



**INTI**  
International University

**YOUR FUTURE BUILT TODAY**

# Sparking SDGs Collaboration

Ideas between INTI International University and industries

## Unlocking Innovation: A Partnership Invitation

Dear Prospective Partner,

Greetings! We are excited to introduce an opportunity for collaboration with the promise of transformative outcomes.

INTI International University is launching a pioneering project on Sustainable Development Goals (SDGs) aimed at Industrial Grants. We would appreciate your partnership and financial support to make this initiative successful.

By collaborating with us, your esteemed company will play a crucial role in driving innovation, fostering research excellence, and contributing to advancements in the industry. This collaboration is not just an investment in a project; it's an investment in the industry's future.

In return, your company will be recognised as a key partner, benefiting from unique engagement opportunities and access to groundbreaking research findings.

Let's work together to build the future. For further details and a comprehensive project proposal, please get in touch with Ms Nurul Jannah at [iu.ordc@newinti.edu.my](mailto:iu.ordc@newinti.edu.my)

Thank you for considering this partnership opportunity.

Sincerely,

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## WHAT ARE SDGS?

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. Click [here](https://sdgs.un.org/goals) for more details about SDGs: <https://sdgs.un.org/goals>

## Contact Us



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1

# IMPROVING EDUCATION QUALITY IN SOUTH-EAST ASIAN COUNTRIES

## OBJECTIVES

1. To examine the education quality - service quality levels in rural schools in Southeast Asia
2. To determine factors affecting service quality in rural schools in Southeast Asia
3. To measure the gap between perception and expectation of service quality in rural schools in Southeast Asia

## EXPECTED OUTCOMES

- Improvement in the **education quality** in rural schools in Southeast Asia
- Improve **school enrollment** through the improvement of education quality

## ADDED VALUES

### 1. Corporate Social Responsibility

The company will engage in CSR activities, which will help promote the organisation's brand image

### 2. Extend the Brand Presence

The company can extend their brand presence in Indonesia, Philippines, Vietnam and Malaysia where this research will be located

SUSTAINABLE  
DEVELOPMENT  
GOALS

17 PARTNERSHIPS  
FOR THE GOALS



## SDGS ACHIEVED

### Goal 1 - No Poverty

- Socio-economic, vulnerability

### Goal 4 - Quality Education

- Equity, anti-racism, and education for sustainable development



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# A CRITICAL SURVEY ON PERCEPTION OF RENEWABLE ENERGY: A FOCUS ON WASTE TO ENERGY INDUSTRY

## OBJECTIVES

1. To examine the perception of renewable energy
2. To determine factors affecting perception of renewable energy
3. To measure the gap between the perception and the reality of renewable energy

## EXPECTED OUTCOMES

- Improvement in the perception of renewable energy
- Designing Visual Informative Infographics to improve the perception of renewable energy

## ADDED VALUES

### 1. Corporate Social Responsibility

The company will engage in CSR activities, which will help promote the organisation's green brand image

### 2. Extend the Brand Presence

The company can extend its environmental brand presence in Asian countries, where the location of this research will be conducted

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## SDGS ACHIEVED

### Goal 7 - Affordable and Clean Energy

- At the current rate of progress, renewable energy sources will continue to account for a mere fraction of our energy supplies in 2030



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# CONSUMERS' PURCHASE INTENTION TOWARDS SOLAR PANEL AS RENEWABLE ENERGY SOURCE

## OBJECTIVES

1. To examine the factors influencing consumers' intention to purchase solar panels
2. To identify the most influencing factor towards consumer purchase intention of solar panel
3. To predict the variance of consumer purchase intention of solar panel based on the influencing factors

## EXPECTED OUTCOMES

- Consumers' purchase intention towards solar panels as an essential energy conservation and generation source can be used as a reference by policymakers
- Better understanding the influencing factors and consumer purchase intention of solar panels

## ADDED VALUES

Market Research

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GOALS**

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## SDGS ACHIEVED

### Goal 12 - Responsible Consumption & Production

- The influencing factors towards consumers' purchase intention of solar panels

### Goal 13 - Climate Action

- Mitigating climate change
- Adoption of Renewable Energy Sources



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**4**

## **INTEGRATING SUSTAINABLE DEVELOPMENT GOALS (SDGs) IN AN UNDERGRADUATE BUSINESS CAPSTONE COURSE VIA EXPERIENTIAL LEARNING: A QUALITATIVE EXPLORATION**

### **OBJECTIVES**

1. To investigate the outcomes of efforts to use the SDGs as a framework for teaching global sustainability
2. To investigate the impact of the Experiential Education Project-Based Learning (EEPBL) approach in promoting understanding of SDGs among business students
3. To foster a sense of responsibility for sustainability

### **EXPECTED OUTCOMES**

- A comprehensive understanding of the effectiveness of PBEL in promoting student awareness and knowledge of SDGs in a business education context
- Identifying challenges and best practices for integrating SDGs into business education through PBEL
- Recommendations for universities, business schools, and stakeholders on enhancing SDG integration through PBEL, capitalising on successful strategies and addressing challenges

### **ADDED VALUES**

#### **Infusing Sustainability Principles**

An illustrative example of an approach to educating students about the SDGs and infusing sustainability principles into their business education

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GOALS**

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FOR THE GOALS**



### **SDGS ACHIEVED**

#### **Goal 4 - Quality Education**

- Knowledge, skills, and values needed to thrive in society

#### **Goal 11 - Sustainability**

- Demonstrating sustainable practices and inspiring students to adopt environmentally responsible behaviours



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## EXPLORING THE COLLABORATIVE STRATEGIC COMMUNICATION ACTIVITIES BY EDUCATION AND MULTINATIONAL COMPANIES FOR THE DISABLED IN ENHANCING NATION BUILDING

### OBJECTIVES

1. To examine how educational institutions and multinational companies communicate with people with disabilities
2. To investigate the impact of these communication tactics on developing inclusive learning environments
3. To assess the role of these strategies in the socioeconomic inclusion and empowerment of people with disabilities
4. To advise on improving communication for educational institutions and companies in nation-building

