



# Implementing OKR Framework in Solving Safety Culture and Safety Program Issues to Elevate Safety Performance of PT. X-Y Whilst Preserve The ESG Rating of PT.X

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**ABSTRACT:** Oil & gas business is still attractive for investors. Today, they look carefully at company's financial indicators (ROA, ROI, Profitability) and new indicator called "ESG" in making investment decision (Pedersen et al., 2021). PT.X, a developing national energy company with vision becoming world class, currently still rely on fossil energy as the backbone of its business. To finance its operations, PT.X opens up opportunities for investors to invest. To attract investors, PT.X is pursuing better ESG rating each year. In 2023 ESG score of PT. X is 20.7, 1<sup>st</sup> rank out of 61 O&G companies in the world (Morningstar Sustainalytics version). In competitive energy business post Covid-19 pandemic PT. X aware that they must improve its ESG score continuously. Several strategic goals have been set, one of it is *Total Recordable Injury Rate / TRIR*, a ratio of number of recordable incidents per total working hours in a year. Target is more challenging each year. TRIR 2024 was set 0.19. This number is much lower than the average TRIR achieved by IOGP members in 2020 that is 0.7. PT. X's TRIR goal applies to all of its subsidiaries including PT. X-Y located in biggest O&G block East Kalimantan Indonesia. PT. X-Y operates big mature field ultimate with ultimate challenge to maintain oil and gas production from wells that decline naturally. PT. X-Y have planned massive work programs i.e: drilling  $\pm$  100 wells/year,  $\pm$  4000 wells intervention, and also several offshore platforms construction & installation projects. These activities involve many workers and very high risks. Workers' safety culture is very important to support the achievement of this goal. Unfortunately, the results of surveys conducted several times by one of reputable university in Indonesia, PT. X-Y safety culture level has decreased from the Proactive to Calculative. To improve PT. X-Y should start by solving organization's safety cultures' issues. Also, with limited resources the company's safety team believed they should focus on improving existing safety program called "TEMAN" rather than introducing new ones. OKR framework is used to manage these difficult objectives because it has superior principles and similarity with PT.X core value AKHLAK, i.e: align and connect team work, focus and commit to priorities, track for accountability. OKR method is successful helping big companies such as Intel, Google, IBM to achieve their stretch goals with minimal side effects / no side effects at all.

**KEYWORDS:** ESG, TRIR, TEMAN program, OKR, Safety culture, stretch goal

## A. INTRODUCTION

Fossil fuel has become our primary energy sources for decades and still attractive for investors. It is high-risk, involving high capital and remarkable technology with no guarantee of success. To reduce their risk, the company strategy is sharing it with investors. Investors are very much aware of the risk. In making investment decision most investors will consider many financial key indicators. One new indicator is Environmental-Social-Governance (ESG) score which measure the risk level of a company's economic value (enterprise value) driven by ESG factors. Investors prefer to invest in companies which protect the environment, protect their employee and peoples from incidents, respect to local regulations in doing their business. A company with good ESG score & business performance indicators is believed to be the right place to invest. Therefore O&G Companies are working hard every year to improve their ESG rating and to preserve it. The higher is ESG risk rating score, the more is unmanaged risk. PT. X-Y is an oil & gas Company, subsidiary of PT.X. Its core business is to make economic profit by producing natural oil & gas from the reservoirs and selling them to domestic & international buyers. PT. X-Y's area of operation lies in biggest O&G block at East Kalimantan, Indonesia. This block initially was operated by one of major O&G company based in France from early 1970's until end of 2017. PT. X-Y took over the operation block on January, 1<sup>st</sup> 2018. The financial capital of PT. PT. X-Y is coming from the PT.X. The amount of capital required to fund the Group's subsidiaries' development strategies have increased each year. To finance the *Capital*



expenditure (Capex) and Operational expenditure (Opex), the PT.X needs 3<sup>rd</sup> party investment. To attract more investors, the Group have focused their efforts to improve the ESG rating. This research limits the scope of study to PT. X social aspect improvement measured by well know indicator in O&G business called *Total Recordable Injury Rate (TRIR)*. PT. X's TRIR goal since 2018 always more ambitious than the other big O&G company like Total Energies, BP, Shell whom are known as reputable companies because of excellent safety culture. Interestingly, the competitors didn't set their TRIR target as ambitious as PT.X. To achieve the goal PT. X launched several new safety initiatives. They all are considered equally important dan urgent. Frontliners working on site are overwhelmed with so many programs they have to perform. They need guidance from us which safety program they should focus on. This research is to answer to their needs.

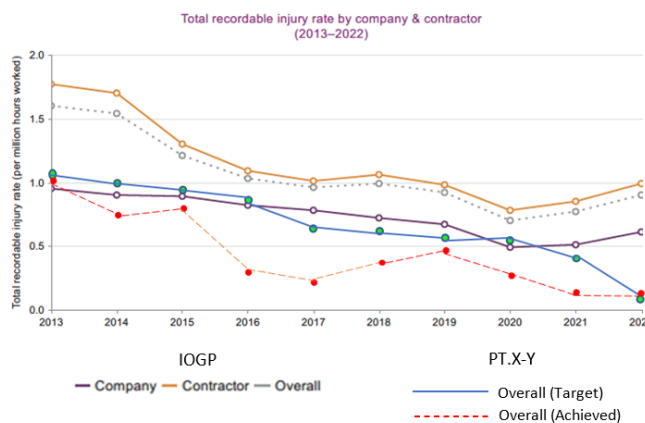


Figure 1. TRIR of IOGP and PT.X-Y

Table 1. ESG Score of PT. X

Year	ESG Score	Risk Level
2021	28.1	Medium
2022	22.1	Medium
2023	20.7*	Medium

\*Rank-1 in O&G Sub sector in the world (Morningstar Sustainalytics)

PT. X-Y mission is to maintain oil and gas production of mature fields where well production naturally continues to decline. PT. X-Y shall do massive work programs, including drilling 100 wells/year, ± 2000 wells intervention, and also several offshore platforms construction & installation projects. All of these activities involve many workers internal and external approx. 8,500 personnel/day and risks of serious accidents are high. All workers especially the frontliners must be mature in safety. However, the results of latest survey on PT.X-Y safety culture carried out in early 2023 concluded PT. X-Y's safety culture maturity level have descended from Proactive (Iv.4) to Calculative (Iv.3). For better safety performance PT. X-Y must improve its safety culture.

The Group's ambition on TRIR is difficult challenge for all its subsidiaries including PT. X-Y. Therefore, Safety division of PT.X had launched many safety programs to be executed by all subsidiaries. For most, they are not really different to existing programs but labelled with new names. This strategy is not effective since the resources available in subsidiaries to execute them properly are very limited (organization design issue). Performing all safety programs will not give optimum results. Also, introducing new safety programs each year confuse the front liners. PT. X-Y believe when we are focusing our efforts to perform the right safety programs then safety performance will follow. We only have to select carefully the program based on our learnings to incidents in the past. To achieve this ambitious goal with minimum / no negative effect PT. X-Y can't rely on old strategies. This research aims to diagnose the TRIR objective, mitigation actions of possible negative effects, identify which safety program and safety culture issues to focus on and develop action using OKR framework.

