HKIE THE HONG KONG INSTITUTION OF ENGINEERS 香港工程師學會

Veneree Club 睿賢學社

2017 Engineering Exposition -

Engineering Life Challenges

Saturday 8 April 2017 9:00 am - 2:00 pm

Chiang Chen Studio Theatre

G/F, Chung Sze Yuen Building

The Hong Kong Polytechnic University

Hunghom, Kowloon

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Chairman's Message – Veneree Club

The HKIE Veneree Club "睿賢學社" was inaugurated on 18 Jan 2012. Since its establishment of Veneree Club, we aimed to enjoy the club activities in a retired & relaxed environment and at the same time, to contribute our experiences in serving the society. Each month, regular meetings were organized with interesting talks where retired engineers could expand their knowledge as well as meet both new and old friends. Some of these retired engineers also served as school engineers and school ambassadors, giving lectures in their own field. I am sure our Veneree Club organizes various meaningful activities for our retired members to enjoy and contribute.

With the remarkable successes in 2013 to 2016 'Engineering Exposition' events, the Engineering Exposition 2017 is hence a repeated continuation. In Engineering Exposition 2017, we have six distinguished speakers and with more time devoted for questions and answers to enable more elicitation from our speakers. In order to enhance knowledge gains for our young participants of the Engineering Exposition 2017, a lunch gathering after the speakers' presentation and discussion is so arranged to enable young engineers to sit adjacent to experienced engineers for a deeper understanding and discussion with experienced engineers.

I would like to express our appreciation to our sponsors who provided the required financial support to enable this meaningful knowledge sharing be continued. I am most grateful to our 6 distinguished engineers for sharing their valuable career insights from motto, case experiences to engineering challenges. My thanks are also extended to our organising committee members for their hard work and contribution over the past few months of preparation. Finally, I would like to thank all our participants and wish them every success in their fullfilling career.

Ir SW Cheung
Chairman, Veneree Club
The Hong Kong Institution of Engineers
Session 2016/2017

HKIE Veneree Club Activities

The following is a list of activities that Veneree Club organised during Apr 2016 to Mar 2017. In the third Wednesday morning of each month, Tea Gathering with guest speakers giving interest talk is normally held.

Tea Gathering Talks

20 Apr 2016	Wills and Trusts – Ways to Express your Generosity
18 May 2016	Leadership in Safety Culture
20 Jul 2016	退化性膝關節炎 – 預防及治療
17 Aug 2016	Health Management in Hong Kong
21 Sep 2016	Introduction to Reverse Mortgage
19 Oct 2016	超覺靜坐降低心臟病及糖尿病的風險
16 Nov 2016	Instant Camera
21 Dec 2016	IT Law and Copyright Ordinance amendment
18 Jan 2017	HKHS's Elderly Housing Initiatives and related care services in the ageing community
15 Feb 2017	提升體適能，走更遠的路
15 Mar 2017	Prostate Health for Retired Engineers

Engineering Exposition 2017 Organizing Chairman's Message

This is the 5th year that Veneree Club organizes the Engineering Exposition for young engineers. We have the mission to serve and to share, to pass on our experience to the next generation who are the hope of our future. Experience sharing of not only engineering knowledge, but also the positive spirit with which we conduct our lives.

Every year we invite six distinguished engineers to share their valuable experience and the paths in building up their engineering career. Their paths may differ and their specialties may vary. But they all possess a very positive spirit in life that drives them forward. Trust their views could broaden your mind and stimulate your thoughts.

Success is not only attaining high position. More importantly, it is finding meaning in one's career and improving our living environment. A better Hong Kong depends on you. The world keeps on changing. Young engineers have the mission to build on the good work of their predecessors.

