



Dr. Irving Engelson,
President, IEEE EMS

President's Corner

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Our IEEE Technical Home

The IEEE is a complex organization, and perhaps the average member may not care or understand how we are organized and how we operate. We all should care because the membership is the ultimate organizational decision maker. IEEE offers many volunteer opportunities. Members who are not familiar with the organization's complex structure can inadvertently be excluded from the rewards of active participation and leadership. **Volunteerism is often seen as the critical differentiator for those who receive the job offer, the salary increase, or the promotion.**

The joy and satisfaction of participating in society and IEEE-wide positions is one of the reasons that I continually encouraging members to volunteer. Let's look at IEEE's organizational structure, from the societal to global IEEE levels. Members can then better understand where and how they can become more involved in volunteer activities. Participation can have an extremely positive impact on your career success.

Worldwide, IEEE has more than 365,000 members in over 150 countries. Thirty-nine societies hold over 300 conferences per year that are attended by more than 150,000 participants. In addition, we conduct other technical meetings and symposia for a grand total of over 3,000 annual events. These events provide numerous opportunities for volunteer activity in both technical and administrative areas, and are a wonderful way to gain leadership knowledge, meet colleagues, make friends, and gain experience in a non-threatening environment.

The societies have 1,446 local chapters. The easiest way for EMS members to get involved is to attend local chapter meetings and express their

interest to volunteer. Active participation will make you part of your chapter's leadership group. You may then choose to run for a seat on the EMS Board of Governors (BoG). After a couple years as a BoG member, particularly if you show initiative, you may be elected as an EMS officer, such as Vice-President and eventually President. This was the path that I took two years ago in being elected EMS President. Because of term limits, my tenure as President will end on 31 December. I expect to continue my volunteer activities in other ways.

The IEEE societies are grouped into ten Technical Divisions (EMS is a member of IEEE's Division VI). Each division is headed by a Director who represents it on the IEEE Board of Directors. The ten Division Directors and all society presidents are also members of the Technical Activities Board (TAB). TAB is chaired by the IEEE Vice-President for Technical Activities who, together with the Division Directors, sits on the IEEE Board of Directors. The Board of Directors is chaired by the IEEE President.

In short, the hierarchy from the society level up is as follows:
Society => Division => Technical Activities Board => IEEE Board of Directors.

Each of these entities is headed by a Society President, Division Director, VP for Technical Activities, and the IEEE President. In July, our EMS Board of Governors will elect the 2006 EMS President, who will follow me in this position, as well as other society officers. In November of this year IEEE members will elect other officers including Division Director, VP for Technical Activities, and IEEE President. As EMS members you will have the opportunity to elect the complete hierarchy of technical leaders for 2006.

IEEE follows a democratic process, and each election will be contested. Contested elections are one component of our democratic



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nature; the other is active participation by the membership. It is our responsibility to study the slates and elect the best candidates to serve as our leaders in the coming year. I urge you to become more involved in IEEE by voting in the upcoming elections and

by volunteering in areas of interest.

At the end of July I will Chair the EMS Board of Governors for the last time, but my work and obligations will continue to the end of the year. After two terms as EMS President I am not eligible for re-

election. It has been an honor and a pleasure to serve as your Society President for the past two years. It is my hope that I will continue serving you in other capacities in the future. As I indicated in my last message, volunteering is better than ice-cream, and also less fattening.

Call for Case Study Proposals on Managing Engineering, Technology, and Innovation

The IEEE Engineering Management Society (EMS) is embarking on an exciting project that involves developing a unique repository of cases related to managing engineering, technology, and innovation.

AN INVITATION

This is your personal invitation to help build an educational program that will provide a real-life educational resource for managers, engineers, and scientists challenged with the goals of creating new businesses and better business practices and processes through integrating technological and business knowledge in a competitive global economy.

You are invited to participate. This project will result in a unique, exciting, and valuable product for the professional development of practicing managers, technology specialists, and engineers, as well as students looking toward meeting the challenges of technological change and management of innovation and technology. There are benefits both for those who relate their experiences in these educational cases and for those who study them and apply the insights in their daily work.

REAL WORLD EXPERIENCES

These new cases will provide a technology and management based body of knowledge by integrating the elements of engineering, technology, innovation, and management.

The cases will:

- Reflect the "real life" issues that we all encounter in our daily work
- Be created by practicing engineers, managers, and innovators
- Meet the needs of managers across all disciplines in technology intensive environments
- Meet expectations and produce results in complex and uncertain requirements.
- Lay the foundations for integrating technical and business knowledge
- Bring real-world experiences to all managers from entry level to those in positions with responsibility for the organization's future

CASES WILL SPAN MANAGEMENT to BUSINESS FUNDAMENTALS

MANAGEMENT FUNDAMENTALS

- Dealing with People
- Goal Setting
- Team Building
- Scope Creep
- Financial Analysis
- Reaching Agreement
- and much more

BUSINESS FUNDAMENTALS

- Technology Strategy
- Innovation and Entrepreneurship
- Technology Policy
- Technological Leadership
- New Market Creation
- Decision Science
- and much more

Your experiences can be developed into a case study. We invite you to submit a short treatment of a case that you would like to develop as a means of passing on your experiences. Upon acceptance an experienced case writer will be assigned to help develop the case. All cases will be peer reviewed in order to maintain quality. You will have the privilege of having your name listed as the case originator.

Please submit your proposals or questions to: Terry Malkinson (t.malkinson@ieee.org);
Lois Peters (petersl@rpi.edu); or Gus Gaynor (g.gaynor@ieee.org).
WE LOOK FORWARD to RECEIVING YOUR PROPOSAL

IEMC 2005

Charles Randall and Gerald Dunphy

The 2005 International Engineering Management Conference is being held September 11-14 in St. John's, Newfoundland, Canada. The program is finalized, and the conference organizing committee has been working feverishly to ensure all the details are in place to ensure a successful conference.

The conference venue is St. John's, Newfoundland _ North America's oldest city. St. John's blend of old and new extends far beyond old world charm and modern, world-class facilities. The location of such engineering "firsts" as the first transatlantic cable and receipt of the first transatlantic wireless communication, it is particularly appropriate for an engineering management conference. St. John's is also the headquarters and nucleus of leading edge multi-billion dollar resource development projects in mining and offshore oil/gas. Non-stop flights from various cities in Canada, from London's Heathrow and from New York/Newark make St. John's very accessible. The host hotel, the Fairmont Newfoundland, is a landmark in the heart of the city's downtown area, within easy walking distance of the historic harbour.

The Conference will start with an opening reception during the evening of Sunday, September 11. As a precursor

to the conference, the following tutorials are being offered that day:

- Getting Your Point Across: Essential Communications for Engineers
- How the West Was Lost: A Workshop for Managers on Statistical Process Control
- Leading an Effective Engineering Organization
- New Trends in Project Management
- So You Want to be an Entrepreneur/Management Consultant

The Conference program runs all day Monday, September 12, and Tuesday, September 13, and concluded mid-day, September 14. The Program Committee has accepted over 250 papers whose authors originate all over the globe. The final program will feature the following topic areas:

- Business Strategies
- Sustainable Development
- Sustainable Competitive Advantage
- Sustainable Growth
- Technology Management
- Technology Competence
- Design for Environment
- Manufacturing and Supply Chain Management
- Entrepreneurship
- New Product Development
- Technology Innovation
- Product Innovation
- R. & D Management

- Quality Management
- Risk Management
- Project Management
- Knowledge Management
- Catastrophe Management

In the evenings, attendees and their guests are invited to enjoy Newfoundland's famous hospitality and natural beauty. On Monday an evening event has been planned to allow visitors to gain a better appreciation of the rugged beauty and history of Newfoundland. Complimentary shuttle buses will take attendees to the Johnson GeoCentre, a world-class geological interpretation centre featuring displays and exhibits related to Newfoundland's unique geological history. In addition visitors will experience Cabot Tower at the top of Signal Hill, a forbidding former British outpost overlooking the city and home to the IEEE Engineering Milestone celebrating Marconi's first transatlantic wireless transmission in 1901. Guests can take advantage of any or all locations, or simply strike out on their own for a walking tour of the downtown area. Tuesday evening will feature the Conference banquet.

For further information please refer to our website, www.iemc2005.org. It is continually being updated as new details are confirmed. We look forward to your participation in what promises to be an exceptional conference!

