



ELECTRICAL ENGINEER AS MANAGER

Uma.K.Solaiyappan

Assistant Professor, Dept of Management Studies
Karpaga Vinayaga College of Engineering and Technology
vrsomadlg@gmail.com

Abstract-People are responsible for directing the efforts aimed at helping organizational goal achievement in which managers are playing the most effective role. When an engineer occupies the place means it will be more effective than an ordinary manager in that particular area of management. When a engineer performs the operations of planning, organizing, directing and controlling the allocation of men, material, money, satisfying the market, methodology and information resources in pursuit of the organization's goal will have a fast reach because of efficiency, perfection in technology and achieving quality in a quantum of different discipline in engineering total accuracy is expected in electrical engineering field. Presently we through this paper are going to speak about the "Electrical Engineers as Manager".

Key Words: Savior, Bureaucratic Servants, enablers and catalyst, entrusted

1. INTRODUCTION

Under general direction, plans, organizes, oversees, coordinates, and reviews the work of professional, technical, and administrative staff performing difficult and complex support related to all programs and activities of the Public Works Department; manages the effective use of the City's engineering resources to improve organizational productivity and customer service provides highly complex and responsible support to the City Engineer in areas of expertise and performance related work as required. The General Manager shall be chosen solely on the basis of the person's management and administrative qualifications with special reference to the person's actual experience or his/her own knowledge of the duties in the work spot. There are managers in every profession – it is not a standalone field for those of us who become managers. We reach a stage in our career management responsibilities. progress in where we apply for roles which have We then need to build our

managerial experience and gain the knowledge and skills to enable us to carry out the needed efficiency of the role effectively.

This is a middle-management classification that manages System, Design & Operations, Construction Services and Engineering Supportive activities, including project/program initiation, planning, execution, monitoring and control, and close-out. Responsibilities include performing diverse, specialized, and complex work involving significant accountability and decision-making responsibility. This position will organize and oversee day-to-day activities and are responsible for providing professional-level support to the City Engineer in a variety of areas. Successful performance of the work requires an extensive professional background as well as skill in coordinating departmental work.

Positions in this job family are assigned responsibility for overall management of a staff of engineers, technicians and other personnel who are responsible for providing engineering expertise, guidance and technical assistance to state agencies, consultants and the public. They are differentiated from lower levels in the Professional Engineer job family in that their focus is on broader supervisory and management issues including planning, organizing, and integrating the functions that report to them. People-focused technical sales professional who provides technical direction and business guidance to the engineering team.

2. COMPARISON OF MANAGER VS ENGINEER MANAGER

Manager need not to be an engineer but engineer Manager should complete any specialization degree.



Manager can come from lower level to achieve higher position meanwhile engineer will join in the middle management of the institution.

Technical knowledge of manager is not compulsory but engineer manager must be technically good, innovative and proving in the needed situation.

Whenever there is emergency manager has to wait for a technically skilled hand. But a engineer manager need not to wait for an expert because he is expected to do by himself.

A promoted manager can say no to certain areas whereas an engineer manager can't say "no", because the society will expect from him only "Yes".

Management's expectation in comparison with manager is more from an engineer manager.

When chased by a bear, managers want to run faster than the bear; engineers want to run faster than you. This is known as "the best vs. the good enough", and is a very common theme. For instance, company A releases a good enough technology; company B releases the best technology on the market. B fails and A succeeds, because A releases earlier, or because A's technology is more compatible with the status quo, etc. Engineers will commonly feel sympathy for B, managers will applaud the shrewdness of A.

It's a common story and an interesting angle, but the "best vs good enough" formulation misses something. It sounds as if there's a road towards "the best" - towards 100%. Engineers want to keep going until they actually reach 100% and managers force them to quit at 70%: make However, frequently the road towards "the best" looks completely different from the road to "the good enough" from the very beginning.