I would like to take this opportunity to express my heartfelt gratitude to our generous sponsors, our Organizing Committee members and our guest speakers and those who have contributed to the success of this Eng Expo 2017

Ir Philip KWONG Sze Fai
Organizing Committee Chairman
Engineering Exposition 2017

Engineering Exposition 2017 Organizing Committee

Organizing Committee Chairman:	Ir KWONG Sze Fai Philip
Members:	Mr CHEUNG Sai Ping David
	Ir CHEUNG Shu Wing
	Ir CHUNG Fuk Wai Simon
	Ir KWAN Lok Fong Anthony
	Ir LEE Siu Ching Stephen
	Ir LI Wai Lim William
	Mr SIU Wai Kwong Martin
	Ir TSANG Kang Ho Peter
Advisor:	Ir Dr CHAN Fuk Cheung

Ir Allan CHAN Sau Kit

B.Sc., B.Eng., MBA, R.P.E., FHKIE, MICE

Disciplines: Civil, Building

Ir Chan was appointed as a Director of Hip Hing since 1991 and had supervised numerous and a variety of residential, commercial, government and institutional developments as well as renovation projects. Over the past 20 years, Ir Chan had demonstrated a remarkable leadership on company strategic development and a wide-spectrum of capabilities in the operations of a large construction company.

Ir Chan was elected as the President of the 68th Council (2015 – 2017) of the Hong Kong Construction Association. He is the Chairman of Pneumoconiosis Compensation Fund Board. He is a member of the Land and Development Advisory Committee under the Development Bureau. Since 1 February 2013, he is appointed to be a member of the Construction Industry Council and also acts as the Chairman of Construction Industry Training Board.

Motto
Be humble

Case 1
Do NOT blame the others when you are responsible

When I was leading the tendering team for a tender meeting of phase 2 of a project, we were criticized of being late in the phase 1 of the project. Our tendering manager tried to explain that it was due to the unsatisfactory performance of the subcontractors. This was a problematic answer because we were the main contractor of the project and that we should not blame it on our subcontractors. Therefore, I supplemented his answer by assuring the client and the consultants that we would mobilize more resources to catch up the progress and that the two phases of the project will have their own resources and there would not be a share of resources.

Case 2
Do NOT take the easy route when you are a professional

Once there was a need to build a temporary platform to support the transfer slabs of a prestigious residential tower in the mid-level in Hong Kong. The site engineer designed all the temporary supports down to the ground level which costed over 2 million in 1993. I believed that as an engineer there could be alternative designs that would cut down the costs. I led a team to redesign the whole temporary supports scheme and successfully brought the costs down to a million, bearing in mind that at that time most of the design and checking were still done by hand and not computer programs.

Engineering Life Challenges

As an engineer, you must be open-minded. I mean that you should be able to listen to advices from your colleagues and always prepare to accept new ideas. You should keep abreast of your knowledges. Your career life is progressive in nature and so you should not try to take an easy route for any promotions. You always work as a team in the engineering profession and you should avoid yourself indulge in heroism. Everybody has a role to play within a team to bring a success of the project. You should learn and appreciate the others' efforts, accommodate differences and be willing to compromise. As I put in my motto, be humble

HKIE Engineering Exposition 2016

The 'Engineering Exposition – Engineering Life Challenges', held on 30 Apr 2016 Chiang Chen Studio Theatre, The Hong Kong Polytechnic University, was organized by HKIE Veneree Club. There were 6 distinguished speakers to share their experiences gained, lessons learned and challenges encountered during their engineering careers. These 6 speakers were Ir Daniel LAI, Ir Edmund LEUNG, Ir Greg WONG, Ir HO Wing Yip, Ir YING Tsie Cheong and Ir YUEN Sui See. There were some 200 participants, mostly young engineers.

Ir IP Pak Nin

B.Sc.(Eng), M.B.A., FHKIE, MIET, C. Eng.

Discipline: Electrical

My career was almost entirely associated with electricity supply. I started as an assistant engineer in Projects Division of HK Electric but the major part of my career with HK Electric was in Transmission and Distribution Division. My expertise is power system engineering. I had held different positions in HK Electric, including senior Projects Engineer, Senior Engineering Coordination Engineer, Chief Technical Services Engineer and Chief Customer Services Engineer. My final position with HK Electric was General Manager (Transmission and Distribution Division) responsible for electricity supply for HK Island and Lamma Island.

Motto

Continuous learning. Build on your strengths and differentiate yourself from your peers.

