PETRONAS 50 YEARS

UNIVERSITI TEKNOLOGI MARA Cawangan Melaka

MGT666

INDUSTRIAL TRAINING REPORT

Prepared By:
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2022942943
BA246

Prepared For:
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SURAT KEBENARAN

Tarikh : 17/02/2025

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Tajuk Laporan	INDUSTRIAL TRAINING REPORT	**Nama Syarikat**	PETRONAS

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1.0 EXECUTIVE SUMMARY

I worked on Change Management and Digital Branding & Communication during my 24-week internship with PETRONAS in the Adoption & Embedment (A&E) team. This experience provided me with the chance to develop a variety of skills that are essential for professional growth. This skill set includes communication, time management, collaborative teamwork, and creative thinking.

I was required to have a comprehensive understanding of PETRONAS' business divisions, which include Upstream, Downstream, Gas & New Energy, and Project Delivery & Technology, as part of my internship. The development of insights into these processes was essential for the successful implementation of strategic planning and communication within the organization.

The research offers a comprehensive analysis of PETRONAS, including a SWOT analysis that identifies its assets, weaknesses, opportunities, and threats, as well as recommendations for improving these areas. This report delineates strategies that are intended to enhance operational efficiency and resolve external concerns.

I developed a more comprehensive comprehension of PETRONAS' strategic environment by utilizing the knowledge and skills I earned during my internship. It will be imperative to employ these insights in order to address substantial business challenges and enhance the company's international standing in the energy sector. This paper provides a comprehensive perspective on my tenure at PETRONAS by summarizing my internship experience, the skills I gained, an overview of PETRONAS' operations, and the principal insights from the SWOT analysis.

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2.0 ACKNOWLEDGEMENT

I am deeply grateful to PETRONAS and the Finance System & Solution (FSS) Department, Adoption & Embedment (A&E) Team for providing me with the invaluable opportunity to complete my 24-week internship. This experience has made significant improvements to the growth of my professional development, abilities, and knowledge.

I am very thankful to Ms. Genevia, my manager, for her unwavering support, encouragement, and advice throughout my internship. Her leadership and insights have provided me with a deeper understanding of the financial systems sector and the importance of digital transformation.

I am grateful to my superb teammates Nadira, Shee, and Darwisy for their unwavering support, collaboration, and willingness to share their expertise. Their compassion and guidance have significantly improved my learning experience, making my internship both enjoyable and rewarding.

Lastly, I would like to extend my appreciation to all members of the FSS department who have contributed to my educational experience by promoting a collaborative environment, sharing knowledge, or fostering a positive work environment. I am sincerely grateful for the opportunity to have been a part of a team that is both motivating and energetic, as this internship has been an exceptional experience.

ARDINI ATHIRAH

CONTACT

EDUCATION

2022 - 2025 Bachelor of Business Administration (HONS.) International Business
University Technology of Mara (UiTM) Bandaraya Melaka
Current CGPA 3.37 (Second Class-Upper)

2018 – 2020 Diploma in Art and Design
University Technology of Mara (UiTM) Seri Iskandar
Final Year CGPA 3.56 (First Class)

LANGUAGE

English

Malaysia

Highly motivated and detail-oriented student in International Business Administration graduate with a strong academic background and hands-on experience in global market analysis and strategic planning. Proficient in cross-cultural communication, with a proven ability to manage projects and collaborate with international teams. Skilled in data analysis and CRM software, with a solid understanding of international trade regulations and business practices. Seeking to leverage my skills and knowledge to contribute to the growth and success of a forward-thinking global enterprise

EXPERIENCE

2024 - January 2025
KLCC, Kuala Lumpur
Adoption & Embedment intern

- User Adoption & Change Management
- System Implementation & Integration Support
- Stakeholder Engagement & Communication
- Process Standardization & Optimization
- Digital Branding & Communication
- Support & Issue Resolution

2021 – December 2022
Sungai Buloh, Selangor
Tailor and Sales Assistant at Arlina Ayou

- Skilled in tailoring, fitting, and altering garments.
- Provided excellent customer service by assisting clients with their fashion needs, offering style advice, and ensuring a pleasant shopping experience.
- Managed sales transactions-maintained inventory levels, and organized stock to optimize the store layout and display.

SKILL

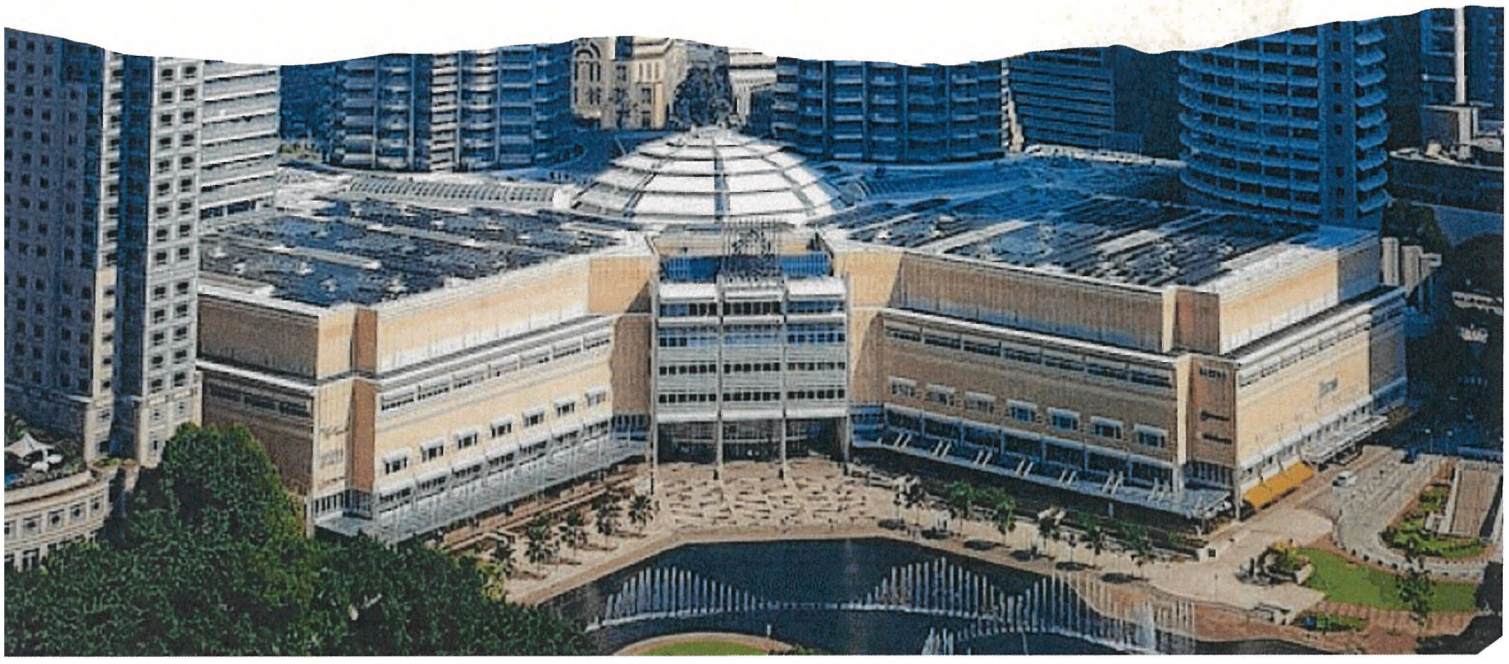
Market Analytics
Data Analytics
Copywriting
Web Programming
Email Marketing

