



INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION AND MANAGEMENT

CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	CORPORATE GOVERNANCE IN INDIA: TOWARDS INTROSPECTION AND SOLUTIONS <i>ANJANEY PANDEY, MAHESWAR SATPATHY & GOVIND SINGH</i>	1
2.	QUALITY FUNCTION DEPLOYMENT FOR SERVICE DEVELOPMENT OF SELECTED PRIVATE COLLEGES/UNIVERSITIES <i>MA. TEODORA E. GUTIERREZ</i>	4
3.	CULTURAL APTITUDE & ADJUSTMENT - THE IMPACT OF THE EXPECTED TENURE OF A CROSS CULTURAL PROJECT <i>SHAHZAD GHAFUOR & UZAIR FAROOQ KHAN</i>	9
4.	REPORTING ENVIRONMENTAL ISSUES AND INFORMATION DISCLOSURES IN FINANCIAL STATEMENTS <i>DR. TAIWO ASAOLU & DR. JOHN A. ENAHORO</i>	15
5.	ISLAMIC MICRO-FINANCE AND POVERTY ALLEVIATION: A CASE OF PAKISTAN <i>DR. WAHEED AKHTER, DR. NADEEM AKHTAR & KHURAM ALI JAFRI</i>	24
6.	AN OBJECTIVE ASSESSMENT OF CONTEMPORARY OPTION PRICING MODELS <i>DIPTI RANJAN MOHANTY & DR. SUSANTA KUMAR MISHRA</i>	28
7.	E-LEARNING: THE DIGITIZATION STRATEGY <i>RAFI AHMED KHAN & DR. ISHTIAQ HUSSAIN QURESHI</i>	31
8.	FINANCIAL PERFORMANCE OF MILK UNIONS – A STUDY AT KARNATAKA MILK FEDERATION <i>DR. M. JEYARATHNAM & GEETHA. M. RAJARAM</i>	35
9.	INVESTORS PERCEPTION TOWARDS INVESTMENT IN MUTUAL FUNDS <i>DR. R. NANDAGOPAL, M. SATHISH, K. J. NAVEEN & V. JEEVANANTHAM</i>	40
10.	BUSINESS IN GEMSTONE POLISHING: AN EMERGING INDUSTRIAL TRAINING & ENTREPRENEURSHIP OPTION FOR INCLUSIVE GROWTH IN EASTERN INDIA <i>DR. S. P. RATH, PROF. BISWAJIT DAS, DR. SHIVSHANKAR K. MISHRA & PROF. SATISH JAYARAM</i>	45
11.	A COMPARITIVE STUDY BETWEEN HOTEL GOLD & NIRULA'S – PANIPAT CITY <i>DR. PUJA WALIA MANN & MANISH JHA</i>	49
12.	IMPROVEMENT OF WORKPLACE CHARACTERISTICS THROUGH SPIRITUAL INCLINATION <i>DR. R. KRISHNAVENI & G. NATARAJAN</i>	54
13.	MEASURING THE SERVICE QUALITY OF SERVICE SECTOR - A CASE OF COMMERCIAL BANK OF ETHIOPIA <i>R. RENJITH KUMAR</i>	59
14.	SUPPLY CHAIN MANAGEMENT IN AN AUTOMOBILE COMPANY: A CASE STUDY <i>ARVIND JAYANT & V. PATEL</i>	62
15.	INFORMATION CONTENT OF DIVIDENDS: EMPIRICAL STUDY OF BSE LISTED COMPANIES <i>DR. KARAMJEET KAUR</i>	69
16.	NEED FOR CONVERGING TO IFRS: THE NEW GLOBAL REPORTING LANGUAGE <i>DR. AMARJEET KAUR MALHOTRA</i>	77
17.	ALLEVIATION OF POVERTY THROUGH RURAL DEVELOPMENT- AN ANALYSIS <i>DR. PAWAN KUMAR DHIMAN</i>	81
18.	FORECASTING MONTHLY FOREIGN INSTITUTIONAL INVESTMENTS IN BSE AND NSE EQUITY MARKET USING ARIMA MODEL <i>DR. S. SUDALAIMUTHU & ANBUKARASI</i>	86
19.	A STEP FORWARD: FROM FUZZY TO NEURO-FUZZY <i>APOORVI SOOD & SWATI AGGARWAL</i>	92
20.	USAGE OF E-RESOURCES BY ACADEMICS – A STUDY (WITH REFERENCE TO AFFILIATED BHARATHIAR UNIVERISTY COLLEGES, COIMBATORE CITY) <i>DR. M. MEENAKSHI SARATHA & DR. D. MAHESH</i>	96
21.	A STUDY ON IMPACT OF JOB SATISFACTION ON QUALITY OF WORK LIFE AMONG EMPLOYEES IN HOTEL INDUSTRY (WITH REFERENCE TO CATEGORIZED HOTELS IN FARIDABAD REGION) <i>VIJIT CHATURVEDI & DR. D. S. YADAV</i>	101
22.	RURAL ENTREPRENEURSHIP: EXPLORING THE OPPORTUNITIES FROM WASTE PRODUCTS OF BANANAS PLANT IN KARNATAKA <i>RASHMI S. B. & V. JYOTHSNA</i>	105
23.	HUMAN RESOURCE ACCOUNTING (HRA) - A CONCEPTUAL FRAMEWORK AND INTERNATIONAL DEVELOPMENTS <i>DR. AJAZ AKBAR MIR & MANMEET SINGH</i>	108
24.	MICROFINANCE USING INFORMATION & COMMUNICATION TECHNOLOGIES <i>S. KUMAR CHANDAR</i>	115
25.	FUNDAMENTAL & TECHNICAL ANALYSIS OF REAL ESTATE SECTOR: AN INDIAN PERSPECTIVE <i>PUNEET KUMAR</i>	119
	REQUEST FOR FEEDBACK	130

