applicable to my current job.	37	125	10	0	172	543	688
	22%	73%	6%	0%	100%	78.92%	
c. Training material are useful for my future career	58	109	5	0	172	569	688
	34%	63%	3%	0%	100%	82.70%	
Average Total Score	563						
Average % Score	81.83%						

Table 6 shows the training quality based on participants' point of view. Based on Table 6, it can be seen that majority of the respondent feel excited to attend the Technical Training. The majority of respondents also found the training materials are relevant and applicable to their current job as well as their future career. The average score for this variable is 81.83%. Based on assessment criteria shown in

Table 3, this means that participants rate the “Khatulistiwa” Training Program has excellent quality.

Table 7 Respondents Feedback for Training Program Quality – Leaders Respondents

Question	EA	A	NA	ENA	Total Count	Total Score	Max Score
a. Cakrawala Training significantly improve my members technical knowledge and capability.	3	38	2	0	43	130	172
	7%	88%	5%	0%	100%	75.58%	
b. From my observation, Cakrawala Member have better Tech. Capability compared to Non Cakrawala for same job position.	2	22	19	0	43	112	172
	5%	51%	44%	0%	100%	65.12%	
c. I think technical training is beneficial for my member's development.	5	37	1	0	43	133	172
	12%	86%	2%	0%	100%	77.33%	
d. I think technical training give significant positive impact to my organization/team.	6	32	5	0	43	130	172
	14%	74%	12%	0%	100%	75.58%	
e. I think current training curriculums/material in Cakrawala Programs are suitable to support the requirement in my organization.	3	31	9	0	43	123	172
	7%	72%	21%	0%	100%	71.51%	
Average Total Score	125.6						
Average % Score	73.02%						

Error! Reference source not found. shows the training quality based on Leaders' point of view. Based on Table 7, it can be seen that all of the leader agrees that “Khatulistiwa” training significantly improved their members' technical knowledge and capability. Most of the leaders also agree that technical training gave significant positive impact to their organization and that training curriculums is suitable to support the requirement in their organization. However, there are only 56% of the leaders either agree or extremely agree that their “Khatulistiwa” member has better capability compared to Non “Khatulistiwa” members in the same position. There are also 21% of the leaders think that the curriculum are not suitable to support their organization/team.

Overall, the average score for this variable is 73.02%. Based on assessment criteria shown in

Table 3, this means that leader rate the “Khatulistiwa” Training Program has good quality.

Related with the training day's requirement in “Khatulistiwa” program, 86% of Leaders respondents think that the requirement is just enough, while 14% of them think it is too many and none of them thinks it is too few.

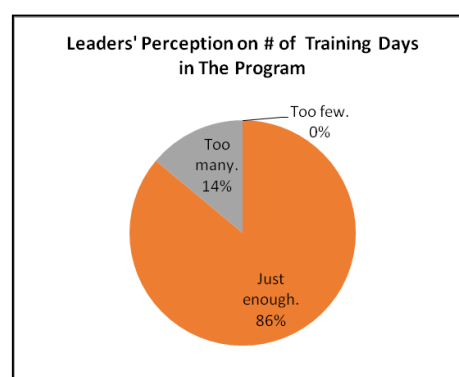


Figure 7. Leader's perception on “Khatulistiwa” Training Days requirement

Planning Process Quality

From survey it was found that majority (58%) of the leaders thought that they didn't received sufficient information about “Khatulistiwa” Training schedule either from their members or HR department. This can be seen in Figure 8.

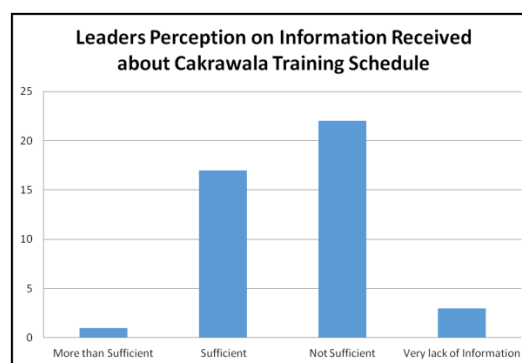


Figure 8. Leaders' Perception on “Khatulistiwa” Training Schedule Information

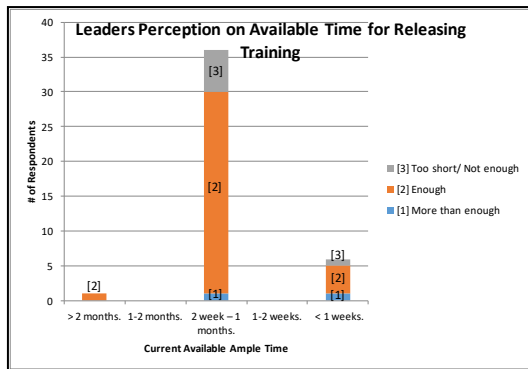


Figure 9. Leaders' Perception on Available Time for Approving to Release Their Member for Training