The different goals of engineers and managers their thinking work in different directions. A simple example will illustrate this difference. Suppose there's a bunch of computers where people can run stuff. Some system is needed to decide who runs what, when and

where. What to do?An engineer will want to keep as many computers occupied at every moment as possible - otherwise they're wasted. A manager will want to give each team as few computers as absolutely necessary - otherwise they're wasted.The manager's solution requires no programming or installation and trivial administration. The engineer's solution yields ~100% utilization, the manager's 70%, 50%, 30% or 10%, depending.

3.RESPONSIBILITIES OF ENGINEER MANAGER

Build and Hire a professional Systems Engineering organization. Build the engineering structure to scale and grow with the strategy of the company.

Work jointly with the sales organization to create a territory plan utilizing feedback and adding own knowledge of local market demand. Create a technical resource plan by vertical and technology. Collaborate with Sales VP to prioritize and target team opportunities; Understand mechanisms for building team capacity and improving team performance. Align resources to deliver on commitments. Lead team to technical account strategies that align to customer business requirements and goals; assign resources appropriately Monitor and approve requests for customer-focused pre-sales and post sales resources.

Assist in determining domain/solution-focused resources and understanding and developing requests for these resources Provide timely and appropriate feedback that focuses on those things that will make the biggest difference in performance; reinforces efforts and progress Track and report team metrics for a given opportunity Understanding how to make money selling Professional services is a must!

Advanced understanding of internetworking industry trends, including new products and solutions. Advanced understanding of competitive product and solution landscape and can articulate trade-offs between various competitive products Excellent knowledge in Routing, Switching, Unified Communications, Security and Wireless Develop team members' capabilities in

support of individual career goals and team objectives Understand basics of managing technical people and the associated process of running a business Understand the value of best practices and apply best practices and other tools to drive business results. Communicate a clear vision and strategy for the account that inspires and empowers the team to execute within a common framework Able to get things done without direct line authority; able to exercise personal influence, resolve conflict, and bring about required behaviors

Translate High Point's vision for the future into a compelling value proposition for the team .Build the capabilities needed to deliver on the team's short and long term goal, including identification and development of a strong pipeline of the best talent from both internal and external candidate pools .Clearly and succinctly convey information and ideas, including expert executive communication and presentation skills.

4. ROLES OF ENGINEER MANAGER

A engineer generally will be acting as a Savior to the people who are around him. It is believed that engineers hold the key for any improvements in Society through technological developments.

Engineers as Guardians:

Engineers know the direction in which technology should develop and the speed at which it should move. Thus many people agree the role of engineers as guardians, as engineers guard the best interest of society.

Engineers as Bureaucratic Servants:

The engineer's role in the management is to be the servant who receives and translates the directives of management into solid accomplishments.

Engineers as social servants:

As we know, engineers have to play the role of social servants to receive societies directives and to satisfy society's desires.

Engineers as social enablers and catalyst:

Besides merely practicing the managements' directives, the engineers have to play a role of creating a better

society. Also they should acts as catalysts for making social changes.

Engineers as Game players:

In actual practice, engineers are neither servants or masters of anyone. In fact, they play the economic game rules, which may be effective at a given time.

Engineers as legal witness:

In the court of law any witness given by an engineer will have more value than others.

Besides the above he has to do all the work assigned to him like an ordinary manager like:

- Objective based person
- Decision making
- Informing the duties and responsibilities
- Taking authority and responsibilities.
- Reporting to higher official
- Monitoring the area entrusted to him
- Supervising the work completion
- Maintaining the skill
- Updating the knowledge
- Keeping the attitude to update the new technology
- Maintain quality
- Performance oriented
- Target achiever
- Goal achiever
- Maintaining status of self and the organization.

5. PART PLAYED BY ELECTRICAL ENGINEER AS ENGINEER MANAGER

The compilation of information contained in this document relies upon material and data derived from a number of third party sources and is intended as a guide only in devising risk and safety management systems for the working of mines and is not designed to replace or be used instead of an appropriately designed safety management plan for each individual mine. Users should rely on their own advice, skills and experience in applying risk and safety management systems in individual workplaces.

Engineer manger should always verify historical material by making and relying upon their own separate inquiries

prior to making any important decisions or taking any action on the basis of this information.