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories

Listed at: [Ulrich's Periodicals Directory ©, ProQuest, U.S.A.](#) as well as in [Cabell's Directories of Publishing Opportunities, U.S.A.](#)

Circulated all over the world & Google has verified that scholars of more than sixty-six countries/territories are visiting our journal on regular basis.

Ground Floor, Building No. 1041-C-1, Devi Bhawan Bazar, JAGADHRI – 135 003, Yamunanagar, Haryana, INDIA

www.ijrcm.org.in

CHIEF PATRON

PROF. K. K. AGGARWAL

Chancellor, Lingaya's University, Delhi
Founder Vice-Chancellor, Guru Gobind Singh Indraprastha University, Delhi
Ex. Pro Vice-Chancellor, Guru Jambheshwar University, Hisar

PATRON

SH. RAM BHAJAN AGGARWAL

Ex. State Minister for Home & Tourism, Government of Haryana
Vice-President, Dadri Education Society, Charkhi Dadri
President, Chinar Syntex Ltd. (Textile Mills), Bhiwani

CO-ORDINATOR

MOHITA

Faculty, Yamuna Institute of Engineering & Technology, Village Gadholi, P. O. Gadhola, Yamunanagar

ADVISORS

PROF. M. S. SENAM RAJU

Director A. C. D., School of Management Studies, I.G.N.O.U., New Delhi

PROF. S. L. MAHANDRU

Principal (Retd.), Maharaja Agrasen College, Jagadhri

EDITOR

PROF. R. K. SHARMA

Dean (Academics), Tecnia Institute of Advanced Studies, Delhi

CO-EDITOR

MOHITA

Faculty, Yamuna Institute of Engineering & Technology, Village Gadholi, P. O. Gadhola, Yamunanagar

EDITORIAL ADVISORY BOARD

DR. AMBIKA ZUTSHI

Faculty, School of Management & Marketing, Deakin University, Australia

DR. VIVEK NATRAJAN

Faculty, Lomar University, U.S.A.

DR. RAJESH MODI

Faculty, Yanbu Industrial College, Kingdom of Saudi Arabia

PROF. PARVEEN KUMAR

Director, M.C.A., Meerut Institute of Engineering & Technology, Meerut, U. P.

PROF. H. R. SHARMA

Director, Chhatrapati Shivaji Institute of Technology, Durg, C.G.