Case 1

The first time I felt a strong sense of disappointment in my engineer career was right at the time I undertook the graduate training scheme after graduation. In the graduate training program, I was assigned to different organizational units to observe and learn the various engineering practices – design, operation, repair and maintenance, etc. I found that people were so busy that they did not have much time to care about me. Many of them were just rank and file workers and technicians who were primarily engaged with routine repetitive work. There was no curriculum to meet too. Virtually I could choose how I could pass my time. Without responsibility, I felt the job increasingly boring and I became doubtful about the value of the training program. It was fortunate enough that I had a good training supervisor who enlightened me with the fact that unlike a student, as a trainee I determined for myself what and how much I would like to learn. He advised me to spend time looking up the manuals and books when I have time to understand the reason behind why people were doing the work in the way I observed. He also encouraged me to make more initiative to help out the work with the people I was

working and establish a good working relationship with them so they were willing to share with me their knowledge and experience. I found his advice very rewarding. It restored my confidence and re-ignited my interest. More importantly, on looking back, I found the many things that I had learnt for myself in the training program and the extent of exposure I gained were very helpful to me later in my career, as and when my responsibility broadened with time and I needed to take care of a wide range of engineering activities besides my own speciality.

Case 2

In my role as General Manager (Transmission & Distribution) of HK Electric, the number of 11kV cable faults was dramatically reduced by over 1/3 in five years' time from 2008. As a result, system reliability and power quality were also significantly improved. Much of this marked improvement was achieved through the introduction of a new technology which makes use of very low frequency high voltage to trigger partial discharge of weak joint or cable section. The partial discharge wave pattern is then mapped to pinpoint the problematic element. This successful story illustrates the quantum of benefit new technology can often bring to engineering operations and highlights the importance of the need to fully exploit new technology in our duty as an engineer in the era of technological innovation.

Engineering Life Challenges

After graduate training, I started my career as an assistant engineer in Projects Division of HK Electric. I majored in heavy current subjects in my university education. This laid a solid foundation for me to build up my knowledge in power system. In an attempt to differentiate myself, I strived hard to become a specialist in transmission engineering. After a few years, with an expert knowledge in transmission engineering and a good writing skill I became more distinguished, so to speak, in the Division. With increasing contribution I was eventually promoted to senior engineer.

To meet more challenge, I knew it was necessary to come out of my specialty,

to diversify and acquire different skill sets. Actually I started to prepare for this in very early stage of my career. I enrolled in part time MBA program and obtained an MBA degree. The MBA program provided me with much managerial and financial knowledge which proved quite useful in the latter part of my career.

After working as a projects engineer for about 10 years, I seized a transfer opportunity to Transmission and Distribution Division. While as a specialty engineer, I was pre-occupied with technical matters in the context of a project or a specific subject, the role of an engineer in Transmission and Distribution Division was more diverse and interactive with community stakeholders including customers, contractors, government and public. It was at this time that I developed my organizational and managerial skills essential to become an effective manager in power supply industry.

In Transmission and Distribution Division, I had assumed different technical and managerial positions in the organization including Chief Technical Services Engineer and Chief Customer Services Engineer. While job nature of these positions was different and each position demanded different skill sets, one thing in common that I am keen to share with you, when you become a manager one day, is the importance of building up team spirit. To become a successful manager it is also imperative to listen and keep an open mind in communicating with your peers and subordinates.

My last position was General Manger (Transmission and Distribution) responsible for power supply of HK Electric. It was an interesting career. To conclude, I would like to sum up my life challenge in the following key words:

Honesty and personal integrity
Diligence and continuous learning
Build on your strengths and differentiate from others
From specialization to multi skill sets
Listen and build up team work

Ir WONG Chi Kwong

B. Sc. (Eng), M.B.A, L.L.B., C Eng, FHKIE, FCIBSE, M I Mech E, MIET, R.P.E.

Disciplines: Building Services, Electrical, Fire, Mechanical

Ir Wong has lifelong experience for design and construction projects in Greater China and other Asia Pacific Areas including Australia, Indonesia, Malaysia, Singapore, Thailand, and Vietnam either as Contractor or Consulting Engineer. He has served in the Hong Kong Institution of Engineers as the Founding Chairman of Fire Division, and Past Chairman of Building Services Division, Building Services Discipline Advisory Panel, Fire Discipline Advisory Panel, Training Committee, Professional Assessment Committee, and Council Member(Fire and Building Services Division). He also has served as a Council Member of the Association of Consulting Engineers of Hong Kong. Upon retirement from Meinhardt after 26 years of services as a Director, he is now focusing on community services as anExco Member of the Hong Kong University Graduates Association Education Foundation and as a Rotarian.