Implementation of *OKR framework* is key element to success story of Google, Intel, and other big world class companies. This goal-setting framework described how objective is cascaded from top to bottom with 2 basic principles: *transparency* and *alignment*.



With OKR, workers at frontlines can see what are the most important objectives of their managers then align their activities to achieve the goals. This goal setting framework has been used by many companies and proven to achieve difficult objectives. This research demonstrates how OKR is implemented on selected initiatives/programs, also the implementation strategy. PT. X should not have difficulty to apply OKR as the framework's principles matches perfectly to the corporate value called AKHLAK (Harmony, Adaptive, and Collaborative).

## B. LITERATURE REVIEW

### 1) ESG risk rating

ESG Risk Ratings comprise 2 dimensions: Exposure & Management. Company's exposure to ESG means economic vulnerability to ESG risk. Risk is distinguished into two: *Manageable* risk and *Unmanageable* risk. Manageable risk is the portion of a company's exposure score that can be managed through its policies and programs. *Unmanageable* risks are outside the boundaries of a company's management control based on the assumption that the company continues its inherent business. The more the unmanaged risk, the higher is ESG Risk Rating score. A Company's ESG risk rating is the sum of unmanaged risk for each of the company's Material ESG Issues (MEIs). Different business sector has different MEIs. Energy sector has 6 ESG issues: (1) Energy use & Green House Gas, (2) Water management, (3) Health & Safety, (4) Community relations, (5) Bribery & corruption, (6) Corporate Governance. A Company's ESG Rating is assigned to one of five ESG Risk categories: *Negligible* (overall score 0.00 – 9.99 points), *Low* (overall score 10.00 -19.99 points), *Medium* (overall score 20.00 – 29.99 points), *High* (overall score 30.00 -39.99 points), *Severe* (overall score 40.00 and above). Three independent variables Environmental, Social and Governance believed have impact to company's Economic Performance as illustrated below. The conceptual framework of ESG-Economic Performance is built based on *stakeholder theory* and *agency theory* (Tarmuji & Maelah, 2016).

#### *Stakeholder theory*

The stakeholder theory says a company/organization should have a good relationship with their stakeholders to success. To generate loyalty and trust of its workforces, customers and society, the Company should be *socially responsible* and responsive on the social issues. The indicator for the Company to be socially responsible is related to product responsibility, community, human rights, diversity & opportunity, employment quality, health, safety, training and development (Ullmann, 1985).

#### *Agency theory*

The agency theory says a firm is a set of contracts among self-interested individuals. In a firm there are shareholders (principals), company executive/manages (agents) and their relationships. The shareholders authorize the company executives to act on their behalf. There is a risk that the agent will act opportunistically and not act in the best interest of the principals. The managers emphasize corporate social performance & environmental concerns more than shareholders as they have no remaining case on a firm's income (Waddock & Graves, 1997). By seeking non-profit goals with shareholder's money, agents may enhance their own reputation dan gain public prestige while the shareholder's get nothing. Therefore, contract, rules, practices, processes are designed to eliminate/reduce this risk (*corporate governance*) (Jensen & Meckling, 1976).

#### *Economic Performance*

*Economic performance* measures a company's capacity to produce feasible development / to generate sustainable growth, and a (high) return on investment. It postures company's overall financial health and its ability to generate long-term shareholders value through its use of best management practices. This capacity comes from client's loyalty, shareholder's loyalty and business performance. Profits accrue to firms because customer are willing to pay a certain price for a product or service, as opposed to a competitor's products or services of a higher or lower price. Several studies on ESG and Economic Performance showed the relation and it is differed among countries due to different institutional background (Ortas et al., 2015).

### 2) Effect Pandemic Covid-19 to oil & gas sector

The highlight in the International Energy Agency (IEA) annual report 2020 is about dramatic effects of pandemic Covid-19 to investment in oil & gas sector. Lockdowns, sharp fall in revenues due to lower energy demand and prices, and uncertain expectations in the years ahead (environmental issue) have disrupted investment activities. Countries in *full lock down* experiencing 25% decline in energy demand, while for those in *partial lock down* 18% decline. Revenues of oil & gas exporting countries have been affected, with knock-on effects on the budget available to state owned energy enterprises. The revisions to planned spending have been particularly brutal in the oil & gas sector. Fuel supply investments have been hit hardest in 2020. This crisis has touched every part



of the energy sector. In 2020 energy investment was experiencing largest decline 20% compared with 2019 (almost USD 400 billion). For oil & gas was 30% less than 2019. Developing countries with significant hydrocarbon industries see the most dramatic effects of the crisis, as falling revenue pass through more directly to lower funds for investment. On-going investment in renewable power projects fall by around 10% for the year. Capacity additions are set to be lower than 2019 as project completions get pushed back into 2021, Final Investment Decision (FID) for new utility-scale wind and solar projects slowed in the 1<sup>st</sup> quarter 2020. Distributed solar investments have been more dramatically hit by lower consumer spending and lockdowns.