### EXPECTED OUTCOMES

- Awareness about the necessity of inclusive education for people with disabilities may take steps to improve the accessibility of their facilities and programmes.
- Development of skills and capabilities among disabled individuals may lead to more excellent job opportunities and a more productive workforce
- Greater focus on the needs of people with disabilities can spur more research and innovation, which will benefit both the handicapped and the non-disabled

### ADDED VALUES

#### Corporate Social Responsibility

This can be a good beginning to establishing a University Corporate Social Responsibility Campaign

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FOR THE GOALS



### SDGS ACHIEVED

Goal 4 - Quality Education

Goal 8 - Decent Work and Economic Growth

Goal 11 - Sustainable Cities and Communities



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## DEVELOPMENT OF INTERNET-OF-THINGS (IOT) WEATHER STATION FOR SMART CITY

### OBJECTIVES

1. To develop a portable and Internet-of-Things (IoT) weather station
2. To trial the system as a graphical user interface (GUI) and for data acquisition

### EXPECTED OUTCOMES

- Novel theories / New findings / Knowledge  
New GUI for IoT weather station in smart city
- Research Publications  
2 Scopus-indexed journals

### ADDED VALUES

#### Agricultural Technology

Potential to develop IoT, Big Data & AI Technology for the Agriculture And Business Industry

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



### SDGS ACHIEVED

Goal 13 - Climate Action

Goal 11 - Sustainable Cities  
and Communities



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## AN IOT CUSTOM KNEE ORTHOSIS WITH CONTROLLABLE STIFFNESS TO SAFEGUARD FROM FALLING AMONG THE ELDERLY

### OBJECTIVES

1. To develop an IoT custom knee orthosis with controllable stiffness at pre-defined gait phases
2. To evaluate the performance of the knee orthosis
3. To trial the knee orthosis on the users

### EXPECTED OUTCOMES

- Novel theories / New findings / Knowledge  
New GUI for IoT weather station in smart city
- Research Publications  
2 Scopus-indexed journals

### ADDED VALUES

#### Agricultural Technology

Potential to develop IoT, Big Data & AI Technology for the Agriculture And Business Industry

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

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FOR THE GOALS**



### SDGS ACHIEVED

#### Goal 3 - Good Health and Well-Being

- Ensure healthy lives and promote well-being for all at all ages



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## 8 DEVELOPMENT OF AN IOT CUSTOM WHEELCHAIR LIFT TO FACILITATE THE EFFORT OF PATIENT TRANSFER IN/OUT OF A CAR IN THE ATTEMPT TO PROMOTE THE QUALITY OF NURSING AND PATIENT MOBILITY

### OBJECTIVES

1. To develop an IoT custom wheelchair lift to facilitate patient transfer in/out of a car
2. To evaluate the performance of the customised system
3. To trial the system on the users

### EXPECTED OUTCOMES

- Novel theories / New findings / Knowledge  
An IoT custom wheelchair lift to facilitate patient transfer in/out of a car is designed to promote the quality of nursing and patient mobility
- Research Publications  
2 Scopus-indexed journals

### ADDED VALUES

#### Agricultural Technology

Potential to develop IoT, Big Data & AI Technology for the Health Industry

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



### SDGS ACHIEVED

#### Goal 3 - Good Health and Well-Being

- Ensure healthy lives and promote well-being for all at all ages



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## 9 EDUCATIONAL BIG DATA MINING: THE MEDIATING ROLE OF PAST TRAUMATIC EXPERIENCES IN RELATIONSHIP BETWEEN LIVING ENVIRONMENT AND ACADEMIC PERFORMANCE

### OBJECTIVE

To explore the mediating role of past traumatic experiences of childhood in academic performance

### EXPECTED OUTCOMES

- Identify the variables of past traumatic experiences that could affect academic performance

### ADDED VALUE

Automated Predictive System

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DEVELOPMENT  
GOALS**

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FOR THE GOALS**



### SDGS ACHIEVED

#### Goal 4 - Quality Education

- Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



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# 10 ROBOTIC GUIDE FOR THE BLIND WITH BLUETOOTH AND OBSTACLE AVOIDANCE USING ARDUINO (ROBOGUIDE)

## OBJECTIVE

1. To study the current features and safety measures implemented in robotic guides
2. To develop a prototype model that ensures users' safety by applying obstacle detection and avoidance
3. To perform testing and evaluation on the model to improve its performance

## EXPECTED OUTCOMES

- A robotic model which is able to reliably guide a visually impaired user around their environment by detecting and avoiding obstacles as well as providing alerts to the user
- A mobile application which can be paired to the robot via Bluetooth to have data communication
- A report titled "Roboguide: Robotic Guide for the Blind with Bluetooth and Obstacle Avoidance using ARDUINO"

## ADDED VALUE

### Corporate Social Responsibility

It provides significant benefits to help physically disabled people, such as the blind, as it adds a value of Corporate Social Responsibility to the company and brings good value to society

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## SDGS ACHIEVED

### Goal 9 - Industry, Innovation and Infrastructure

- Innovative solution, which consists of several features meant to help disabled people

### Goal 10 - Reduced Inequalities

- Provide visually impaired individuals with a sense of independence in their daily navigation



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# 11 WASTE HEAT RECOVERY MODEL FOR URBAN DATA CENTRE

## OBJECTIVE

1. To identify the potentials of alleviating the level of the urban data center through waste heat recovery (towards energy efficiency and sustainability)
2. To develop waste heat recovery model and conceptual framework that supports a sustainable urban data centre

## EXPECTED OUTCOMES

- Understanding of the operations of DCs in the country
- Utilise innovations and models for recycling the waste heat (waste heat recovery) to fulfil energy demand within the urban area and its surrounding community
- Achieve climate neutrality through waste heat treatment, decarbonization, and increased energy efficiency