Motto

Without challenges, your life journey will be less memorable. Shaping your life with devotion and right altitude, your memories will never be bitter though they may not be as sweet as you wish.

Case 1

The recent resurgence of immigration desire triggers my own memory of immigration to Melbourne in 1987. Overshadowed by the post 1997 uncertainly in mid-80, I unexpectedly got an employment offer to work for the tallest building in Melbourne, even though I had never been in Australia before. Such opportunity was found exciting by me, and people around me. But unexpectedly the first 12 months in Australia was the most difficult period in my whole life. Firstly, the famous Melbourne 4- season in one day caused me and family members serious health problems. Secondly, difficult to nurture my two baby daughters in a different country. Lastly, work life as a Job Captain in a strange environment was stressful, coupled with shortage of experienced staff and weekly employment of supporting staff. By staying calm, working hard with my family and in harmony with the fellow colleagues, all difficulties have gradually disappeared.

Learning: Opportunities and difficulties always come together as twin brothers, engineering these challenges with your hard work and positive attitude.

Case 2

I chose to study mechanical engineer as Hong Kong was an industry based economy in mid 60s. On graduation at early 70s, economy changed and I could only work as an air conditioning engineer. After a 5-year hard life in construction site, I was qualified as a Chartered Mechanical engineer, which led me to be employed as a Job Captain in MEP Consultant. The new multi-tasking duties to lead a multi-disciplinary team was stressful again for a young mechanical engineer, but enabled me to be more knowledgeable and qualified as a Chartered Electrical Engineer. In Australia, I was asked to step into research consultancy for Staircase Smoke management for Australian Building Authorities. It again opened up my knowledge spectrum and also initiated my networking with world renowned fire research facilities for innovative fire engineering. Such experience enabled me to firstly help my employing company to strengthen the expertise and secondly for myself to work as the Founding Chairman for the Fire Division of HKIE.

Lesson: To avoid being outdated in your engineering career, you have to learn, unlearn and relearn. Endeavour to be yourself to shape your life, after that, the memory of your life challenges will be shaping you.

Engineering Life Challenges

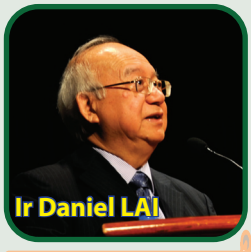
As a baby boomer, I have been very unfortunate or unfortunate to witness the great revolutionary changes in HK: from a colony to HKSAR, from a very poor community to a rich one, from no school to too many schools, from a light industry based economy to a financial hub. Throughout the changes many people have grown rich from financial or property sectors but a lot more had lost jobs in the traditional industry and became house slaves. Now, the world even revolves faster.

The followings are predicted by the World Economy Forum: 35% of current working skill will have changed by 2020. The fourth industrial revolution will have bought us robotics and autonomous transport, artificial intelligence and machine learning, advanced materials, biotechnology and genomics. Some jobs will disappear, other will grow and new jobs will be born. Luckily to my peers in built environment, it is predicted that there will be more jobs for architecture and engineering. Anyway the future workforce will need to align its skills to keep pace. The top 10 skills in 2020 will be : complex problem solving, critical thinking, creativity , people management , co-

ordination with others , emotional intelligence, judgment and decision making , services orientation , negotiation , cognitive flexibility .The future will belong to those who can unlearn and relearn. According to Harvard study , jobs that have grown most consistently over the past two decades are those combining strong technical know- how and social skill to play with others. Jobs requiring both hard and soft skills grow well, while those require neither, such as machine operating and cleaning will be fading off.