Board Approves Co-sponsorship of ICMSE

Dr. Irving Engelson

The EMS Board of Governors (BoG) at its 31 July 2005 meeting in Quebec City, Canada unanimously approved a relationship with the International Conference on Management Science and Engineering (ICMSE) that is sponsored by the Harbin Institute of Technology, P.R. China, and is co-organized by the State University of Management, Moscow Russia.

EMS President, Dr. Irving Engelson, signed a "Statement of Intent" with Dr. Yijun Li, Dean of the School of Management, Harbin Institute of Technology. The signing ceremony took place at the Incheon University, Incheon Korea. Participating in the signing ceremony, in addition to Dean Li and President Engelson, were Associate Dean Dequn Zhang and Prof. Dan Wang. Dr. Engelson also met

with Dr. Vladimir V. Balashov, Associate Vice-Rector for Scientific Research of the State University of Management, Moscow Russia. The agreement was unanimously approved by the EMS Board of Governors. EMS will become a Technical Co-sponsor of the ICMSE, include the ICMSE Proceedings in the IEEE Conference Listings, and provide world-wide distribution of its technical and scientific papers

through IEEE Xplore, a world-wide database.

According to Dr. Engelson, who attended the conference in Incheon Korea, the conference papers are of very high quality and written in excellent English. He referred to

the material as a “treasure of excellence” that is virtually unknown outside of China. EMS officers who reviewed the Conference Proceedings agreed that the relationship will be of benefit to EMS members and the world wide management community.

Dean Li designated Prof. Wang as the official interface with EMS on this activity. At the urging of the EMS Executive Committee, Dr. Engelson agreed to personally take responsibility for managing the relationship with ICMSE on behalf of IEEE EMS.

Chapter Chairs Workshop

Celia Desmond
2005 Vice-President Elect IEEE Technical Activities
2005 Vice-President Member Relations EMS

On July 30-31 your Engineering Management Society held a North America Chapter Chairs Workshop in Quebec City, Canada. In previous years Regional Chapter Chair workshops have been held in other areas of the world. Attendees of this workshop engaged in learning with presentations by and discussion with many speakers, including

- EMS and IEEE by Irv Engelson, EMS President
- Membership Development by Celia Desmond, EMS VP Member Relations
- Conferences by Charles Rubenstein, EMS VP Conferences
- Chapter Chair Roles and Responsibilities by Sam Ghosh, EMS Chapter Coordinator
- SAMIEEE Demo by Sam Ghosh
- EMS Education Programs by Mark Werwath, EMS VP Education
- EMS On-line Community By Tariq Duranli, EMS Executive VP and Sam Salem, EMS BOG

- Coaching for Performance by Celia Desmond

The attendees presented to the BOG two one-minute commercials they had developed to advertise the Society. These were judged to be marvelous by the audience. EMS President Irv Engelson complemented the Chapter Chairs on their creativity and encouraged them to continue their involvement in the EMS and the greater IEEE.

Saturday evening the Chapter Chairs and the members of the EMS Board of Governors met for dinner, where both groups appreciated the opportunity to get to know each other.

Here is one of the comments from the Chapter Chairs:

Thanks for a great workshop putting together! I enjoyed the whole session, the schedule was good, particularly the opportunity to meet our BOG members during the session. The presentations were infor-

mative, especially the success story shared from Doug. I will take what I learned from the workshop back to my chapter chair and members. It was very nice to meet every one at the workshop!

Liang Downey, S.E. Michigan

I have gained valuable experiences attending the workshop, feel infused with new ideas to present to my local Chapter, and especially enjoyed networking and sharing ideas with the chapter Chairs and other IEEE EMS members. An added benefit of my attendance is that the mystery of SAMIEEE has now been solved! Also, the Financials discussion at the end of the BOG meeting has provided me with a better understanding of the inner workings of the IEEE and how funds are allocated. This information is most useful when undertaking any type of activity, be it a conference, workshop, or event.

Jennifer Jessop, Winnipeg

A full report on the Quebec City, EMS Board of Governors meeting will be published in the next issue of your EMS newsletter.

Who Are You Promoting?

Gerard H. (Gus) Gaynor

In a recent conversation the story was told about a project manager who although having a successful track record in managing very difficult projects over many years was somehow bypassed on a recent group of promotions. This project manager although being singled out on several

occasions by upper-level managers for his ability to take on difficult projects that others would not touch was for some reason not promoted.

The project manager approached his manager and requested an explanation. His manager mentioned that he was not

promoted because he never mentioned that he was interested in being promoted and that management was less impressed with him than with other candidates because he was never “putting out any fires.” In other words, he didn’t continually push the panic button. Both of these reasons for not

promoting an individual seemed to be at odds with the generally accepted role of managers and executives. Isn't this manager responsible for having some knowledge about his direct reports? Isn't he responsible for coaching them to assure the organization with the essential future competencies required to meet organizational objectives? Whether or not this project manager should have been promoted is really not the question: the question is the behavior of this manager and others involved in the decision-making process.

The management credo places final responsibility and accountability on the manager for performance and can best be summarized with a comment by Henry Mintzberg, an eminent management scholar, who reminds us that:

“No job is more vital to our society than that of the manager. It is the manager who determines whether our social institutions serve us well or whether they squander our talents and resources.”

Mintzberg's dictum places a considerable responsibility on the manager. With that proviso, let's look at these two reasons for not being promoted as separate issues.

Declaring an interest

Is it necessary to inform your manager if you have an interest in advancing on the managing ladder? One could argue that it is certainly desirable. A positive response would be helpful but depends on the individual's relationship with the immediate manager. It depends on the openness of the communication channels. I suggest that one primary function of the manager is to know through observation and involvement the accomplishments, the attitudes, the breadth of competencies, and experiences their employees bring to the organization and use to meet

objectives. This responsibility cannot be delegated.

At the same time we can argue that an employee who fails to inform the manager of a particular interest may be looked upon as lacking initiative which could be considered as a negative in regards to a promotion in managing. So, while the manager had a responsibility to know this project manager's interests the employee has an equal responsibility in making his interests known. This manager evidently didn't know much about this project manager and the project manager didn't consider it necessary to communicate his interests.

Putting out the fires

Equally disquieting to me was the comment by the senior manager that this project manager was not promoted to a managerial position because of a lack of visibility resulting from good performance. This project manager was not continually putting out fires and involving others to resolve not only routine but also complex problems involving inter-disciplinary negotiations.

This project manager did not disrupt the organization by making demands on others. This project manager did not become frustrated when problems arose and continually pushed the proverbial panic button. This project manager when facing a problem solved the problem by bringing the required parties together without any fanfare. Yet these actions and approaches to resolving issues were perceived as non-performance because they lacked visibility.

Resolving the issue

Managers too often depend on input from a specialist in the human resource department (HRD) where greater emphasis may be placed on

the human issues rather than on the track record of accomplishments _ both are important. I'm not suggesting that input from HRD specialists be disregarded but their influence must be tempered based on their knowledge and understanding of the required competencies for the particular position. The job of managing requires taking the lead and in that process some people who are bound by the status quo will take offense to any actions that require change. We cannot disregard the role of the manager in achieving results. .

The final decision in selecting people rests with the hiring manager. I'm not suggesting that managers disregard the human side of managing. On the contrary, I do propose that managers for the good of their employees promote a sense of mental and operational discipline. That means providing challenging experiences and guiding employees to allow them to achieve their expectations within their competencies.

So what is the answer to this dilemma? Is it time for this competent project manager to change behavior and begin pushing the panic button when every problem arises? Probably not. But this person may need to diplomatically do more self-promotion.

The larger problem looms in management. Who is this manager who measures performance based on the number of times the panic button is pushed? To what extent does this manager take HRD recommendations in reaching a decision? There's a basic management problem here and upper management must get involved. Those involved in this decision process certainly didn't follow Mintzberg's dictum regarding the role of the manager _ don't squander talents and resources, they're too precious.

Specing IN; Profits OUT

A major shift in the competitive paradigm OR a simple case of common sense!

William Chan
Vital Source, Inc.

The time of the engineers taking their time to design items for future generations of products a few years ahead has passed. In fact, it has been over for awhile. Engineers are now forced to shorten the design and development cycle and have become a real factor in competitiveness - getting ahead of the curve of design is without a doubt a significant element in ensuring the long-term health of technology organizations.