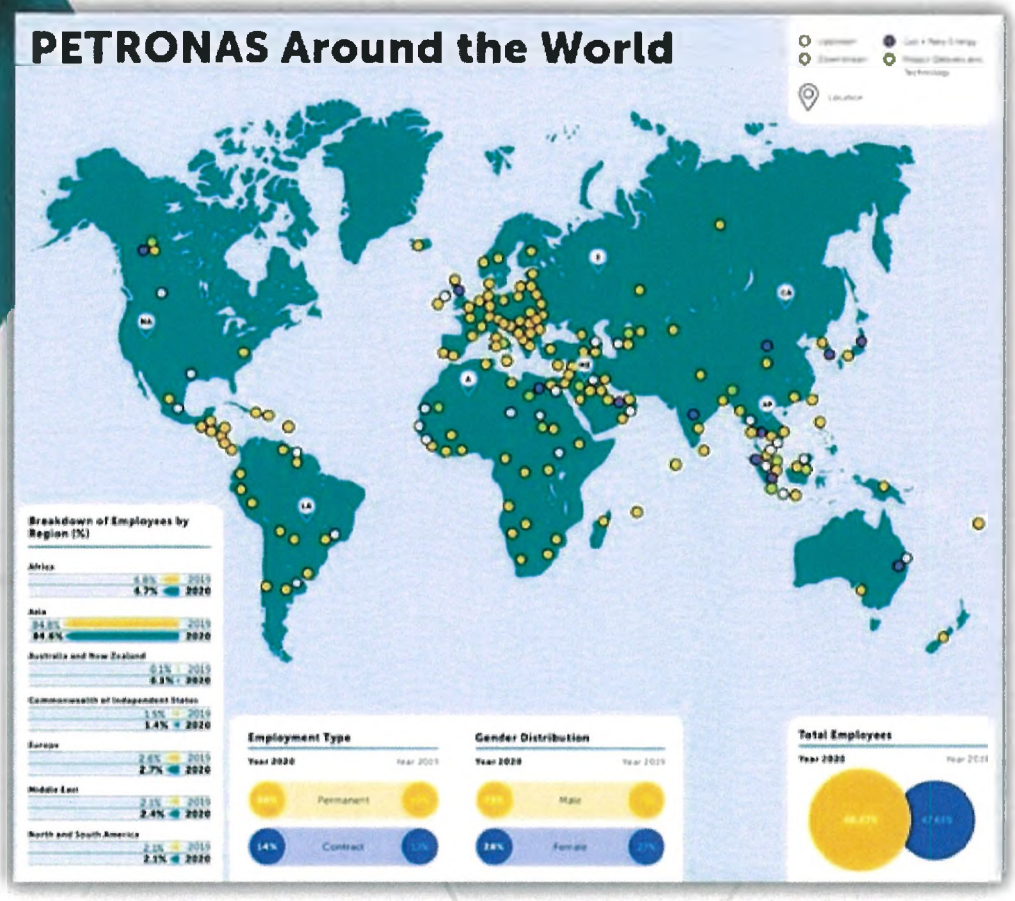
REFERENCE

Khalilah Binti Ibrahim
Lecture of International Business

Ariff Aqmal Bin Azmeera
Logistic Executive

4.0 COMPANY'S PROFILE





Petroliam Nasional Berhad (PETRONAS) is Malaysia's government-owned oil and gas enterprise, which was established in 1974. PETRONAS, a Fortune Global 500 company, has expanded its operations to over 50 countries, operating in a variety of energy sectors, including Upstream (exploration and production), Downstream (refining and petrochemicals), Gas & New Energy (LNG and renewable energy), and Project Delivery & Technology. The company is headquartered in Kuala Lumpur. PETRONAS, which is committed to sustainability and innovation, is gradually transitioning to healthier energy alternatives, including solar, hydrogen, and carbon capture technologies, with the objective of achieving Net Zero Carbon Emissions (NZCE) by 2050. PETRONAS, a global energy leader, is committed to enabling economic and social development, enhancing energy security, and advancing digital transformation in response to the evolving energy landscape.

ORGANIZATIONAL STRUCTURE

YM Tan Sri Tengku Muhammad Taufik Tengku Kamadjaja Aziz
President & Group Chief Executive Officer

Adnan Zainal Abidin
Chief Operating Officer & Executive Vice President & CEO Gas Business

Liza Mustapha
Executive Vice President & Group Chief Financial Officer

Datuk Adif Zulkifli
Executive Vice President & CEO Upstream

Datuk Sazali Hamzah
Executive Vice President & CEO Downstream

Marina Md Taib
Senior Vice President Corporate Strategy

Razman Hashim
Senior Vice President Group Legal & Group General Counsel

Ir Mohd Yusri Mohamed Yusof
Senior Vice President Project Delivery & Technology

Farehana Hanapiah
Senior Vice President Group Human Resources Management

PRODUCT & SERVICES

Upstream

1

The upstream sector is dedicated to the exploration, extraction, and production of crude oil and natural gas from subterranean sources. These resources are subjected to surface processing prior to being transferred to refineries for further processing into marketable products. PETRONAS operates 245 producing fields, 429 offshore platforms, and 30 floating facilities worldwide, establishing a strong upstream presence in over 20 countries. The corporation facilitates the development of sustainable and organized petroleum resources in Malaysia through 103 active Petroleum Arrangement Contractors (PACs), which include partnerships within the Malaysia-Thailand Joint Development Area.

Gas & New Energy

3

PETRONAS has established itself as a leading provider of natural gas supply solutions by capitalizing on its diverse portfolio and high-performing assets. PETRONAS is reinforcing its commitment to renewable energy, with a particular emphasis on solar and wind power, which have substantial development potential due to ongoing technological advancements that reduce costs. This aligns with the global energy transitions. PETRONAS's renewable energy strategy prioritizes the Asia-Pacific region, where the demand for sustainable energy solutions is expected to surpass that of other regions.

Downstream

5

The downstream industry includes the refining, production, and marketing of crude oil and natural gas into the finished products. This section is essential for optimizing the value of molecules via operational efficiency and commercial excellence. The downstream operations of PETRONAS encompass the production and sales of petrochemicals for domestic and international markets. Commerce, promotion, and processing of crude oil and petroleum derivatives.

5.0 TRAINING'S REFLECTION

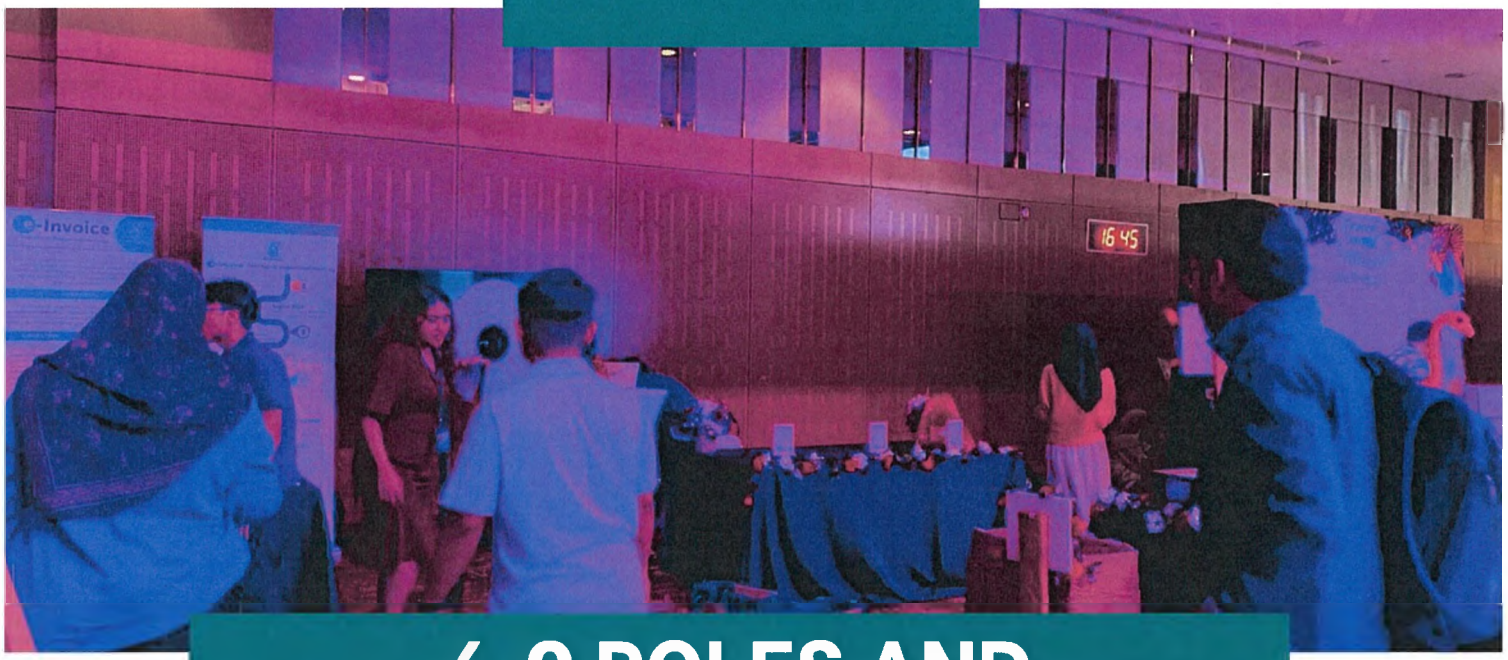
In the Adoption & Embedment (A&E) team at PETRONAS, I was primarily involved in Change Management and Digital Branding & Communication initiatives during my 24-week internships. This experience enabled me to cultivate a diverse skill set that is indispensable for professional development, such as communication, time management, collaborative teamwork, and creative thinking.

A critical component of my internship was the acquisition of an extensive knowledge of PETRONAS' business divisions, which include Upstream, Downstream, Gas & New Energy, and Project Delivery & Technology. These insights were essential in developing effective communication strategies and promoting strategic adoption throughout the organization.

Additionally, I conducted a comprehensive SWOT analysis of PETRONAS, which identified the company's primary strengths, vulnerabilities, opportunities, and threats, as well as actionable recommendations to improve business performance. This research offered valuable insights into the enhancement of operational efficiency and the mitigation of external challenges.

I obtained a more profound comprehension of PETRONAS' strategic landscape by utilizing the knowledge and skills I gained during my internship. PETRONAS' global presence in the energy sector will be further strengthened by these insights, which will be instrumental in addressing critical business challenges.

My internship experience, skill development, an overview of PETRONAS' operations, and key insights from the SWOT analysis are all summarized in this report, which offers a comprehensive perspective on my time at PETRONAS.

