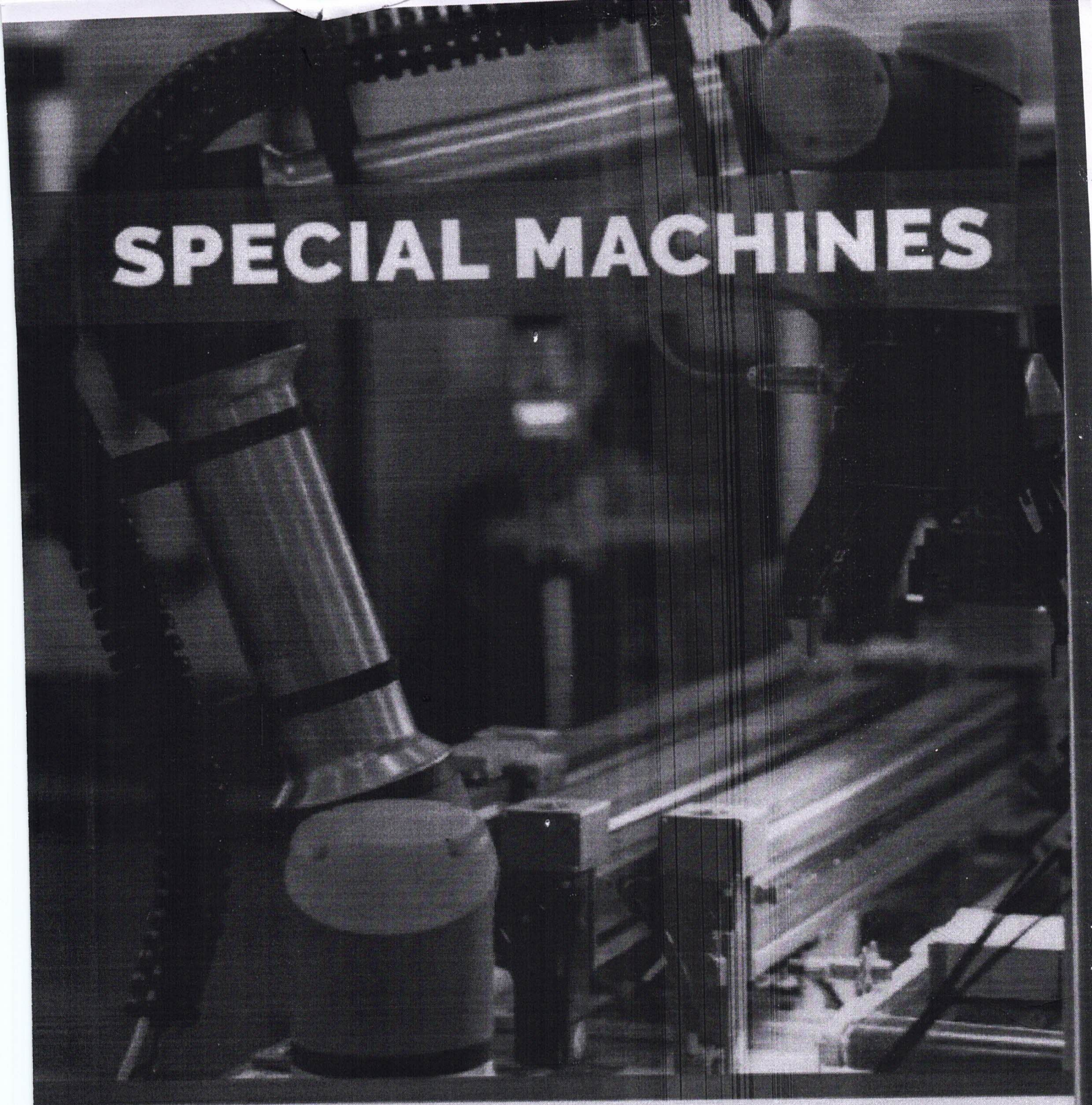

SPECIAL MACHINES

Dr. CHIDURALA SRINIVAS, Prof. A .NAGADEEPAN
Dr. RAM SUBBIAH, Mr. RAJA RAJU

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SPECIAL MACHINES