But that is no news... What is important is that the engineer's role is changing, even more. There are two pieces in making a technology company successful 1) making better and more effective products (the design) and 2) being able to take advantage of the market (selling it when it counts). The second element is what is giving engineers a new domain of influence. The job of a "value driven" engineer no longer ends at designing and Specing in parts and moving on to the next design and innovation; the job now also includes having the foresight in thinking through the "what if" scenarios of part availabilities, lead times, and market shortages.

Nowadays, the time frame for an engineer Specing in a different brand of electronic component in a new or stable, but demand driven product, is totally wrong! The majority of engineers are often only forced to spec in different brands of components while there is a shortage in their current parts supply. Some engineers may be Specing in whatever is available in their Lab. On the surface and based on the conventional ways, this would not appear to be a big issue. But in today's market, inability to produce the end product for the lack of availability of a particular component will result into major losses in demand - the "value driven" engineer realizes that all the hard work in designing and getting

ahead of the curve in market introduction can be compromised if the device can not be made and the demand can not be satisfied due to production issues. The window of sales opportunity in today's technology device market opens briefly and at a very high engineering, marketing and sales cost. The "value driven" engineer not only produces superior designs, but also foresees the possible production related bumps ahead.

Some issues in production cycle can not be anticipated, but alternative component availability and possible shortages can - and the "value driven" engineer is sensitive to this competitive element.

Specing in a different brand of electronic component takes time and can cause delays in production. The Design, Application and Supply Chain Engineer all know that there are a lot of significant issues around this topic, but would like to believe that this is a problem for the Operations or Materials Department or even Contract Manufacturer. Good, value driven, engineers are getting ahead of this curve and are changing their normal historical behavior. They are Specing in different brands of electronic component and that is not just 1 to 3 brands, and it is not just very famous and known brands - they are creating a wider range of components availability for the same design - this not only provides an insurance policy against main brand shortages, but also provides the material managers the ability to better negotiate pricing and plan for effective and smooth production - more options equals better pricing and reduced risk of unavailability.

Today, most of the big electronic component makers have a 6 - 12 week lead time period. If the OEM and CM only has the major player's parts

approved, they have to wait for 6 - 12 weeks for delivery. If the product demand increases the component factory becomes a major delivery bottleneck or alternatively, the designer company (OEM) has to take much higher risks in production and inventory investments to avoid possible delivery issue. During this 6 - 12 weeks long lead time any thing can happen! Heavy demand in electronic components market often causes spot shortages in supply - this happens with a significantly higher rate for major component brands since everyone is Specing them in. In these situations, the OEM or the CM has to source the parts from the open market and potentially pay higher prices (eating into profits). The Open market may not have the quantity needed by everyone in demand of similar parts, creating even a deeper shortage and higher prices (eating even more into profits).

To avoid becoming a victim of shortages and production delays, some material managers take a different poison pill - they over order! and therefore create higher risks of over production and excess situations.

As component orders are placed and the waiting game is on, the demand for the product may decrease, but the parts have been ordered a long time ago to address the time delays and lead times - For example, between year 2000 to 2004 hundreds of billions in excess inventory of electronic components were written off by various organizations mainly due to this reason.

To avoid a shortage in supply or a huge lost in excess inventory, OEM & CM should begin Specing in parts with short lead time of 2 - 4 weeks, today. Why get caught in a long lead time situation when there are many reliable electronic component factories

that can provide their parts in 2 - 4 weeks. Actually there are many choices for the OEM and CM. These reliable electronic component factories want to get more market share, so their prices are very competitive.

On the average it takes at least 2 - 6 weeks to find a cross part, order and wait for samples to arrive, test the parts, and finally get approval. Including the actual production volume ordering and receiving time of 2 to 4 weeks, an over all 10 week delay can easily be realized - that is 10 crucial selling weeks! 10 weeks of lack of presence in the market! 10 weeks of extra time provided to the competitors to perform and capture your market share!

Value Driven engineers provide their organizations an added dimension of flexibility and competitiveness. Once the Engineer has a wider range of brands of electronic component approved earlier on, no matter when there is a shortage, they can switch to another brand immediately and avoid the delays.

Management, although slowly, is becoming aware of the benefits of early Specing in projects. They are recognizing that proper investment of engineering hours in identifying appropriate component crosses in an

organized and systematic way significantly smoothes out the anomalies that are created by shortage driven reactions. Management is also focusing on the bottom line impacts that early Specing in will offer. Some engineering and supply chain managers have in place initiatives to re-examine all components on every active Bill of Material (BOM) to identify alternative factories and sources. A selection process that goes beyond picking the most popular brand or finding 100% crossing - an intelligent process that takes into account cost and availability issues, without compromising functionality.

The problem is very clear to "value Driven" engineers and the solution and the competitive opportunity it offers is also becoming more and more clear to a lot of good engineers.

As an engineer, here are few proven pointers to help increase your competitive value to the organization as "value driven" engineer:

1. Recognize and acknowledge that Specing in a wide range of alternative components and brands of electronic components is the responsibility of the Design, Application and Supply Chain Engineer. This is too important of a task and should not be left to the Opera-

tions or Material Department or Contract Manufacturer. At the end, the solution is in the engineers' hand - use it as a competitive advantage or deal with it under unrealistic deadlines and corporate loss pressures.

2. Realize that your organization, the OEM, will gain two important benefits from Specing in different brands of electronic components 1) Cost saving on the material - our experience shows savings of over 25% to 40% 2) Shorter production periods and higher levels of product availability - lead times can generally be reduced by 2 to 8 weeks - Timely availability of product to sell and cost consciousness are the two most important factors in profitability.
3. Accept that your role as an engineer nowadays includes preventive thinking and recognition of good business practices. Widening the product availability base and keeping an eye on supply chain challenges is now a part of an engineer's normal practice and behavior - The value of an engineer is more and more reaching beyond just good design.

When should Engineers be Specing in a different brand? NOW

Candidate Statements for the EMS Board of Governors 2006-2008 Term

Each candidate was given the opportunity to provide a statement of candidacy on what they hoped to achieve if elected. The following statements were received.

Charles Rubenstein

I have served the EMS since 1988 as Student Activities Coordinator, PACE Coordinator, Newsletter Editor, Webmaster and creator of the first EMS Web site, Vice President - Member Relations (2000-2004), and this year I was asked to cover the duties of Vice President - Conferences when our Vice-President had to take an unex-

pected leave of absence. As Vice-President - Member Relations I created the EMS Chapter Chairs Workshops (CCW) and convened three in Region 7 (2001), Region 8 (2002), and Region 1 (2003). I was successful in receiving an IEEE Foundation Grant enabling Region 8 CCW attendees to attend IEMC2002. IEEE is a business, EMS is a business. Our business needs to be providing benefits to our members and the general public. We need to focus on the business and management models that help us deal with our business. We must invest in programs that the

Board feels will enhance our visibility and increase our member benefits.

Brad Fox

I would like to join the EMS Board of Governors to work with EMS members to

- Promote external awareness of engineering management
- Support academic inquiry into engineering management
- Provide career development for practicing engineering managers

I recently changed careers by leaving

the corporate world to join Duke University's Engineering Management Program. I made this change to better prepare engineers for careers as engineering managers and leaders. One of my observations after taking this role is a lack of understanding of the critical importance of engineering management in the innovation process. The Engineering Management Society is the ideal organization to further promote the awareness of engineering management. My other goals are for continued growth of tools, techniques and best practices for effective engineering management and dissemination of that knowledge to practitioners. I would like the opportunity to pursue these objectives as a member of the Board of Governors.

Leslie Martinich

For most of my more than twenty years in industry, I have been a practicing engineering manager, working with teams in the Americas, Europe and Asia. My approach has been greatly influenced by research and theory. I am a frequent contributor to and speaker at international professional and technical conferences. I am currently the IEEE EMS Central Texas Chapter Chair.

I am committed to helping engineering and technology managers to be more effective, through programs and services that provide focused, practical and accessible professional development, and to building the community of engineering managers so that they can support each other.

I recognize and am committed to addressing our organization's critical needs, and I will ensure that all members are served. I care deeply about the issues and focus of the EMS, and strongly desire to help others to have meaningful and satisfying careers in engineering and technology management.