Based on survey, most Leaders are currently received 2 weeks – 1 month advance time between training approval is requested and the training date itself. This is the ample time they have to decide whether they can release their member to training or not by a considering their team workload and available resource. As can be seen in Figure 9, most Leaders found this sufficient. However, when asked on how much time is sufficient for approving training, most of the Leaders also prefer to have more ample time (> 1 month in advance) to decide whether their members can attend the training or not. Majority of the leaders (51%) didn't consider budget availability in approving their members to attend training. However, 40% of them are sometimes put budget in consideration and half of them thought that they did not have enough information related with their members training plan during budgeting cycle. About 9% of the leaders put it as part of the consideration and 75 persen of them did not have enough information in advance during budgeting cycle (Figure 10).

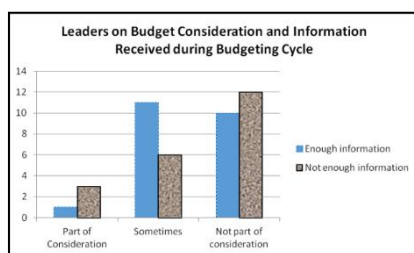


Figure 10. Leaders Perception on Budget as Consideration for Approving Training and Information Availability during Budgeting Cycle

Execution Quality

For Participant Respondents, the Execution Quality is concluded by their responses for following question: "In the last one year, how many times you could not attend the training because following reasons?". The distribution of Participants respondents' feedback regarding that question is shown in Figure 11.

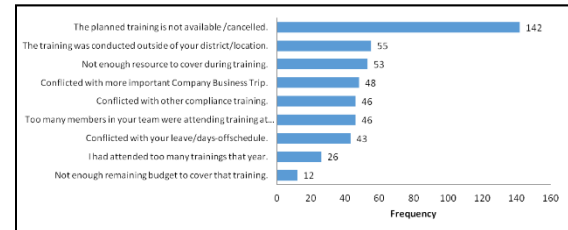


Figure 11. Frequency of Not Able to Attend Training based on Several Reasons – Participants Feedback

For Leader Respondents, the Execution Quality is concluded by their responses for following question: "In the last one year, how many times your "Khatulistiwa" member could not attend the training because following reasons?". The distribution of Leaders respondents' feedback regarding that question is shown in Figure 12.



Figure 12. Frequency of Not Able to Attend Training based on Several Reasons – Leaders Feedback

As can be seen in Figure 11 and Figure 12, both Participants and Leaders have same result for the most frequent reason of not able to attend the training. The most frequent reason is because the planned training is not available/cancelled. From the participants perspective, the 2nd most frequent reason is because the training is conducted outside of their work location, and the 3rd most frequent reason is because not enough resource to cover during training. From the leaders' perspective, the

2nd and 3rd most frequent reason is because the training is conflicted with other more important Company Business trip and with other compliance training.

Regarding the alternative training, 100% of the leaders are willing to release their member to attend alternative trainings if the planned ones are cancelled/not available. However based on the survey, 53% of leaders thought that either they didn't receive information when the planned training is not available/cancelled or the information came too late for them to find the alternative trainings. In alignment with that, majority of the participants (69 percent) also have similar perception on the timeliness of information regarding cancelled planned trainings.

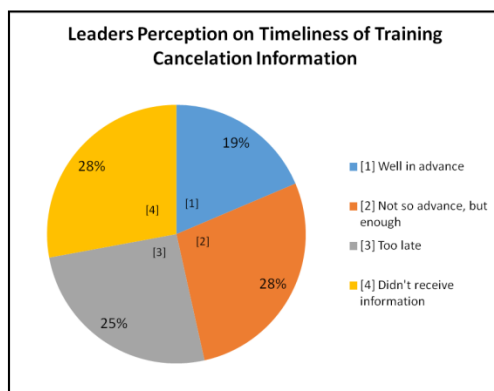


Figure 13. Leaders Perception on Information Timeliness of Cancelled Planned Trainings

