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**Issue 40**

**KEEP IN TOUCH WITH THE ASSOCIATION OF CONSULTING ENGINEERS, SRI LANKA**

## A Word from the Editor

### Why Engineers in Sri Lanka show Reluctance to Actively Participate in Professional Activities

The reluctance of engineers in Sri Lanka to actively participate in professional activities, such as those organized by engineering organizations, can be attributed to some several complex, interrelated factors which are described below.

#### 1. Political and Workplace Environment

- **Impact of the Political System:** Engineers in Sri Lanka, like many professionals in the country, may feel disillusioned by the prevailing political system, which can affect their sense of professional fulfillment. Political instability, bureaucracy, or corruption might limit opportunities for engineers to fully participate in their profession, leading to frustration and disengagement.
- **Attitude of Managers:** The hierarchical work culture in many Asian countries, including Sri Lanka, can lead to poor relationships between engineers and their managers. Engineers may face poor management practices such as lack of appreciation, undue pressure, and even authoritarian attitudes from superiors. These factors can significantly demoralize professionals, leading them to withdraw from additional responsibilities, including participation in professional activities.

#### 2. Workload and Stress

- **Heavy Workload:** Engineers often have demanding schedules with excessive workloads, leading to high levels of stress. They may be working late into the evenings or during weekends to meet financial goals, particularly when compensation is insufficient. In such situations, engineers may struggle to balance work and personal life, leaving little time or energy to engage in external professional activities or organizational roles.
- **Lack of Work-Life Balance:** As overtime work becomes a necessity to meet financial needs, engineers are often unable to take part in

extracurricular or professional development opportunities like workshops, conferences, or other activities that would contribute to their growth. Their focus remains squarely on completing day-to-day tasks, leaving them exhausted and detached from the profession's larger community.

#### 3. Lack of Motivation to Participate

- **Non-Appreciation of Achievements:** Engineers may feel unrecognized for their contributions or lack motivation due to the absence of appreciation from their peers or superiors. In the absence of positive reinforcement, engineers may lose the desire to go beyond their basic job responsibilities and take part in professional activities.
- **Limited Career Advancement:** Engineers may perceive limited career growth opportunities. When there are few prospects for promotions, professional recognition, or advancement within an organization, participation in broader professional activities may seem irrelevant. If engineers do not see how participation in these activities can lead to better career prospects or improvement in their job conditions, they may avoid them altogether.

#### 4. Financial Strain

- **Low Remuneration:** Engineers in Sri Lanka may experience dissatisfaction with their pay relative to the work they do. Low salaries can lead to financial stress, compelling engineers to take on extra work to meet financial targets. The need to work longer hours for financial survival can leave little room for them to engage with professional associations or volunteer for leadership roles within those organizations.

#### 5. Lack of Awareness

- Many engineers may simply be unaware of the benefits that professional organizations offer. These organizations can provide career development opportunities, networking, and a sense of community, but if engineers are not informed about these advantages or do not see tangible personal or professional rewards, they may not be motivated to participate in them.

- **Disconnect from Professional Organizations:** Without clear engagement or visible outcomes, engineers might not see the value in joining forums, attending workshops, or contributing to organizational growth. This disconnect can lead to apathy, where engineers choose to focus solely on their immediate work rather than investing time in the larger engineering community.

## 6. Cultural Factors

- In many Asian cultures, there is a strong emphasis on conformity, hierarchy, and following instructions, rather than on fostering initiative or leadership from employees. Engineers, especially those who are younger or in junior positions, might be reluctant to take on additional responsibilities that are outside of their defined roles, even if these activities contribute to the broader profession.

## 7. Skepticism About the Value of Professional Activities

- Some engineers might not see the practical benefits of engaging in professional organizations. They might feel that such activities are disconnected from their daily challenges or their career growth. The lack of clear benefits in terms of salary, career advancement, or personal development could make them less inclined to participate.

## Conclusion

The reluctance of engineers in Sri Lanka to take part in common professional activities is driven by a combination of factors, including political and workplace environment issues, heavy workloads, lack of career advancement, financial pressures, and cultural attitudes. To address this, there is a need for systemic changes such as better work-life balance, improved management practices, more recognition and rewards for professional achievements, and greater awareness about the benefits of participating in professional organizations. Encouraging engineers to engage in professional forums or activities requires showing them the value and positive outcomes that come from such involvement, both personally and professionally.

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## Council for the Year 2023/2024

### Sub Committee Activities

- (1) **Continuous Professional Development (CPD) Committee** has organized five consulting engineers'

forums up to now of the current session and articles on first, third, fourth and fifth were published on previous newsletters No. 38 and 39.

The second consulting engineers' forum was organized on the topic **"Delivering Projects on Time is not Easy Due to the Issues of Uncertainty"** (by Eng. Nihal Premachandra) which was held on 26th April of 2024 and gathered by large number of participants at the 'Wimalasurendra Auditorium' of Institution of Engineers, Sri Lanka.

Article created on second engineers' forum can be read in inside pages.

- (2) **Admission Committee:** Applications to obtain ACESL membership are being received continuously. Having completion of the process of evaluation by the Admission committee, Council has decided to award eight new memberships.
- (3) **By-Law Revision Committee:** The draft revision to some ACESL rules proposed by By-Law committee is expected to forward for comments of the membership at ACESL AGM 2024.

## ACESL Representation to Outside Organizations/Association etc.

ACESL council has emphasized the continuation of the representations of ACESL in following outside organizations by active involvement in their activities for the betterment of the engineering industry.