PROF. MANOHAR LAL

Director & Chairman, School of Information & Computer Sciences, I.G.N.O.U., New Delhi

PROF. ANIL K. SAINI

Chairperson (CRC), Guru Gobind Singh I. P. University, Delhi

PROF. R. K. CHOUDHARY

Director, Asia Pacific Institute of Information Technology, Panipat

DR. ASHWANI KUSH

Head, Computer Science, University College, Kurukshetra University, Kurukshetra

DR. BHARAT BHUSHAN

Head, Department of Computer Science & Applications, Guru Nanak Khalsa College, Yamunanagar

DR. VIJAYPAL SINGH DHAKA

Head, Department of Computer Applications, Institute of Management Studies, Noida, U.P.

DR. SAMBHAVNA

Faculty, I.I.T.M., Delhi

DR. MOHINDER CHAND

Associate Professor, Kurukshetra University, Kurukshetra

DR. MOHENDER KUMAR GUPTA

Associate Professor, P. J. L. N. Government College, Faridabad

DR. SAMBHAV GARG

Faculty, M. M. Institute of Management, Maharishi Markandeshwar University, Mullana

DR. SHIVAKUMAR DEENE

Asst. Professor, Government F. G. College Chitguppa, Bidar, Karnataka

DR. BHAVET

Faculty, M. M. Institute of Management, Maharishi Markandeshwar University, Mullana

ASSOCIATE EDITORS

PROF. ABHAY BANSAL

Head, Department of Information Technology, Amity School of Engineering & Technology, Amity University, Noida

PROF. NAWAB ALI KHAN

Department of Commerce, Aligarh Muslim University, Aligarh, U.P.

DR. ASHOK KUMAR

Head, Department of Electronics, D. A. V. College (Lahore), Ambala City

ASHISH CHOPRA

Sr. Lecturer, Doon Valley Institute of Engineering & Technology, Karnal

SAKET BHARDWAJ

Lecturer, Haryana Engineering College, Jagadhri

TECHNICAL ADVISORS

AMITA

Faculty, E.C.C., Safidon, Jind

MOHITA

Faculty, Yamuna Institute of Engineering & Technology, Village Gadholi, P. O. Gadholi, Yamunanagar

FINANCIAL ADVISORS

DICKIN GOYAL

Advocate & Tax Adviser, Panchkula

NEENA

Investment Consultant, Chambaghat, Solan, Himachal Pradesh

LEGAL ADVISORS

JITENDER S. CHAHAL

Advocate, Punjab & Haryana High Court, Chandigarh U.T.

CHANDER BHUSHAN SHARMA

Advocate & Consultant, District Courts, Yamunanagar at Jagadhri

SUPERINTENDENT

SURENDER KUMAR POONIA

CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to recent developments & practices in the area of Computer, Business, Finance, Marketing, Human Resource Management, General Management, Banking, Insurance, Corporate Governance and emerging paradigms in allied subjects. The above mentioned tracks are only indicative, and not exhaustive.

Anybody can submit the soft copy of his/her manuscript **anytime** in M.S. Word format after preparing the same as per our submission guidelines duly available on our website under the heading guidelines for submission, at the email addresses, **info@ijrcm.org.in** or **infoijrcm@gmail.com**.

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

Dated: _____

The Editor

IJRCM

Subject: Submission of Manuscript in the Area of _____

(e.g. Computer/Finance/Marketing/HRM/General Management/other, please specify).

Dear Sir/Madam,

Please find my submission of manuscript titled ' _____ ' for possible publication in your journal.

I hereby affirm that the contents of this manuscript are original. Furthermore it has neither been published elsewhere in any language fully or partly, nor is it under review for publication anywhere.

I affirm that all author (s) have seen and agreed to the submitted version of the manuscript and their inclusion of name (s) as co-author (s).

Also, if our/my manuscript is accepted, I/We agree to comply with the formalities as given on the website of journal & you are free to publish our contribution to any of your journals.