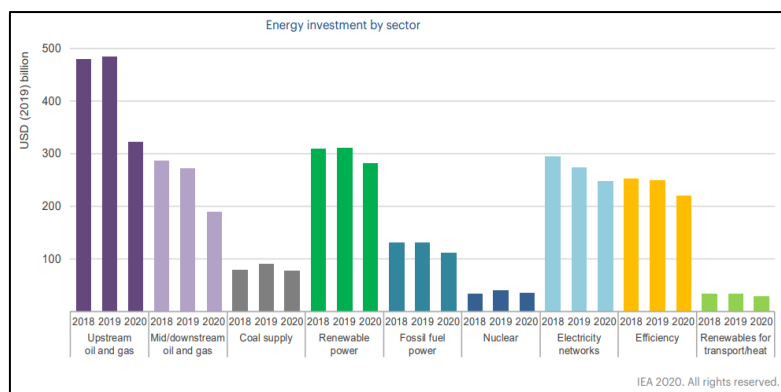


Figure 2. Energy Investment by Sector – EIA Annual Report 2020

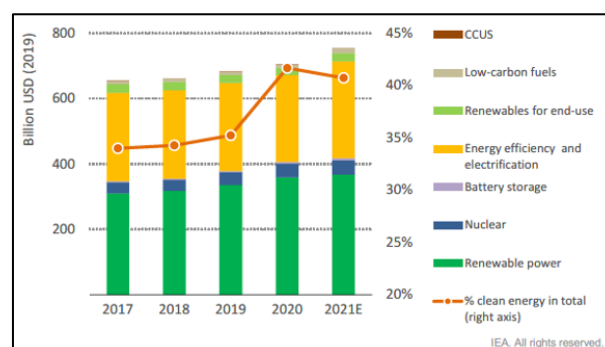


Figure 3. Global Investment in clean energy 2017-2021 – EIA Annual Report 2020

3) *Post pandemic*

Year 2021 was a year recovering from the shock of Covid-19 pandemic. Global energy investment is set to rebound by around 10% in 2021, reversing most of the drop caused by pandemic. The composition has shifted towards power generation (renewable - wind, solar) and energy end-use sectors (buildings, transport and industry) and away from traditional fuel production. Demand from the corporate sector for clean electricity to meet sustainability target has also play a role. There has been a strong commitment by governments, companies and financial institutions to achieve net zero emission by 2050 or soon thereafter. The financial community in many advance communities has rallied around sustainable finance, launching funds and initiatives to channel growing appetite from capital market and to comply with disclosure rules. Clean energy companies have performed well on financial markets with renewable power companies outperforming both listed fossil fuel companies and public equity markets but still less than financial flows (surplus capital). There is a shortage of high-quality clean energy projects. The US\$ 750 billion that is expected to be spent on clean energy technologies and efficiency worldwide in 2021 remains far below what is required.

4) *Social Practices of PT.X and the subsidiaries*

PT.X holds health, safety, security, societal, environment, quality and integrity of assets as paramount priorities. Some of PT.X important goals are: (a) low in number and severity of incidents, accidents, injuries and illnesses, major incidents; (b) hazardous





wastes, oil spill and gas emission meet the regulation requirements, (c) resources conservation, biodiversity conservation, low flaring, energy saving, clean technology and low in damage/losses in general, (d) low in security events, constructive attitude with stakeholders, (e) client satisfaction and efficiency in managing Company's business in order to ensure operational excellence on delivering product and cost cash efficiency, and (f) business continues after disaster. Therefore, PT. X commits to: (a) protect the health and safety of the Company, employees, contractors, and the environment, (b) manage assets integrity by ensuring people, system, process, and resources needed are in place, (c) focus on developing activities in harmony with the neighboring communities, (d) improve energy performance throughout company's activities, (e) satisfy clients by providing product that meets their need and expectation (f) ensure in the event of a disaster, that our core business is sustained in a manner that assures safety of lives, preservation of the working environment, protection of assets and company reputation.

## 5) Total Recordable Incident Rate (TRIR)

TRIR is a lagging indicator used by the *Occupational Safety & Health Administration* (OSHA) and *International Oil & Gas Producers* (IOGP) to assess and to compare the safety performance of business of all sizes / a particular industry / group. It can also be used to rate the safety of an individual Company. The lower the TRIR number, the better. The TRIR formula IOGP version used by Shell, Total Energies, PT. X Group: **TRIR = (number of Recordable Injuries x 1,000,000 hours) / (Number of Hours Worked)**. Recordable Injuries to be reported are: fatalities, if someone must take days away from work (lost work day cases), if work activity is restricted / is transferred to a different job (RWDCs), if the injury requires medical treatment non-first aid (MTCs). The Company TRIR can be used in a number of ways:

- 1) Potential investors may look to companies' TRIR when making investment decision;
- 2) The media may use TRIR for reporting on how good or bad a company's safety record is;
- 3) Insurance companies often use TRIR to determine premiums.

In IOGP safety performance indicators 2021 the average TRIR of its member was **0.77**, 10% higher than 2020. This was calculated based on data submitted by 50 operating company IOGP members (equivalent to 2,679 million work hours of data, covers operation in 95 countries). They are: Chevron, ADNOC, BP, ConocoPhillips, ENI, ExxonMobil, INPEX Corp, North Oil Company, Shell, Repsol, Total Energies. IOGP has been collecting safety incident data from its members since 1985.

## 6) Stretch goal can "go wild"

To cope with the harsh effect of pandemic, organization shall set their goals carefully in order to stay in the business. PT.X set TRIR as company's safety KPI applicable to all its subsidiaries. PT. X-Y always achieved its TRIR target until 2022. In 2022 the target was so low (0.11) compared to world class IOGP TRIR. PT.X HSSE top manager referred to achieved TRIR 2021 as number to beat (0.18). He believed *specific-challenging goals* can powerfully drive behavior and boost performance. This ultimate goal was to create positive impact on Company reputation through ESG score although on the ground level people saw this was not realistic.

Studies conducted in many countries have consistently demonstrated that setting *specific-challenging goals* can powerfully drive behavior and boost performance. Based on a study conducted by a team of experts at Harvard University, stretch goals are like two sides of a coin (Ordóñez et al., 2009). It has positive and negative effects such as narrow focus that neglects non-goals areas (Neisser, 1979), a rise in unethical behavior (Fleming & Zyglidopoulos, 2008), distorted risk preferences (Larrick et al., 2009), corrosion of organizational culture, and reduced intrinsic motivation (Mussweiler & Strack, 2000) (Bandura, 1977). The positive effect of stretch goals is improving the performance of workers/business units. Meanwhile, the negative effects are: promoting cheating behavior, shifting risk attitude, etc. Stretch goals must be set-up carefully like a doctor dispensing medicine. The team developed 10 self-check questions to diagnose stretch goal.

## 7) Objective Key Results (OKR)

In pursuing high effort, high risk goals leaders must convey two things: the importance of the outcome, and the belief that it is attainable (Doerr, 2018a). OKR is just another management by objectives tool, which focuses on helping enterprises to set extremely challenging goals and then realize them through various innovations to help enterprises improve their performance (Chen et al., 2022). OKR framework is *transparent*, means everybody in the organization is able to see the OKR of any position, from top managements down to the front liners. They should know the organization's most important goals & chosen strategic actions so they can *align* with their work programs (Herkenrath et al., 2023). They should know which section in the organization have high

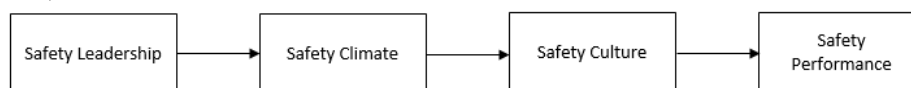


dependencies to their services to perform their tasks and vice versa. They should be aware about their role in the organization's goal strategies. When they fail to perform their parts, the other section would have trouble to progress on theirs. In overall the impact to the organization's goal achievement is negative (slowing down progress or even worse turn the course to the goal farther.) Frequently (i.e: per quarter) the *key results* are evaluated to know actual organization's position to the main goal. It tells the managers that the organization is moving closer to the objective or not. Each group leader identifies the obstacles in his/her team and think of solutions. They could revise their key results if it does not take the organization closer to its objective. It is then communicated to the other functions which are impacted by the changes systematically (ex. management review meeting).