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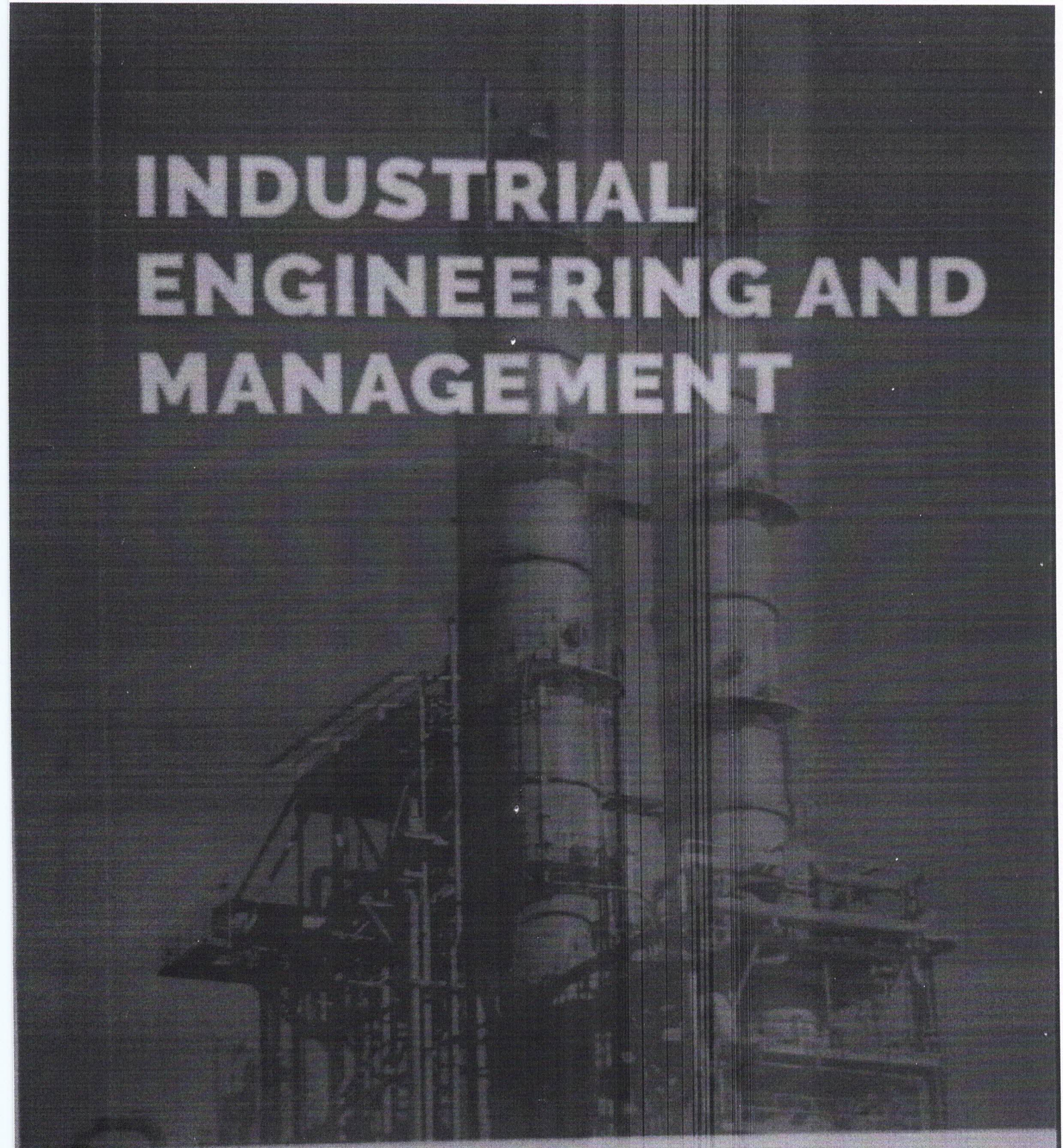

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INDUSTRIAL ENGINEERING AND MANAGEMENT