We engineers are all well trained and hard working to establish our goals or objectives. Yet life is never meant to be easy and we may not get what we wish even we endeavour with prehistoric force 洪荒之力。We need continuously face challenges which toughly test our emotional intelligence or even new venture with uncertain future. The three triangular forces to keep our life in balance will be: working hard yourself, listening to your peers,embracing life realities with gratitude.

HKIE Engineering Exposition 2016 Speakers' Motto



Treat hard work as learning, and learning is a life-long experience. To achieve perfection or full score, you have to double your effort.

People are born equally smart. Those who plan ahead, work hard and focus sharply will be more successful.
計劃，辛勤和專注是成功之道.

Contribute one's best effort and try to do a perfect job every time.
Be innovative to stay competitive.
Be honest, honourable, generous, fair and considerate.

Challenges make life difficult, but meaningful!

Adversities in Life can be overcome; Work responsibly to minimize regrets

勤有功 Labor Omnia Vincit
非以役人 乃役於人 To Serve But Not To be Served
居安思危 Be Prepared

Ir CHAN Chi Chiu

BSc(Eng) in Civil Engineering, FHKIE, CEng, MICE, HonFCIWEM, C.WEM

Discipline: Civil

Ir Chan is a civil engineer by profession. He has worked in several engineering departments of the Government of the Hong Kong Special Administrative Region. He has been the Director of Drainage Services, overseeing all aspects of wastewater and stormwater drainage services, covering capital projects for new infrastructure, improvement works to existing assets, operation and maintenance of existing systems and facilities, and collection of sewage services charges.

Ir CHAN is very active in professional and community services. He is currently the Immediate Past President of the Hong Kong Institution of Engineers, an Honorary Fellow of the Chartered Institution of Water and Environmental Management, a Member of the Construction Industry Council and an Adjunct Professor of the Department of Civil and Environmental Engineering, Hong Kong University of Science and Technology.

Motto

Don't just let other people say how successful you are. It is for you to decide for yourself.

Case 1

As a young engineer, there was a period when I was posted to work in the Customer Services Division of the Water Supplies Department. Basically, the scope of work did not involve a lot of engineering, and even for those areas with engineering nature, it was more building services than civil engineering. I also had to lead a team of over 150 people of various ranks and skills. In other words, I was required to take up a role that I was not trained or prepared to do so. Work load was also very heavy, such that I often needed to work overtime beyond 10:00pm, which was rather uncommon in those days. I had to put in extra effort to learn new things and perform my duty. By the end of 16 months, I had enriched myself very much in this area of work.

Case 2

About twenty years ago, my staff received some information from a member of the public that his neighbour had put up some installations that were not strictly following the regulations. During the course of our investigation, and for reasons unknown to us, his identity was exposed and he was blamed by his neighbour for the tip-off. He was obviously upset and turned to accuse us of exposing his identity. The complaint eventually came to me as the head of the division. Over the telephone, he reiterated his complaint to me over and over again, refused to listen to any explanation and sometimes got quite abusive. All the while, I had to maintain my composure but stated that I would terminate the conversation if the abuse continued. This tug-of-war went on for over an hour, and eventually he relented. Just before he hung up, he expressed his gratitude for the time and patience in listening to him.

Engineering Life Challenges

Like many people of my age, we did not grow up in wealthy families. We had to make the best of what was available to us, and I was lucky to be able to go to school and then continued on to university. At that time, to get a job with a decent income was almost equivalent to being successful.

Over the past many years, I have heard different people sharing on how successful they are and how they come to that state. Among the many factors that have a bearing on whether one's career is successful or not, I think these three are most important: attitude, inter-personal skill, and the bigger environment.

As a young engineer, it was almost taken for granted that I should build up my technical knowledge and capability. Soon afterwards, I needed to acquire organisational and managerial skills. But where is the drive to do all these, and to do these well? It all depends on my attitude towards work and towards life.

At the start of my career, like many young engineers, I mostly worked as a member under a team leader. As time moved on, I was required to be a leader of a small team, and later, a larger team. And obviously, we also had to work with other teams. How to get things done effectively and efficiently was a major challenge, and the ability to build up inter-personal skill is pivotal.

Having tried all that I could, it still did not guarantee that I could get things done as I would like it to be. There were things that were beyond my control that could cause setbacks or even failures. Learning to live with the bigger environment puts me back on the right track.