## ADDED VALUE

### Waste Heat Generated

Waste heat generated by the DC is to be considered a heat source for the surrounding heating systems. As such, energy that would otherwise be wasted is converted into beneficial use within the building

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DEVELOPMENT  
GOALS**

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## SDGS ACHIEVED

### Goal 7 - Affordable and Clean Energy

- Enhance data center (DC) performance to make DCs climate-neutral such as promoting energy efficiency, decarbonisation, and waste heat treatment



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# 12 ADVANCING CARBON NEUTRALITY: FOSTERING EMPLOYEE AWARENESS, ENGAGEMENT, AND TECHNOLOGY INTEGRATION

## OBJECTIVE

1. To analyse employees' level of awareness and consciousness regarding carbon neutrality
2. To analyse whether enterprises actively promote carbon neutrality to their workforce
3. To identify areas where employees can proactively contribute to carbon neutrality
4. To determine the role of technology in supporting employees' carbon neutrality efforts

## EXPECTED OUTCOMES

- An assessment of the level of carbon neutrality awareness among employees.
- Insights into how enterprises actively promote carbon neutrality to their workforce
- Understanding of how technology or IT solutions can empower and support employees in their carbon neutrality efforts.

## ADDED VALUE

### 1. Potential Cost Savings

Potential cost savings through energy efficiency and sustainable practices

### 2. Carbon Neutrality

A competitive edge within the industry by demonstrating leadership in carbon neutrality and environmental responsibility

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## SDGS ACHIEVED

### Goal 12 - Responsible Consumption & Production

- Evaluating employee contributions and the role of IT solutions in emissions reduction

### Goal 13 - Climate Action

- Raise awareness and engagement in carbon neutrality



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# 13 CROP MODELING STRATEGY FOR IMPROVING CACAO QUALITY AND PRODUCTIVITY

## OBJECTIVE

1. To identify the factors affecting the growth rate of cacao fruits from flowering to maturity
2. To simulate and predict crop development over time and under multiple environmental conditions

## EXPECTED OUTCOMES

- Simulating crop development models, growth, and production
- Forecasts the day of maturation on which the fruit will probably be ready for harvest

## ADDED VALUE

### High-Quality Products

Anticipate the best time to harvest their cacao beans and assess their potential production and biomass, resulting in higher-quality cacao beans

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## SDGS ACHIEVED

### Goal 12 - Responsible Consumption and Production

- Increasing the cacao harvest efficiency to sustain the utilisation of cacao production



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# 14 PHYSIOTHERAPY EXERCISE CLASSIFICATION MODEL USING MACHINE LEARNING APPROACHES

## OBJECTIVE

1. To identify and select the exercises used by McKenzie's low-back physiotherapy framework as exercise tasks in this project
2. To detect and classify physiotherapy exercises in various anatomic locations using machine-learning approaches

## EXPECTED OUTCOMES

- The physiotherapy classification model can be part of the exercise monitoring application
- This outcome supports health promotion and disease prevention using wearable or remote monitoring devices

## ADDED VALUE

### Remote Monitoring System

With this model, physiotherapy participation could provide a low-cost, scalable method for tracking adherence to physical therapy exercise programs in a various settings

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## SDGS ACHIEVED

### Goal 3 - Good Health and Well-Being

- Reduce health risks and increase good health at home through exercise monitoring applications



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# 15 AN INTELLIGENT AGENT FOR VEHICLE ROUTING PROBLEMS WITH TIME WINDOW

## OBJECTIVE

1. To identify the method to find the best routes for a fleet of vehicles visiting a set of locations
2. To develop an intelligent agent that automatically finds the best route following the constraint and requirement

## EXPECTED OUTCOMES

An intelligent agent that finds the shortest route and fulfils the time window constraints travelled by the number of vehicles

## ADDED VALUE

### Vehicle Routing Problem with Time Windows (VRPTW)

- Efficiency and timeliness throughout the supply chain. The VRPTW has increasingly become an invaluable tool in modelling various supply chain design and operation aspects
- Optimising delivery routes and minimising the number of vehicles required for transportation can reduce logistics expenses, fuel costs, and other operational costs and improve the business's profitability

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## SDGS ACHIEVED

### Goal 9 - Industry, Innovation and Infrastructure

- Minimize the distance travelled by the number of vehicles used or a combination of these to support sustainable transportation services



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16

# AN INTELLIGENT AGENT FOR NURSE ROSTERING PROBLEM

## OBJECTIVE

1. To identify the best approach to assign nurses to shifts with a set of constraints
2. To simulate and solve under-staffing, over-staffing, and skill matching
3. To develop an intelligent agent to solve nurse rostering problems

## EXPECTED OUTCOMES

The nurse rostering model can be used as part of the scheduling system to solve under-staffing, over-staffing, and skill matching

## ADDED VALUE

### Three Key Goals

- Minimising the overall cost of staffing
- Minimising the sum of incompatibilities between nurses' decision-making styles allocated to the same shift days
- Maximising the overall happiness of nurses for their assigned shifts

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## SDGS ACHIEVED

### Goal 9 -Industry, Innovation and Infrastructure

- Simulate and resolve understaffing, overstaffing, and skill mismatch, and determine the optimal method for assigning nurses to shifts under limitations



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# 17 CHALLENGES, CONCERNS AND RECOVERY FROM THE GLOBAL ECONOMIC CRISIS: TOWARDS RESCUING THE SDG DELIVERY IN TERTIARY EDUCATION

## OBJECTIVE

1. To develop and implement instruments to assess the perception of challenges, concerns, and recovery
2. To develop a high-level risk-register for Malaysian tertiary education based on economic, environmental, geopolitical, societal, and technological factors
3. To propose a risk model for SDG4 delivery

## EXPECTED OUTCOMES

- An assessment tool in the form of perception survey/questionnaire
- A high-level risk register (impact and exposure covering five dimensions: economy, environment, geopolitics, society, and technology)