Dave J. Kemp

If re-elected to the Board I would place emphasis on effective teamwork contributing to effective committees and working groups. In addition, focus on key goals such as member-

ship growth and retention, financial viability, and member services. I would focus on the following personal individual contributions:

- promoting and assisting chapters
- adding to the inventory and promotion of educational products and programs
- continuing my ongoing efforts to promote and enhance the EMS Forum (on-line virtual community)
- promote collaborative efforts between related IEEE Societies
- contributing to the Society's awards and recognition program.
- continued active participation in my home Section's EMS Chapter

EMS has a unique opportunity to expand its niche within IEEE. IEEE members have high expectations for EMS whether they be recent graduates aspiring to management, practicing managers, or experts evolving the discipline. The Board needs to strive to serve all constituencies.

Dr. Tariq S Durrani

The IEEE Engineering Management Society is a premier IEEE society, with strong publications, healthy reserves, a well-established international conference, and a loyal membership. Nevertheless, there are challenges that the Society needs to address to make it even more successful. These include:

- Membership growth and member services
- Volunteer expansion
- Revenue generation
- Additional conferences
- Effective management

Increased membership should be achieved through contact with students, strategic alliances with other IEEE Societies, and other sister organizations, with GOLD members as useful allies; and role of Chapter and Chapter Chairs reinforced to promote the Society's interests. The establishment of Special Interest Groups, will further offer a source of volunteers and contribute to the Society's activities.

The relationship with EAB should be progressed, and the revenue stream through XELL should lead to valuable returns over a period of time. Conference activity could be expanded through strategic alliances with other strong IEEE Societies, where EMS could provide managerial tracks in their large conference. The ties with UK IEE could be further exploited to mutual benefit through shared circulation of publications, specialist conferences, and associate membership.

Prakash V. Ekande

I have been working in the Engineering profession more than 30 years and have varied experience in Engineering and Technology. I am active member of IEEE for 20 years plus. If elected, I will strive to motivate Engineers from the Region to become member and contribute to the Society associating with the Conferences, Publications and Educational activities for realization of Vision of IEEE.

Joel B. Snyder

It is an honor and privilege to have been nominated for a second term on the Engineering Management Society (EMS) Board of Governors. I have been an active participant in EMS BoG activities since 2000, and I am currently serving as the Vice-President for Recognition and External Relations. The EMS is a rarity among IEEE societies as it is truly broad spectrum. That is, its field of interest is pervasive. In every sub-discipline of the IEEE umbrella there are managers and management, and the EMS works to serve their needs. If elected, I will continue and expand my efforts and my focus on bringing our members, and indeed all IEEE members, new and exciting ways to help their careers. I will fight to make EMS a must be place for practicing engineers who want to broaden their horizons and advance into management ranks.

Louis A. Luceri

A member of the Long Island Section, I bring thirty-five years of engineering and management experience to

the Engineering Management Society. I have also served on the IEEE Board of Directors as the Director/Delegate for Region 1. I have held Chairmanships of various committees within the Region since 1984, and have served on the IEEE Tellers Committee as Chair in 2003. I have also been a member of the

IEEE Ethics and Member Conduct Committee.

As the 2004 Treasurer of the Engineering Management Society, it has been my responsibility to help oversee the management of the Society's affairs. This includes exercising fidu-

ciary responsibility for the Society, the development and approval of budgets, establishing policies and procedures, and approval of Society activities that will benefit both the Society and the members. If elected to the Board of Governors for the 2006-2008 term, I shall be willing to serve.

Governance Part 1

Terrance Malkinson

Over the past few years the role of the individuals comprising the entity known as the "Board" has undergone examination. Many believe that a clear definition of expectations and accountabilities for the various levels of organizational leadership is needed. There has been a call for an improvement in leadership ethics.

Boards are used as an organizational structure when there is a gap between the ownership of the assets and the management of the assets. This generally occurs when the owners are too numerous to run the organization themselves. The board ensures that the owners' wishes are fulfilled by performance.

Accountability and integrity rests in the minds of individuals. The role of the board is to govern on behalf of the owners. It is the board who determines the purpose (ends) of the organization congruent with the expectations of the owners.

The means by which the organization's purpose is achieved is delegated to executive management within the boundaries set by the board. The division between the board who determines ends and executive management that determines the method on how the ends are achieved can be problematic. There is a temptation for each party to migrate into each others function. It is in the best interest of the organization that all parties work together in a disciplined approach within each of their defined boundaries.

The owners are the source of the boards' authority. This model of governance where the board has full authority over management is in need of definition and renewal. This does not mean that management is weakened, conversely strong management is essential and expected. The board is ultimately accountable for performance and integrity. Clear guidance implemented by board policy facilitates the ability of management to deliver results. The principles of governance are universal to the structure and workings of any board small to large, profit or non-profit, local or international, regardless of business purpose.

The board chair is responsible for advancing the board in its work. This individual does not have any special powers. They simply fulfill the group's need for leadership. Enforcing discipline ensuring that board meetings are conducted appropriately in a fair, open, thorough, timely, and orderly manner. The chair is often the individual who represents the board to outside parties. The chairperson works for the board; the board does not work for the chair.

The board itself exercises its authority as a team. Individual members have no authority unless it is specifically given it by the group. Each member of the board brings their knowledge and experience to the group. The board speaks as one voice. Written policies are the tool used for delivering of the boards decisions. Each issue the

board deals with is accomplished through policy. Board decisions are all made with reference to policy. All members of the board honor the decisions made by the board. These enduring documents are explicitly statements of the boards will.

Over time, a compendium of board decisions conveyed as precise and concise written policies provides a framework for how lower-level decisions are made and expectations of performance. Policies have longevity, they are not quickly outdated. This often occurs through the chief executive officer who reports directly to the board and manages the organization in strict accordance to the boards' direction. The subordinate makes real decisions within delegated boundaries reasonably interpreting the policy in meaning without returning to the board for numerous approvals. In the end the board is accountable to the owners for its own performance and the entirety of the performance of the organization. Changing circumstances can cause the board to modify its policies and expectations.

The board does not engage in micro-management. The board must choose what to put into policy and what not too. The organization must not tie itself up with numerous policies. The board always maintains the broadest decision level. Board committees are subsets of the board. Committees are used to research options for full board decisions or to carry out a delegated governance function in order to

improve efficiency. Decision-making authority rests with the full board. No element of the boards' job is determined by management. Board members are selected on the basis of competency in the long-term big picture. They govern _ they are not consultants for management.

Typically there are four categories of policies:

- Policies that direct the boards' internal operations. The board decides for itself how to do its job.
- Policies that direct how the board delegates responsibility and monitors performance.
- Policies that define what value the organization is to produce for the owners.
- Policies that set the ethics and risk boundaries on the organizations activities.

Members of the board bring their skills, knowledge, and experience to the organization. This is done within the context of the "one voice" _ advice may be given by a board member to management however management has the right to ignore directors speaking as individuals. Giving advice is a discretionary activity for board members it is not their main activity. Members of the board monitor and audit organization activities providing security, minimizing risk.

Members of the board often have a network of associates that they can contact for advice. Members of the board have the responsibility to transform each members skills, knowledge, and discipline into a group wisdom. The multiple viewpoints are valued with the caveat that members are always unanimous in their support of

a decision despite the diversity of viewpoints that were expressed in the discussion.

References and Further Reading

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Chapter Reports

New York Chapter

Marty Izaak

The new EMS Chapter of New York Section is off to a good start. We had a technical meeting on June 23 on the challenges of managing one of the most public mega projects ever on a historic site with multiple public and private stakeholders and on a fast track schedule. Mr. Anthony Cracchiolo, P.E., Director of Priority Capital Programs for the Port Authority of NY and NJ, who is leading the Port Authority's World Trade Center (WTC) Site Redevelopment Program, discussed the WTC planning and design to date, and the Port Authority's management strategy for implementation of the Phase I Redevelopment Program. On September 27, 2005, Joel P. Ettinger, Executive Director of New York Metropolitan Transportation Council will present "Transportation Planning in the Metropolitan New York - Why Should Engineers Care?" We are also planning an AdCom meeting in July, 2005.

Central Texas Chapter

Leslie Martinich

In Radical Innovation, a book co-authored by EMS Board of Governors member Lois Peters, the authors detail the importance of cross-discipline networking and collaboration. It is all too easy for very skilled and specialized engineers to become comfortable among colleagues in their own discipline, to the exclusion of others. Creative insights, however, often arise when ideas from multiple disciplines cross paths.

The Central Texas EMS Chapter supports collaborative cross-discipline efforts by demonstrating and modeling collaborative behavior. In September, the chapter will co-host a meeting with the Project Management Institute, Austin Chapter. Don Shafer, editor in chief of the IEEE Computer Society Press and an adjunct professor in software engineering at Texas State University will lead the discussion.