FIRST EDITION

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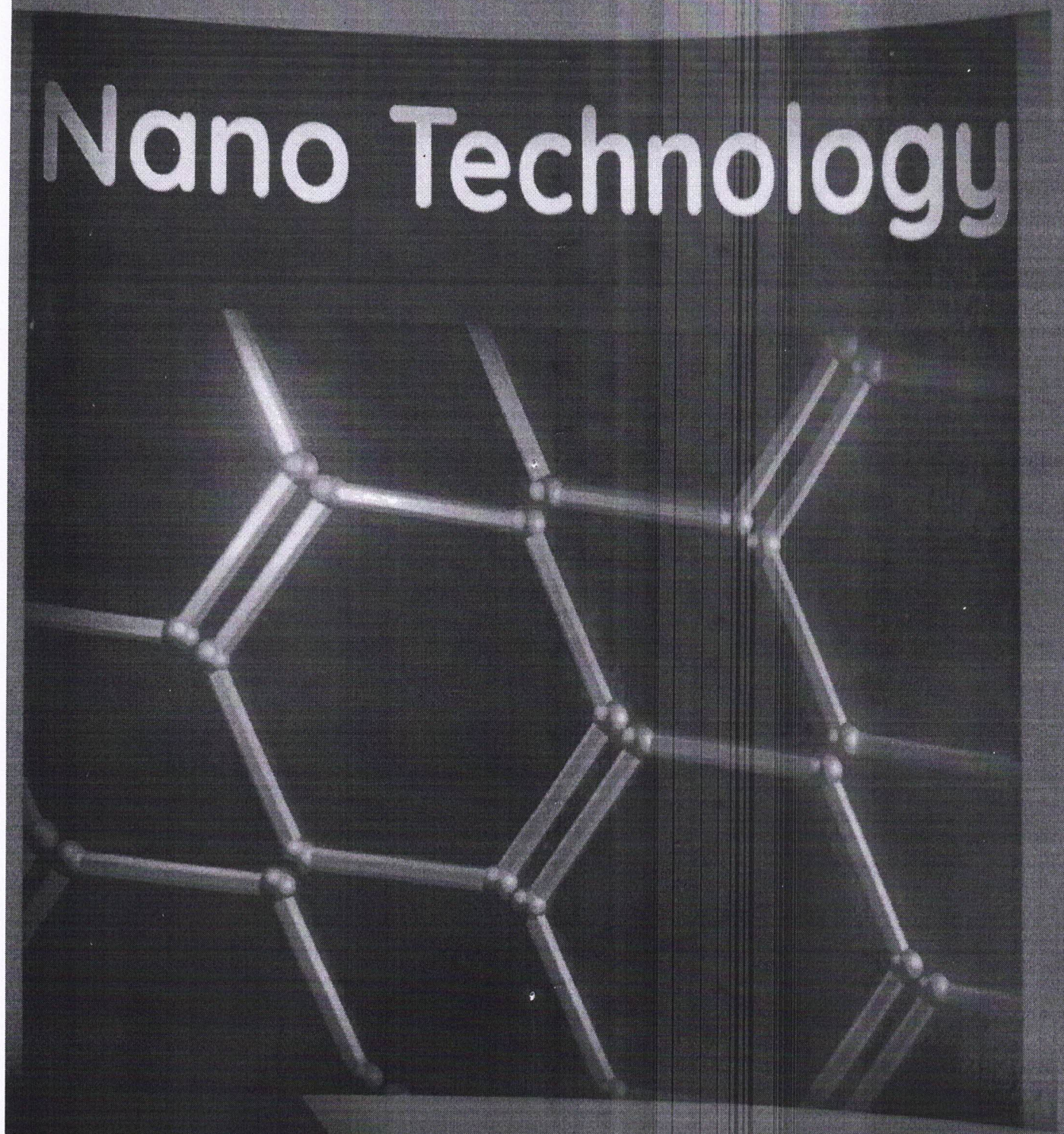

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NANOTECHNOLOGY

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REAL-TIME CONCEPTS FOR EMBEDDED SYSTEMS

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SYLLABUS

UNIT I INTRODUCTION TO EMBEDDED SYSTEM DESIGN

Complex systems and microprocessors– Embedded system design process –Design example: Model train controller- Design methodologies- Design flows - Requirement Analysis – Specifications- System analysis and architecture design – Quality Assurance techniques - Designing with computing platforms – consumer electronics architecture – platform-level performance analysis.

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UNIT III EMBEDDED PROGRAMMING

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SURVEYING

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Preface

Internet has become the number one source to information, and many of the traditional software applications have become Web Applications. The methods by which computers communicate witheach other through the use of markup languages and multimedia packages is known as web technology. Web Applications have become more powerful and can fully replace desktop application in most situations. It involves communication across the web, and create, deliver or manage web content using hypertext markup language (HTML).

Web development refers to the building, creating, and maintaining of websites. It includes aspects such as web design, web publishing, web programming, and database management. It is the creation of an application that works over the internet i.e. websites. The part of a website that the user interacts directly is termed as front end. It is also referred to as the 'client side' of the application. Backend is the server side of a website. It is used to store and arrange data.

This book enables the readers to understand web essentials, basic internet protocols, HTML tags and attributes, layout elements, forms including features from the current specifications for HTML5, CSS3 including selectors and rules, classes. This book gives demonstration about the document object model and of how to complete basic page manipulation using JavaScript. This book covers various aspects of JSP,XML, AJAX and web Services

SYLLABUS

UNIT I WEB SITE BASICS AND HTML

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WIRELESS AND MOBILE COMMUNICATION

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Preface

This textbook takes a unified view of the fundamentals of wireless communication and explains the web of concepts underpinning these advances at a level accessible to an audience with a basic background in probability and digital communication. Topics covered include MIMO (multiple input multiple output) communication, space-time coding, opportunistic communication, OFDM and CDMA. Particular emphasis is placed on the interplay between concepts and their implementation in systems.

The book begins with an overview of wireless systems and standards. The characteristics of the wireless channel are then described, including their fundamental capacity limits. Various modulation, coding, and signal processing schemes are then discussed in detail, including state-of-the-art adaptive modulation, multicarrier, spread spectrum, and multiple antenna techniques. An abundant supply of exercises and figures reinforce the material in the text. This book is intended for use on graduate courses in electrical and computer engineering and will also be of great interest to practicing engineers.

Wireless technology is a truly revolutionary paradigm shift, enabling multimedia communications between people and devices from any location. It also underpins exciting applications such as sensor networks, smart homes, telemedicine, and automated highways.

This book provides a comprehensive introduction to the underlying theory, design techniques and analytical tools of wireless communications, focusing primarily on the core principles of wireless system design.