## ADDED VALUE

### Management Contributions

The knowledge gained is valid in (navigating risks) and redesigning the tertiary education setting, such as the marketing and selection of students, curriculum, and program design

### Societal Contribution

The knowledge gained will aid in creating awareness of the impact of the global economic crisis on achieving quality tertiary education

SUSTAINABLE  
DEVELOPMENT  
GOALS

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FOR THE GOALS



## SDGS ACHIEVED

### Goal 4 - Quality Education

- Define and equip with a baseline of how to perceive challenges and concerns and overcome them
- A defence mechanism shall be developed by understanding risk impact and potential approaches to risk reduction



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# 18 TEACHERS' AWARENESS AND SUSTAINABLE DEVELOPMENT GOALS ATTAINMENT IN SECONDARY SCHOOLS

## OBJECTIVES

1. To examine the level of awareness about the SDGs among secondary school teachers
2. To ascertain the perception of secondary school teachers about SDGs
3. To determine the attitudes of secondary school teachers about SDGs
4. To identify factors limiting secondary school teachers' effective contribution towards attaining the Sustainable Development Goals

## EXPECTED OUTCOMES

- The Millennium Development Goals (MDG) framework, the precursor to SDG, showed the importance of compiling reliable data and disseminating them to formulate development plans and policies
- Gauging the level of awareness, attitudes and knowledge of the SDGs among teachers will help to plan development strategies at the national level in alignment with the larger global development initiatives

## ADDED VALUE

Corporate Loyalty

Product Marketing

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## SDGS ACHIEVED

### Goal 4 - Quality Education

- Education for sustainable development

### Goal 17 - Partnership for the Goals

- Access and benefit sharing (strong institutions)



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# 19 EXPLORING THE SCHOOL DROPOUT FACTORS AMONG INDIGENOUS CHILDREN

## OBJECTIVES

1. To examine the level of passive and active dropouts among Indigenous children
2. To ascertain the perception of Indigenous people toward the value of education
3. To identify factors limiting the education system's effective contribution toward zero dropout among Indigenous people

## EXPECTED OUTCOMES

By gauging the level of dropout rates, more effective remedial actions can be planned and executed by relevant government agencies to address this issue

## ADDED VALUE

### Corporate Social Responsibility

- Significant contribution of CSR

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DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 1 - No Poverty

- Socio-economic, vulnerability

### Goal 4 - Quality Education

- Equity, anti-racism, education for sustainable development

### Goal 15 - Life on Land

- Indigenous rights



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# 20 EVALUATION STUDY ON IMPACTFUL SDG PROJECT IN SCHOOLS

## OBJECTIVES

1. To examine the effectiveness of SDG projects sponsored by corporate social responsibility
2. To ascertain the perception of the school community toward SDG projects sponsored by the corporate social responsibility among the school community

## EXPECTED OUTCOMES

Evaluation of CSR initiatives so that stakeholders are better informed about positive impacts on the reputation, loyalty, and trust of customers, employees, and investors, as well as on the profitability, innovation, and sustainability

This results will be useful for companies and businesses to make informed decisions regarding CSR

## ADDED VALUE

### Corporate Social Responsibility

- A significant and accountable contribution of CSR in which all stakeholders benefit

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 1 - No Poverty

- Wealth distribution

### Goal 4 - Quality Education

- Equity, anti-racism, education for sustainable development



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# 21 GENDER EQUALITY AND ACHIEVEMENT IN PUBLIC EXAMINATIONS

## OBJECTIVES

1. To examine how males and females approach different formats of examination
2. To determine factors of male and female students' success in public examination

## EXPECTED OUTCOMES

To assist the government in formulating policy on measuring achievement using zero gender bias test instruments

Publish findings in Scopus journal

## ADDED VALUE

### Corporate Social Responsibility

- A significant and accountable contribution of CSR

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

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FOR THE GOALS**



## SDGS ACHIEVED

### Goal 1 - No Poverty

- Wealth distribution

### Goal 4 - Quality Education

- Equitable, pedagogy, knowledge sustainability teaching, sustainability education

### Goal 5 - Gender Equality



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# 22 **TEACHER MENTAL WELLBEING IN SCHOOLS**

## OBJECTIVES

1. To assess the influence of sociodemographic and professional factors on teachers' mental health
2. To ascertain the link between mental well-being to turnover and absenteeism
3. To determine the teacher's mental being impact on the quality of teaching

## EXPECTED OUTCOMES

To reduce absenteeism and presentism as all stakeholders in the field of education

Scopus publication based on findings

## ADDED VALUE

### Reduce Wastage

- By addressing this issue, the government can reduce waste in expenditure

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 3 - Good Health and Well-Being

- Well-being, mental health, public health

### Goal 4 - Quality Education

- Equitable, pedagogy, anti-oppression, oppression, anti-discriminatory



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# GENDER BIAS IN TVET

## OBJECTIVES

1. To measure the gender equality involvement in Technical and Vocational Education and Training (TVET)
2. To determine how women are economically empowered after successfully undergoing the TVET program.
3. Identify and share examples of successful TVET programs

## EXPECTED OUTCOMES

A document will be produced to show the enablers and barriers to female participation in TVET

A comprehensive guideline will be designed to provide strategies so that TVET can ensure that the Gender Gap Index (MGGI) in TVET is reduced

A toolkit will be provided on strategies for mainstreaming gender effectively into the TVET institutional programs and planning marketing strategies to address gender bias

A Scopus journal publication based on the findings to be shared with other stakeholders in TVET

## ADDED VALUE

### Human Resources

- By addressing this issue, the government can tap into a wider pool of human resources and address the gender equality issue

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 1 - No Poverty

- Wealth distribution

### Goal 3 - Good Health & Well-Being

- Well-being, mental health, public health

### Goal 4 - Quality Education

- Equitable, pedagogy, anti-oppression, oppression, anti-discriminatory



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24

# ASSIMILATING SPECIAL NEEDS STUDENTS IN THE JOB MARKET

## OBJECTIVES

1. To explore the mechanism of transforming disability into ability
2. To examine the employability criteria for the disabled to reduce barriers between employers and disabled people
3. To propose a development program to promote employability and employment of people with disabilities (PWDs)