In January 2006, the chapter will begin a series of dinner lectures, co-sponsored by the Product Development and Management Association, on managing innovative product development and commercialization efforts. Participants will receive CEU credit and we will host distinguished speakers from academia and industry.

Engaging in collaborative efforts with other organizations from different disciplines will provide our members with opportunities for both learning and cross-pollination of ideas. We hope to help build skills and knowledge enabling our members to be more effective as engineering managers. Has your chapter undertaken similar programs? We welcome your ideas for supporting collaboration; send them to Leslie Martinich, lmartinich@ieee.org.

Germany Chapter

Gerald Anleitner

EMS-Germany meets in Hannover: an outreach effort in Germany's

north. On April 25th, EMS-Germany ExCom members Gerhard Seiler and Dirk Weidemann met with members of the Hannover area. Gerhard Seiler provided a presentation on "Cruise control - Managing Electronics on the Road". In his talk, Gerhard Seiler presented current and future trends in automotive electronics and stated critical factors regarding quality in this area of automotive design. In a second talk, Dirk Weidemann presented his view on "Transition of a Product Development Team into an IT consulting company". He presented experience regarding a transition project and related results and learnings. With this meeting, EMS-Germany tried to outreach to IEEE and EMS members in the northern part of Germany hoping to start interest for regular meetings of EMS also in this area.

IEEE MANCOM, Winnipeg Section

Anne Parker

As an amalgam of the education, management and communication chapters, MANCOM tries to offer a wide variety of events from which members can choose. We are currently working with a new affinity chapter, Women in Engineering, to see whether we can co-sponsor a distinguished lecturer, Celia Desmond. To date, we are still discussing possibilities, such as including Brandon and Thunder Bay (as well as Winnipeg) in the event; the goal is to have the event in the fall of 2005, so members should watch for updates.

MANCOM is also exploring the possibility of launching a web site so that the chapter can keep in touch more easily with members. Having links between the WIE and MANCOM chapters would also help to connect more members.

Another initiative that MANCOM will continue to support is its student awards. For two years now, we have been awarding student memberships in IEEE to 1st and 2nd year students in the Technical Communication program

at Red River College, and it has proven to be a worthwhile endeavor. This year's winners were Carolyn Walker (1st year) and Ben Davies (2nd year).

Finally, MANCOM also plans to participate in a joint conference with the local chapter of the Society for Technical Communication (STC) since the focus of the conference is education as well as communication. The conference will be held in April, 2006.

The Winnipeg Chapter's current newsletter is located at:
<http://xnet.rrc.mb.ca/alexac/Links/MANCOM%20newsletter.pdf>

Dallas Chapter

Bob Bishop

September 23, 2005; Emerging Engineering Management Trends and Issues with Dr. Larry Chasteen, Stephen F. Austin College, and Mr. Robert B. Bishop Jr., Texas Woman's University. October 21, 2005; Ms. Valerie Warm-Pelan, Integrated Focus, Inc.: How to be a Better Manager with Emotional Intelligence. Advanced exercises to prove to yourself, what really works. November 18, 2005; Presentation on the new video coding. How is the consumer benefiting with the newest cell phone video technologies!

Southeastern Michigan Section

Mark Ciechanowski, P.E.

Our June 28th meeting welcomed back Dennis Siemiet presenting "Personal Values and Company Values, Part II". Mr. Siemiet lead chapter members and guests through an informative discussion. We saw examples of how people make decisions based on their personal values, and explored what can happen when jobs conflict with those values. The conflict is usually not obvious, but warning signs of conflict are felt as stress. One can create a better awareness of conflicts by gaining a better understanding of oneself -- "know thyself". Citations from the books "Emotional Intelli-

gence" and "Now Discover Your Strengths" emphasize this principle.

Mr. Siemiet cautioned that we not label values as "good" or "bad". Instead, it is easier to understand and analyze the compatibility if we ignore our judgments and simply compare other's values to our own. The compatibility of the employee's core values with the company core values is critical to the performance of the company and the well-being of the employee. However, there is frequently an underlying personality and core values that are frequently not discussed and are different from what is in the mission statement. Mr. Siemiet proposed that company values are often dictated solely by the person that determines the spending budgets. This presentation surfaced many comments and questions from the attendees, and everyone was engaged in the discussion. We are looking forward to many more presentations like this one. Dennis Siemiet is an engineering manager with over 30 years of experience in automotive and defense industries. He currently holds the volunteer position of Chapter Secretary/Treasurer. Our upcoming events include another seminar on Tuesday, August 2nd 6pm at the West Bloomfield Township Public Library. On Wednesday, November 9, 2005 5:30pm we will host a speaker at our Fall Section Conference and Dinner at Fairlane Center, University of Michigan-Dearborn.

Benelux Chapter

Robert Bierwold and Bart Meijer

Through connection with our German chapter of EMS, the Benelux chapter is organizing technical meeting around the subject "Impact of Time Pressure on Teams in New Product Development". September 20th 2005, at Technische Universiteit Eindhoven. The meeting is triggered by a session held in Munich by Darrel Chong, who is working towards his PhD in a research project of the National University of Singapore (NUS) and the Technische Universiteit Eindhoven (TU/e).

Darrel Chong references in his presentation, Mr. Martin McCourt, CEO of Dyson Ltd conveyed at the International Engineering Management Conference in 2004 that Dyson Ltd. is focusing and investing in developing new products to achieve their company's long term goals. Organizations operating in high-growth markets, like Dyson, essentially have to compete on time. Time plays a crucial role in these firms. However, how fast can product development get given that speed unavoidably induces time pressure on its teams? Studies have found that time pressure has myriad effects on the team processes; in particular the way team members share information. Given that communication is a key driver of new product development success, how does time pressure impact team communication to affect new product development perfor-

mance is a question of great importance to managers.

Whilst Darrel's presentation was the trigger we will augment it with presentations from both other industry practice and university research:

- Paul Heslen and Ronnie van Dortmund from Siemens VDO on a strongly related subject: "The Theory of Constraints – Critical Chain" as being a much used method within the Siemens VDO group. The presentation will touch subjects as project buffers and feeding buffers, critical chain and critical path and how to schedule and the application of the theory.
- Bart Meijer from Technische Universiteit Delft on "Time Pressure in Product Development – A Blessing in Disguise"; If the demand for

increased productivity sustains, then we approach the point where small and incremental changes or personal investments cannot deliver the desired performance. We need to reconsider our ways of working and the tools we work with. This type of process innovation and organizational change often brings many new and often unforeseen business opportunities. This is time-pressure's blessing in disguise.

Members are invited to become part of the chapter management. Whereas due to the economic downturn business priorities may have changed, the need to network with your fellow practitioners increases. All members are cordially invited to submit their suggestions and/or to step forward to become member of the chapter management team and help us organize interesting events for our members.

Project Management: Key Tool for Implementing Strategy

by

Andrew Longman and Jim Mullins

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Way back in the dark ages, let's say from the 1960s to the mid '90s, strategy was promoted as big-picture thinking: the "vision thing," in George Bush, Sr.'s words. But as organizations did away with strategic planning departments and put the onus for strategy on line management, and as frustration mounted with "visioning" exercises that wound up in desk drawers, the interest in strategy has moved to the question: How can we get strategy to drive operations? The feeling now is that big-picture is important, but it will remain just a vision unless it is implemented.

Any strategy formulation session worth its salt ultimately distills vision into critical business issues, and, if the

organization is really serious, these issues then get translated into projects, with discrete deliverables and back-up plans. Project management is a discipline that often gets overlooked when attempting to move strategy from the boardroom to back offices and the marketplace.

In working with organizations both large and small, in the public and private sector, in the U.S. and offshore, in manufacturing sites and corporate headquarters, and in strategic and operational project situations, we have found that there are seven conditions that are essential for project success. These conditions apply both to all projects, whether related to top-level strategic business issues or operational ones. Perform poorly against even one

of these conditions, and you risk shelving your strategy, however brilliantly formulated it may be.

Seven Basic Conditions for Success

1. Make a compelling business case for project management.

All too often, project teams are asked to carry out their work in a vacuum. They are told what must be done, but not why. Not knowing how their efforts will help achieve the organization's strategic goals or what impact they will have on the bottom line typically breeds the "this too shall pass" syndrome. Not surprisingly, many teams lack the motivation to stick with it, losing oomph long before the project is completed.