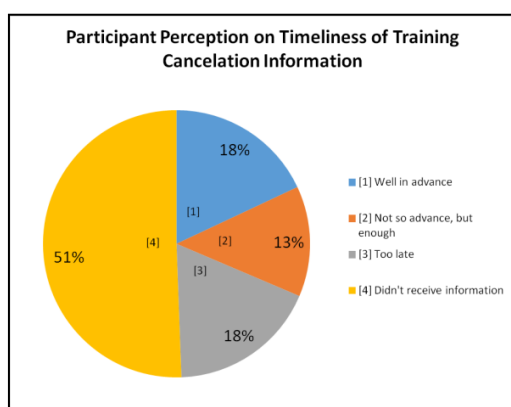


Figure 14. Participants Perception on Information Timeliness of Cancelled Planned Trainings

Tracking Tools Quality

Based on survey result, most of the Participants and Leaders are continuously track their/their members' "Khatulistiwa"

Program progress, including Technical Training requirement. As shown in Figure 15, more than 90% of Leaders continuously track their members' progress and more than 70 percent of Participants are tracking their progress.

XYZ IBU Indonesia just launched new "Khatulistiwa" Program Tracking Tools called e-HOIST. Respondents' feedback related with tracking tools quality is shown in Figure 16. Majority of the Leaders find the e-HOIST tool is sufficient to help them tracking their members' progress and majority of the participants has the same perception as well.

However, from the open-ended question related with the e-HOIST tools improvement suggestion, some participants noted that the data accuracy of e-HOIST tracking tool needs to be improved. Some of the data are not up to date and different with participants' own tracking.

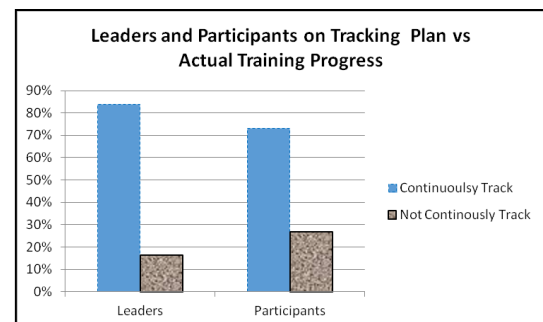


Figure 15. Statistic of Tracking Activity of "Khatulistiwa" Participants and Leaders

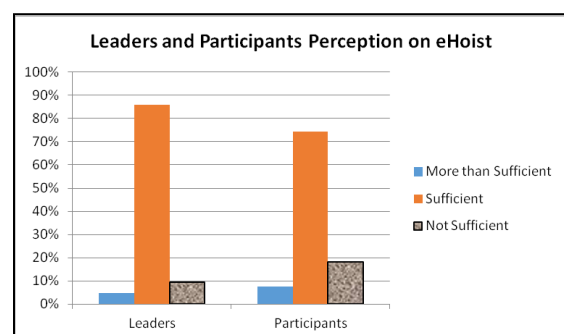


Figure 16. "Khatulistiwa" Leaders' and Participants' Perception on e-HOIST as Tracking Tools

Improvement Suggestion

Survey respondents were also asked on their input and opinion on what improvement should be made to “Khatulistiwa” training programs. The question is open ended question so the respondents can freely express their opinion and suggestion. From the top five of suggested improvements requested by respondents, all of them consists of planning and execution category. From planning category, the most requested improvement is the list of fixed available training schedule for whole year, followed by proper distribution of training execution. From execution category, the most requested improvement is implemenation of training plan and cancellation notification. Complete Respondents’ response are summarized as shown in Table 8.

Root of Problem

Survey result validation is done in Focus Group Discussion (FGD). The FGD was attended by 3 HR personnel who have knowledge and experience regarding with “Khatulistiwa” program, Learning and Development and Training Planning and

Implementation inside the company. Based on FGD result, there are two factors that are validated to be the root cause of the problem which are:

1. Planning Process Quality: This root cause is shown by the response from leaders that majority of them didn’t receive sufficient information regarding technical training plan/schedule. This is also shown on the improvement suggestion given by participants and leaders. The top 2 of the improvement suggested are related with planning category which is to improve yearly training plan and schedule information and training distribution along the year.
2. Execution Quality: This root cause is shown by the frequency of participants could not attend the training because the training class was not available/cancelled. In the improvement suggestion section, this is also listed as the 3rd most frequent problem to be improved.