Electrical installations at mines are generally more complex than those found in most business and residential installations, also the mining industry is increasing the consumption of electricity and its use of electrical technology with consequent increases in size (power rating) and complexity. With this comes a changing risk profile. To adequately manage the safety risks posed by electrical equipment and technology the hazards, risks and risk controls need to be thoroughly understood. This understanding must be at an engineering level hence mine Electrical Engineering Management Plans are required to be designed, by the persons of Electrical Engineering who is a qualified electrical engineer with relevant experience in the mining industry, the requirements as outlined below

For an underground mine it is expected the Manager of Electrical Engineering being a person who holds a certificate of competence to be a mine electrical engineer would be responsible for development, periodic review and day to day implementation of the Electrical Engineering Management Plan.

For open cut and processing plant operations it is expected that a qualified electrical engineer being an electrical engineer with mining electrical engineering qualifications (Mine electrical engineers certificate of competence) or an electrical engineer with qualifications suitable for registration by the Institution of Engineers Australia will be responsible for the day to day implementation of the Electrical Engineering Management.

Much corporate management prefer electrical engineers as their managers because they believe that; to manage technological corporation the technical understanding is necessary in all aspects. The electrical engineers have the potential of understanding the business techniques of any corporate bodies. Also it is easier to teach business techniques to them than to teach others.

Electrical engineer is attracted by various corporate incentives such as higher pay greater authority wider responsibilities and increases prestige and recognition.

Electrical engineer can act a manager like merely serving for narrow interest of the corporation their objective is not increasing the firm's not bothering about responsibilities to promote public good. A manger is to protect the public safety health and welfare of the society. Where it is owned by an electrical engineer. As a manager electrical engineers remain professionals whose primary responsibility is to provide useful products and services while ensuring that they are safe and profitable. The engineer manger has the greater moral responsibility for promoting ethical standard of the Organization.

In order to promote an ethical corporate climate the electrical engineer manager has to understand the following features:

The use of proper ethical language like code of ethics should be recognized as a legitimate part of the company. The top management should accomplish a moral voice in both words and policies and also by personal example.

The top level management as to enhance confidence that the company is more serious about the ethics. There should be some procedures for confronting and resolving conflicts. There are many conflicts may arise in a profession the personality conflict is difficult to solve because this is interwoven with other conflicts and also it is difficult to identify separately. It can also be noted that both ethical an technical conflicts often beneficial rather than they are harmful when they are properly managed.

6. "ADVANTAGE OF ENGINEER AS MANAGER"

- Extensive and proven track record in design for manufacturing and design for assembly
- Extensive and proven track record in sourcing manufacturing vendors
- Successful experience in increasing manufacture will reduce the cost of manufacturing.
- Extensive experience dealing and interacting with a range of manufacturers and factories in India and abroad.



- Extensive and proven track record in solving a multitude of problems in manufacturing operations

- Experience establishing quality assurance practices

Excellence in quality and clarity of thinking, and an equally excellent ability to communicate that thinking and thought process to others.

- Ability to “think on own feet” and be able to flexibly adapt to the changing needs of constantly.

7. LIMITATION IN ELECTRICAL ENGINEERING PROFESSIONALISM

A engineer can say “yes” to everything as per engineering ethics but in case of their training they are trained especially for technical point of view (well versed in technical knowledge) and they will never be better than a person who get trained especially for management area also.

An engineer can resolve the issues related to all aspects in their profession as an engineer only and will be difficult in managing part unless otherwise when they have appropriate experience and knowledge about the thing A engineer should be ready to receive a suggestion of every least labor with a humble mind and has to understand their problems. The risk related to the job should be analyzed fully and it has to be awarded to the corresponding labor if it has to be done the manager should have much knowledge about the job. To resolve the problems the theoretical knowledge will not be helpful in all cases but generally engineers have more theoretical knowledge only when compared to management people. In case of a dispute in the organization, an engineer manager may need a legal person for consultancy to resolve the issue.

Moreover he is a human being he has to look after himself but it is very less when he is in service.