### 8) *Safety Culture & Climate, Safety Leadership and Safety Performance*

Investors are concern much about safety performance indicators same as business performance indicators. Safety performance can be defined as the actions or behaviors that individuals do in their work to promote the health and safety of workers, customers, and the environment. It has 2 measures: (1) active measures: voluntary (safety participation) and non-voluntary behavior (safety compliance), and (2) reactive measures: incident rates, injuries. Safety culture of an organization is the product of individual values, group values, attitude perceptions, competencies and patterns of behavior that determine the commitment to and the status and proficiency of organization's health and safety management (Kaltah et al., 2021). Organization is considered mature in safety culture if everybody in the organization works safely not only because the company tell them to do so but because they understand the benefits for themselves, their families and sustainability of the company. Culture forms naturally wherever there are groups of people working together to achieve a common goal. Organizational culture is invisible as most people aren't consciously aware of the organization's shared beliefs (or policy) and assumptions that influence their behavior. An organization with positive safety culture usually has good safety performance.

Safety climate is the employee's perceived value on safety in an organization at a specific time (snapshot). It is similar to "mood" of a person that can change rapidly. Safety climates includes the effects of environmental and organizational factors on these beliefs/objectives. Safety climate might be heightened after implementing a new safety procedure or after an incident. If that heightened safety climate is maintained over time, it can lead to change in the underlying culture. As safety climate captures the attitudes towards safety at a specific time, it is a useful indicator of safety performance. Measuring safety climate is usually done using an employee survey or team discussions. Safety leaders exhibit a strong commitment to safety, they get involve and inspire to have positive safety behaviors. Safety leaders can exist at all levels from senior executives, middle managers to informal leaders among workers. Leaders are important in any organization as they provide direction to staff in terms of planning and supervising their work. They also provide motivation to staff to achieve goals by rewarding, inspiring and leading by example. Leaders with positive safety behaviors inspire others to have positive attitudes towards safety by setting a good example of safety and rewarding staff for good safety behaviors. If safety leaders are consistent, they can influence the safety climate and over time have an impact on the safety culture (Ma & Rankin, 2013)



**Figure 4. Safety Framework**

### 9) *Employee Engagement and Business Results*

In pursuing high effort, high risk goals, employee commitment is essential. One of the most influential studies of engagement was carried out by William Kahn, a professor at Boston University, in early 1990s. Before Kahn's work, the employee's well-being was measured with job satisfaction. Within his work, Kahn emphasized the need for employees to be fully immersed in their roles, bringing not just their bodies but also their hearts and minds to their work. According to him, employee has 3 dimensions of engagement to their work: 1. physically (body), 2. cognitively (mind), and 3. emotionally (heart). Kahn found that 3 psychological conditions related with engagement or disengagement at work: meaningfulness, safety, and availability. Overall, meaningfulness was found to have the strongest relation to different employee outcomes in terms of engagement (Kahn, 1990) . Employee engagement has continued to evolve. Today, employee engagement is not just about job satisfaction, it is about overall well-being and creating a workplace where employees feel valued and supported. Modern engagement strategies focus on factors such as



workplace culture, diversity and inclusion, recognition and rewards, and effective communication. Employers should be seeking to make work meaningful by finding out what matters to their employees (Denison et al., 2011). No one size fits all approach to engagement, more personalized and effective strategies to meet the unique needs of each employee.

**C. CONCEPTUAL FRAMEWORK**

The framework of this research is illustrated in figure below.

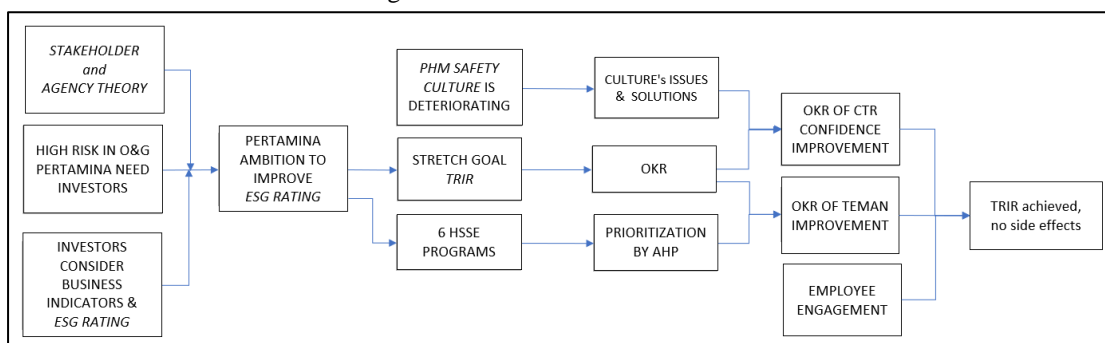


Figure 5. Conceptual Framework

**D. RESEARCH METHODOLOGY**

*Research Design*

In this research 4 methodologies are implemented to answer the research questions: (1) 10 diagnostic questions, (2) Analytical Hierarchy Process, (3) Focus Group Discussion, (4) Objectives Key Result.