Table 8. Summary of Technical Training Improvement Suggestion from Participants and Leaders

No	Category	Suggestion	Participant	Leader	Total
1	Planning	List of fixed available training schedule for whole year to be informed at the beginning of the year.	38	7	45
2	Planning	Properly distribution of training execution (not concentrated in end of the year or in consecutive weeks).	21	9	30
3	Execution	Consistent implementation of training plan. Any cancellation should be informed early.	10	2	12
4	Planning	Improve quality of training instructor and material.	11	1	12
5	Execution	Conduct more training in other district.	11		11
6	Awareness	More socialization to Leader and Participants on curriculum and requirement.	7	3	10
7	Planning	Participant to be able to request more elective training in TRIMS.	9		9
8	-	Current training implementation already sufficient.	7	2	9
9	Tracking	Provide regular reminder for required training and progress.	7	2	9
10	Execution	Improve timeliness of training invitation (not too short period).	8		8
11	Execution	Conduct more outside training for sharing knowledge and best practices with other colleagues from other company/country.	5	1	6
12	Program	Conduct more Guided Experience program/field & site orientation.	4	2	6
13	Planning	Provide local alternative training. Possibly use IBU SME.	3	2	5
14	Planning	Better planning and improve quality in accomodation, transportation, venue, refreshment, stationery, and other supporting aspects.	5		5
15	Tracking	Improve accuracy of e-Hoist data.	3	1	4
16	Execution	Improve communication between HR (training admin, HPA) and participants and leaders.	2	2	4
17	Program	Alignment of training time current job assignment.	3		3
18	Planning	Inform training plan in advance for ABOM/Budgeting.	2	1	3
19	Planning	Training schedule plan to be displayed/informed in eHoist and TRIMS.	2		2
20	Planning	Elective training which is shown in TRIMS should be the available/to be conducted only.	2		2
21	Program	Include soft skill training as part of requirement.		2	2
22	Program	Put higher priority in Horizons core training.	1		1
23	Execution	Not to be conducted in CBT method.	1		1
25	Program	Create more technical and certification training in Duri.	1		1
26	Program	Include geothermal training for oil people and vice versa.	1		1
27	Program	Provide more advance topic for PE.	1		1
28	Execution	Review training from participant to be directly send to HPA.	1		1
29	Program	Provide more training for IT curriculum.	1		1
30	Planning	Better spread of participants (not from one team only).		1	1
31	Program	Conduct in-house training.		1	1
32	Program	Provide Curriculum for planning specialist (new position in WDR)		1	1

Business Solution

Based on FGD result it is agreed that from all possible root causes, planning and execution are the validated ones. Improvement and solution will be focused on these two factors. Several solutions were also developed during FGD to solve the problems by considering KM metrics developed by Garfield (2007), which are Participation, Capture, and Reuse.

Below are the problems which are linked to the root causes and its business solutions:

1. Training plan and schedules were not well communicated in the beginning of the year.
 - a. Provide email notification consists of yearly training schedule at the beginning of the year and repeated regularly throughout the year as reminder.
 - b. Publish and regularly update all training information including plan, schedule, actual status, and training description/overview in e-Hoist and company training system (TRIMS).
2. Planned trainings were cancelled or not available.
 - a. Conduct more “Guided Experience (GE)” program as part of technical training. GE is a program in which the participants are given site visit to particular working unit and learn from worker and operator there. This method is good because it has less dependency on overseas trainer/instructor and can be conducted with available resource in IBU Indonesia.
This solution also encourages all related employees (such as plant worker and operator) to participate in sharing their knowledge and capture new knowledge.

- b. Using video technology method to conduct training class especially if the instructor is from overseas. The training session can also be recorded and stored in e-HOIST or other web-based repository for future reference.
 - c. Utilize available Subject Matter Expert inside IBU as training instructor. From KM perspective, this method can encourage participation of knowledge sharing. Since the SME came from same business unit, thus the knowledge which is shared will be more applicable and implementable in trainee daily work. This encourages the reuse ability of the information received during training in participants’ daily work.
3. Information regarding training cancellation was not received timely, so it’s difficult to find the alternative.
 - a. TRIMS result to be published so the participants can plan early for alternative if their chosen training will not be held that year.
 - b. Conduct TRIMS process in 2 cycles: preliminary submission and resubmitting training plan if the class would not be held.
4. Available Elective Training schedules were not easily accessible/shared; meanwhile these trainings can potentially be replacement of the cancelled ones.
 - a. Publish the TRIMS result so everyone can be aware of the implementation of their respective trainings plan that year.
 - b. Provide a web-based repository system to store knowledge brief about training class syllabus, and testimony from employee