Name of Corresponding Author:

Designation:

Affiliation:

Mailing address:

Mobile & Landline Number (s):

E-mail Address (s):

2. **INTRODUCTION:** Manuscript must be in British English prepared on a standard A4 size paper setting. It must be prepared on a single space and single column with 1" margin set for top, bottom, left and right. It should be typed in 12 point Calibri Font with page numbers at the bottom and centre of the every page.
3. **MANUSCRIPT TITLE:** The title of the paper should be in a 12 point Calibri Font. It should be bold typed, centered and fully capitalised.
4. **AUTHOR NAME(S) & AFFILIATIONS:** The author (s) full name, designation, affiliation (s), address, mobile/landline numbers, and email/alternate email address should be in 12-point Calibri Font. It must be centered underneath the title.
5. **ABSTRACT:** Abstract should be in fully italicized text, not exceeding 250 words. The abstract must be informative and explain background, aims, methods, results and conclusion.

6. **KEYWORDS:** Abstract must be followed by list of keywords, subject to the maximum of five. These should be arranged in alphabetic order separated by commas and full stops at the end.
7. **HEADINGS:** All the headings should be in a 10 point Calibri Font. These must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.
8. **SUB-HEADINGS:** All the sub-headings should be in a 8 point Calibri Font. These must be bold-faced, aligned left and fully capitalised.
9. **MAIN TEXT:** The main text should be in a 8 point Calibri Font, single spaced and justified.
10. **FIGURES & TABLES:** These should be simple, centered, separately numbered & self explained, and titles must be above the tables/figures. Sources of data should be mentioned below the table/figure. It should be ensured that the tables/figures are referred to from the main text.
11. **EQUATIONS:** These should be consecutively numbered in parentheses, horizontally centered with equation number placed at the right.
12. **REFERENCES:** The list of all references should be alphabetically arranged. It must be single spaced, and at the end of the manuscript. The author (s) should mention only the actually utilised references in the preparation of manuscript and they are supposed to follow **Harvard Style of Referencing**. The author (s) are supposed to follow the references as per following:

- All works cited in the text (including sources for tables and figures) should be listed alphabetically.
- Use **(ed.)** for one editor, and **(ed.s)** for multiple editors.
- When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc, in chronologically ascending order.
- Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
- The title of books and journals should be in italics. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
- For titles in a language other than English, provide an English translation in parentheses.
- Use endnotes rather than footnotes.
- The location of endnotes within the text should be indicated by superscript numbers.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:

Books

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio," Ohio State University.

Contributions to books

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

Journal and other articles

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

Conference papers

- Chandel K.S. (2009): "Ethics in Commerce Education." Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

Unpublished dissertations and theses

- Kumar S. (2006): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

Online resources

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

Website

- Kelkar V. (2009): Towards a New Natural Gas Policy, Economic and Political Weekly, Viewed on February 17, 2011 <http://epw.in/epw/user/viewabstract.jsp>

SUPPLY CHAIN MANAGEMENT IN AN AUTOMOBILE COMPANY: A CASE STUDY**ARVIND JAYANT****ASSOCIATE PROFESSOR****DEPARTMENT OF MECHANICAL ENGINEERING****SANT LONGOWAL INSTITUTE OF ENGINEERING & TECHNOLOGY****LONGOWAL – 148106****V. PATEL****RESEARCH SCHOLAR****DEPARTMENT OF MECHANICAL ENGINEERING****SANT LONGOWAL INSTITUTE OF ENGINEERING & TECHNOLOGY****LONGOWAL – 148106****ABSTRACT**

Supply chain management (SCM) has emerged as an increasingly important approach to improving the performance of logistics systems. SCM is an integrated approach to increase the effectiveness of the logistics chain by improving cooperation between the players in the chain. Supplier selection is one of the most crucial activities performed by organizations because of its strategic importance. This project is done in a SME (Small Medium Enterprise), which is an automobile industry of North India and producing motor cycles. The supply chain of the company is analyzed and major problems areas are identified by using SWOT analysis and Fish-bone diagrams. Stress is being given on development of performance measurement framework and vendor evaluation and selection in supply chain management. A responsive planning and procurement strategies are recommended to XYZ Ltd. to be flexible enough to respond to the fluctuations in the market more effectively. The present work proposes an AHP (Analytical Hierarchy Process) approach for the selection of vendors in a supply chain. The major advantages of this research are that it can be used for both qualitative and quantitative criteria. The results show that the model has the capability to be flexible and apply in different types of industries to choose their vendor.