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SPECIAL ELECTRICAL MACHINES

FIRST EDITION

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Chapter 5
Print ISBN: 978-93-5547-212-0, eBook ISBN: 978-93-5547-213-7

Reinforcement Learning and Heuristic Algorithms for Efficient Routing Protocols in Mobile Ad-Hoc Networks: An Advanced Approach

D. Srinivas Reddy[1], V. Bapuji[1*] and A. Govardhan[2]

DOI: 10.9734/bpi/ramrcs/v3/5275F

Abstract

In mobile ad-hoc networks nodes are freely move and communicate with each other in its frequency range wirelessly. Due to dynamic topology the routes are not stable. Hence transmitting data packets among nodes is one of the major challenge. The algorithms compatible with the changes created in the network due to the nodes' movements are of high significance. For reducing data packet transmission time among nodes, route shortness and also route stability should be taken into consideration. More than a decade ago, that our approach to Artificial Intelligence has been widely accepted as a new development in the field of routing protocols [1,2]. In order to select the robust routing process, the reinforcement learning was used to make the best choice among the neighbor nodes at any moment to transmit data packets from source to destination. It predicts the behavior pattern of the nodes in relation to the target node through using reinforcement learning. The proposed method adopts Q-learning algorithm which has more homogeneity to estimate the value of actions [3].

Keywords: MANETs; DSR; QoS; RLTA; Q-learning; ACO; MP-DSR; EMP-DSR.

1 Introduction

A freely moving autonomous nodes communicating with each other without any underlying infrastructure, are termed as MANETs. Due to mobile in nature and depending on the local conditions, the transfer of data packets in MANETs is not stable. For transmission of data packets, the establishment of a route from source to destination is a major task. Due to the un-stability of the nodes, the change of routing path and establishing a new path not only increases the packet delivery time, but also consumes more energy resources as well as creates traffic overhead [4].

These distinguished features like, low bandwidth of channel transmission rate, limited features of nodes, dynamic topology and limited battery power makes MANETs distinguished from other networks. Hence, these highlighted features are to be addressed with new methods in designing and operations of routing protocols [5-8].

2 Data Forwarding Methods

The forwarding of data packets is done by two methods.

2.1 Source routing

In source routing or proactive routing protocol, the header of the packet contains the complete routing information from origin to the destination. Hosts are free and they need not maintain any routing information. All the routing information is maintained by the source host in.

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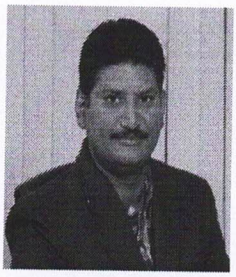

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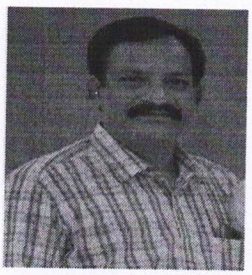

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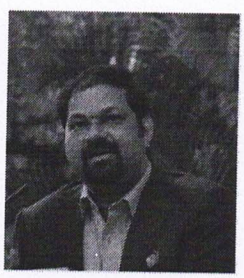

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Chapter 6
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Application of Artificial Intelligence Control of HVDC Transmission System

M. Ramesh[1*] and A. Jaya Laxmi[2]

DOI: 10.9734/bpi/ramrcs/v3/5276F

Abstract

To handle bulk of power, the AC power transmission is not economical over long distance. High-voltage direct current (HVDC) transmission system is selected as the alternative not only in economic aspects but also in stability point of view. But the operation and control of HVDC links pose a challenge for the designers to choose the proper control strategy under various operating conditions. Traditionally, PI controllers are used for the rectifier current control of the HVDC system, but due to fixed proportional (P) and integral (I) gains, these controllers can perform well only over a limited operating range. However, in controlling a nonlinear plant such as the firing angle of the rectifier side in HVDC system, the model controls such as fuzzy logic controllers show better performance to the dynamic disturbances than traditional PI controllers. The CIGRÉ model as one of the conventional methods has been studied and improves the stability HVDC system.

Keywords: *HVDC transmission; CIGRÉ benchmark model; Faults in HVDC system; Proportional integral (PI) controller; Fuzzy logic controller (FLC).*

1 Introduction

The latest development in control of HVDC transmission system is the introduction of AI techniques of fuzzy, neural, genetic and expert system. These have exhibited inherent superiority over conventional control system. Conventionally PI controller is the one which is widely used for the HVDC system. Parameter variations in real time plant operation are well suited for PI controller but optimization in difficult, components such as transformers, converters and filters which make the HVDC systems highly nonlinear and complex in nature [1-5]. Harmonics generated by converters which can interfere with the controller, AC/DC filters are used for harmonic elimination. An alternative method of performance enhancement is the tuning of PI controller in all operating conditions and also during faults and disturbances occur.