To convert intent into the will to win, project leaders and their managers need to communicate clearly to each team member, at the beginning of every new project, the value the project is expected to add to the organization. How will the successful completion of the project directly advance strategic and operational goals? Will market share, margins, and/or the size of the market be increased? Will time and the cost of doing business be decreased? Will paperwork be reduced, red tape slashed, or internal communication made easier? The team also needs to be made aware, from the outset, of the measures and standards that will be used to judge success—not only at the project's completion, but throughout the project management process.

Once the team understands the value of the project, team members must be sold on the value of the project management process. In other words, they need to know the answer to the time-honored WIFM question: What's in it for me? How will following this process used to manage the project make my job easier and add value to it?

Here is one way to demonstrate convincingly the importance of following a common, codified process: Compare the results of past projects—those where the process was followed and those where teams “freelanced”—and then go public with the findings. This should be relatively easy to do, given the project management requirement for documentation. It becomes easy to see—and share—the advantages: the deadlines met, the time and money saved, the ending of turf wars, and the elimination of frustrating bottlenecks.

2. Make project management practical, relevant, and beneficial from day one.

Project management is often associated with technical tools and software. The vaunted Project Management Body of Knowledge (PMBOK) contains a wealth of literature and training material, dealing with every aspect of project management: from scope

control to financial management, from estimating to team building, from communication to contracting, and more. These materials contain many of the lessons learned by project teams over the past few decades. They also provide detailed, step-by-step guidance through the project management process.

Unfortunately, much of the existing material is far too technical for the novice project leader and team. To many, following each and every step in the process seems tedious, and the benefits don't appear to justify the investment of time and energy. And, as good as the training materials may be, learning the concepts from a book or in a classroom doesn't guarantee that people will be motivated or able to use them on the job.

Effective project management tools are not a replacement for sound judgment by project managers. A key role of the project manager is guiding the use of the concepts so they help rather than hinder the team's progress. Before getting down to work, each member of the project team needs to agree that the process they will be following is realistic and practical. In particular, they need to know the intent of the concepts and tools well enough to know how much of each to apply.

3. Make project management an adventure in learning by doing.

Some graduates of project management training embrace—even zealously adopt—sound project management methods on their own. But don't count on it. By the time learners return to work, even a minor misunderstanding of the project management process or the press of business may cause them to revert to the tried and true.

This puts a premium on building bridges to on-the-job use. We recommend providing learners with venues for applying their newly acquired skills and, just as importantly, supporting them with expert coaching and feedback delivered in real time and at

the moment of application truth. This combination will help internalize the learning and drive continued use.

And consider this added bonus: If the project is strategic in nature, then that venue becomes not only an opportunity for practicing project management skills, but also an occasion to hone the strategic skills of future organization leaders.

4. Make systems and procedures project management friendly.

Ideally, the process for conceptualizing, approving, initiating, sourcing, implementing, and closing projects is documented and visible. In addition, it is supported by procedures, forms, workflows, and organizational structure that remove all ambiguity about how project work gets done. And information systems and reporting compare actual project performance to expectations.

Communicating the rationale behind project definition, planning, and implementation is fundamental to the successful use of project management. Explaining the “why” behind each step, along with the rationale for supporting systems and procedures—and then testing understanding—is key to project management success.

5. Make project management a win for both project team members and those who manage them.

People tend to follow the path of least resistance. For a graduate of project management training to actually apply what he or she has learned, using the concepts must not add more work or consume more time than the person's previous approach. Unless the process is perceived as an improvement over previous work methods, people will soon revert to their old, comfortable ways.

People also need positive reinforcement. The organization needs to offer rewards and recognition—financial or otherwise—for the use of project management concepts. People should be rewarded both for their contribu-

tion to project outcomes and for how they contributed. Those to whom project managers report need be rewarded for the coaching, support, and oversight that they provide; they need to be held accountable and rewarded for the success of their project managers.

6. Make project management a continuous learning experience.

Projects are incubators for the development of future leaders, especially when these projects have strategic implications. Experience on a project team often tests a variety of skills and behaviors, from hygiene factors such as the ability to work gracefully under pressure and manage conflict to the ability to deliver results on time and within budget. Projects also allow an organization to gradually up the performance ante for high-potential employees, testing their mettle against projects of increasing complexity and risk.

But project experience per se does not build capabilities. After all, merely repeating the same experience time and again leaves you with just one experience! One way to avoid the stunted-development trap is to practice destructive questioning. Do this by ending every project with a tough-minded self-appraisal: What was done well? What was done poorly? What are the lessons to be learned? What strengths and weaknesses can be identified? How can the strengths be exploited and the weaknesses corrected? What should we do differently next time around? The answers may lead to targeting a specific project opportunity; reveal a mentoring, coaching, or training need; or indicate a need to shift responsibilities on future projects.

Whatever the answers, the point is clear. Every project should be a platform for learning and growth.

7. Make success public.

Continued success requires going back often to the reasons the organization felt a need to improve its project management practices. How are pro-

jects helping meet the need? What standards are still not being met? How has the need changed? How can the current approach be improved?

Making the answers to these questions visible and communicating them widely makes it clear that the organization is serious about project management and provides reinforcement for use of the concepts. It also helps sway the fence sitters who have been resistant to change. The ultimate message is broadcast clearly: "The way things get done around here has changed forever."

What Do We Mean by Installing Project Management?

"Installation" is one of those words that is subject to a variety of interpretations. By installation we do not necessarily mean big-bang change, the type usually accompanied by wall posters, rah-rahs, and an organization-wide baptism in skills training. True, it is necessary to develop skills and inform people about new practices, but bringing about lasting change requires looking at the organization holistically.

Organizations are complex entities that operate smoothly only when all their elements work together to produce results. In order to achieve the seven conditions for project success, senior management needs to ensure that each of the following elements is aligned and integrated into a coherent framework for project management:

Strategy: An organization's strategy should provide the boundaries for projects; goals and results must flow from an organization's future direction. Before deciding to embark on a new project, and when communicating the goals of that project to the project team, senior management must provide clear answers to the following questions: What are the organization's products and services? Who are its customers and markets? What is its competitive advantage? How will this

particular project support the achievement of its strategy?

The best project management organizations have a clear, well-communicated strategy and know how each project supports it. Installing effective project management includes putting in place a mechanism to evaluate every project for its fit with the strategy prior to implementation. This needs to occur very early in the game, during project definition, if at all possible.

In most organizations, responsibility for this strategic evaluation, or screening, lies with the senior management team: the CEO and his or her direct reports, or an executive committee made up of several top managers. As each proposed project is reviewed, this group asks questions such as: How does this project support our future thrust for business development? How does it fit into our current and future scope of products and markets? How is it related to our key capability requirements, our financial and growth expectations, and our cost constrictions? If the answers to these questions indicate that a project is not a good strategic fit, this needs to be communicated to the project's supporters before any more resources are expended. it.

In some organizations, the Project Management Office is charged with ruling on the strategic fit of projects. This is only possible when the company's strategy has been carefully formulated and clearly communicated from the top down, so that the previous questions can be answered by the Project Management Office. And, in cases where it is unclear whether or not a project is aligned with the organization's strategic goals, the Project Management Office needs to check with senior management before approving it.

Even if the unit in which the project is being undertaken is part of a larger organization and its customers internal, it is essential to know how it adds

value to the overall business strategy and how the project advances the value equation.

Goals: Effective project organizations know which operational goals make a difference in the business strategy and then install methods for keeping these visible to all. At the beginning of a project, senior management needs to agree on, and communicate to the project team, answers to these questions: What are the organization's long- and short-term operational plans and budgets? How does this project fit into or support these? Answers may include targets related to revenue, profit, costs, cash flow, return, brand equity, customer satisfaction and retention, time to market, innovation, efficiency, output, and quality.

Once the project is under way, progress against these goals needs to be evaluated and communicated on an ongoing basis. In some companies, this information is displayed prominently on a "dashboard," keeping critical issues in everyone's sights and ensuring that resources are directed to the areas where they are most needed.

Leadership: By directing the selection and overseeing the management of projects, the top-management team is able to keep a tight rein on the organization's project portfolio. On the other hand, moving some of this responsibility down in the organization, to a Project Management Office, frees up senior management for more strategic tasks and gives those closest to the action more power.