Ir Patrick NG Ying Piu

BSc and MSc Mechanical Engineering, Diploma in Management Studies, CEng, FHKIE, MIMechE, MCIBSE

Disciplines: Mechanical, Marine, Naval Architect, Chemical

Currently as the CEO of Holy International Electricity Consulting Co., Limited with overall responsibility for operations and development of the company and provision of external consulting services on power station projects. Formerly with CLP Group for 37 years with the chance of building up expertise in engineering, O&M, safety & crisis management, finance and organisational change. I spent the last 8 years at CLP Group level, as Director- Engineering with responsibility for development of green field utility scale thermal, hydros, renewable power projects across Asia Pacific, and as Director- Group Safety for creating safety culture and systems across the Group. In the remaining 29 years, I had taken various roles (in reversing chronological order) as Executive VP for JV management with added responsibility for finance and account function, as Asset Manager for providing oversight of operations in Chinese mainland, as Station Manager for O&M of the largest pumped storage power station, as Change Manager for CLP reorganization, and as member of station management of Castle Peak Power Station (CPPS) and Project Engineer for CPPS project. Examples of the major achievement include completion of engineering for the most advanced ultra-supercritical and ultra-clean 2 x 660MW Fang Cheng Gang Power Station in Guangxi, establishment of Group Safety Function for CLP, completion of reorganization of CLP Hong Kong as it is now etc.

Motto

Whatever we do, fall in love with it and despite the adversities we face, don't quit. Always get prepared for an opportunity to come but not complain about not having it. Exercise more power with people than power over people.

Case 1

Engage People

The Board of Directors expressed serious concern over the mounting of serious safety incidents as the number of projects and assets were rapidly growing across Asia Pacific. I was charged with the responsibility of improving the safety performance across them. These assets and projects have a wide variation in safety culture and system maturity when some of the projects and

assets were only in their initial stage of development and operations. When normal Group level management would adopt a top down approach, I chose to first engage asset and project heads from all regions in workshops in jointly formulating the improvement action plan and then to continue to involve them in the implementation through formation of various committees. This on one hand facilitated cross fertilisation of experience and utilization of each other's strength to help build safety systems to avoid reinventing the wheel, while on the other, obtained their ownership of the systems which enabled implementation from their hearts. Engaging people proved to be effective in successfully accomplishing the safety goal and culture. In getting people to work together successfully, however, one should first build the team or virtual team if they are geographically dispersed.

Case 2

Reorganise for Good

A company will only survive if it adapts quickly and stay in tune with the changing environment. This will sometimes make reorganization necessary. People within the organization however tend to resist any change, particularly in the face of uncertainty and their status quo being affected. As the change manager back in the time when electricity deregulation and open competition happened outside Hong Kong, I took the lead in organization review of cost-centred corporate offices which comprised the departments of legal, IT, Finance, Property, Public Affairs, Transport, with the objective of improving their effectiveness. While a review can be done by the departments themselves, normally a quantum change can hardly be achieved due to the difficulty in thinking outside the box and also to the complex bred of moral and personal relationship sentiments. Under this situation, an independent cold eye review can prove to be more effective. To make the review successful, the team should **a)** be formed by members outside these departments, **b)** comprise members which are considered as the best out of the best, and **c)** have visual support from the very top. A convincing proposal should also be accompanied by benchmarking. In addition, throughout the exercise, communication and communication, even though there is nothing to communicate, are essential to keep people away from fear. The change team led by me once exhibited a major set-back which was eventually overcome by strong insistence to proceed and re-establishment of the communications, with the task achieved.

Engineering Life Challenges

My career life has been presented with many challenges. Those I want to share are 1) insufficient resources, job rotation, information overflow, classified as external challenges and 2) overconfidence/wishful thinking, and self-motivation, classified as internal challenges.

Resources Limitation - I have to fulfil various company objectives which demand resources and skills of different types. These cannot normally be met by my business unit. Most people probably think of expanding their staffing level, which however scarcely receive support due to limited resources. To overcome the challenge, I always establish a power with people by first earning their respect and to build alliance with colleagues at different levels, in deferent assets, and in different regions. This internal networking then become a very useful channel for me to seek helps in both resources and skills from knowledgeable insiders.