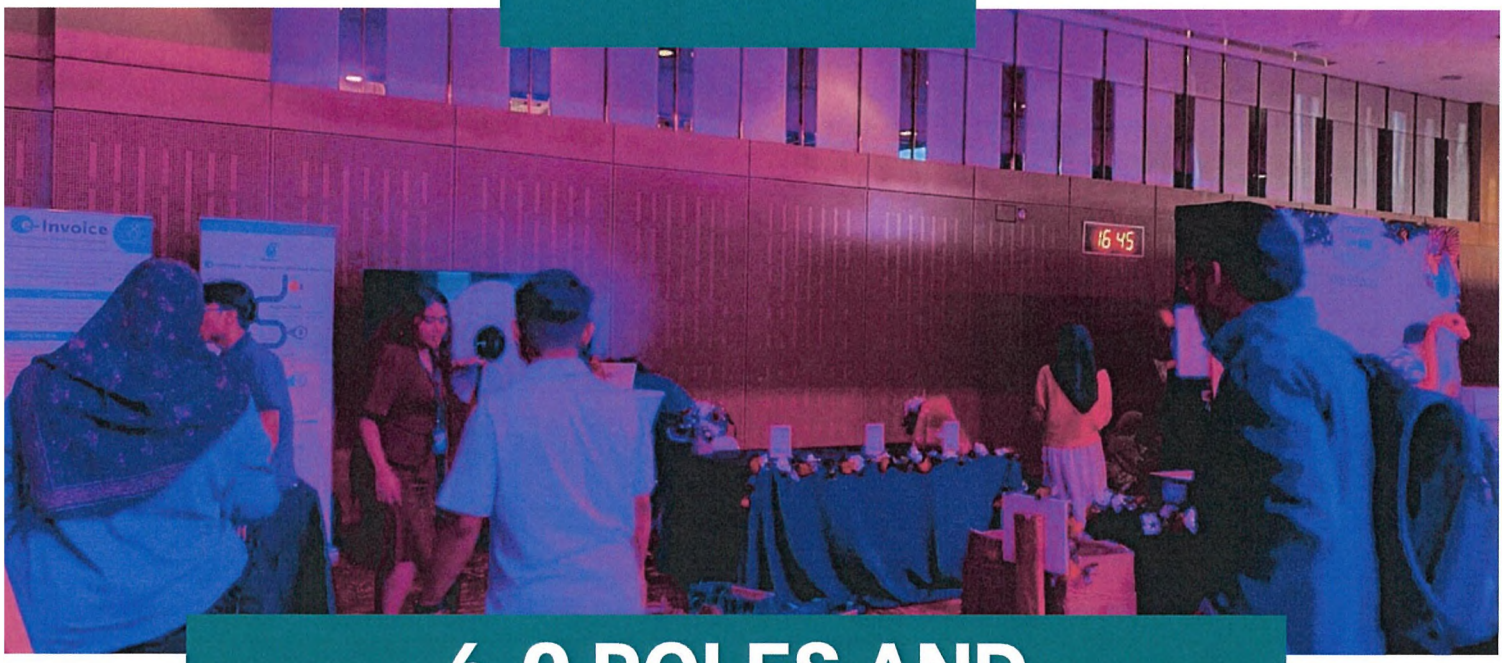


6.0 ROLES AND RESPONSIBILITY

In my position as an intern in the Finance Shared Services (FSS) Adoption & Embedment (A&E) team at PETRONAS, I was assigned a variety of responsibilities that enabled me to make a significant contribution to the team.

1. Assistance with Digital Branding and Communication
   - Contributing to the creation of internal communication materials, such as newsletters, infographics, and digital content, to increase awareness and engagement within the organization.
   - Assisting in the development and implementation of digital branding initiatives to encourage the widespread adoption of critical financial systems and digital tools throughout PETRONAS.

2. Stakeholder Engagement and Change Management
   - Preparing communication plans, stakeholder engagement strategies, and training materials to facilitate the adoption of systems and processes in support of adoption campaigns.
   - Collaborating with internal stakeholders from various business divisions to ensure the seamless integration of new systems and process improvements.
   - In order to evaluate adoption challenges and suggest strategies for development, surveys and engagement sessions are implemented to monitor user sentiment and feedback.



6.0 ROLES AND RESPONSIBILITY

3. Initiatives for Knowledge Sharing and Training
   - Developing materials and overseeing logistics to facilitate the execution of knowledge-sharing seminars, webinars, and training sessions.
   - Facilitating the seamless onboarding and adoption of financial systems within PETRONAS by assisting in the curation of user guides and FAQs.
   - Ensuring that training content is customized to meet the needs of a wide variety of stakeholders in order to facilitate the transmission of knowledge and facilitate comprehension.

4. Performance Tracking and Project Support
   - Supporting the collection, analysis, and reporting of data to evaluate the efficacy of engagement programs and adoption initiatives.
   - Drafting reports and presentation templates to provide a concise summary of the findings, emphasize the most important challenges, and suggest approaches for ongoing enhancement.
   - Working together with cross-functional teams to guarantee that adoption strategies are in accordance with business objectives and transformation objectives.

The internship experience enabled me to improve my analytical, stakeholder engagement, project management, and communication abilities, thereby contributing to the success of PETRONAS's digital transformation and process adoption initiatives.

SKILL DEVELOPED

7.0 SWOT ANALYSIS FOR PETRONAS

SWOT ANALYSIS FOR PETRONAS

STRENGHT

1. Solid Financial Stability
2. Wide-Ranging Business Portfolio
3. Advanced Technological Skills and Innovation

WEAKNESS

1. Safety-Related Challenges
2. Inefficiencies in Operations
3. Dependency on Oil and Gas Revenue

OPPORTUNITIES

1. Growth in Renewable Energy Sector
2. Advancements in Emerging Technologies
3. Expansion into Offshore Wind Energy

THREATS

1. Global Political Uncertainty
2. Rising Market Competition
3. Environmental and Regulatory Pressures

8.0 DISCUSSION & RECOMMENDATION

STRENGHT

1. Solid Financial Stability

Despite the market's volatility, PETRONAS maintained a strong financial position in 2023. The company's shareholders' equity increased to RM443.5 billion, while its total assets increased to RM773.3 billion (PETRONAS, 2023). However, revenue for the fourth quarter of 2023 was RM91.7 billion, a decrease that was attributed to the lower realised prices of all products, which was consistent with the declining benchmark prices. Cash flows from operating activities (CFFO) totalled RM38.2 billion, while profit after tax (PAT) decreased to RM16.6 billion (PETRONAS, 2023).

PETRONAS' strategic investments in both traditional and renewable energy sectors and prudent financial management contributed to the overall performance. The company has delivered 403 LNG cargoes from its Bintulu complex and 38 cargoes from its floating LNG facilities, thereby continuing to broaden its Liquefied Natural Gas (LNG) portfolio (PETRONAS, 2023). PETRONAS is committed to the development of healthier energy solutions and continues to be the third-largest LNG producer in the world.

Furthermore, PETRONAS is progressing significantly in the energy transition sector, with a particular emphasis on hydrogen initiatives, renewable energy sources, and carbon capture and storage (CCS). The company has set a target to limit GHG emissions at 49.5 million tonnes CO_2e by 2024 and recorded a reduction to 45.6 million tonnes in 2023 due to emissions reduction projects in energy efficiency, flaring, venting, and electrification (PETRONAS, 2023) PETRONAS' Net Zero Carbon Emissions (NZCE) 2050 strategy is consistent with these initiatives.

PETRONAS is committed to achieving operational excellence in a volatile market while simultaneously balancing core business growth with renewable energy investments as it navigates the global energy transition.

RECOMMENDATION

1. **Building partnerships with global strategic partners**
2. **Focus on Sustainable Practices**

First, the establishment of partnerships with global strategic partners. PETRONAS should prioritise the establishment of more strategic global partnerships in order to enhance its competitive advantage and growth. These partnerships can provide access to new income streams, broader markets, and essential resources, all of which are essential for long-term success. For example, the partnership between PETRONAS and Saudi Aramco in 2022 was crucial in the expansion of their joint ventures, particularly in the upstream sector. A critical suggestion would be to broaden the scope of this collaboration to encompass additional significant international actors, including the National Iranian Oil Company (NIOC) and Sahara International Petrochemical Company (SIPCHEM). These partnerships have the potential to assist PETRONAS in securing new projects and facilitating collaborative exploration and production initiatives, particularly in emerging markets where energy demand is increasing at a rapid pace. Additionally, these partnerships would allow PETRONAS to capitalise on advanced technology and share risks, thereby securing its position in the global energy markets. PETRONAS can also acquire insights into innovative energy solutions through joint ventures, which will create new opportunities for growth in both traditional and renewable sectors.

Secondly, focus on sustainable practices By integrating sustainable practices into its upstream and downstream operations, PETRONAS can enhance its financial stability and brand reputation. The company is not only positioned as a leader in the energy transition but also contributes to the mitigation of climate change by implementing environmentally responsible initiatives. For instance, PETRONAS has already pledged to implement its Net Zero Carbon Emissions 2050 strategy, which emphasises the reduction of greenhouse gas emissions, the enhancement of energy efficiency, and the expansion of renewable energy sources. PETRONAS has the option to invest in more advanced technologies, such as carbon capture and storage (CCS), to further enhance the effort. This investment has the potential to mitigate the environmental impact of its operations. Additionally, it is imperative that the organisation prioritise the expansion of renewable energy projects, including offshore wind farms and solar initiatives, with a particular emphasis on regions with significant potential, such as the Middle East and Southeast Asia. PETRONAS' dedication to sustainability is illustrated by its initiatives in Malaysia's solar energy sector, which are indicative of the company's ongoing pursuit of strategic investments to establish a greener energy future. PETRONAS not only aligns with global sustainability trends but also positions itself for long-term development in a market that is increasingly valuing environmental stewardship by implementing such measures.