## EXPECTED OUTCOMES

By studying core issues that result in low participation of PWDs in the workforce, which is more data driven, policies and more holistic plans can be proposed to enhance their employability

Mechanisms for tracking progress in the employment of PWDs can be introduced to address issues, especially when they face barriers in the recruitment process

A final report will be written on critical issues such as their skills, knowledge, training, employment opportunities, involuntary unemployment, and development programs. This report will be submitted to the relevant ministries

An article will be published in a Scopus journal

## ADDED VALUE

### Talent and Ability

- By addressing this issue, the talent and ability of PWDs can be effectively utilised

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 1 - No Poverty

- Wealth distribution

### Goal 4 - Quality Education

- Equitable, pedagogy, knowledge

### Goal 8 - Decent Work & Economic Growth

- Employability



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# EFFECTIVENESS OF SPECIAL EDUCATION PROGRAMMES IN EDUCATION SYSTEM

## OBJECTIVES

Using the Certified Information Privacy Professional (CIPP) evaluation model, this research is designed:

1. To explore the effectiveness of special programs undertaken by special schools and ordinary schools.
2. To study the impact of teacher knowledge and training on the effectiveness of special programs.

## EXPECTED OUTCOMES

Effective teaching requires careful planning and preparation

Provide a framework to develop lesson plans tailored to each student's needs and incorporate different teaching strategies that address individual needs

Sample lesson plans will be provided

## ADDED VALUE

### Potential of Special Needs

- The potential of special needs children can be fully realised by addressing this issue

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DEVELOPMENT  
GOALS

17 PARTNERSHIPS  
FOR THE GOALS



## SDGS ACHIEVED

### Goal 4 - Quality Education

- Equitable, pedagogy, knowledge

### Goal 8 - Decent Work & Economic Growth

- Employability



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# EDUCATIONAL ACHIEVEMENT OF REFUGEE AND IMMIGRANT CHILDREN

## OBJECTIVES

Using the CIPP evaluation model this research is designed:

1. To determine the literacy rate among refugee and immigrant children
2. To explore school facilities management of schools built to provide primary education for immigrant and refugee children
3. To determine the professional needs of the teacher teaching refugee and immigrant children

## EXPECTED OUTCOMES

Effective teaching requires careful planning and preparation

Develop lesson plans tailored to each student's needs and incorporate different teaching strategies that address individual needs

Publish in Scopus journal

## ADDED VALUE

### Potential of Special Needs

- The potential of special needs children can be fully realised by addressing this issue,

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 4 - Quality Education

- Equitable, pedagogy, knowledge

### Goal 8 - Decent Work & Economic Growth

- Employability



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# 27 CONICAL SUBSTRUCTURAL FOR SOFT CLAY GROUND IMPROVEMENT

## OBJECTIVES

1. To increase the bearing capacity by (300-400%)
2. To reduce consolidation settlement less than (25mm)
3. To have a low-cost improvement for medium loads

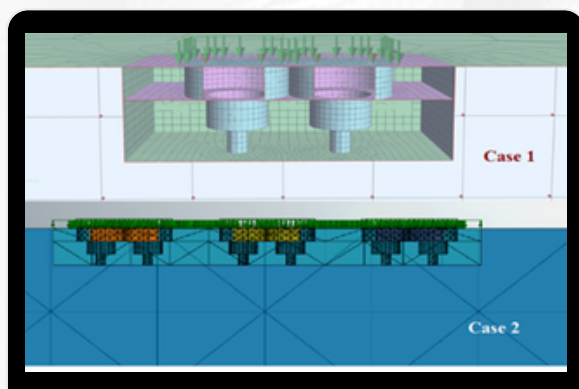
## EXPECTED OUTCOMES

An entirely novel, advantageous product that was recently introduced to the construction market and is cost-effective compared to the methods now used in developing nations

## ADDED VALUE

### Product Patent

- Maintain ownership of the product patent



SUSTAINABLE  
DEVELOPMENT  
GOALS

17 PARTNERSHIPS  
FOR THE GOALS



## SDGS ACHIEVED

### Goal 9 - Industry, Innovation and Infrastructure

- New industrial and innovation
- Affordable, resilient infrastructure
- Good business opportunity for medium enterprises



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# 28 HDPE POLYURETHANE MICROPILE FOR SLOPE AND FOUNDATION STABILITY

## OBJECTIVES

1. To enhance the stability of slopes and foundation that are not stable
2. To have a simple assembly requirement
3. To have a substance that may be used in an emergency to stabilise slopes if there is heavy rainfall because of climate change

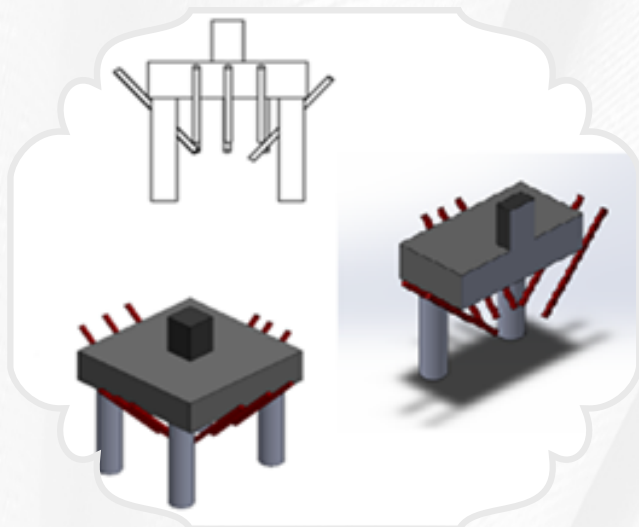
## EXPECTED OUTCOMES

An entirely novel, advantageous product that was recently introduced to the construction market and is cost-effective compared to the methods now used in developing nations