Job Rotation - I moved from one position to another position outside and within HK every four years on average because of a promotion and a new assignment. Joining new position requires me to quickly understand and adapt to a new culture, new people and new work arena. This also helps build up both internal and external networking which become the assets that I can draw upon when I move up the career ladder. To succeed in a new environment is in fact a matter of embracing for change. Working outside HK will thin down family caring. Efforts must be paid to make home returns and video chats on regular basis as a show of support.

Information Overflow - On day to day basis, I, like many others, am flooded with different pieces of information from subordinates, peers, working partners and from the web. To distinguish credibility and usefulness of the information, we should develop an attitude of querying and also verifying and verifying through different sources. Also when we come to decision making, we should have evaluation of at least 4-5 options, which can normally bring upon a quality choice. These are the practices which have helped me in minimising decision error.

Overconfidence and Wishful Thinking - Overconfidence and wishful thinking have already been identified as the killing factors of many executives and also organizations. These factors prompt us to jump to a conclusion, preventing objective views and decision. I keep abide by my belief that two heads are better than one and however strong you are, there is always someone stronger, both of which keep me open for other opinions.

Self-Motivation Challenge - Setback and rejection are the major de-motivators in my career life. These can also be found in many people, no matter how powerful they are. I regard them as inevitable and embracing of criticisms and maintaining an attitude of don't quit are the two drivers which keep me at the management level today.

Ir Prof Joshua SL WONG

BSc(Eng), PhD, FHKIE, CEng, FIEE

Disciplines: Electronic and Information Engineering

Expertise Areas: Microwave engineering, Electromagnetics, Computer Aided Design, Communication coding, VLSI Design.

Professor Emeritus and Former Vice President, Hong Kong Polytechnic University
Founding the Department of Electronic Engineering, later renamed the Department of Electronic and Information Engineering, and assisting the Institution to gain University status

Tenured Associate Professor of Engineering, California State University Los Angeles, and Consultant at the Jet Propulsion Laboratory, California Institute of Technology.

Post doctoral Research at the University of Leeds, working on a US Air Force Contract modelling electromagnetic wave propagation through rocket exhaust.

Senior Design Engineer with Racal Research working on computer aided design of electronic circuits

Motto
Use it or Lose it.

Case 1
As Head of Department for 16 years and Vice President for 10 years, I learned there are pros and cons of being in senior management.

On the positive side, I learn something about leadership. Firstly, a leader must be clear about the goal to which he is leading, and ensure that all subsequent major decisions e.g. related to resource allocation etc are orientated towards the achievement of that goal. Secondly, a leader must mobilize contributions from all team members and give every opportunities for them to develop and exercise their expertise.

On the negative side, being in senior management means one may miss the joy of "working with one's hands". I certainly wish I had more opportunities to teach and to work in the laboratory.

Case 2

In my brief experience advising start-ups, I have the following observations:

1. Engineers tends to focus on how rather than what. In fact, do the right thing is more important than doing the thing right.
2. In presenting a project to get funding, engineers often dwell on "sophisticated technology" rather than Return On Investment (ROI).
3. People are getting smarter. People are getting more unscrupulous.
4. Size of Companies matters.
5. Success formula: Engineering teaming up with Marketing

Engineering Life Challenges

We are faced with Information Explosion. Change is faster and Life has become more Complex. Accordingly, I present the following FRAMEWORK to assist in putting information in perspective, in problem solving, and in viewing Life in a balanced way.

Domain Theory, a Framework to look at Life

The Domain Theory consists of the following postulates:

1. Men live in 3 domains, the Naturalistic, Humanistic and Spiritual domains. In the naturalistic domain, men share much commonality with animals and matter; the laws in science and technology govern this domain. In the humanistic domain, men relates to other men; the social sciences govern this domain. In the spiritual domain, men relates to God and other spiritual beings, and "religions" govern this domain.