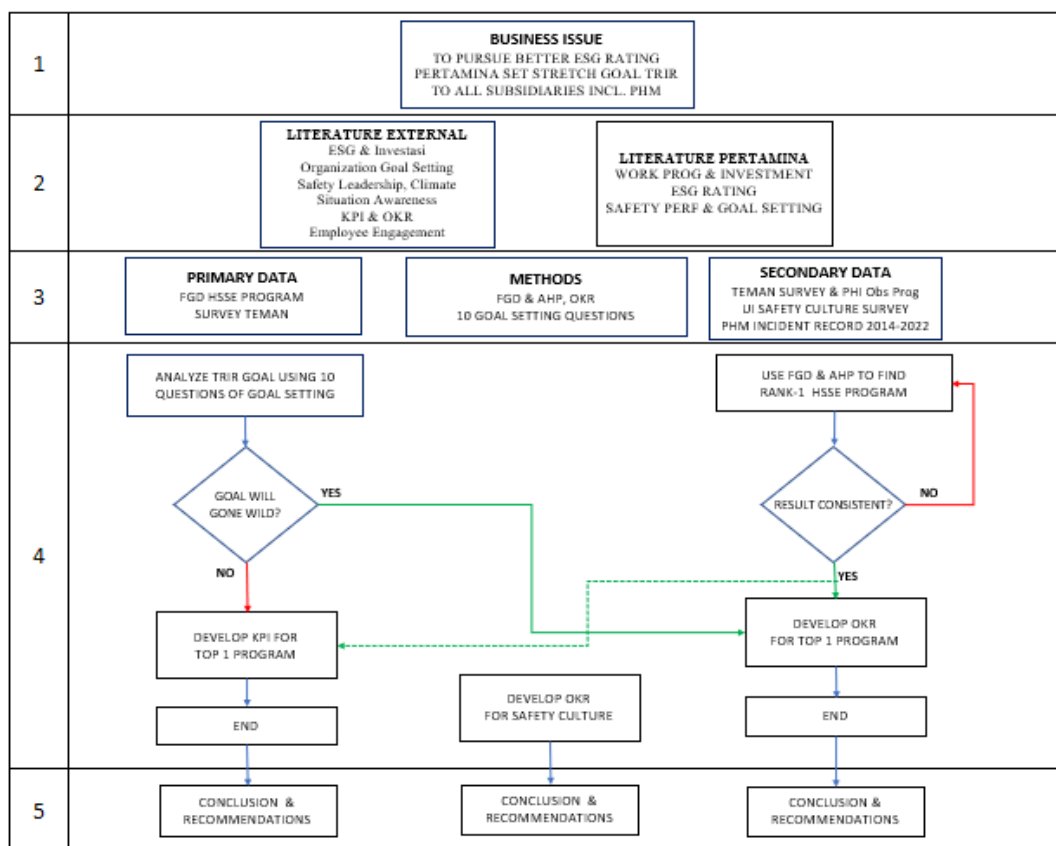


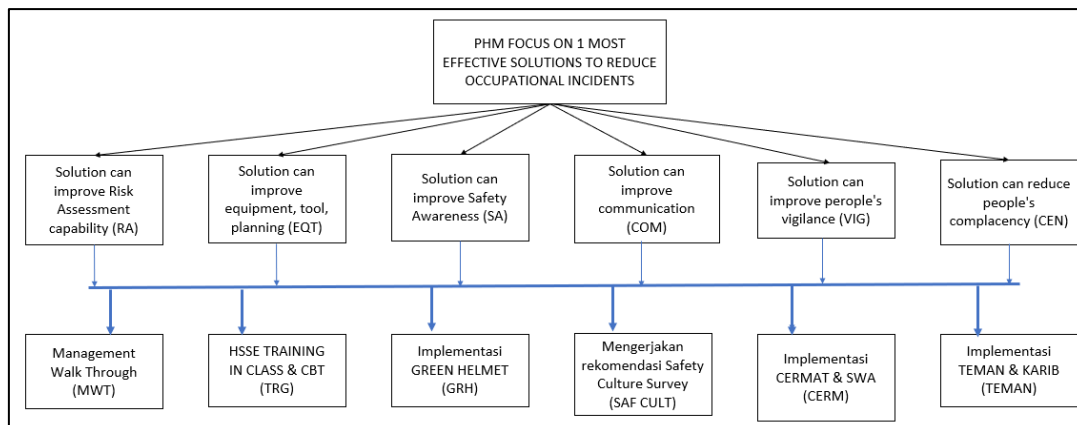
Figure 6. Research Methodology

**1) Check using Diagnostic Questions**

The TRIR objective was analysed using 10 diagnostic questions develop by Harvard research team: (1) Is it too specific? (2) Is it too challenging? (3) Who do set the objective? (4) Is the time horizon appropriate? (5) How might the goal influence risk-taking? (6) How might the goal motivate unethical behaviour? (7) Can goal be customized for individual abilities and circumstances while preserving fairness? (8) How will goal influence organizational culture? (9) Are individuals intrinsically motivated? (10) Consider the ultimate goals of the organization and what type of goal is most appropriate?

**2) Analytical Hierarchy Process (AHP)**

Like other subsidiaries, PT. PT. X-Y is required to perform 12 safety programs, which 6 are ineffective due to various reasons. They are: (1) Management Walk Through (MWT), (2) HSSE mandatory class training (TRG), (3) Green Helmet policy (GRH), (4) Follow-Up Safety Culture Recommendations, (5) CERMAT reporting, and (6) Intervention to Unsafe Act (TEMAN). AHP method is selected for this purpose (De Lima & Padmowati, 2015). The criteria to evaluate the program are the root causes of accidents and high potential 2014 to 2022: (1) worker is lacking Vigilance /VIG, (2) worker has insufficient knowledge on Risk Assessment /RA, (3) workers are failing to uses correct tools, equipment and planning /EQTP, (4) worker is lacking Situation Awareness /SA, (5) workers are failing to communicate to team mates /COMM, and (6) worker’s routine works make them complacent /CEN. AHP is a methodology to evaluate and make decision over several alternatives based on different criteria. A score is given to each alternative. This method combines subjectivity and objectivity in decision making process and can identify critical factors of complex situations.



**Figure 7. AHP of 6 criteria & 6 safety programs**

**3) Focus Group Discussion (FGD)**

FGD is a method of collecting data from group of people in order to get more understanding on a specific topic and also to reach agreement. It is held with a semi-structured interview, focusing on pre-defined topic and led by a facilitator. In this research FGD is used to collect data for AHP. A 1-day FGD was held attended by HSSE Manager, HSSE Superintendents, HSSE Engineers. They worked in small groups (8-10 members). At the beginning facilitator explained the purpose of the FGD and the outcomes expected. A group leader was assigned to ensure good communication among the member.

**4) Objective &Key Results (OKR)**

This framework starts with 1 main objective followed by 2 to 5 actions to achieve objectives (called key results). (Doerr, 2018b). Objectives are:

- a) a goal that an organization wants badly/ the most important thing to achieve,
- b) the purpose of Company existence and doing the business. Key results are some positive actions, work programs, strategy that an organization shall commits to do in order to achieve the objective.
- c) Each OKR shall be measurable.





- d) Once the organization’s top management level has defined the Objective and Key Results for the organization, it is cascaded down to the up to the front liners.
- e) Poorly done/managed OKRs are waste of time. Well-done OKRs are a motivational management tool that helps make it clear to the teams what’s important, what to optimize, and what tradeoffs to make during their day-to-day work.

Below is set of simple rules of writing a good OKR. Objectives are the “What”. They:

1. Express goals and intents in one line;
2. Are aggressive yet realistic, not Business-as usual
3. Must be tangible, objective, unambiguous; obvious to a rational observer whether an objective has been achieved;
4. The successful achievement of an objective must provide clear value.

Key Results are the “How”. They:

1. Express measurable milestones which, if achieved, will advance objective(s) in a useful manner to their constituents. Assign a grade at the end of quarter;
2. Must describe the impacts/outcomes at specific time (target), not activities;
3. Must include evidence of completion. The evidence must be available, credible, and easily discoverable. Example of evidence include change list, links to docs, notes and published metric reports;
4. Must be necessary and sufficient to collectively complete the objective. It is critical that KR are written such that scoring 1.0 on all key results generates a 1.0 score for the objective.

If every key result happens on last day of the quarter, likely no real plan.