8. SUGGESTIONS

1. According to the codes of ethics “Engineer shall treat CONFIDENTIAL INFORMATION COMING TO THEM IN A MOST

CONFIDENTIAL WAY in the course of their assignments, projects, research and duties entrusted to them.

2. Privileged information that is available only on the basis of special privilege to the technical person has to be handled carefully will be passed on to him.
3. Proprietary information that is owned by a company whenever it is extended to him by the organization for his area of importance.
4. Sometimes, a new knowledge established that can be legally protected has to be maintained as “top secret” will be disclosed to him on faith..
5. He/she should keep certain information as confidential are : Information about the unreleased products, test results and data about products.
6. Engineer Manager has to focus on three moral considerations that is respect for autonomy, respect for promises and regard for public well-being.
7. Top most essential thing is to eradicate conflict and disputes in the work spot.
8. He/she should be an expert worker thus maintaining 24/7 hours coverage. i.e., round the clock coverage

9.FINDINGS

Engineer Managers are expected to try for life time.

***HE SHOULD WORK AS FAST AS A LIGHTNING WHENEVER THERE IS EMERGENCY.**

***FACE ANY SITUATION BOLDLY.**

***HE SHOULD BE ALERT ALWAYS.**

***PRACTICE NOT TO SAY “NO” PRACTICE.**

***THEIR ENGINEERSHIP IS THEIR PRIME GOD.**

10.CONCLUSION

An electrical engineer has full eligibility to be a manager and he is well trained for his technical

knowledge by using that he can solve the problems with courage and confidence. The main aspect in management is to keep the standard and quality of work to their corresponding organization. Safety and profit oriented decision can be made by an electrical engineer as he knows well about the need, efficiency, an scarcity of power now affects the society. So in order to turn the organization he is ready to manage with many innovative and safety ideas. If penalty will be the solution for the decision of problem it will be provided by the manager as per the code of ethics but our engineer manager by using his engineering technical knowledge will avoid penalty. Hence. We conclude with that an electrical engineer will be good enough than a manger as per the code of ethics in corporate society.



UMA.K.SOLAIYAPPAN, MBA MHRM, PGDCA, B.Sc ., Asst. Professor, Department of Management Studies, Karpaga Vinayaga College of Engineering and Technology, G.S.T Road, Karpaga Vinayaga Nagar, , ppalayanoor Post, Madurantakam (T.K), Kanchipuram – 603 308 Tamil Nadu.

References:

1. “Engineer as a manager” by MICHEAL COUIN.
2. Mike Martin and Roland Schinzinger, “Ethics in Engineering”, McGraw Hill, New York (2005).
3. Mamoria C.B. and Sathish Mamoria, “Dynamics of Industrial Relations” Himalaya Publishing House, New Delhi, 2007.
4. “Purchasing Principles of Management” by Peter Baily, David Farmer, David Jessop and Davide Jones
5. “14 Principles of Management “by Henri Fayol
6. “The Principles of Scientific Management “ by F.W.Taylor
7. Website and internet

Technical Reference

1. *Coal Mine Health and Safety Act 2002*
2. *Coal Mine Health and Safety Regulation 2006*
3. *Occupational Health and Safety Act 2000*
4. *Occupational Health and Safety Regulation 2001, July 2009 (version 2)*

CO-AUTHORS

M.Vivekmaran co-author doing bachelor degree in Karpaga Vinayaga College of Engineering and Technology in Electrical Engineering 6th semester affiliated to Anna University, chennai.

L..Arul Mozhi Jayasudhan co-author doing bachelor degree in Karpaga Vinayaga College of engineering and technology in electrical engineering 6th semester affiliated to Anna University, chennai.

Muthu Lokesh co-author doing bachelor degree in Karpaga Vinayaga College of engineering and technology in electrical engineering 6th semester affiliated to Anna University, chennai.

S.Vishaly M.Sc , B.Pharm, DCA, PGDHM,(M,Phil) Gandhi Gram University, Gandhi Gram,Dindukal .