Superiority of mathematical based models is blemished by the highly complex nature and nonlinear nature of the system causing inaccurate mathematical representation. To overcome this difficulty AI methods have proved to be a game changer, providing high quality at low cost. Design is simplified by just defining the qualitative parameters [6-10]. The expert knowledge, the ability to utilize the output of FLC for DC control, short term overloads can result, when the overload rating of converter is a result of control effectiveness the control simulation of AI based methods like FL, ANN and ANFIS have proved to be better than PI controller [11].

The application of an effective and intelligent current controller designed using AI techniques like FL, NN and NFL improves the gain of a HVDC transmission system [12]. The block diagram of HVDC system with AI controller is shown in Fig. 1.

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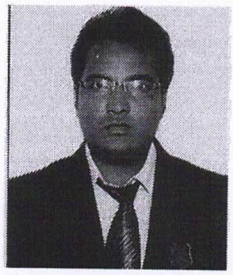

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12 Leadership Styles and Its Impact on IT Employees Performance

Prof. Anand Pawar & Dr. E. Hari Prasad

ABSTRACT

Leadership has a direct cause and effect relationship upon organizations and their success. Generally it is believed that the Leaders determine the organizational performance by ad-haring certain values, creating work culture, cultivating the habit of change management with at most tolerance and employee morale. They shape institutional strategies including their execution and effectiveness. Leaders can appear at any level of an organization and are not exclusive to management. Successful leaders do, however, have one thing in common. They influence those around them in order to reap maximum benefit from the organization's resources, including its most vital and expensive: its people.

In this back drop, this study aims at to investigate the effect of leadership style on representative execution and leading to employee performance. The investigation embraced a blended technique approach and utilizes an exploratory study. A survey was utilized to elicit the information from the sample respondents from the select few IT &ITES Companies in Hyderabad. The study revealed that 132 of the respondents out of total 200 target sample opined as strongly agree with the Transactional leadership style which plays an important role in identifying and improving the employees' performance, followed by 33 of them agreed with the Laissez-faire leadership, there are 18 of respondents have agreed with Autocratic Leadership style and there are another 22 of them have agreed with Democratic leadership and therefore it is concluded that the two leadership styles were identified as most effective in enhancing the performance of employees according to this study.

Keywords: *Autocratic Leadership, Democratic Leadership, Transactional Leadership, Laissez-faire Leadership, Employee Performance, Leadership Styles.*

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14 Performance Evaluation of RRBs in India

Dr. E. Hari Prasad

ABSTRACT

Since the inception, Regional Rural Banks (RRBs) play a significant role in the development of rural areas in India by providing needed financial assistance to agriculture, trade, commerce, industry and other productive activities in the rural areas. Credit and other financial facilities are extended particularly to small and marginal farmers, agricultural laborers, artisans, and small entrepreneurs with a view to strengthening these activities in rural areas. The RRBS have more reached to the rural area of India, through their huge branch network. Now, RRBs become key financial institutions at the rural level which shoulders responsibility of fulfilling the rural needs of different types of agriculture credit in rural areas. Telangana Grameena Bank (TGB) is one of the rural banks in Telangana state showing good performance in respect of deposits and advances, profitability and non-performing assets (NPAs) in backward district of the state. The present study examines the performance of the RRB (TGB) by analyzing the key performance indicators such as number of banks branches, deposits, advances, priority sector lending, profitability of the bank and NPAs during the period of 10 years from 2011 – 2020.

Keywords: *RRBs, Deposits, Advances, Profitability, Priority Sector and NPAs.*

INTRODUCTION

"Rural India is Real India and Rural Development is the Real Development of India" opined Gandhiji. India is purely a rural populated country; nearly 65.53 per cent (89.53 crores) of the India's population dwells in rural areas. So, the economic development of the country depends on the development of the rural economy. The Indian Government well recognized this fact and instigated many

Chapter 5
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Reinforcement Learning and Heuristic Algorithms for Efficient Routing Protocols in Mobile Ad-Hoc Networks: An Advanced Approach

D. Srinivas Reddy[1], V. Bapuji[1*] and A. Govardhan[2]

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These distinguished features like, low bandwidth of channel transmission rate, limited features of nodes, dynamic topology and limited battery power makes MANETs distinguished from other networks. Hence, these highlighted features are to be addressed with new methods in designing and operations of routing protocols [5-8].

2 Data Forwarding Methods

The forwarding of data packets is done by two methods.

2.1 Source routing

In source routing or proactive routing protocol, the header of the packet contains the complete routing information from origin to the destination. Hosts are free and they need not maintain any routing information. All the routing information is maintained by the source host in.