**E. DATA COLLECTION**

**1) Focus Group Discussion (FGD)**

Four groups of 10 people were asked to evaluate 1 pair of criteria. They should give score from 1-9 which represent the dominant level to cause an incident in our work premises. Each group must evaluate 15 combinations of pairs (<sup>6</sup>C<sub>2</sub>). The results from all groups are presented below:

**Table 2. Pairwise comparison of 6 criteria**

CRITERIA	Negative															Neutral					Positive					CRITERIA	Avg Score of 4 groups
	EXTREME	EXT-VS	VERY STRONG	VS-S	STRONG	S-M	MOD	MOD-EQ	EQUAL	E-M	MOD	M-S	STRONG	S-VS	VERY STRONG	VS-EXT	EXTREME										
RA	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	EQTP	-2.25								
RA	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	SA	3.25								
RA	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	COM	-1.75								
RA	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	VIG	2.75								
RA	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	CEN	-5.75								
EQTP	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	SA	4.25								
EQTP	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	COM	0								
EQTP	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	VIG	2.25								
EQTP	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	CEN	-1.5								
SA	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	COM	-3.75								
SA	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	VIG	0.25								
SA	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	CEN	-5.5								
COM	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	VIG	2.25								
COM	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	CEN	-0.25								
VIG	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	CEN	-4.75								

**Table 3. Score of importance of variable**

Importance Scale	Definition of Scale
1	Equally Important Preferred
2	Equally to Moderately Important Preferred
3	Moderately Important Preferred
4	Moderately to Strongly Important Preferred
5	Strongly Important Preferred
6	Strongly to Very Strongly Important Preferred
7	Very Strongly Important Preferred
8	Very Strongly to Extremely Important Preferred
9	Extremely Important Preferred

2) *TEMAN Survey*

In April'24 the Company's HSSE team made a survey about TEMAN. The aims were to find out the perception of frontliners about TEMAN program, what are the obstacles they felt in implementing it / when implementing it at work locations, and collect suggestions for improvements. The survey was answered by 360 respondents. The results are presented in following charts:

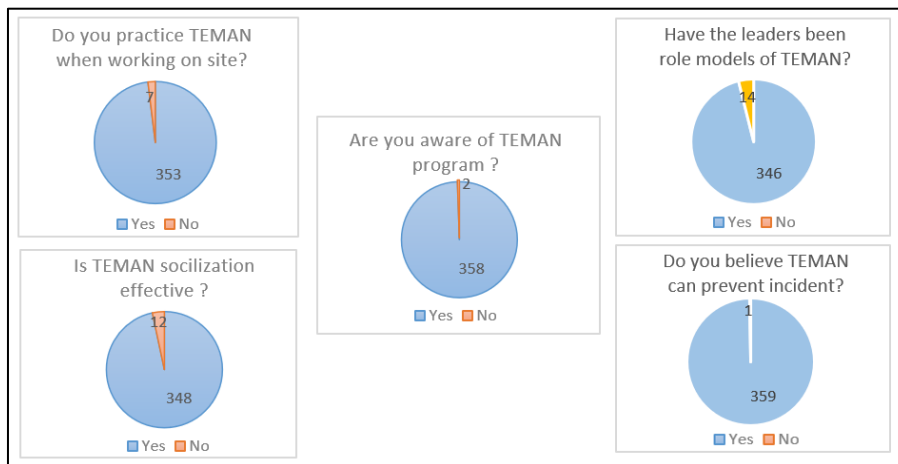


Figure 8. TEMAN survey

The obstacles to implement TEMAN program are as follows:

1. Leaders have not been role models in implementing the TEMAN program;
2. Workers don't understand about the program.
3. Workers are worried that those being reprimanded will be offended.
4. Workers feeling inferior than person being reprimanded (seniority, working status);
5. Workers are not sure about the unsafe situation at a time;
6. Administration of TEMAN reports is not simple (time consuming).

Suggestions for improvements to make the TEMAN program more effective

1. Want to hold training/seminars on "how to reprimand": 23 respondents
2. Give prizes/awards for those who implement FRIENDS in their workplace. 26 respondents
3. Providing simple (user friendly) TEMAN reporting media: 18 respondents
4. More interesting socialization of the TEMAN program was held: 42 respondents

F. RESULT AND DISCUSSION

1) *Ten diagnostic questions*

TRIR objective does not blind PT. X from other important goals i.e business goals (exploration, production), sustainability goal (environment, corporate governance). In a decision-making situation where goals are conflicting each other, safety goal must be prioritized above all others. The operated block is mature asset in which wells are declining naturally. To fulfill commitment to buyers, PT. X-Y shall do complex and high-risk activities drilling ± 100 development and exploration wells offshore /year, perform ± 4000 well interventions, construct & install new offshore platforms with minimum impact to production. Therefore, TRIR goal is very challenging. This goal influences seriously to employee's risk-taking behavior and unethical behavior as failure to meet the goal will impact directly to individual annual bonus and performance rating. Setting TRIR target is top-down goal and the process is not transparent. The strategy to achieve it shouldn't be the same. In conclusion, after analyzing PT. X-Y TRIR 2024 using 10 diagnostic questions, TRIR goal is very likely "going wild". To prevent / minimize the unexpected effect, PT. X-Y management shall show strong commitment in safety, be role model in safety ("walk the talk"), to lead safety



culture transformation, and to find new objective cascading strategy of the goal to all employees. Strong leader for leading safety culture transformation is essential for the organization.

2) *FGD to calculate weight of criteria*

The pairwise comparison data is transformed into matrix pairwise.

Table 4. Matrix Pairwise Comparison

CRITERIA	RA	EQTP	SA	COM	VIG	CEN
RA	1	2	1/3	2	1/3	6
EQTP	1/2	1	1/4	1	1/2	2
SA	3	4	1	4	1	6
COMM	1/2	1	1/4	1	1/2	1
VIG	3	2	1	2	1	5
CEN	1/6	1/2	1/6	1	1/5	1
B	8.17	10.50	3.00	11.00	3.53	21.00

Then it is normalized to find the eigen vector

Table 5. Matrix Pairwise Comparison and eigen

	RA	EQTP	SA	COM	VIG	CEN	TOTAL	Weight
RA	0.122	0.190	0.111	0.182	0.094	0.286	0.986	16.432%
EQTP	0.061	0.095	0.083	0.091	0.142	0.095	0.567	9.458%
SA	0.367	0.381	0.333	0.364	0.283	0.286	2.014	33.567%
COMM	0.061	0.095	0.083	0.091	0.142	0.048	0.520	8.664%
VIG	0.367	0.190	0.333	0.182	0.283	0.238	1.594	26.568%
CEN	0.020	0.048	0.056	0.091	0.057	0.048	0.319	5.312%
	1	1	1	1	1	1	6	100%

The last step is to check consistency of comparison by the group. The result is consistent if the Consistency Ratio is 0.0565 ( $\leq 0.1$ ). Therefore, the order of criteria is as follows: 1<sup>st</sup>. worker is lacking of situation awareness, SA (33.6%), 2<sup>nd</sup> lacking of vigilance, VIG (26.6%), 3<sup>rd</sup> insufficient knowledge on risk assessment, RA (16.4%), 4<sup>th</sup> failing to uses correct tools, equipment, planning, EQTP (9.4%), 5<sup>th</sup> failing to communicate with team mates, COMM (8.7%), 6<sup>th</sup> complacent, CEN (5.3%). The groups were asked to evaluate which program is more effective to improve the criteria.