## ADDED VALUE

### Product Patent

- Maintain ownership of the product patent



**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 9 - Industry, Innovation and Infrastructure

- New industrial and innovation
- Affordable, resilient infrastructure
- Good business opportunity for medium enterprises



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# 29 DEVELOPING AN ANTI-CORROSION CUP TO MITIGATE PITTING AND CREVICE CORROSION IN NUT/BOLT JOINTS

## OBJECTIVES

1. To fabricate an inhibitor (anti corrosion) from **extracted cacao**
2. To fabricate a **solid corrosion inhibitor** made from cacao
3. To fabricate an **anti-corrosion** cup integrated with a solid evaporating inhibitor

## EXPECTED OUTCOMES

Plastic cover cup creates the perfect press fit and seals the joint to give protection from the atmospheric corrosive elements that cause external corrosion

The anti-corrosive gel fits the screw connection, allowing for the gradual evaporation of the inhibitor and ensuring the joint is protected from various external corrosive elements that may penetrate the cup seal

## ADDED VALUE

### 1. Market Positioning

- Companies can position themselves as industry leaders in addressing atmospheric corrosion problems, while the market is open

### 2. Enhanced Product Demand

- Market still open, particularly in sectors exposed to atmospheric corrosion, such as the marine, automotive, and construction industries

### 3. Environmental Compliance

- Preventing the degradation of metal structures, reducing the need for frequent replacements, and thus minimising the environmental impact of metal waste

SUSTAINABLE  
DEVELOPMENT  
GOALS

17 PARTNERSHIPS  
FOR THE GOALS



## SDGS ACHIEVED

### Goal 12 - Responsible Consumption and Production

- Designing the cup to promote sustainability using eco-friendly materials (extracted cacao) can reduce the environmental impact and encourage responsible consumption



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# SUPERCAPACITOR FROM ACTIVATED CARBON CACAO PEEL

## OBJECTIVES

1. To manufacture supercapacitors from activated carbon cocoa fruit peel as an energy storage
2. To manufacture advanced capacitors with superior energy storage capabilities and enhanced durability
3. To manufacture and evaluate the capacitor performance under different thermal conditions

## EXPECTED OUTCOMES

Development of high-performance capacitors that store energy efficiently and sustainably using waste cacao peels

Produce capacitors that have high efficiency in storing energy, establishing new industry benchmarks

Evaluating capacitor performance under different thermal conditions to ensure its reliability and stability across a range of temperature exposures

## ADDED VALUE

### 1. Cost-Efficiency

- Cost-efficiency in production due to the utilisation of sustainable and readily available materials

### 2. Brand Reputation

- Enhanced brand reputation and market positioning as a sustainable and environmentally responsible company

### 3. Revenue Generation

- Potential for increased revenue generation by tapping into the growing demand for sustainable energy solutions

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 7 - Affordable and Clean Energy

- Contributes to providing an accessible and sustainable energy solution

### Goal 11 - Sustainable Cities and Communities

- Supports the establishment of sustainable and resilient urban environments



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# 31 DEVELOPING SELF-RELEASE CORROSION INHIBITOR

## OBJECTIVES

To fabricate Controllable Release of Corrosion Inhibitors by using cellulose gel

## EXPECTED OUTCOMES

Inhibitor that can be released autonomously to prevent or reduce material corrosion, allowing for the gradual injection of the inhibitor

Inhibitor only works when it is required

## ADDED VALUE

### 1. Market Positioning

- The companies can position themselves as industry leaders in addressing new methods of corrosion inhibitors while the market is limited

### 2. Enhanced Product Demand

- Market is still open, particularly in sectors exposed to atmospheric corrosion, such as the marine, automotive, and construction industries

### 3. Environmental Compliance

- Preventing the degradation of metal structures, reducing the need for frequent replacements, and thus minimising the environmental impact of metal waste

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 12 - Responsible Consumption and Production

- Implementing self-releasing corrosion inhibitors can lead to more sustainable production processes

### Goal 13 - Climate Action

- Utilizing effective corrosion inhibitors can contribute to the preservation of critical infrastructure



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# PHOTONICS TRAINING KITS

## OBJECTIVES

1. To promote the forefront photonics engineering education that catered the industrial needs
2. To provide a solution for institutions to conduct photonics engineering laboratory works

## EXPECTED OUTCOMES

Develop Fiber Laser Training Kits

Produce relevant training and learning materials

## ADDED VALUE

### 1. Engineering Subjects

- Support engineering institutions in developing forefront engineering subjects

### 2. Teaching and Learning Quality

- Improve the teaching and learning quality in engineering institutions

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

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FOR THE GOALS**



## SDGS ACHIEVED

### Goal 4 - Quality Education

- Merge the theoretical knowledge with practical skills and visualise the entire concept experimentally in the laboratory

### Goal 9 - Industry, Innovation and Infrastructure

- Photonics engineering is replacing electronics engineering in most of the advanced technologies



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# 33 CONCEPT OF TRADITIONAL CHINESE MEDICINE'S FIVE- GRAIN NOURISHMENT TO EMPLOYEE PHYSICAL HEALTH AND WORK EFFICIENCY

## OBJECTIVES

1. To investigate employee physical efficiency
2. To collect employee feedback regarding the nutritional quality and satisfaction of company meals
3. To apply Traditional Chinese medicine principles to enhance meal nutrition, improving employee physical health and work efficiency

## EXPECTED OUTCOMES

Gain a comprehensive understanding of your company's current state of employee physical health

Anticipate gathering feedback and data from employees regarding their perceptions of company-provided meals

Increased work efficiency, potentially reflected in reduced absenteeism, improved concentration, and higher productivity

## ADDED VALUE

### 1. Employee Well-Being

- Enhanced Employee Well-Being and Satisfaction

### 2. Work Efficiency

- Increased Work Efficiency and Productivity

### 3. Reputation Advantage

- Reputation and Competitive Advantage

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 2 - Zero Hunger

- Work to improve the nutritional content of meals, thus supporting a healthier and more satisfying food environment