Each organization must decide for itself how to strike the right balance between control and agility. Whichever method an organization chooses, it will not bring lasting and deep benefits unless it is visible and consistent. The moment projects are initiated outside the system or justified by fuzzy or mysterious criteria, people will drift to informal, random, behind-the-scenes, and/or political methods that undermine the system and the organization's goals.

Business Processes: Within an organization, the systems used to gather, analyze, and disseminate information must support project-based work. This is true whether the projects are external (e.g., a service that a construction or IT company offers to its customers in the marketplace) or internal (e.g., the installation by an organization of new machinery or a new inventory system to improve its own operations). In the first case, tracking the resources spend on any one project is relatively easy, but even then the hand-offs between functions need to be clearly delineated and readily adaptable to the uniqueness of any given project.

In the case of internal projects, however, information is not usually dealt with on a project basis. Instead, systems are set up to capture and disseminate information by function: the cost of computer hardware and software, labor, raw materials, travel, etc. It is up to the project manager to break these functional costs down in order to ascertain how much has been spent on his or her project. This is easier said than done, however, since functional and project tracking systems are usually out of phase. For example, employees may work on several projects in any one month but then turn in their timesheets to their functional supervisor, not to the project managers. The former must tally up the time spent by each person on each project, then relay it to the respective project managers—creating a time lag that decreases the usefulness of the projects managers' data. In such cases, systems need to be redesigned to ensure that project managers receive relevant data on a timely basis.

Human Capabilities: It's a truism that effective project management requires the right people, with the right skills. Some people are just not suited to the challenges of project management; they do not thrive in the inherently ambiguous and give-and-take environment of projects. Others blossom in it; they love the challenge of working toward a goal

and being part of a project team; they love the unique new challenge that each project brings. Such people are motivated by the opportunity to learn. A key skill needed by those who are installing project management is the ability to identify—and to hire and retain—those individuals who are best suited for project work.

But being suited to project management is only part of the equation: As we discussed earlier, the capabilities of team members need to be continuously evaluated. Each project should enhance existing capabilities and provide new development opportunities in areas such as leadership, problem solving and decision making, human performance management, communication, portfolio management, cost accounting, and contracts.

Culture and performance system: An organization's culture consists of its norms, values, and beliefs. These may be explicitly expressed; often they remain hidden and form part of the implicit context of organization life that can exercise a gravitational pull on decision making. Unless an organization demonstrates visible, unreserved commitment to sound project management practices, the chances are project management will be viewed as just another activity. The successful installation of project management depends on an organization's explicit belief that how projects are managed is just as important as what they achieve.

Since managing projects is a team sport, employees in effective organizations not only use the project management concepts themselves but also support others' efforts to do so. Internal project management experts—call them project management black-belts—provide both positive feedback for successful use of the concepts and coaching when team members are having difficulty applying their new-found knowledge. Project management becomes "the way we do business around here."

Let's face it, motivation and the rewards that drive it are a private

affair. For some, formal, public recognition works best. Others are more financially driven. Still others are “stroke” oriented: positive feedback delivered personally and privately by creates an emotional and performance “high.” A relatively small number need no external recognition: The satisfaction of applying a new skill is their primary driver. Effective project managers know what motivates each member of the team and reward success accordingly.

Information and business systems: Systems and procedures are channels for the repetitive, functional aspects of the business but, at best, do not support project work and, at worst, impede it.

For example, financial systems tend to lend themselves to reporting, say, capital consumption, but may be less effective in capturing the “burn” of projects. Procurement procedures may work well to track and control purchases, but they are less likely to sync with the typical stages of project approval or predict cash flows for project work that has been completed but not yet reported. Time reporting has long been useful in capturing individual activity but not who may have worked on which project—and it may not be timely enough to serve as a useful management tool. Over the past five-or-so years, project management software has become a superlative tool for organizing and representing project information, but it has its limitations. For one, it is not a substitute for project management skills and the judgment required to apply them. And project management software is often deployed as an isolated tool, dissociated from the organization’s other information systems.

The best way to integrate and align new systems and procedures into the business life of an organization is to make them relevant to the way business is conducted, which means they must prove value added, just as every other project is expected to do. In other words, they must address: What

value should this project create? What resources will it require? Who will do what, when? How will risk be managed? How does the project compare to expectations? And what have we learned?

Issue resolution systems: Projects are usually initiated to resolve an issue. Projects produce countless issues to be clarified, decisions to be made, risks to be avoided, and problems to solve. The best project organizations know how to quickly assign ownership of an issue to a project team have it move smartly to analyze the issue using agreed-on problem-solving, decision-making, or planning methods, and then move to resolution, thereby avoiding the proliferation of “gray beards”—projects that hang around forever and dull an organization’s competitive edge.

Since projects are often initiated to meet a one-time need and frequently cut across the organization, existing chain-of-command and escalation processes may not apply to them. It is important, therefore, that the organizational structure, project governance, and/or individual project ground rules make clear the ground rules, what the project team is responsible for and authorized to do, how decisions will be made within the team, and what will be the expectations regarding buy-ins and hand-offs.

Team structure: There is no one best way to structure project teams. Installing project management requires matching the team structure to the project and to the other needs of the business.

Several options exist for organizing people for project work. One common approach is matrixing, where reporting responsibility is divided between project and functional managers. One caveat: As “slaves to two masters,” project resources may develop divided loyalties, and rivalry between the project and functional manager may erupt into open warfare. Intact project teams that move together

er from one project to the next are another option. This structure tends to build high-performing teams that greatly leverage lessons learned from previous projects, but it may not be the most efficient deployment of the organization’s resources. It may also limit the speed and depth of team members’ personal development by limiting the opportunities that they receive.

The central pool is another common approach; here, resources are on call to meet demand. This affords the greatest efficiency, gives the greatest range of development opportunities, and fits well with the use of temporary and contract resources. But it also requires a strong scheduling function, with the authority to stand up to demands for specific resources. Nor does it work well if the bulk of the organization’s work consists of non-project, functional tasks.

Whichever team structure an organization chooses, it is critical that changes be made carefully to avoid disrupting work in progress and to give the people involved time to understand the change and become comfortable with it. Serious consideration and care must also be given to those who might not fit into a new structure.

External Factors: Installing project management implies emphasis on the internal workings of the organization, but external factors are also at play. Certain customers and markets may demand that projects be conducted in a special way. In the case of external projects—those with a mission that takes them beyond organizational boundaries—this may require changes in the way the projects are sold, delivered, or reported on. For internal projects, one of the biggest challenges is gaining and sustaining organizational commitment to the project: competing external customer and market demands have a way of preempting attention and resources.

In today’s dog-eat-dog environment, competitive advantage must be

extracted from everything an organization touches and does. Remember that superior project management skills and the innovative practices, processes, and products they spawn can be an important competitive differentiator. Top management needs to continually benchmark the organization's skills in this area against those of the competition and make whatever investment it needs to keep pace.

Government regulations must also be factored into the organization's project management process. They may require that work be conducted or documented in a certain way; they may impose procurement and bidding constraints. Laws and regulations may even routinely add work that must be integrated into the scope of your projects.

Vendors and suppliers need to be aligned to support project work. The right materials—whether raw materials arriving at the dock or just-in-

time information from external sources—must show up at the moment of need. Contracts and procurement processes need to be aligned with project schedules, and rewards must follow both supplier and buyer performance.

The future, by definition, is determinate, which means that no organization possesses all the capabilities it will need to face the challenges that lie ahead. But steps can be taken to prepare for the unpredictable. For example, careful succession planning and continuous training and development of future project managers will ensure that the requisite talent will always be on tap to tackle new projects as they arise. In this, Human Resources plays a key role. As organizations reach out to confront the future, human resource professionals must be acutely aware of the new skills that upcoming projects may require and the new opportunities these present to green the next generation of leaders.

A Final Word on Project Management

Project management requires deliberate planning and action to create the conditions for success and put in place the strategy, leadership, goals, process, skills, systems, issue resolution, and structure to direct and exploit the dynamic nature of project work. If work today is done through projects, as is surely the case, then working smarter on projects will undoubtedly enable an organization to meet, head-on, whatever strategic and operational challenges may come its way.

Kepner-Tregoe, Inc. is a management consulting firm with international headquarters in Princeton, New Jersey, specializing in strategic and operational decision making and project management. Andrew Longman is a partner in Kepner-Tregoe and director of marketing and product development. Jim Mullins is a senior consultant with the firm. The authors can be reached by e-mail to: alongman@kepner-tregoe.com.