PETRONAS can guarantee long-term profitability, broaden its global presence, and make a substantial contribution to the global energy transition by prioritising these two strategic recommendations.

STRENGHT

2. Wide-Ranging Business Portfolio

PETRONAS is committed to preserving its competitive position in the global energy sector by capitalising on its vertically integrated business model and diversified portfolio. The company's resilience and adaptability in a swiftly evolving market are guaranteed by its operations in the Upstream, Downstream, Gas & New Energy, and Project Delivery & Technology divisions.

PETRONAS has maintained its dedication to oil and gas exploration and production in its upstream operations, investing RM25.7 billion in capital expenditure (CAPEX) for development and exploration activities. The company's robust position in resource monetisation was evident in the first half of 2024, as its average daily production reached 2.46 million barrels of oil equivalent per day (boe/d). In addition, PETRONAS remains committed to enhancing production efficiency by implementing more than 300 Facilities Improvement Plans (FIPs) annually, which guarantee the longevity of assets and the sustainability of operations (PETRONAS, 2024).

The Downstream segment is essential to PETRONAS' value chain, as it is responsible for the refining, trading, and marketing of petroleum products. The company's retail division, which encompasses Setel Ventures Sdn. Bhd., has transformed petroleum retail by implementing digital payment solutions, thereby simplifying customer experiences. At the same time, PETRONAS Mesra Retail & Café Sdn. Bhd. is bolstering its presence in markets beyond conventional energy by further expanding its network of over 700 Kedai Mesra outlets (PETRONAS, 2024).

PETRONAS is also making a concerted effort to expand its operations in the Gas & New Energy sector, with a particular emphasis on the transition to greener energy. The corporation maintains its status as the world's third-largest LNG producer, demonstrating its dominance as a supplier of liquefied natural gas (LNG). PETRONAS has been investing in solar and wind power to advance its renewable energy ambitions, notably in the Asia-Pacific region, where energy demand is expected to grow rapidly. PETRONAS' 2024 sustainability initiatives have also resulted in a 5.1% decrease in greenhouse gas (GHG) emissions, which is indicative of the company's commitment to responsible energy production and carbon reduction (PETRONAS, 2024).

In summary, PETRONAS' diversified energy portfolio and integrated business structure enable it to maintain its position as a dominant player in both traditional and renewable energy sectors. PETRONAS is well-positioned for long-term growth and leadership in the global energy industry, as it has a distinct focus on operational efficiency, digital innovation, and sustainability (PETRONAS, 2024).

RECOMMENDATION

1. **PETRONAS needs to prioritise the development of strong supply chain resiliency.**
2. **Enhance Regional Market Presence**

The recommendation is develop a robust supply chain resilience as a top priority. PETRONAS should prioritise the development of a resilient and robust supply chain in order to sustain its competitive advantage and facilitate the integration of its diverse business portfolio. In addition to ensuring uninterrupted operations, a robust supply chain is essential for reducing the risks associated with market fluctuations, supply disruptions, and geopolitical tensions. Investing in automation and technology to enhance efficiency and streamline operations throughout the supply chain could be an effective approach. PETRONAS can improve data visibility, mitigate manual errors, and ensure greater agility in responding to challenges by utilising technologies such as artificial intelligence (AI), blockchain, and the Internet of Things (IoT). For example, PETRONAS could employ predictive analytics to optimise inventory levels and prevent stockouts or deploy automated logistics systems to expedite delivery times and decrease operational expenses. PETRONAS can remain agile in responding to market shifts and evolving customer demands by enhancing decision-making through this digital transformation (PETRONAS, 2024).

Next, improve the presence of the regional market PETRONAS must diversify its revenue streams and capitalise on emerging energy demand by increasing its regional market presence in high-growth areas. PETRONAS will be able to capitalise on the increasing demand for both traditional and renewable energy sources by concentrating on high-potential regions such as Southeast Asia, South Asia, and Africa. PETRONAS can enhance its ability to serve local markets, meet energy requirements, and fortify its relationships with local businesses and governments by expanding its presence in these regions. For instance, PETRONAS has already been engaged in India, where it has collaborated with local entities to address the country's expanding energy requirements and invested in LNG infrastructure. Furthermore, PETRONAS should consider the growing demand for solar and wind energy in emergent markets in the renewable energy sector. For example, PETRONAS could capitalise on local partnerships and investments to improve energy security in these markets by establishing a robust presence in Vietnam, Indonesia, or Bangladesh (PETRONAS, 2024).

STRENGHT

3. Advanced Technological Skills and Innovation

PETRONAS has constantly established itself as a leader in technological innovation within the energy sector through investments in cutting-edge technology and research and development (R&D). The company has significantly improved its operating capabilities, secured long-term competitiveness, and promoted sustainability in energy production. A significant endeavour in this domain is PETRONAS Digital Sdn. Bhd., which emphasises the use of technologies such as artificial intelligence (AI), predictive analytics, automation, and cloud computing. These technologies allow PETRONAS to optimise its operations, enhance decision-making, and augment efficiency throughout its extensive activities, from exploration to distribution. PETRONAS has adopted AI-driven technologies to enhance production workflows and reduce risks related to supply chain interruptions and resource management as part of its digital transformation initiative.

PETRONAS possesses a significant technological edge with its Proprietary Enhanced Oil Recovery (EOR) methods, which optimise extraction from mature oil resources. By prolonging the longevity of current assets, PETRONAS improves production efficiency and reduces the necessity for expensive new exploration. These strategies are essential for sustaining output levels from retirement fields while reducing environmental effects. Ongoing investment in these technologies further advances the company's overarching objective of minimising emissions and fostering sustainable energy practices.

Additionally, PETRONAS Technology Ventures (PTV) is crucial in fostering innovation by facilitating the advancement of novel fuel technologies, lubricants, and alternative energy solutions. By prioritising sustainable energy efforts, PETRONAS seeks to diminish its carbon footprint and shift towards more eco-friendly energy alternatives. An exemplary instance of its creative strategy is the expansion of its renewable energy portfolio, including offshore wind farms and solar power initiatives, which corresponds with the company's objective to achieve Net Zero Carbon Emissions by 2050. PETRONAS's ongoing research into hydrogen energy solutions and carbon capture technology positions it as a significant participant in the energy transition (PETRONAS, 2023).

The advanced technology skills are crucial for maintaining PETRONAS's leadership in the global energy market, enhancing efficiency and sustainability while allowing the corporation to react to changing industry challenges and market needs (PETRONAS, 2024). By prioritising technical innovation, PETRONAS is strategically positioned to adeptly navigate the future of energy and further extend its influence in both conventional and renewable energy sectors.

RECOMMENDATION

1. **Increase R&D Funding**
2. **Broaden Digital Transformation**
3. **Talent Development in Technology and Innovation**

PETRONAS demonstrated its dedication to sustainability and innovation through a variety of initiatives, including an increase in R&D funding. Allocating additional resources to research and development (R&D) in sustainable energy technologies, such as hydrogen and carbon capture, is essential for the organisation to preserve its leadership position in the changing energy landscape. For example, PETRONAS is currently engaged in the development of green hydrogen production and the investigation of carbon capture and storage (CCS) solutions to mitigate greenhouse gas emissions (PETRONAS, 2023). The company can expedite the development of low-carbon technologies that are consistent with global sustainability objectives by increasing R&D funding in these areas. PETRONAS will be positioned as a leader in sustainable energy, as this will not only help reduce its environmental imprint but also open new revenue streams in the burgeoning green energy sector.

Second, expand digital transformation. The implementation of digital transformation is essential for the enhancement of operational efficiency and productivity. PETRONAS has already made significant progress in its operations with respect to automation, artificial intelligence (AI), and predictive analytics. For instance, PETRONAS Digital Sdn. Bhd. concentrates on the utilisation of AI to enhance downstream and upstream processes (PETRONAS, 2024). The company could enhance its digital capabilities by incorporating more sophisticated automation systems and AI across all sectors in order to further build on these successes. For example, AI-powered tools could be employed in the upstream sector to optimise drilling, predict reservoir behaviour, and improve the efficacy of enhanced oil recovery techniques. Automation of refinery processes and AI-driven supply chain management have the potential to result in substantial cost savings and decreased disruption in the downstream sector. PETRONAS can enhance its overall performance and preserve its competitive advantage by expanding its digital transformation.

Talent Development in Technology and Innovation: In order to capitalise on emergent technologies, PETRONAS must allocate resources to talent development. A robust internal knowledge infrastructure that fosters innovation will be established by improving the skills of employees in advanced technologies, including AI, blockchain, and data analytics. Ongoing training programs and partnerships with academic institutions can be implemented by PETRONAS to equip its personnel with the necessary skills for the future energy landscape. PETRONAS, for instance, could collaborate with universities to develop advanced courses in digital tools for the oil and gas industry, data science, and renewable energy technologies. This investment in human capital not only equips PETRONAS for the future but also cultivates a culture of innovation that promotes adaptability and continuous improvement. PETRONAS will remain at the vanguard of technological advancements in the energy sector by cultivating this expertise.