### Goal 3 - Good Health and Well-Being

- Promote healthier eating habits and potentially reduce the risk of diet-related health issues among employees



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# LIGHTING QUALITY AT WORKPLACE

## OBJECTIVES

1. To measure the light quality of a worker's alertness, mood, and productivity, considering factors like natural light, colour temperature, and lighting design
2. To gather responses from the workers on the light quality in their workplace
3. To relate the effect of light quality on work performance among workers

## EXPECTED OUTCOMES

- A detailed evaluation of lighting quality parameters in the workplace, including natural light, colour temperature, and lighting design
- Collection of feedback and responses from workers regarding their perceptions of lighting quality in the workplace
- Measure work performance indicators before and after lighting quality improvements to determine the impact of changes

## ADDED VALUE

### 1. Employee Wellness

- Enhanced employee well-being
- Increased work performance

### 2. Green Cost Savings

- Cost savings
- Sustainable reputation

### 3. Sustainable Compliance

- Sustainable development goal alignment
- Compliance and risk reduction

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 3 - Good Health and Well-Being

- Assessing how lighting quality impacts their alertness, mood, and productivity

### Goal 8 - Decent Work and Economic Growth

- Creating a more productive and sustainable work environment



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# 35 REDUCING CARBON EMISSION IN WORKPLACE

## OBJECTIVES

1. To gather data on activities that produce greenhouse gas emissions in the workplace
2. To use of specialised software tools and calculators available to help organisations streamline the process of calculating carbon emissions
3. To find a solution to reduce the carbon emission in the workplace area

## EXPECTED OUTCOMES

- A detailed measurement of greenhouse gas emission data will be collected
- The collected data will be further calculated using the available GHG emissions calculator
- Identification of specific concerns on how to reduce GHG emission will be outlined

## ADDED VALUE

### 1. Employee Wellness

- Improved employee health and well-being
- Enhanced work performance

### 2. Sustainable Cost Management

- Cost savings
- Sustainable reputation
- Compliance and risk reduction

### 3. Sustainable Culture

- Sustainable development goal alignment
- Positive corporate culture

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 7 - Affordable and Clean Energy

- Increase substantially the share of renewable energy in the global energy mix

### Goal 11 - Sustainable Cities and Communities

- Reduce the adverse per capita environmental impact of cities



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# OBESITY MEASUREMENT FROM THE PERSPECTIVE OF TRADITIONAL CHINESE MEDICINE ON OFFICE WORKERS

## OBJECTIVES

1. To determine central obesity of office workers
2. To explore the TCM-based interventions on office workers suffering from obesity
3. To correlate the effects of obesity to an office worker's stress and mood level

## EXPECTED OUTCOMES

- Knowledge about the prevalence of central obesity among office workers, providing insights into the scope of the issue will be obtained
- The feasibility and practicality of implementing TCM interventions in the workplace will be evaluated
- How obesity may affect office worker's mental and emotional well-being will be identified

## ADDED VALUE

### 1. Employee Wellness

- Improved employee health and well-being
- Enhanced work performance

### 2. Sustainable Cost Management

- Cost savings
- Sustainable reputation
- Compliance and risk reduction

### 3. Sustainable Culture

- Sustainable development goal alignment
- Positive corporate culture

SUSTAINABLE  
DEVELOPMENT  
GOALS

17 PARTNERSHIPS  
FOR THE GOALS



## SDGS ACHIEVED

### Goal 10 - Reduced Inequalities

- Individuals with central obesity have access to appropriate care and support

### Goal 12 - Responsible Consumption and Production

- More efficient and targeted healthcare practices



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# AIR QUALITY TO WORK PERFORMANCE IN A WORKPLACE

## OBJECTIVES

1. To measure the air quality in the workplace
2. To gather responses from the workers on the air quality in their workplace
3. To relate air quality's effect on workers work performance

## EXPECTED OUTCOMES

- A detailed evaluation of air quality parameters will be obtained
- Identification of specific concerns and experiences related to air quality issues will be achieved
- Measurement of work performance indicators before and after any air quality improvements to determine the impact of changes will be obtained

## ADDED VALUE

### 1. Employee Wellness

- Improved employee health and well-being
- Enhanced work performance

### 2. Sustainable Cost Management

- Cost savings
- Sustainable reputation
- Compliance and risk reduction

### 3. Sustainable Culture

- Sustainable development goal alignment
- Positive corporate culture

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

17 PARTNERSHIPS  
FOR THE GOALS



## SDGS ACHIEVED

### Goal 8 - Decent Work and Economic Growth

- Increased productivity, which, in turn, can contribute to economic growth

### Goal 11 - Sustainable Cities and Communities

- Reduce the overall environmental impact and contribute to more sustainable urban development



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# INVESTIGATING POST-COVID MUSCULO-SKELETAL HEALTH EFFECTS IN THE INDUSTRIAL WORKFORCE

## OBJECTIVES

1. To identify and characterise Musculoskeletal health issues arising from post-COVID recovery
2. To assess the impact of these health issues on the productivity, well-being, and job performance
3. To develop evidence-based strategies for preventing, early intervention and rehabilitating musculoskeletal health issues in post-COVID industrial workers
4. To disseminate research findings to inform workplace policies, practices, and healthcare guidelines

## EXPECTED OUTCOMES

- Improved quality of life for post-COVID workers by reducing pain, improving mobility and increased overall well-being
- Boost productivity after COVID by addressing worker health, benefiting employees and employers, fostering efficiency, and economic growth
- Evidence-based prevention suggestions, include workplace adjustments, exercises, and early interventions to minimise health impacts