CALL FOR ARTICLES

Special issue of IEEE Transactions on Professional Communication to focus on Examining International Outsourcing: Perspectives, Practices, and Projections

Guest Editor:

Kirk St. Amant

Texas Tech University

Department of English

Deadline for Abstracts: October 1, 2005

International outsourcing (or offshoring) has become a topic of increased interest and concern, primarily because of the effects it is having on the nature of knowledge-based work. While a great deal has been written on the effects of international outsourcing in relation to the information technology (IT) and the customer service industries, relatively little has been published on the effects international outsourcing is having on professional communication. Similarly, relatively little has been written on how

international outsourcing practices might change the nature of specific technical communication practices or change the field in general. Such perspectives, however, are essential to technical communicators who must re-think the nature of their jobs in an age of global business practices. Additionally, such perspectives are important for educators who train the technical communicators of tomorrow.

This special issue will examine how international outsourcing is affecting

professional and educational practices in technical communication and how international outsourcing could shape future practices in both areas.

TOPICS

Topics of interest for this special issue include, but are not limited to, the following:

- Which technical fields seem poised to engage in large-scale international outsourcing in the future? What implications will such out-

sourcing have for technical communicators working in related industries?

- What technical communication tasks or practices are particularly susceptible to international outsourcing?
- What lessons can technical communicators learn from how international outsourcing has affected other professional fields?
- Which nations seem poised to become international outsourcing providers for technical communication tasks? How well prepared are workers in those nations to perform such tasks?
- How have international outsourcing practices in other fields shaped the ways in which technical communicators interact with SMEs in different nations?
- What technology developments can facilitate the international outsourcing of technical communication practices? What developments could affect how technical communicators interact with SMEs located in other nations?
- Which international legal factors affect international outsourcing practices? How do technical communicators fit into that legal framework?
- How should educational practices

change to train technical communicators to work effectively in an environment of international outsourcing?

- What implications does online education have for the training of technical communicators in other nations? How might such situations affect the outsourcing of technical communication practices?

SUBMISSIONS

Please email abstracts (200-500 words) to Kirk St.Amant at kirk.st-amant@ttu.edu

Please include the following information in your abstract:

- Title of the proposed article
- Name, institutional affiliation, and contact information for author(s)
- Overview of proposed article topic
- Discussion of the contribution this article will make to research, teaching, or other professional practices in the field of technical communication

TIMELINE

Abstracts due: October 1, 2005

Invitation to submit full papers for peer review: October 15, 2005

Full papers due: December 15, 2005

Note: The invitation to submit full papers for review does not mean a

paper has been accepted for publication. Rather, all full papers will undergo a peer review process, the results of which will be used to determine if the paper will be published in this special issue of the IEEE Transactions on Professional Communication.

QUESTIONS

Questions should be emailed to the Kirk St.Amant at kirk.st-amant@ttu.edu, and prospective contributors are welcome to contact the guest editor to discuss prospective topics for an article.

Engineering Institute of Canada Climate Change Technology Conference

To deal with the need to mitigate against and adapt to the negative effects of climate change, and recognizing that such is the role of engineering, a second Call for Papers and Presentations has been issued with a deadline of September 30, 2005. The response to the first call has been outstanding and we look forward to receiving even more excellent proposals. The Conference Climate Change Technology – Engineering Opportunities and challenges in the 21st century will be held at the Ottawa Congress center May 9-12, 2006. For further information please visit www.CCC2006.ca

John Grefford, Chair Organizing Committee.

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Information – One Key to Your Professional and Personal Success

Terrance Malkinson

The IEEE and its predecessors, the AIEE (American Institute of Electrical Engineers) and the IRE (Institute of Radio Engineers), date to 1884. One of the major value-adds of belonging to the IEEE and joining one or more of its constituent societies is the

wealth of information resources available to you to advance your career. Another is the opportunity we provide you to publish information that you may wish to share with others. The home page of the IEEE is the place to start <http://www.ieee.org/portal/site>

Whether networking with other members at conferences; locating a source of authority to answer a question; or perhaps as a forum for discussion _ everyone benefits. More than 365,000 members in over 150 countries (almost 40 percent of whom are

from outside the United States), are your colleagues. There are over 68,000 student members.

The Institute is the world's largest publisher of technical information producing 30 percent of the world's published literature in electrical and electronics engineering, and computer science areas. As of January 2005, there were more than 1.1 million documents in the IEEE/IEE Electronic Library. Visit IEEE Xplore(R) . The IEEE publishes a total of 128 transactions, journals and magazines. The IEEE sponsors more than 300 conferences each year. There is much more.

One source of information I would like to highlight in this issue of your EMS newsletter is IEEE-USA Today's Engineer (www.todaysengineer.org). This is a monthly webzine devoted to the issues affecting U.S. IEEE members' careers, such as professionalism, management skills, engineering performance, engineering skills and competencies, product development practices, project management issues, innovation and entrepreneurship, business practices.

Additionally, Today's Engineer now includes content formerly published in IEEE-USA Policy Perspectives, including articles and commentary on the topics that are shaping legislation, the technology workplace, and the engineering world. Although published by IEEE-USA most all articles are of interest to readers globally.

Today's Engineer strives to provide insights into both hemispheres of IEEE-USA's operations — building careers and shaping public policy.

What you will see is a collaborative effort between IEEE volunteers, staff, consultants and freelancers. We hope

you enjoy what you read here and, more importantly, take something with you that will enhance your careers and personal lives. The content is updated monthly. Past articles are available in the linked archives. The editorial staff welcomes your submissions for publication. We will work with you to develop an idea and provide constructive feedback on your manuscript.

Today's Engineer is making an impact world-wide as demonstrated by the steady increase in usage statistics. Once example of this is an article published in August 2005 about U.S. Cybersecurity. www.todaysengineer.org/2005/Aug/cybersecurity.asp

United States Facing Cyber Security Crisis, Experts Tell Capitol Hill Briefing, As IEEE-USA Prepares New Position Statement
by Barton Reppert

This article has been covered by UPI (United Press International) and consequently written about in numerous publications around the world. Within a month of publication this totals 21 major publications. A news release issued to the media related to this 1800 word article follows:

“Our nations information technology infrastructure, which includes air traffic control systems, power grids, financial systems, and military intelligence cyber networks, is highly vulnerable to terrorist and criminal attacks, according to an article in the August issue of IEEE-USA Today's Engineer.

“The country's problem with cyber security is very serious, and is going to get worse in the next five years before it gets any better,” IEEE-USA Research & Development Policy Committee Chair Cliff Lau told Today's Engineer. “I would say the sit-

uation is not only alarming, but is almost out of control.”

Author Barton Reppert, who interviewed two members of the President's Information Technology Advisory Committee (PITAC), notes that 100,000 known viruses and worms exist, and that some major end-users are throwing out infected systems rather than trying to fix them. Nevertheless, according to PITAC, there is little federal budgetary support for fundamental research to address the security vulnerabilities of the civilian IT infrastructure, including defense systems “

Although this article focuses on the United States; Cyber security is a world-wide issue and consequently the information provided is valuable to citizens of all countries. Read the PITAC report online at: www.nitrd.gov/pitac/reports/20050301_cybersecurity/cybersecurity.pdf

The Author Barton Reppert is a freelance science and technology writer specializing in S&T policy coverage. He previously worked for 18 years as a reporter and editor with The Associated Press in Washington, New York and Moscow.

This informational article is but one of many available to you and provided by your institute in its role as a source of learning and sharing information. While it is said by many “Why join the IEEE as I can access much of the information anyway at no cost?” the reality is that there is much more that is accessible only to members. The cost of membership in the IEEE is reasonable and the benefits to be gained immense.

As mentioned earlier we welcome your submissions for publication in your EMS newsletter _ Engineering Management, Today's Engineer or any of the other IEEE publications.

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Your Board serves the interests of the Society and promotes Excellence in Engineering Management. The EMS Board needs your input to help determine if the Society meets your needs. Please contact any Board member for additional information, for expressing opinions, or raising issues that need to be addressed by the Society.

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Newsletter Deadlines

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First Quarter	15 January
Second Quarter	1 April
Third Quarter	1 July
Fourth Quarter	1 October
Terrance J. Malkinson, Editor <malkinst@telus.net>	
Paul Doto, IEEE Newsletter Coordinator <p.doto@ieee.org>	

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