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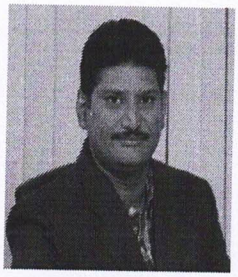

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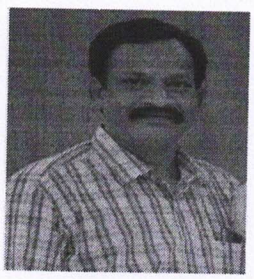

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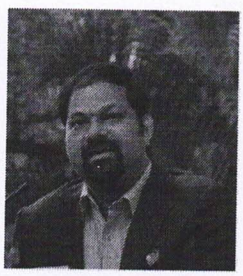

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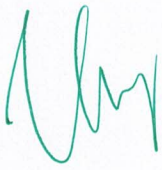
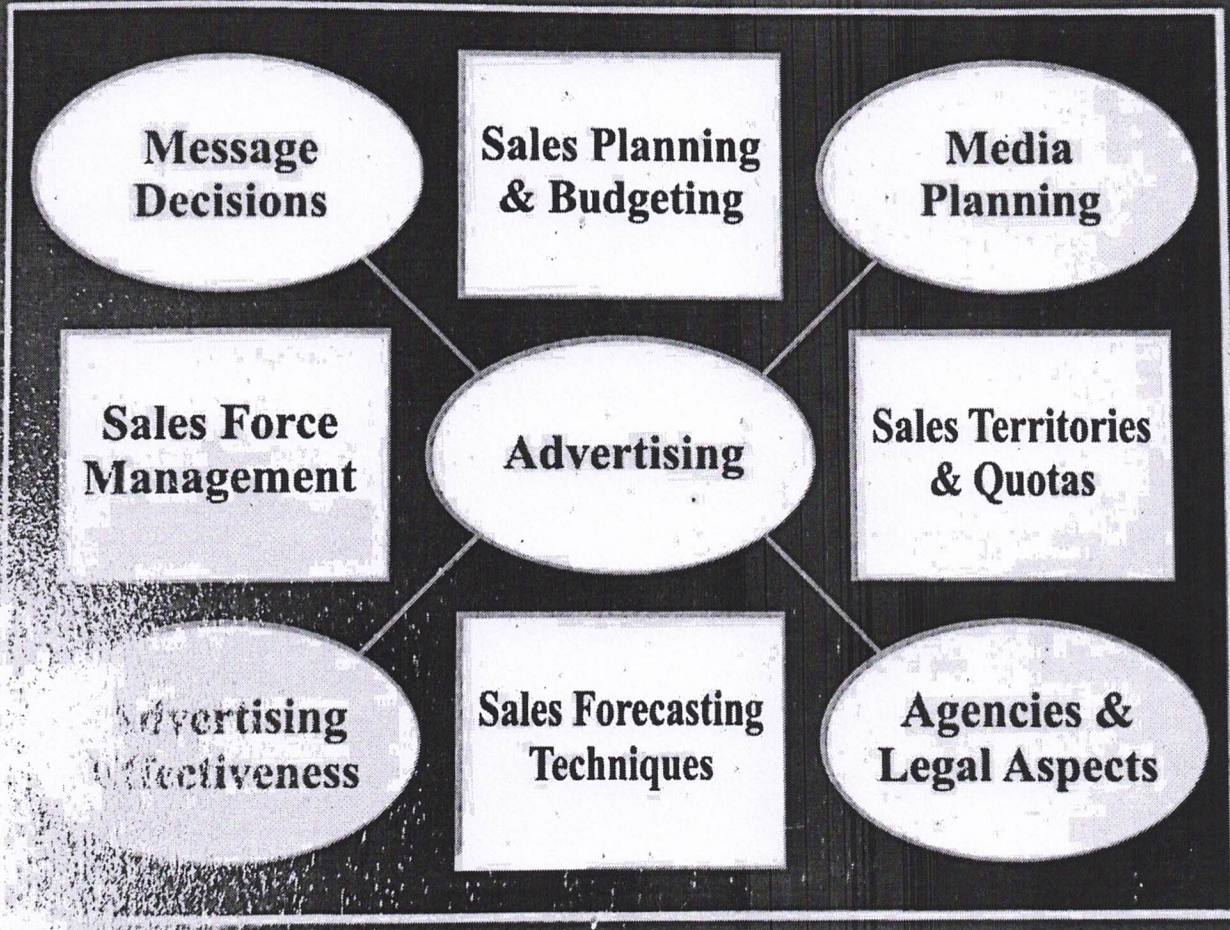


MBA40122ASM

MASTER OF BUSINESS ADMINISTRATION (MBA)

SECOND YEAR SEMESTER - IV

ADVERTISING AND SALES MANAGEMENT



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UNIT - 13 : SALES PLANNING, BUDGETING AND CONTROL

Objectives

After studying this unit, you should be able to:

- understand the importance of sales planning;
- identify the types of sales planning;
- explain the process of sales planning;
- discuss the essentials of good sales forecasting, and
- examine the sales budgets and control.

Structure

13.1 INTRODUCTION

Progress and prosperity of any organization, either business or non-business, directly depends on its planning activities. In sales management, sale planning is the primary activity and it has its own importance. Based on sales planning other activities of business are planned. In other words, it gives kick start to remaining functions like sales organization, selection, training and development of sales employees, allocation of resources, sales control, etc. In view of importance of the sales planning, it is proposed to study various concepts of sales planning in this chapter.