## ADDED VALUE

### 1. Employee Wellness

- Improved employee health and well-being
- Enhanced work performance

### 2. Sustainable Cost Management

- Cost savings
- Sustainable reputation
- Compliance and risk reduction

### 3. Sustainable Culture

- Sustainable development goal alignment
- Positive corporate culture

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

17 PARTNERSHIPS  
FOR THE GOALS



## SDGS ACHIEVED

### Goal 3 - Good Health and Well-Being

- Specific health challenges posed by the COVID-19 pandemic

### Goal 11 - Sustainable Cities and Communities

- Improve access to healthcare services for post-COVID individuals in industrial settings



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# WATER QUALITY IN WORKPLACE TO HEALTH

## OBJECTIVES

1. To ensure compliance with regulatory standards set by local, national, or international authorities
2. To safeguard the health and safety of employees
3. To prevent contamination within the workplace

## EXPECTED OUTCOMES

- Compliance with relevant authorities' water quality regulations and standards will be demonstrated
- Implementation of measures to prevent contamination will result in cleaner and safer water sources in the workplace will be achieved
- Employees will experience better health outcomes due to reduced exposure to contaminants in workplace water sources

## ADDED VALUE

### 1. Compliance Wellness

- Compliance assurance
- Employee well-being

### 2. Sustainable Risk Management

- Cost savings
- Positive corporate image
- Risk mitigation

### 3. Sustainable Alignment

- Sustainable development goal alignment
- Long-term sustainability

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 6 - Clean Water and Sanitation

- Access to safe and affordable drinking water, sanitation, and hygiene for all

### Goal 9 - Industry, Innovation and Infrastructure

- Preventing contamination and ensuring the safety of workplace water sources



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# 40 WORKPLACE STRESS AND EXERCISE ON EMPLOYEE WELL-BEING

## OBJECTIVES

1. To investigate the impact of workplace stress on employee well-being
2. To assess the role of exercise as a potential mitigating factor for workplace stress

## EXPECTED OUTCOMES

- A better understanding of how workplace stress varies in intensity and impact among different industries and job roles
- Recommendations for workplace fitness programs or policies to promote regular exercise and support employee well-being

## ADDED VALUE

### 1. Employee Wellness

- Improved employee health and well-being
- Enhanced work performance

### 2. Risk-Averse Cost Management

- Cost savings
- Compliance and risk reduction

### 3. Sustainable Culture

- Sustainable development goal alignment
- Positive corporate culture

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 3 - Good Health and Well-Being

- Ensure healthy lives and promote well-being for all at all ages

### Goal 10 - Reduced Inequalities

- Improved employee well-being can have positive effects on overall productivity and economic growth



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# 41 OPTIMIZING WORKPLACE ERGONOMICS FOR ENHANCED EMPLOYEE WELL-BEING AND PRODUCTIVITY

## OBJECTIVES

1. To assess the current ergonomic conditions in diverse workplace settings, identifying potential ergonomic risk factors and their impact on employee health and productivity
2. To develop evidence-based recommendations and ergonomic guidelines that can be implemented by organisations to improve workplace ergonomics, thereby enhancing employee well-being and overall productivity

## EXPECTED OUTCOMES

- Identifying specific ergonomic risk factors, such as poor workstation design, repetitive tasks, or inadequate lighting, are prevalent in various workplace settings
- Creation of a set of evidence-based recommendations and ergonomic guidelines for different types of workplaces, tailored to address identified risk factors

## ADDED VALUE

### 1. Employee Wellness

- Improved employee health and well-being
- Enhanced work performance

### 2. Risk-Averse Cost Management

- Cost savings
- Compliance and risk reduction

### 3. Sustainable Culture

- Sustainable development goal alignment
- Positive corporate culture

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 8 - Decent Work and Economic Growth

- Enhancing productivity and reducing workplace-related health issues

### Goal 9- Industry, Innovation and Infrastructure

- The study's findings and recommendations may lead to innovations in workplace design and infrastructure innovations



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# 42 BRING LIGHT TO THE UNDER PRIVILEGED (ABORIGIN)

## OBJECTIVES

1. To provide accessible and sustainable energy sources
2. To foster economic empowerment through sustainable energy solutions

## EXPECTED OUTCOMES

- Creating income-generating opportunities related to energy services, this objective contributes to poverty reduction and economic development within the Orang Asli community
- Ensuring access to reliable energy sources and creating economic opportunities related to sustainable energy, these efforts can help bridge the gap between marginalised communities like the Orang Asli and the broader society

## ADDED VALUE

1. Sustainable Reputation
2. Sustainable Development Goal Alignment
3. Positive Corporate Culture

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## SDGS ACHIEVED

### Goal 1 - No Poverty

- Fostering economic empowerment through sustainable energy solutions

### Goal 7 - Affordable and Clean Energy

- Providing accessible and sustainable energy sources to underprivileged communities



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**43**

# **SURVEY ON WORKPLACE STRESS AND TCM “PREVENTIVE TREATMENT” STRESS MANAGEMENT PROGRAM**

## **OBJECTIVES**

1. To conduct a comprehensive survey to identify the prevalent stressors and their impact on employees in diverse work environments
2. To design and implement a TCM-based preventive treatment stress management program tailored to alleviate identified stressors and enhance employee well-being

## **EXPECTED OUTCOMES**

- Identified prevalent stressors across diverse work environments. This report will thoroughly analyse stress factors affecting employees, encompassing workload, interpersonal conflicts, organisational culture, job insecurity, and environmental conditions
- Measure the impact of the TCM-based stress management program on employee well-being and productivity within the workplace

## **ADDED VALUE**

### **1. Cultural Productivity Boost**

- Enhanced company culture
- Higher productivity and performance
- Cost saving

### **2. Wellness Sustainability**

- Sustainable reputation
- Improved employee well-being

**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**17 PARTNERSHIPS  
FOR THE GOALS**



## **SDGS ACHIEVED**

### **Goal 3 - Good Health and Well-Being**

- Contributes to improving employee health by identifying and addressing workplace stressors

### **Goal 8 - Decent Work and Economic Growth**

- Addressing workplace stress through a preventive treatment stress management program



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