- who had taking that particular training class.
- c. Develop list of applicable elective training for IBU – especially for “Khatulistiwa” elective and prioritize these classes to be held.
5. Training schedules were not properly distributed along the year.
 - a. Start preparing training execution early –incl. booking accommodation, training venue, and other critical logistic.
 - b. Develop online collaboration tools for HR and Facility Management (FM) team to support easier coordination in training logistics (accommodation, venue, F&B, etc).
 6. Trainer qualities for elective trainings need to be improved.
 - a. Improve procedure and process in selecting trainer provider/instructor and ensure they have equal quality with trainer from oversea resource.
 - b. Utilize available Subject Matter Expert inside IBU as training instructor.

The team developed analysis criteria for deciding which solution will be implemented first. The criteria are developed by considering the timing it can be implemented, additional cost and resources required and other consideration (approval, process, etc). The description of each criterion is shown in Table 9.

Table 9 Selection Criteria for Analyzing Business Solutions

Category	Description
Very simple	Can be implemented within 3 months, not require additional cost and resources, minimum approval process required, can be handled by HR internal team.
Simple	Can be implemented within 12 months, may need some additional resource and cost but not significant, minimum to medium level management approval required, can be handled by HR internal team.
Medium	Can be implemented within 1-2 year, may need some additional resource and cost but not significant, need further consideration, medium to high level management approval required, need cross functional team involvement.
Complex	Need more than 2 years for implementation, need significant resources and cost, need further consideration, high level management approval required, need cross functional team involvement.

Each solution which has been developed then is analyzed by using the criteria. Team decided to prioritize the execution of “Very simple” and “Simple” solutions. Analysis result can be seen in Table 10.

CONCLUSION

As mentioned previously, there are two objectives of this research, which are to investigate the root-causes of low training performance in “Khatulistiwa” program, and develop improvement plan to resolve that condition. By using KM Framework (People-Process-Technology) as project framework, this project is able to answer those two objectives as follow:

1. Root causes for low training performance in “Khatulistiwa” program are training planning process quality, and training execution quality.
2. Some solutions have been developed to solve those root causes and the

improvement plans were taken from the solutions that fell on “very simple” and “simple” categories of implementation.

Detail implementation plan of the improvements will be described below.

The solutions which will be prioritized for implementation are the solutions in “Very simple” and “Simple” Category. Table 11 shows the summary of implementation plan including timeline and resources requirement for each action plan.

Table 10. Analysis Result for Developed Alternatives

Root Cause #	Solution Alternatives	KM Metrics Affected	Analysis Result
1	Send email notification in beginning of the year for training schedule for the whole year.	Participation	Very simple
1; 4	Training plan/schedule to be published in e-Hoist/TRIMS and regularly updated.	Participation	Very simple
2	Add more Guided Experience (field visit) as part of technical training for “Khatulistiwa” and share the result/knowledge gained in e-HOIST.	Participation, Capture, Reuse	Simple
2	Using video technology to conduct the training (video conference, IVCC or Jabber) and store the recorded session in web-based repository.	Participation, Capture	Medium
3; 4	Publish TRIMS result (which training will be held, how many participants) so the participants could plan early to find alternative.	Participation	Very simple
4	Provide web-based repository for storing and sharing knowledge brief of available training class to help select suitable training.	Capture	Medium
3; 4	Conduct TRIMS process in 2 cycles.	Participation	Medium
4	List applicable elective training for IBU – especially for “Khatulistiwa” elective and prioritize these classes to be held.	Participation, Capture	Medium

5	Start preparing training execution early –incl. booking accommodation, training venue, and other critical logistic. For example: Training at Year-Y to be prepared in Q4 of previous year (Y-1).	Participation	Very simple
5	Develop online collaboration tools for HR and FM to support coordination of training logistics.	Participation	Medium
6	Improve procedure and process in selecting trainer provider/instructor and ensure they have equal quality with trainer from overseas resource.	Participation, Capture, Reuse	Simple
2; 6	Utilize IBU SMEs as local resource trainer.	Participation, Capture, Reuse	Complex