WEAKNESS

1. Safety-Related Challenges

Although PETRONAS is internationally known as a prominent energy and gas company, safety continues to be a persistent issue in its operations. Despite the company's substantial progress in safety management, incidents continue to occur. In October 2022, a fire and explosion occurred in an interconnecting conduit at PETRONAS' Pengerang Integrated Complex (PIC) in Johor, which is one of the most significant recent safety incidents. This incident underscores the persistent hazards that are endemic in the oil and gas sector, where intricate and high-risk operations, including refining and petrochemical processing, continue to present substantial safety challenges (The Star, 2022).

The underlying causes of these incidents are frequently attributable to deficiencies in operational safety protocols, insufficient facility maintenance, and the inherent hazards of working with highly flammable materials. PETRONAS, like numerous other organisations in the industry, is consistently striving to mitigate these vulnerabilities. For instance, PETRONAS has given priority to the improvement of safety standards and the provision of comprehensive training to employees in order to reduce the likelihood of human error. Nevertheless, as evidenced by the PIC incident, the high-risk environment and the complexity of operations can occasionally result in catastrophic events, despite these efforts (PETRONAS Media Release, 2022).

RECOMMENDATION

1. **Enhance Safety Culture and Training**
2. **Adopt Advanced Safety Technologies**
3. **Implement Rigorous Safety Audits**

First, improve safety culture and training. PETRONAS must prioritise the development of a demanding safety culture in all of its operational facilities. Frequent exercises and simulations that equip employees for a variety of emergency scenarios should be integrated into the daily operations. Comprehensive safety training should be implemented. Staff members can be guaranteed that they comprehend the significance of safety protocols and are prepared to respond promptly to potential hazards through this ongoing education. For instance, the organisation may implement simulation-based training systems that involve virtual reality (VR) exercises that simulate actual emergency scenarios, including gas leaks or fires. This form of immersive training guarantees that employees have experience with procedures and can respond instinctively, thereby enhancing response times and mitigating the possibility of human error during emergencies. Shell implemented VR-based safety exercises in 2021 to enhance the preparedness of its workforce in its refineries and upstream facilities (Shell, 2021).

Leverage Advanced Safety Technologies: In order to prevent incidents prior to their occurrence, PETRONAS may implement advanced technologies, including predictive analytics, AI-based monitoring systems, and safety sensors. PETRONAS can acquire real-time insights into potential hazards, detect equipment malfunctions early, and anticipate risks before they escalate by incorporating these technologies into its infrastructure. For example, the utilisation of predictive maintenance systems that analyse data from sensors installed on critical equipment could assist in the identification of indications of wear and tear or failure, thereby initiating maintenance alerts prior to the occurrence of any malfunctions. For example, BP has implemented artificial intelligence-based monitoring systems to identify errors in its drilling equipment, which has resulted in a decrease in accidents and malfunctions (BP, 2020). PETRONAS has the potential to enhance safety and minimise delay by integrating comparable AI technologies throughout its operations, thereby guaranteeing the smoother and safer execution of processes.

PETRONAS should engage third-party experts to conduct more frequent and comprehensive safety audits in order to ensure continuous improvements in safety practices. These external audits can offer an impartial assessment of the organisation's safety protocols and pinpoint any neglected hazards. PETRONAS would be able to proactively address prospective safety issues and implement corrective actions before they result in an incident as a result of the results. For instance, ExxonMobil implements annual third-party safety audits for its refineries, which encompass assessments of safety culture, operational procedures, and equipment. These audits have facilitated the reduction of operational risks and the enhancement of ExxonMobil's overall safety record (ExxonMobil, 2021). PETRONAS may implement a similar strategy to recruit third-party safety specialists and guarantee a more thorough safety assessment of its operations.

WEAKNESS

2. Inefficiencies in Operations

In October 2022, PETRONAS encountered operational difficulties due to the disruption of the Sabah-Sarawak Gas Pipeline (SSGP), resulting in a declaration of force majeure on gas deliveries to Malaysia LNG Dua in Bintulu, Sarawak. The disruption resulted from a pipeline breach induced by soil movement, affecting PETRONAS' capacity to fulfil supply obligations to major clients, including Japan. This issue highlighted vulnerabilities in PETRONAS' infrastructure and operations that must be addressed to ensure reliability and preserve its image as a dependable energy supplier.

Following this disruption, it became clear that the company's operational processes struggled to foresee and address threats from external environmental elements. Such inefficiencies can adversely impact financial performance and customer relationships, particularly when contractual responsibilities are unmet. PETRONAS asserts that supply disruptions of this nature may undermine customer confidence and affect long-term commercial relationships, particularly in essential markets like Japan, where natural gas serves as a vital energy resource. The leak resulted in substantial expenses for repairs, maintenance, and mitigation efforts, impacting the company's financial performance.

RECOMMENDATION

1. **Upgrade and Maintain Critical Equipment**
2. **Optimize Operational Processes**

PETRONAS must prioritise the upgrade and upkeep of outdated equipment and facilities to mitigate the risk of operational breakdowns, particularly in essential plants like LNG terminals. Outdated equipment, particularly infrastructure important to energy generation and transportation, may be susceptible to failures, resulting in unanticipated downtime and expensive interruptions. In the instance of the Sabah-Sarawak Gas Pipeline interruption, the absence of advanced monitoring technologies may have hindered the early detection and mitigation of possible vulnerabilities inside the pipeline system.

Updating facilities and enhancing equipment to integrate cutting-edge technologies may mitigate such dangers. PETRONAS may implement AI-driven predictive maintenance systems that evaluate equipment health in real time, detect wear and tear patterns, and plan repairs before failures. Shell has advanced in utilising predictive maintenance for its offshore platforms to improve dependability and minimise unscheduled downtime (Shell, 2021). Through technological investment and a proactive maintenance strategy, PETRONAS can ensure operational continuity and diminish the probability of expensive disruptions.

A further suggestion for mitigating operational inefficiencies is to use lean manufacturing principles and process optimisation tactics to enhance efficiency, increase throughput, and sustain a competitive advantage. Lean manufacturing emphasises the reduction of waste, the enhancement of efficiency, and the optimisation of production processes. PETRONAS can incorporate these ideas into its operations by analysing workflows, removing bottlenecks, and optimising resource distribution to enhance overall efficiency.

PETRONAS can implement process enhancement methods like Six Sigma or Kaizen, which concentrate on optimising processes, enhancing quality control, and minimising waste. A corporation such as Toyota has effectively implemented lean concepts to enhance production line efficiency, and these principles might similarly be utilised in PETRONAS' operations to minimise downtime and operational inefficiencies (Toyota, 2020). Optimising operations enhances efficiency and facilitates cost reductions, which are essential in a fluctuating energy market.

WEAKNESS

3. Dependency on Oil and Gas Revenue

IAlthough PETRONAS' initiatives to diversify its portfolio through renewable energy projects, the business continues to rely heavily on the fluctuating oil and gas market for a substantial share of its earnings. Recent studies indicate that the oil and gas sector is the predominant source of PETRONAS' revenue, rendering the corporation dependent on variations in global oil prices, geopolitical conflicts, and regulatory modifications (PETRONAS, 2023). Following the COVID-19 pandemic, global oil prices collapsed, severely affecting revenue and profit margins for corporations such as PETRONAS that depend heavily on crude oil production and exports (KPMG, 2020).

The essential volatility of the global oil market subjects PETRONAS to risks, as price fluctuations resulting from geopolitical instability in critical oil-producing areas, OPEC's production choices, or environmental regulations directly affect profitability (BBC News, 2022). Moreover, regulatory modifications intended to reduce carbon emissions or facilitate a transition to cleaner energy may lead to alterations in energy demand and supply, thereby increasing the company's long-term financial stability.

PETRONAS has made progress in diversifying into renewable energy sources, including solar and hydrogen; however, this transition is sluggish, and the business continues to have difficulties in diminishing its dependence on fossil fuels in the medium term. PETRONAS has pledged to achieve Net Zero Carbon Emissions (NZCE) by 2050, indicating a progressive shift from reliance on fossil fuels to sustainable energy sources (PETRONAS, 2023). Nonetheless, until this diversification achieves a critical mass, the corporation continues to be susceptible to the intrinsic risks of the global oil market.

RECOMMENDATION

1. **Expand Investment in Low-Carbon Technologies**
2. **Strengthen Business Portfolio in Emerging Markets**

To diminish its reliance on oil and gas, PETRONAS must prioritise the expansion of its investments in low-carbon technology. A method to accomplish this is by concentrating on the advancement and expansion of Carbon Capture, Utilisation, and Storage (CCUS) technologies. CCUS is essential for reducing carbon emissions from fossil fuels, enabling corporations such as PETRONAS to maintain their current infrastructure while lessening environmental harm. Investing in these technologies will enable PETRONAS to diversify its revenue streams by accessing a burgeoning market for sustainable solutions. PETRONAS has entered the renewable energy sector via its subsidiary, PETRONAS Renewable Energy, and could augment its portfolio by pursuing large-scale CCUS projects or biofuel initiatives (PETRONAS, 2023). These investments would connect the corporation with global environmental trends, generate new revenue streams, and strengthen its long-term position in a transforming energy sector.