13.2 MEANING OF SALES PLANNING

Planning means decide the future course of action in advance. This means deciding what we are going to in the future, i.e., tomorrow, how and when we are going to do it. A sales plan is an evaluation of present sales of a product in particular market region. It includes sales objectives, strategies that are required to achieve the predetermined sales objectives and allocation of required resources. A sales plan of a firm also includes assignment of sales targets to sales employees in

UNIT - IV MANAGING SALES TERRITORIES AND QUOTAS

Objectives

After studying this unit, you should be able to:

- understand the meaning of sales territories and identify the procedure for developing sales territories;
- explain the process of managing sales territories;
- discuss the sales quota and targets, and
- examine the sales monitoring sales targets.

Structure

14.1 INTRODUCTION

Sales territory is the technique used by the sales manager to manage and control the sale force efficiently and effectively. It is very difficult to the sales manager to monitor huge market and selling activities by one. Hence, he (sales manager) divides as per territories to manage and control the sales force. A territory can be defined based on the geographical area, sales potential, history, or a combination of all these factors. It is the geographical area or areas assigned to sale person/persons to marketing the products of a company. Companies attempt to balance thei territories because this can reduce selling and marketing costs and increase sales and revenue. In General, a firm splits the total market into some specific geographical areas and assigns each salesman a specific zone in which he has to carry out his selling operations. The geographical area assigned to a salesman becomes his sales territory. Each of the territory is served by one or more salesmen.

14.2 MEANING AND DEFINITION

A territory may or may not consist of geographical boundaries. It consists of present and potential customers of the product. Normally, a sales person is assigned to a geographic area o existing and potential customers. This territory is assigned to sales persons as their operating territory. They cannot go beyond this territory in ideal scenario. For example, a sales team is asked to look after Delhi customers. This sales team is responsible for the sales of Delhi city. The

Principal

UNIT - 15 : SALES FORECASTING TECHNIQUES

Objectives

After studying this unit, you should be able to:

- explain the importance of sales forecasting;
- identify the types of sales forecasting;
- discuss the methods of sales forecasting, and
- explain the essentials of good sales forecasting.

Structure

15.1 INTRODUCTION

Sales are the primary source of revenue and increases cost of production of the firm. Since total production is to be sold out and practically nothing can be produced overnight. Hence estimation of future sales is needed to decide quantity of production for a given period. Production of goods requires combination of various resources (money, men, machines, methods and materials) which have to be employed properly. Thus, sales forecast is the most significant for future business plan. Sales forecast helps the firm to know the expected level of sales for its products and plan its production activities accordingly. Sales forecast plays an indicative role in the organization to all planning activities. Assuming indefinite continuation of status quo and expect no changes in future days seems impossible and unrealistic. So the firm has no chance to forecast or not to forecast. The only one choice is that the way the forecast is made, when it does, who does it and what resources are to be adopted for it. Accurate sales fore cast is essential because plans of all functional areas depend on such forecast.

15.2 MEANING AND DEFINITION OF SALES FORECASTING

The term 'forecast' refers to prediction or estimation of future happening based on the present situation. For example weather forecast. Sales forecasting is not a mere speculative exercise. It is judgment of future probable changes in the market considering scientific principles. Sales forecasting is an estimation future sales. It cannot be cent percent correct because future is uncertain. It is an activity, trying to estimate the future sales quantity of the firm. All individuals and organization engage in this activity, albeit at different levels of methodological complexity.

Principal

UNIT - 16 : STRATEGIC SALES PLANS

Objectives

After studying this unit, you should be able to:

- understand the meaning of strategic sales plans;
- identify the stages in human needs;
- discuss the strategies in product life cycle;
- discuss the portfolio managements of a business firm, and
- explain the role of sales manager in the twenty first century.

Structure

16.1 INTRODUCTION

With the dynamic environment of the market, it is necessary to sales managers of a company to opt best choice from two. Managers either chose react to the situation or proactive, on which they should take initiative steps for planning and implementing their plans to maintain their sales and their market share and brand equity in the market. The present market is too dynamic to excuse the delay decisions of managers. The following reasons make the obligatory to the managers to prepare strategic plans for the organization:

1. Demand for timely decision due to constant changes in business environment.
2. To face real issues in the market.
3. To achieve long term targets of the organization.
4. Proper allocation of resources to avoid unfruitful results.
5. To establish appropriate communication and control system in the organization.