2. Although a man lives in all 3 domains simultaneously most of the time, at a very young age, he tends to live mainly in the naturalistic domain; as he grows older, the "centre of gravity" moves towards the humanistic domain (being e.g active in his professions, family etc), and reaching old age (contemplating the eternal, the temporal nature of earthly life etc) , he tends to live more in the spiritual domain.

3. In general, when one is confronted with a problem, one can begin by finding in which domain the problem (mainly) resides in, and use "laws" governing that domain to tackle that problem. (For example, if one suffers a sickness traceable to some physical causes like bacteria, one looks to science and technology for solution)

4. In general, when one is confronted with a very difficult and/or "insolvable" problem in one domain, one may find a solution or "a way out" in another domain. (For example, a young child, living mainly in the naturalistic domain, may become "inconsolable" when he drops his ice cream cone. If he manages to view the same problem in the humanistic domain, he learns "delayed gratification" and "higher order satisfactions" and dropping an ice cream cone is no longer "disastrous". Similarly, a man may become "inconsolable" when his health fails, will he be able to find a way out in the spiritual domain?).

The postulates have many implications. For example,

- Postulate 1 reminds us to take a broad view of life, finding enjoyment, creative activities and life-long learning in many spheres and dimensions.
- Postulate 2 gives us a sense of the dynamics and evolving of life, the need sometimes to lose in order to gain.
- Postulate 3 has the effect of preventing imbalances e.g. experts in the sciences may try to solve all problems by the scientific methods, or some religious folks may refuse medical treatments believing that all illnesses have spiritual origins.
- Postulate 4 suggests some difficult problems may be solved by "paradigm shift", "lateral thinking", "change in mind sets" or re-examination of basic/implicit assumptions.

One may challenge oneself by trying to identify "insolvable" problems in the naturalistic domain which are amenable to solutions in the humanistic domain, and "insolvable" problems in the humanistic domain which may be "solved" in the spiritual domain. The contrary may also apply. A problem in the humanistic/spiritual domains may be solved in the naturalistic domain. An example is: how does one survive and remain sane in the concentration camp with at that time little hope of seeing the end of the tunnel? One answer is: by focussing on doing some daily routines such as washing one's face, doing however limited exercises like stretching one's limbs etc. thus finding spiritual/mental stability through simple physical routines.

What has been presented is only a framework. The framework may be strengthened or redesigned. Postulates may be added, deleted and/or refined. With knowledge explosion, one can use such a framework to hang one's thought and (new) knowledge, and to facilitate discussions among a large group.

HKIE THE HONG KONG INSTITUTION OF ENGINEERS 香港工程師學會

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This is to certify that

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attended the

Engineering Exposition 2017

on

8 April 2017

from 09:00 - 14:00

at

Chiang Chen Studio Theatre,
The Hong Kong Polytechnic University
Hunghom, Kowloon

* 1. Name of participant to be written by the attendee.
2. Attendee should seek certification of his/her attendance by having the stamp of the organizer immediately after the event.
3. This certificate serves the purpose to record participation of an attendee only. The duration of the activity indicated above does not automatically grant the equivalent CPD days, but is entirely up to the discretion of the 'Engineering Supervisor' for pre-Corporate Membership.
4. Please contact your 'Engineering Supervisor' for further advice for recognition of CPD activities.

Acknowledgements

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Atkins
CLP Power Hong Kong Limited
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The Hongkong Electric Company, Limited
Tsuen Lee Metal & Plastic Toys Company Limited

(Listed in alphabetic order)

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Engineering Exposition 2017 Programme

09:05 – 09:15	Opening: HKIE Senior Vice President: Ir Thomas KC CHAN
09:15 – 10:40	First Session (Speaker presentation and Panel Discussion)
10:40 – 10:55	Coffee Break
10:55 – 12:20	Second Session (Speaker presentation and Panel Discussion)
12:20 – 12:30	Closing: Veneree Club Chairman: Ir CHEUNG Shu Wing
12:30 – 14:00	Lunch

First Session Speakers:
Ir Allan SK CHAN
Ir IP Pak Nin
Ir WONG Chi Kwong

Second Session Speakers:
Ir CHAN Chi Chiu
Ir Patrick YP NG
Ir Prof Joshua SL WONG

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