Table 11. Solutions with “Very Simple” and “Simple” Category

Root Cause	Action Plan	Resource requirement	Implementation Timeline											
			Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25
S1.1	Send list of training schedule for the whole year.	TUSA (2), CPAd (1)	1	2	3	4								
S1.1; S1.4	Publish and update training plan/schedule in latest TOLMS	TUSA (2), CPAd (1)												
S1.2	Add more Guided Experience (field visit)	CFA (1), Op (1)												
S1.3; S1.4	Publish TOLMS result	TUSA (1)												
S1.5	Start preparing training execution early.	TUSA (2), CPAd (1)												
S1.6	Improve procedure and process in selecting trainer/provider/instructor	TS (1), CFA (1), L&D (1)												
	Control, Technical Training Metrics review	CFA (1)												

Note
TUSA: Training & Support Administration Personnel
CFA: Calatrava Process Advisor
CPAd: Calatrava Program Admin
TS: Training Specialist
L&D: Learning and Development Personnel
Op: Operation personnel in GE location
Number in bracket indicated Ref person required

There are some suggestions from this study result for development of future study:

1. There is opportunity to assess the implementation of overall “Khatulistiwa” Program. Based on “Khatulistiwa” Process Advisor, there are still rooms for improvement for mentoring and job assignment aspect of this program. Future study can help address any gap in those fields.

2. Audit process needs to be conducted for assessing the effectiveness of overall “Khatulistiwa” program and its effect to company benefit, especially in IBU Indonesia. Such study has not been conducted since this program was launched in 2005.
3. Benchmarking method can be done with other XYZ business unit to see the best practices in executing “Khatulistiwa” program, especially for technical training programs. Assessment can be conducted to find the possibility of implementing the same practices in XYZ IBU Indonesia.
4. Follow up survey may be needed after improvement plan has been implemented to assess HR’s customers (“Khatulistiwa” leaders and participants) opinion on the improvement and to see effectiveness of this improvement program.

REFERENCE

- Eka, Y., Ningrum, P., & Welly, J. (2012). Analysis of talent development influence on employee productivity at hr centre bandung pt. telekomunikasi indonesia 2011. *The Indonesian Journal of Business Administration*, 1(1), 28–33. https://drive.google.com/open?id=1EwpygNI_hlTi3AqshWaqcLSAg8n8IIdH&usp=drive_fs
- Geoghegan, M., Cormican, K., & Wu, Q. (2021). Sustainable team design: a challenge to traditional beliefs in information-intensive service industries. *Sustainability (Switzerland)*, 13(24), 1–19. <https://doi.org/10.3390/su132413552>
- Hamdan, L., Al-Abbadi, M., Zuhier, R., Almomani, Q., Rajab, A., Alhaleem, A., Rumman, A., Mohammad, A., & Khraisat, I. (2019). *Impact of human capital development and human capital isolation mechanisms on innovative performance: evidence from industrial companies in jordan*. 11(15), 84–96. <https://doi.org/10.7176/EJBM>
- Liebowitz, J. (2012). Knowledge management handbook. In *Knowledge Management Handbook* (Jay Liebow). <https://doi.org/10.1201/b12285>
- Management, T., Mayo, M., Meindl, J. R., Pastor, J. C., Leithwood, K., Mascall, B., Leadership, D., Kocolowski, M., Grint, K., Mendenhall, M. E., Marsh, W. J., Friedrich, T. L., Vessey, W. B., Schuelke, M. J., Ruark, G. A., Mumford, M. D., Kramer, M. W., Crespy, D. A., Somboonpakorn, A., ... Available, E. (2020). Connections and the emergence of shared leadership in. *Leadership Quarterly*, 31(4), 421–424. <https://doi.org/10.1016/j.tmp.2019.04.002%0Ahttps://doi.org/10.1016/j.leaqua.2019.101346%0Ahttps://doi.org/10.1016/j.tourman.2018.10.027%0Ahttps://doi.org/10.1016/j.procs.2018.10.089%0Ahttps://doi.org/10.1016/j.ijhm.2018.02.003%0Ahttp://dx.doi.org/10.1016>
- Models, C. C. (2016). Knowledge management in software developing organizations. combining conceptual models. *Issues In Information Systems*, 17(I), 211–220. https://doi.org/10.48009/1_iis_2016_211-220
- Theodoridis, T., & Kraemer, J. (n.d.-a). *Knowledge menegement in theory and practice* (2005th ed.). https://drive.google.com/open?id=1EndjgzQWfqNmH6clPMYee-zzGtNeTamE&usp=drive_fs
- Theodoridis, T., & Kraemer, J. (n.d.-b). *Leadesrdhip development: an assessment of the aspiring leaders program at the Texas commission on eviromental quality*. https://drive.google.com/open?id=1F54ErQZgVWX-LaJsfQAnp2oNtTdynfcQ&usp=drive_fs