Strategic plans are required to launch new products, product variants at right time. Timing of the introduction is of strategic importance as wrong timing could meet the disastrous product

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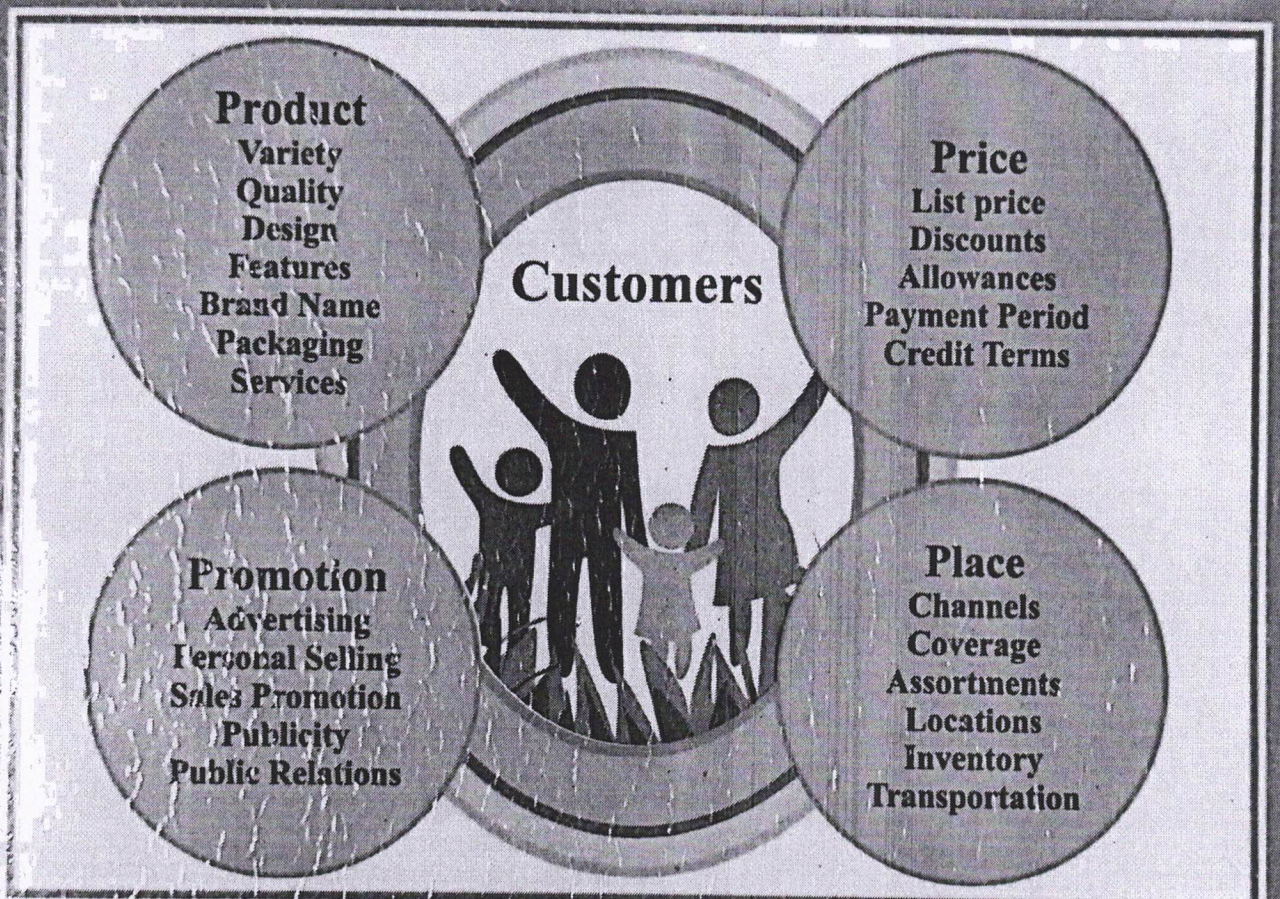
PRINCIPLES OF MARKETING



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Multi-Quality Characteristics Optimization of NPMEDM of Nimonic 90 by Using Data Envelopment Analysis based Ranking Technique

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Abstract - In the manufacturing industry, to produce high-quality products at a reasonable cost, Optimization is a useful technique for determining the optimal production conditions. The focus of this research is to learn more about the influence of input parameters and determine the best settings for these variables to maximize MRR while decreasing SR and TWR while using Nimonic 90 NPEDM.The EDM characteristics of peak current, MWCNT powder, and nano Al powder were measured at three different levels using the L27 orthogonal array (OA). To improve the response parameters of material removal rate (MRR), surface roughness (SR), and tool wear rate, data envelopment analysis-based ranking method (DEAR) is widely used .The ideal values are achieved at MWCNT 0.5g/l, nano Al powder 2g/l, peak current 15 Amp, respectively, based on the findings of calculated Multi performance rank index (MRPI) values. MWCNT and peak current (Ip) discovered to be the most effective important parameters impacting quality attributes based on the results of the ANOVA.

Keywords- NPMEDM, Data envelopment analysis based ranking technique, MWCNT powder, nano Al powder and Nimonic 90.

I. INTRODUCTION

EDM is used to manufacture product surfaces in a variety of industries, including mould production, die making, and small hole drilling. [1,2].This technique can increase electrical conductivity regardless of the mechanical properties of the material. It hardens electrical energy to a work piece submerged in a dielectric, causing plasma to form and sparks to erupt between the work material and the tool, melting and evaporating both the electrode tool and the work piece [3]. In EDM, the positive terminal is generally