- CIDA Board : ACESL representation in CIDA Board is continued.
- CIDA Advisory Committee : ACESL representation in CIDA Advisory committee is continued.
- CIDA Credential Committee : Development of criterion for 'Registration of Local consultancy Firms' is in progress
- CIDA Publication Committee : ACESL representation in CIDA Publication committee is continued.
- CCI Committee : ACESL representation in CCI committee is continued.

## Events Organized by ACESL

### Engineers Forums organized by ACESL

Five engineers forums were organized ACESL for the year 2023/2024.

An article prepared on forum 1 wss published in Newsletter No. 38 and articles on forum No. 3, 4 and 5 were published in Newsletter No. 39.

**Forum No. 2 of the year 2024**

**Topic: Delivering Projects on time and under budget is not easy due to the issue of Uncertainty**

**Delivered by Eng. Nihal Premachandra**

**Eng Nihal Premachandra** is a Chartered Civil Engineer(C.Eng), Project Management Professional (PMP) and Contract Administrator with 38 years of experience in Design and Construction of International Airports, Public Buildings, Olympic and FINA standard (International Swimming Federation) Swimming Pools, On-shore Oil Field Structures, representing both Consultants and the Contractors. Eng Nihal is a specialist in Managing Design & built Contracts in accordance with FIDIC forms of contract conditions as well as RIBA Outline plan of works type of Contracts.

Date : 26 April 2024

Venue : Wimalasurendra Auditorium of IESL

Lecture was opened for all interested individuals



Welcome speech by Eng. KLS Sahabandu, the President, ACESL

#### Abstract on the Lecture in lecturer's own words

*“Project Management is a science and art like Engineering. After graduation, Engineer will have his basic Engineering science knowledge with him but they need to be guided and trained in practicing the art of Engineering in accordance with Globally accepted Industry standards. Similarly, Project Managers must have completed related academic studies to know the science of Project Management. When they start practicing, they should be guided and trained to use a Global Project Management standards like Project Management Body of Knowledge (PMBOK) published by Project Management Institute, (PMI) USA.*

*Speaker will explain how American Standards for project Management as published in the Part 1 of PMBOK have been used in his practice in managing Multi-Million Dollar projects in Middle East, Malaysia, and Maldives as Project Manager/ Project Director.*

*PMBK version 7, published by PM/ of USA in 2021 included uncertainty as a new project performance domain which plays an important role in predicting project outcome both in terms of project completion time and cost with some degree of uncertainty. Delivering projects on time and under budget is not always easy due to this issue of uncertainty. Montecarlo simulation or Probability and statistics theories can be used to find the probability distribution of cost and project duration considering possible outcomes of the project. Time and cost contingency adjustments must be made based on 95% probability outcome of the Project if you want to compare actual progress with cost & time baselines with a reasonable accuracy.*

*This lecture will demonstrate the limitations in EXCEL formulae in handling large projects with number of activities more than 5000 and show by example how Python programing can be used to overcome such limitations in Montecarlo simulations.”*



Eng. Nihal Premachandra delivering the lecture

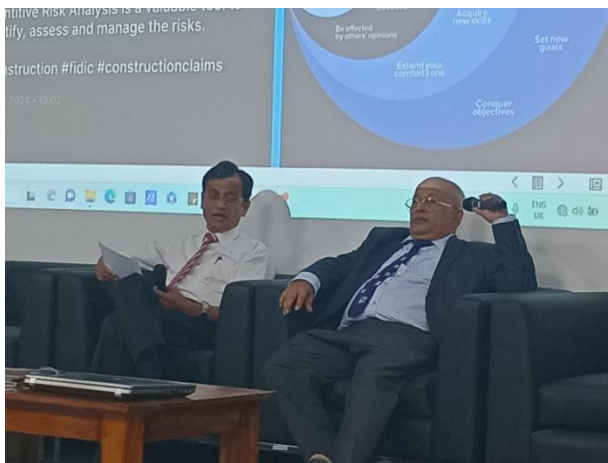
Eng. Premachandra continued the lecture by elaborating on following key points.

- PMBOK Guide 7th Edition
- Project Performance Domains (PPD)
- Uncertainty Performance Domain
- Navigating uncertainty, Ambiguity, Complexity & volatility
- Random variable & Probability distribution
- Continuous Probability distribution
- Dealing with uncertainties in Project Management
- Estimate range, Accuracy
- Probabilistic estimating techniques
- Theory of Statistics
- Project schedule network diagram
- Multiple likely outcomes based on weighted average
- Multiple likely outcomes based on simple average

- Standard statistical Tables
- Monte Carlo Simulation
- Generating random numbers with excel
- Generating Outcome Frequency Histogram
- Generating Cumulative probability graph
- Monte Carlo simulation of project costs
- Monte Carlo simulation of project total cost
- Determination of cost baseline
- Python
- Libraries and Modules imported
- Histogram of project duration distribution
- Probability distribution of Duration
- Graphics of Probability distribution
- Reading values from the graph
- Leave Your Comfort Zone of Excel & learn Python!

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 Colombo 7



(Q&A session)



Token of appreciation awarded by the President, ACESL

**AGM for the Year 2024**

In accordance with Rule 29 of the ACESL, the Annual General Meeting of the Association of Consulting Engineers, Sri Lanka, for the year 2024 will be held on Thursday, 19th December 2024 at 17:30 hrs at Grand Monarch, Borella Road, Thalawathugoda.