Next, enhance the business portfolio in emerging markets. PETRONAS should concentrate on augmenting its business portfolio by amplifying its presence in emerging markets, especially in sectors aligned with the future of energy. Investing in electric vehicle (EV) charging infrastructure or energy storage solutions offers a substantial development opportunity in light of the worldwide shift towards cleaner energy. The expansion of EV infrastructure is anticipated to accelerate in response to the growing demand for electric vehicles, as both governments and consumers pursue alternatives to fossil fuel-dependent transportation. PETRONAS may partner with governments or private enterprises in nations such as China, India, and Southeast Asia to establish an EV charging infrastructure. The energy storage business, which facilitates the incorporation of renewable energy into grids, is poised for substantial growth, presenting an additional investment opportunity. By establishing itself as a leader in these developing areas, PETRONAS can diversify its revenue sources and mitigate its susceptibility to volatility in oil and gas prices.

OPPORTUNITIES

1. Growth in Renewable Energy Sector

The global move to renewable energy offers a significant opportunity for PETRONAS, particularly as the energy change increases globally. As nations seek to achieve their climate objectives, the demand for renewable energy sources, including solar, wind, and hydroelectric electricity, is increasing swiftly. This transition is motivated by the necessity to diminish greenhouse gas emissions and tackle the environmental issues associated with fossil fuels. PETRONAS, utilising its substantial financial assets and technological proficiency, may exploit this transformation by diversifying its energy portfolio and investing in cleaner, renewable energy sources.

PETRONAS has initiated measures to conform to this worldwide trend by broadening its renewable energy initiatives. The company has commenced investments in solar energy initiatives and intends to significantly contribute to the advancement of offshore wind energy in the Asia-Pacific area (PETRONAS Media Release, 2023). The company's sustainability strategy aims for net-zero carbon emissions by 2050, reflecting its dedication to spearheading the renewable energy transition (PETRONAS, 2023). Besides reducing the dangers associated with excessive dependence on oil and gas, such investments can yield steady, long-term revenue streams as the global shift towards green energy accelerates. By diversifying into these sectors, PETRONAS enhances its sustainable credentials and establishes itself as a significant participant in the future energy landscape.

RECOMMENDATION

1. **Diversify Investment Portfolio**
2. **Develop Strategic Partnerships**
3. **Strengthen R&D and Innovation**

PETRONAS should prioritise dedicating a substantial amount of its assets to renewable energy projects, including solar, wind, and hydroelectric power. This plan will diminish the company's reliance on oil and gas income while leveraging the increasing worldwide demand for sustainable energy alternatives. By concentrating on emerging markets with significant renewable energy potential, PETRONAS can attain a competitive advantage in areas such as Southeast Asia, Africa, and certain regions of Latin America, where renewable energy infrastructure remains developing. In Southeast Asia, PETRONAS could consider augmenting its portfolio of solar initiatives, particularly due to the region's significant solar energy potential. Furthermore, nations such as India and China are significantly investing in renewable energy, positioning them as potential targets for PETRONAS to diversify its energy portfolio and secure early market entry.

Next, to expedite its renewable energy activities, PETRONAS should to cultivate strategic alliances with prominent renewable energy firms and technology suppliers. Partnering with international leaders in solar, wind, and storage technologies will enable PETRONAS to acquire cutting-edge technologies and exchange exemplary practices. Joint ventures with firms , a leader in offshore wind, or First Solar, a prominent solar provider, might augment PETRONAS' renewable energy competencies and stimulate innovation. By doing so, PETRONAS can alleviate the risks linked to green energy initiatives, such as regulatory ambiguities, and utilise foreign knowledge for expedited project implementation. PETRONAS can reduce the risks associated with green energy ventures, such as regulatory uncertainties, and leverage external expertise to expedite project deployment by doing so.

PETRONAS needs to increase investments in research and development (R&D) to investigate innovative renewable energy technologies and optimise the efficiency of current solutions. This will be crucial in securing the company's long-term standing in the renewable energy sector. PETRONAS might invest in advancing energy storage technology, essential for the effective integration of intermittent energy sources such as solar and wind into the grid. Augmenting R&D investment for innovations in sectors like green hydrogen and refined battery storage technologies would not only conform to global environmental trends but also position PETRONAS at the vanguard of next-generation energy technology. Corporations like as Shell and BP are already advancing in this domain, and PETRONAS can emulate their efforts to sustain its competitive edge in the changing energy landscape.

OPPORTUNITIES

2. Advancements in Emerging Technologies

The oil and gas industry is swiftly transforming, with innovations in emerging technology presenting substantial prospects for firms such as PETRONAS. Industry 4.0 technologies, especially automation, remote monitoring, and "smart factory" systems, are transforming the operational environment. By incorporating automation into its operations, PETRONAS can improve productivity, minimise human error, and decrease operational expenses. Automated drilling methods enhance precision and diminish the necessity for manual intervention, leading to cost reductions and improved operational efficiency. Furthermore, remote monitoring systems provide real-time tracking of equipment operation, hence decreasing the necessity for on-site inspections and minimising downtime.

These developments correspond with the industry's increasing focus on safety. Through the utilisation of sensors and predictive maintenance, PETRONAS can preemptively detect probable equipment faults, thereby avoiding expensive downtimes and guaranteeing uninterrupted operation. Moreover, the implementation of "smart factory" systems can facilitate PETRONAS in optimising its manufacturing processes and enhancing efficiency, as evidenced by other industry leaders adopting analogous technologies. This method can help foster a safer and more sustainable workplace by reducing exposure to hazardous situations (Gregolinska et al., 2022).

RECOMMENDATION

1. **Implement Smart Operations**
2. **Foster Innovation Ecosystems**

PETRONAS need to expedite the incorporation of automation and intelligent systems into its operations, encompassing production, maintenance, and logistics. This strategy will optimise performance, improve resource allocation, and enhance decision-making. In upstream operations, implementing AI-driven predictive maintenance solutions could enable PETRONAS to foresee and resolve equipment problems prior to their escalation, hence reducing unplanned downtime. Moreover, by employing automated technologies to oversee and regulate activities, PETRONAS can mitigate human errors, enhance operational precision, and boost productivity. In refining operations, the implementation of intelligent sensors and automation systems can diminish energy consumption, enhance product quality, and optimise workflows. The implementation of these technologies throughout the enterprise will lead to diminished operational expenses and enhanced profitability.

Next, develop Innovation Ecosystems. A strategic initiative for PETRONAS is to establish or engage in innovation hubs to interact with technology startups, academic institutions, and other industry leaders. These ecosystems can facilitate the co-development of advanced solutions and promote innovation that augments PETRONAS' technological competencies. PETRONAS could collaborate with a firm focused on AI and machine learning to provide enhanced predictive maintenance capabilities for its operations. Alternatively, by collaborating with academic institutions, PETRONAS can access cutting-edge research in renewable energy technology or energy storage solutions. Engaging in such ecosystems would enable PETRONAS to remain at the front of technical progress and reinforce its status as a leader in the global energy sector by utilising collaborative innovation to tackle future energy concerns.

OPPORTUNITIES

3. Expansion into Offshore Wind Energy

Offshore wind energy is becoming a highly promising area in renewable energy, with significant growth potential fuelled by the global transition to cleaner energy sources. PETRONAS, with its proven offshore experience and varied business portfolio, is well-positioned to capitalise on this expanding market. The company's established expertise in offshore engineering, logistics, and project management, acquired via its oil and gas operations, may be efficiently utilised for offshore wind energy projects. Offshore wind energy presents considerable opportunity for PETRONAS to enhance its position in the renewable energy sector, offering enduring development prospects as global demand for sustainable energy grows.

The increasing demand for renewable energy alternatives, such as offshore wind, stems from worldwide initiatives to mitigate carbon emissions and diversify energy sources. Offshore wind farms, employing wind turbines situated in aquatic environments, provide a reliable and robust electricity-generating source, especially in areas characterised by elevated wind velocities and grid connectivity. PETRONAS can leverage this trend by investing in offshore wind projects, either through direct investments or collaborations with prominent renewable energy firms. By engaging with this expanding industry, PETRONAS can both facilitate the global energy transition and reap the economic and environmental benefits of renewable energy generation.

RECOMMENDATION

1. **Leverage Offshore Expertise**
2. **Evaluate and Secure Strategic Locations**

PETRONAS needs to leverage its substantial offshore oil and gas proficiency to penetrate the offshore wind industry. The company's profound expertise in marine engineering, offshore project management, and logistics can substantially decrease the expenses and duration of offshore wind projects. PETRONAS may leverage its expertise in subsea infrastructure, platform design, and installation methodologies for offshore wind farms. Leveraging its established infrastructure and a workforce skilled in offshore oil and gas operations, PETRONAS can expedite its foray into the offshore wind sector and guarantee the economical implementation of wind energy initiatives. This strategy would not only augment the company's competitive advantage but also facilitate a more efficient shift to renewable energy.

Furthermore, assess and safeguard strategic sites. PETRONAS must prioritise a comprehensive study to pinpoint critical areas with the greatest potential for offshore wind energy advancement. Elements such as wind velocity, ocean depth, and closeness to energy markets are essential in assessing the viability of offshore wind initiatives. Regions such as the North Sea, the East Coast of the United States, and Southeast Asia present intriguing opportunities due to their advantageous wind conditions and the increasing demand for renewable energy. PETRONAS may investigate these domains via collaborations with local authorities or other energy firms or contemplate direct investments to secure a robust foothold in the offshore wind industry. By acquiring important areas, PETRONAS can enhance its contributions to the renewable energy transition while maximising potential rewards.