The same processes is performed on 6 criteria. All are consistent with CR max = 0.1. Summary of programs are as follows. The 1<sup>st</sup> rank is TEMAN. It is selected as GM’s *Wildly Important Goal*.

Table 6. HSSE Program in priority order

SOLUTION	Weighted Criteria						Weighted SCORE (Range 10)
	Risk Assessment	Eq, Tool Planning	Safety Awareness	Communication	Vigilance	Complacency	
	16.43%	9.46%	33.57%	8.66%	26.57%	5.31%	1.00
TEMAN	6.67	3.33	8.33	10	10	10	8.261
TRAINING	8.33	6.67	10	8.33	5	8.33	7.849
SCULT	10	5	5	8.33	8.33	6.67	7.084
CERM	5	8.33	6.67	8.33	6.67	1.67	6.431
GRH	3.33	1.67	3.33	8.33	3.33	3.33	3.606
MWT	1.67	10	1.67	6.67	3.33	5	3.509

3) *OKR of TEMAN*

To write OKR for TEMAN, a survey was held. The purpose was to find out the perception of frontliners about TEMAN program, what are the obstacles they felt in implementing it / when implementing it at work locations, and collect suggestions for improvements. The survey was answered by 360 respondents. There mentioned 6 reasons why it is not effective and 4 recommendations to improve it. With this information OKR of TEMAN was developed.

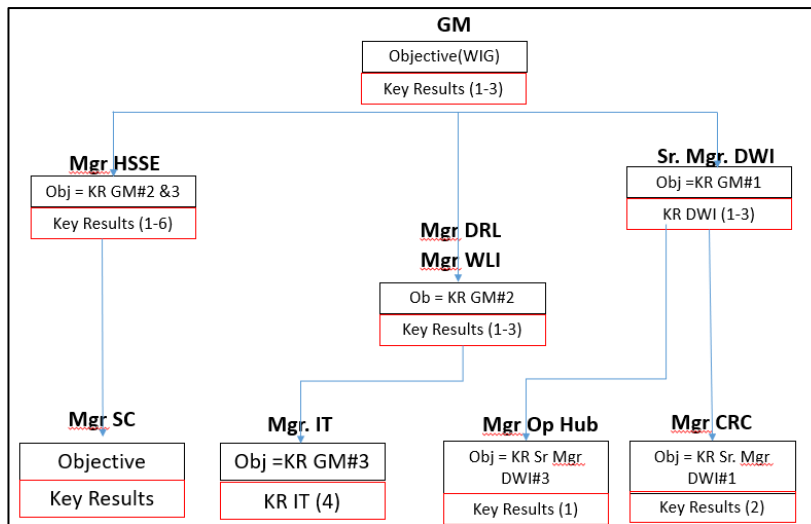


Figure 9. OKR of TEMAN in DWI

Following direction of PT. X-Y HSSE Manager for pilot project, OKR development for this thesis focused on the TEMAN program in Drilling & Well Intervention (DWI). DWI nature of work is very high risks and there have been several incidents. The OKR illustration for the TEMAN program at DWI is as follows:

**General Manager (GM)**

Objective : TEMAN becomes culture of PT. X-Y’s workers at all level in 2 years (2026).

- Key Results : 1) In every meeting Management shall promote and encourages TEMAN;  
 2) TEMAN internalization programs for DWI complete in 2025 (pilot);  
 3) TEMAN internalization programs for non-DWI complete in 2026.

**Sr. Manager DWI**

Objective : in every meeting Management shall promote and encourages TEMAN (GM’sKR#1).

- Key Results : 1) One TEMAN report/visit/manager when visiting DWI’s Contractors’ Barges/Rigs;  
 2) The 5-min video of TEMAN is played when opening every DWI meetings;  
 3) Employees who perform & promote TEMAN in creative ideas are rewarded by Management.

**Mgr. HSSE**

Objective-1 : TEMAN internalization programs for DWI complete in 2025 - pilot (GM’sKR#2).

- Key Results : 1) “How to do TEMAN effectively” training instructor, schedule, is approved by DWI in Sept’24;  
 2) New-simplified TEMAN report is available in Sept’24;  
 3) 2 Years Contract with Training consultant is awarded in Dec’24.

Objective-2 : TEMAN internalization programs for non-DWI complete in 2026 (GM’sKR#3).

- Key Results : 1) Evaluation & revision of TEAN internalization program pilot in DWI is complete in Q3 2025;  
 2) “How to do TEMAN effectively” training instructor, schedule, is approved by PO in Sept’24  
 3) Survey of TEMAN in Dec’26, shows <10% population at worksite still don’t know TEMAN.

**Mgr. Drilling & Mgr. WLI**

Objective : TEMAN internalization programs for non-DWI complete in 2026. (GM’sKR#3).

- Key Results : 1) Working schedule of DWI crews in Q1-Q4 20205 is fully aligned to "How to do TEMAN effectively" training schedule for 100% participation;  
 2) Digital solution of TEMAN in DWI is ready for trial in Q2 2025;  
 3) Socialization of TEMAN internalization program to all DWI crews complete in Q4 2024.



**Mgr. Drilling Operation Hub**

Objective : Personnel who perform TEMAN & promote TEMAN in creative ideas are rewarded by Management during Management visits to Site (Sr. Mgr DWI KR#3)

Key Results : Proposal Category of TEMAN reward is agreed by DWI Snr. Mgr in July'24

**Mgr. Communication, Relation, Community Development (CRC)**

Objective : The 5 min-video TEMAN is watched when opening DWI meetings. (Sr. Mgr DWI KR#2).

Key Results : 1) The 5-min video of TEMAN concept is approved by GM & HSSE in July'24.  
2) The 5 min-video TEMAN production is completed in August 2024.

**Mgr. Information Technology (IT)**

Objective : Digital solution of TEMAN in DWI is ready for trial in Q2 2025. (Mgr DRL & WLI KR#2).

Key Results : 1) Solution concept "TEMAN by CCTV" approved by HSSE & DWI in Sept'24;  
2) Development & test in bench is completed in Q1 2025;  
3) Deployment and start-up of system on site is completed in Q2 2025;  
4) Assign dedicated IT support team (Reg-3 & Zona-8) for this project in July'24 for 2 years.