THREATS

1. Global Political Uncertainty

PETRONAS, a significant worldwide entity in the energy sector, encounters considerable risks arising from geopolitical instability and political uncertainties. The corporation functions within a highly interdependent and frequently unstable global market, where occurrences such as trade wars, sanctions, and regional conflicts can substantially interrupt operations and impede market access. The US-China trade war, for instance, created significant uncertainties that impacted global energy markets, as sanctions between the two economic powers restricted trade flows and disrupted energy supply chains (Nephew, 2020). Conflicts in the Middle East, a region rich in oil reserves, have resulted in instability in oil prices, interruptions in supply chains, and increased security risks for corporations working in the region (Medlock et al., 2020).

PETRONAS' operations in politically sensitive areas render it vulnerable to hazards, as global energy markets are especially prone to geopolitical conflicts that may result in unforeseen disruptions. The implementation of trade restrictions or embargoes on nations possessing vital oil and gas resources can diminish the accessibility of crucial materials and energy, hence affecting supply chains and operational costs. The disruptions are intensified by the unclear nature of energy laws and regulations across several regions, resulting in a difficult landscape for strategic planning and long-term investments.

Considering that global energy markets are interconnected with political and economic elements, political instability poses a substantial external risk to PETRONAS' operations. Managing such risks necessitates strategic diversification and risk mitigation strategies to protect operations from unforeseen political disturbances.

RECOMMENDATION

1. **Develop Risk Management and Contingency Plans**
2. **connection with local organizations in host nations.**

PETRONAS should use robust risk management measures to mitigate political risks. This entails formulating contingency plans that enable the organisation to swiftly adjust to alterations such as political instability or trade difficulties. PETRONAS could establish contracts with alternative suppliers or develop contingency operational sites in various nations. In the event of a political crisis in one nation disrupting supply chains, PETRONAS might promptly relocate production to unaffected countries or suppliers. This strategy guarantees the company's activities proceed without considerable losses or delays. For example, in the event of a conflict or embargo in a critical nation, like during the US-China trade war, PETRONAS may have established strategies to redirect exports or augment production in unaffected areas. This mitigates the effects of political disruption on its international activities.

Enhance Collaborations with Local Entities in Host Countries
Establishing robust links with local governments, enterprises, and communities is crucial for alleviating political risks. By doing so, PETRONAS can gain a deeper comprehension of the local political landscape and respond to alterations more efficiently. For instance, if PETRONAS has invested in a project within a politically unstable nation, maintaining strong relationships with local officials might facilitate ongoing collaboration, even amidst political instability. An illustrative example is PETRONAS' current collaborations in nations such as Indonesia, where they engage closely with local authorities and communities. These contacts enable PETRONAS to be apprised of any regulatory alterations or imminent political concerns, facilitating proactive measures by the company. In areas characterised by elevated political tension, such as some regions of Africa and the Middle East, these local affiliations safeguard PETRONAS' assets and facilitate more efficient operations, even under political crises.

By adopting these ideas, PETRONAS may improve its capacity to manage geopolitical concerns while ensuring business continuity and stability in its global operations.

THREATS

2. Rising Market Competition

The increasing competition in the energy industry poses a substantial danger to PETRONAS. The oil and gas industry is getting progressively saturated as new entrants diversify into many energy sectors, including renewables. This results in significant pricing pressures, constricting profit margins for established firms such as PETRONAS. As competition intensifies, the company risks encountering challenges in preserving its market position and sustaining profitability within a more fragmented environment (BusinessToday, 2022).

Furthermore, as the energy sector undergoes upheavals due to global shifts towards cleaner energy sources, PETRONAS may be compelled to modify its business model and strategy to maintain competitiveness against more agile competitors, especially in renewable energy domains such as offshore wind or solar power.

The increasing competitiveness in the oil and gas industry poses a substantial challenge for PETRONAS. As new entrants emerge in the market and established firms expand into renewable energy sectors, PETRONAS is compelled to sustain its competitive edge. Market saturation and pricing pressures are expected to diminish profit margins, while competitors' diversification initiatives could further weaken PETRONAS' market position in traditional energy. The organisation must prioritise strategic optimisation, improve efficiency, and engage in innovation to remain competitive in the changing energy landscape.

RECOMMENDATION

1. **Focus on Operational Efficiency and Cost Reduction**
2. **PETRONAS can conduct in-depth market research and consumer needs.**

Concentrate on operational efficiency and expense minimisation. To address the escalating competitiveness and pricing challenges, PETRONAS needs to invest in modern technology to enhance operational efficiency. Implementing digital transformation techniques, including artificial intelligence (AI), machine learning, and data analytics, can enable the organisation to optimise its processes, minimise waste, and uncover cost-saving potential. Implementing AI-driven predictive maintenance can allow PETRONAS to foresee equipment faults before their occurrence, hence minimising downtime and maintenance expenses. Moreover, machine learning methods can enhance supply chain efficiency by properly anticipating demand and optimising resource allocation.

Perform comprehensive market analysis and comprehend consumer requirements. PETRONAS must perform thorough market research to comprehend customer behaviour and developing trends, enabling it to predict competitor plans and adjust its business model accordingly. By comprehending shifting consumer preferences, PETRONAS may customise its energy solutions, product offers, and marketing tactics to address particular requirements. As consumers and industry transition to more sustainable energy options, PETRONAS could modify its portfolio to incorporate additional renewable energy projects or electric vehicle charging infrastructure. This strategy allows PETRONAS to anticipate market fluctuations and proactively address client needs, thereby preserving its competitive advantage in a swiftly evolving industry.

THREATS

3. Environmental and Regulatory Pressures

The growing emphasis on environmental sustainability and regulatory pressures presents a substantial risk to PETRONAS, especially as governments worldwide persist in tightening emissions limits and implementing stronger environmental laws. This transition is partially motivated by climate change regulations and international climate accords that promote the adoption of renewable energy sources. Consequently, PETRONAS may encounter increasing operational expenses associated with adherence to carbon taxes, emissions reduction initiatives, and renewable energy requirements (Aldy, 2020).

For instance, carbon taxes enacted by governments in nations like Canada or the European Union may elevate the expenses associated with PETRONAS' conventional oil and gas activities, which are significantly dependent on fossil fuels. Moreover, escalating demands from the public and investors for the adoption of more sustainable business practices may compel PETRONAS to devote substantial resources to cleaner technologies, including carbon capture, utilisation, and storage (CCUS) or renewable energy projects. As the need for renewable energy solutions escalates, PETRONAS may experience a reduction in its market share of conventional energy sources, hence complicating its long-term standing in the energy industry (McGlade et al., 2021). This is particularly crucial when the corporation reconciles its conventional business model with its initiatives to adopt energy transition and environmental objectives, including a transition to net-zero emissions by 2050.

The pressures damage PETRONAS' profitability and necessitate substantial expenditures in clean technology to reduce environmental effects and adhere to new rules, hence shaping future strategic decisions.

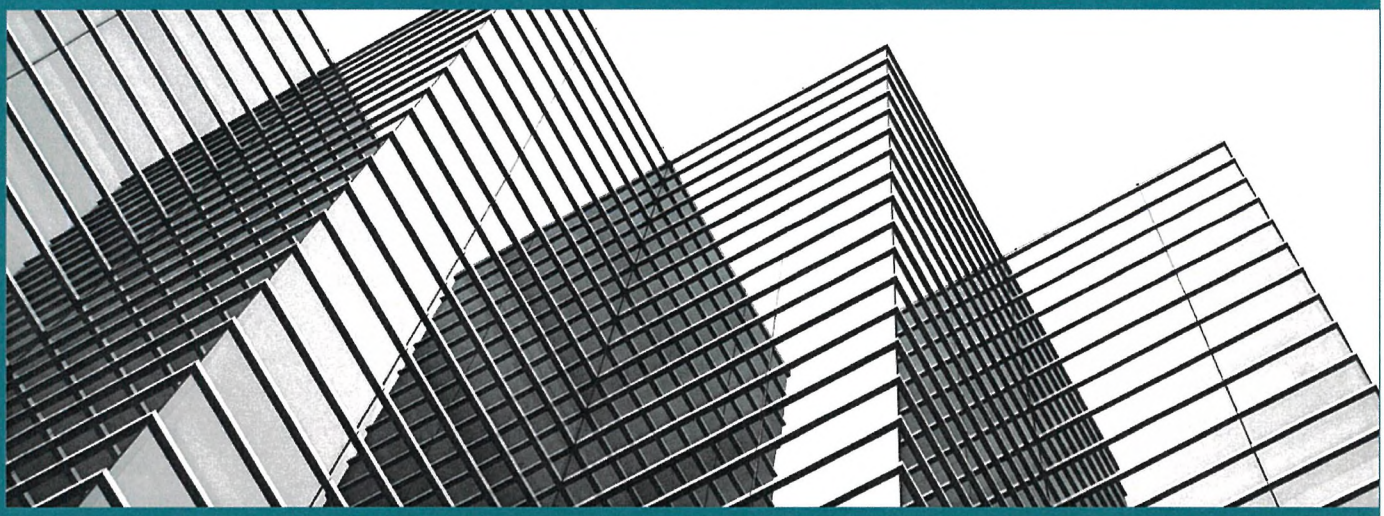
RECOMMENDATION

1. **Advocate for Balanced Regulations**
2. **Improve Sustainability Reporting and Transparency**

PETRONAS should adopt a proactive approach by collaborating with legislators, industry associations, and regulators to promote pragmatic and equitable policies. This entails establishing clear, consistent, and attainable standards that facilitate a gradual shift to cleaner energy while preserving the viability of old oil and gas industries. PETRONAS could engage in dialogues concerning carbon pricing systems, emissions reduction objectives, and the deployment of renewable energy to guarantee that the regulatory framework stays equitable and flexible for energy businesses shifting to low-carbon models. By collaborating with politicians, PETRONAS can guarantee that regulatory frameworks address both environmental necessities and the economic realities of sustaining energy security. Collaborating with Southeast Asian nations to design energy transition roadmaps that correspond with regional economic and energy requirements could lead to a harmonious balance between sustainability and economic development.

Next is enhancing sustainability reporting and transparency. In light of increasing demands from regulators, investors, and the public for enhanced openness, PETRONAS has to strengthen its sustainability reporting. This entails methodically monitoring and disseminating comprehensive data regarding its carbon footprint, ecological impact, and advancement towards fulfilling sustainability objectives, including net-zero emissions by 2050. PETRONAS could furnish annual reports on its renewable energy investments, carbon mitigation initiatives, and waste management strategies. By implementing global reporting frameworks like the Global Reporting Initiative (GRI) or the Task Force on Climate-related Financial Disclosures (TCFD), PETRONAS can fulfil stakeholder expectations and regulatory obligations while bolstering its reputation as a leader in corporate responsibility. Moreover, transparency in reporting could cultivate trust among investors and consumers, showcasing the company's dedication to tackling environmental issues while maintaining its conventional energy activities.

By implementing these ideas, PETRONAS can adeptly manage environmental challenges and establish itself as a responsible leader in the energy industry.



9.0 CONCLUSION

PETRONAS must continue in leveraging its strengths, notably its financial stability, extensive business portfolio, and advanced technological skills, to uphold its status as a preeminent worldwide entity in the oil and gas sector. As the energy sector undergoes transformation due to heightened competition, geopolitical uncertainty, and environmental challenges, it is imperative for PETRONAS to maintain agility and responsiveness to market fluctuations. Through the ongoing refinement of its strategy and objectives, guided by consistent and comprehensive SWOT analyses, the organisation may enhance its competitive advantage, reduce risks, and capitalise on emerging possibilities.

The company's dedication to innovation, sustainability, and operational efficiency will guarantee its enduring success and capacity to fulfil global energy requirements and environmental standards. Specifically, investments in renewable energy, digital transformation, and safety improvements will allow PETRONAS to adjust to the evolving environment while mitigating potential risks. By coordinating its objectives with the shifting energy paradigm, PETRONAS may persist in flourishing inside a progressively intricate and dynamic market.

My internship at PETRONAS has been a wonderful educational experience on a personal level. It enabled me to refine essential abilities in data administration, project coordination, and communication, which are important for success in the corporate sector. Engagement with varied teams and cross-functional partnerships afforded me practical insights into the intricacies of company operations, strategic decision-making, and change management. This practical experience has enhanced my professional development and motivated me to seek other chances in the energy sector, armed with the necessary tools and knowledge to make significant contributions in the future. This internship has provided me with a profound insight into PETRONAS' dedication to excellence and its critical influence on the future of the energy sector.

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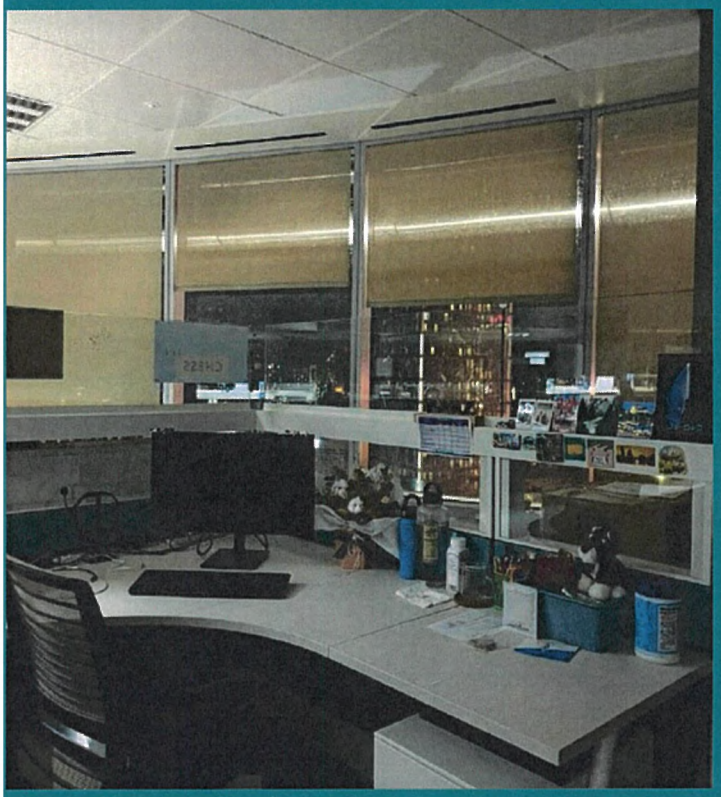
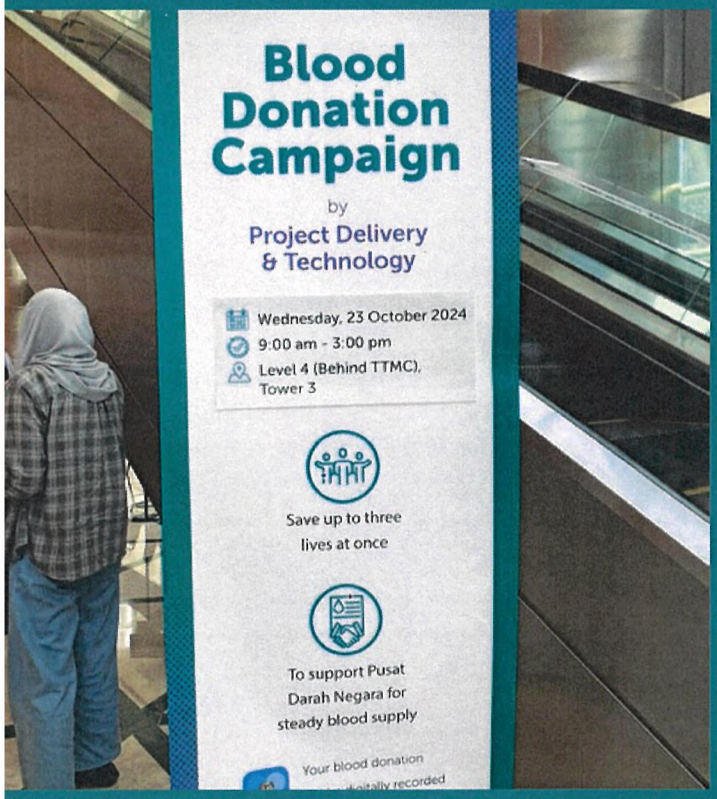
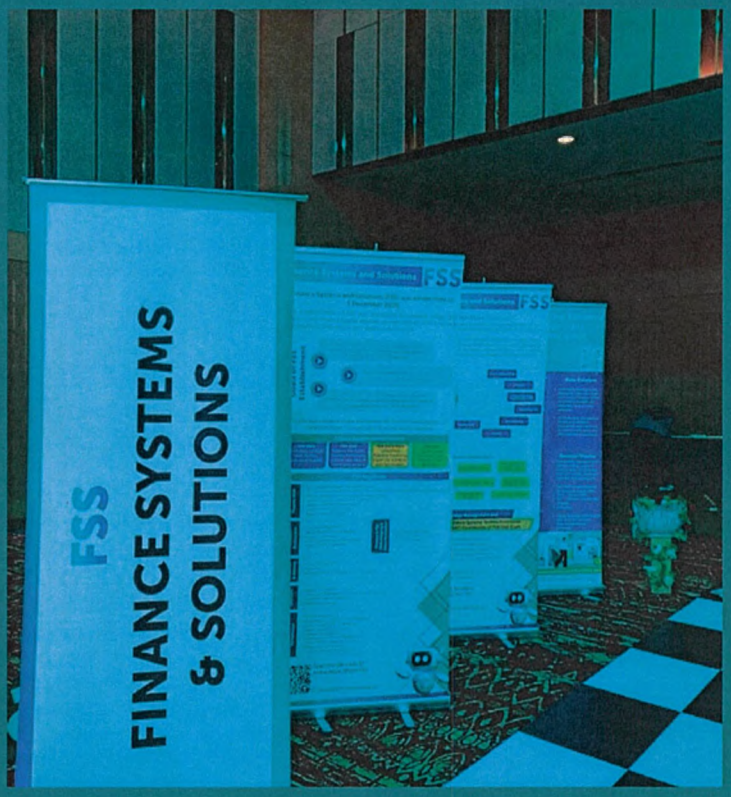
11.0 APPENDIX



Appendix 1: **My workstation & Lunch with Team**

Appendix 2: **Committee & Training**





Appendix 3: **Campaign & Department's Sport**

Appendix 4: **Events & Intern's Farewell party**