**Mgr. Supply Chain (SC)**

Objective : 2 years contract with Training Consultant is awarded in Dec'24. (HSSE KR#3)

Key Results : The tender process of this contract is completed in Q4 2024 (6 months);

**4) OKR of Contractor's confidence improvement**

The main objective is DWI's Contractors have strong-positive perception about PT. X-Y Safety management & confidence on PT. X-Y HSSE commitment. The proposed OKR is described as follows:

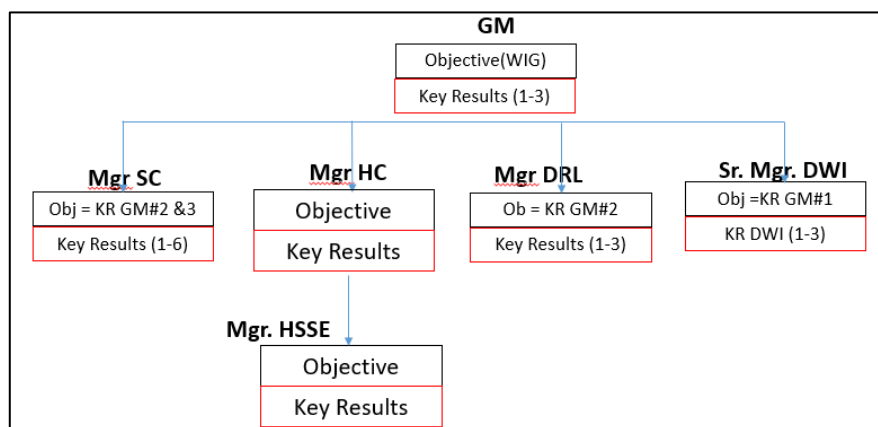


Figure 10. OKR of Contractor's confidence improvement (on PT. X-Y HSSE Management)

**General Manager (GM)**

Objective : DWI's CTRs have strong positive perception on PT. X-Y Safety Management & HSSE commitment.

Key Results : 1) No P0 & P1 unsafe conditions are overdue more than 2 years;  
2) No vacant position in HSSE organization by Dec'24  
3) Important feedbacks in the meetings with DWI CTR's are followed up with no delay.

**Sr. Manager DWI**

Objective : No P0 & P1 unsafe conditions are overdue more than 2 years (GM KR#1)





Key Results : 1) No backlog of Preventive Maintenance of DRL & WLI facility more than 6 months;  
2) Data of all unsafe condition is up to date in DWI database;  
3) Budget provision for repair cost 5 M\$ is available every year.

### Mgr. Drilling & Mgr. WLI

Objective : Important feedbacks in the meetings with DWI CTR's are followed up with no delay (GM'sKR#3).

Key Results : 1) Status of MoM F/Up actions is updated monthly in DWI Database that CTR can read;  
2) Meeting schedule with DWI CTR is respected;  
3) Site Visit with CTR management to witness the actual condition.

### Mgr. Supply Chain (SC)

Objective : No P0 & P1 unsafe conditions are overdue more than 2 years (HSSE KR#3)

Key Results : 1) Critical spare parts are kept at minimum level (safety stock);  
2) Time to procure material max 1 year since request is entered in system;  
3) Space to keep DWI's critical spare parts always available in warehouse.

### Mgr. Human Capital (HC)

Objective : No vacant position in HSSE organization by Dec'24 (GM KR#2)

Key Results : 1) Recruitment of 10 new Safety Officers for supervising DWI activities completed by Oct'24;  
2) All mandatory trainings of 10 new Safety Officers for DWI are completed in Dec'24;  
3) Competitive contract T&C.

### Mgr. Health Safety Security Environment (HSSE)

Objective : Recruitment of 10 new Safety Officers for supervising DWI activities completed by Oct'24 (HC KR#1)

Key Results : 1) Technical skills & experience level of all positions are finalized by Jul'24 for HC to start recruitment;  
2) Interview of potential candidates & provide evaluation result according to schedule given by HC;  
3) Provides name of potential candidates for HC to follow up during recruitment time.

## G. CONCLUSIONS

Oil & gas business is still attractive for investors. In making investment decisions, apart from paying attention to company's business health indicators such as ROA, ROI, ROE, GPM, Debt Service Ratio, EBITDA, Liquidity Ratio, investors also pay attention to the company's ESG rating which is an indicator of company sustainability. Business performance is strongly influenced by E, S, G aspects according to Agency & Stakeholder theory. PT.X really pays attention to this and makes it a strategic goal. In 2023 PT.X ESG score is 20.7. This score positioned PT.X at the top in the oil & gas industry worldwide. To maintain this achievement PT.X set stretch goals each year, one of them is safety performance TRIR (Total Recordable Injury Rate).

Stretch goals are like two sides of a coin. There is a positive side and also a negative side. Setting stretch goals must be done carefully, like a doctor dispensing medicine so that the benefits are obtained with minimal side effects. TRIR goals are important for business continuity but are too ambitious so they seem impossible to achieve. This goal is given in a top-down manner where subsidiaries such as PT. X-Y are not asked for advice when setting it. This condition is even more difficult because according to the 2022 PT. X-Y safety culture survey the results are not as good as previous years. Directions for carrying out various kinds of safety programs are difficult for implementers in the field who have limited resources. They asked that this work program be focused on just 1-2 programs but implemented seriously and its effectiveness measured.

In this situation, a leader is really needed to bring the organization to achieve TRIR's goals. Safety culture must be developed again by focusing on implementing selected HSSE programs with a new strategy, namely Objective & Key Results (OKR). This framework has been used by many large companies, including Google, Intel, and has proven successful in bringing them to



achieve their organizational goals. The OKR strategy is still new for PT. X-Y. With this thesis, it is hoped that PT. X-Y can see the advantages of this method in achieving ambitious goals. By constructing TEMAN program using OKR, it is more likely PT. X-Y can achieve the TRIR goal this year and the following years, which will certainly be increasingly difficult. Furthermore, this study can also be carried out not only to Safety work programs but extended to Environment and Corporate Governance aspects.

## H. RECOMMENDATIONS

1. To extend the study of correlation between ESG and economic performance in Indonesia's firms, similar to the study in Singapore and Malaysia.
2. Align PT. X's strategy of ESG, focus more on those that have a more significant impact on economic performance but continue the efforts to meet the minimum requirements for others.
3. Be careful in making stretch goals. Apply OKR for goals that are very important to the company, especially if it is a stretch goal.
4. Improve the safety culture in the company so that business sustainability is achieved.

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*Cite this Article: John Rainier, Achmad Fajar Hendarman (2024). Implementing OKR Framework in Solving Safety Culture and Safety Program Issues to Elevate Safety Performance of PT. X-Y Whilst Preserve The ESG Rating of PT.X. International Journal of Current Science Research and Review, 7(9), 6973-6988, DOI: <https://doi.org/10.47191/ijcsrr/V7-i9-17>*