KEYWORDS

Supply Chain Management, Vendor selection, Analytical Hierarchy Process (AHP).

INTRODUCTION

A supply chain is the stream of processes of moving goods from the customer order through the raw materials stage, supply, production, and distribution of products to the Customer. All organizations have supply chains of varying degrees, depending upon the size of the organization and the type of product manufactured [2]. These networks obtain supplies and components, change these materials into finished products and then distribute them to the customer. The first step is obtaining a customer order, followed by production, storage and distribution of products and supplies to the customer site satisfaction is paramount. In addition, key to the success of a supply chain is the speed in which these activities can be accomplished and the realization that customer needs and customer satisfaction are the very reasons for the network. Reduced inventories, lower operating costs, product availability and customer satisfaction are all benefits which grow out of effective supply chain. Supply chain management involves the flows of material, information and finance in a network consisting of customers, suppliers, manufacturers, and distributors. It begins with raw materials, Continues through internal operations, ends with distribution of finished goods. The short-term objective of SCM is primarily to increase productivity and reduce the entire inventory and the total cycle time, while the long-term objective is to increase customer satisfaction, market share, and profits for all organizations in the supply chain: suppliers, manufacturers, distribution centers (DCs), and customers.

In supply chains, coordination between a manufacturer and suppliers is typically a difficult and important link in the channel of distribution. Since suppliers are manufacturer's external organizations, the coordination with the suppliers is not easy unless systems for cooperation and information exchange are integrated [3]. The coordination between a manufacturer and suppliers is important because the failure of coordination results in excessive delays, and ultimately leads to poor customer services. Consequently, inventories of incoming parts from suppliers or those of finished goods at the manufacturer and distribution centres (DCs) may accumulate. Hence, the total cost of the entire supply chains will rise. Manufacturers are able to assist their suppliers by providing knowledge, skills, and experience, and to benefit in turn from suppliers' improved delivery performance and from fewer production disruptions that are caused by poor quality materials. The suppliers also can benefit by becoming more competitive than other suppliers as performance improves and costs go down. Thus, supplier development is a vehicle that can be used to increase the competitiveness of the entire supply chains.

OVERVIEW OF THE COMPANY

The company chosen for this research study is a famous automobile manufacturing industry for the two wheelers and located in the northern part of India. The company having a good number of overseas vendors and lead time of these vendors are very high. To handle the problem of high lead time company forced to kept huge inventory in the store to meet the customer demand without any service failure. Recently, the company planned to launch a improve version of exiting bike to improve the quality of the product. They planned to purchase the quality components/sub-assemblies at low cost and at a short duration of time. Instead of purchasing the components/sub-assembly material from the single vendor they noted that three alternative vendors, namely vendor1, vendor2 and vendor3 were taken into consideration. The company had planned to select the best vendor from the three vendors. The turnover of the company is 500 Cr/year having worker strength of about 700/shift. Instead of choosing the same vendor for supplying the bike components, a systematic approach has been applied for selecting a best vendor to supply the required components/sub-assembly.

FACT FILES OF COMPANY

1. Product range : Motor Bike.
2. Turnover : About Rs.500 Cr.
3. No of employees : 700
4. Quality specification : ISO 9002.
5. Total no. components. :1000
6. No. of vendors :45

RESEARCH METHODOLOGY

The supply chain of the company has been studied thoroughly by visiting the XYZ Ltd. Many times and many brains storming session have been conducted with the officials and the other to understand the company business environment. The research methodology can be summarized by figure 1. Identification of problems and opportunity areas in the board manner are undertaken using the following technique for further improvement.

1. SWOT analysis of the supply chain to identify the strengths, weakness, opportunity and threats.
2. Causes the effect analysis of the main problem in the supply chain to find out the key reason for effectiveness.
3. Summary of supply chain problem.
4. Opportunity identified to improve the existing supply chain.
5. Require data collection.
6. Development of flexible models to solving the problem.

FIGURE 1: RESEARCH METHODOLOGY

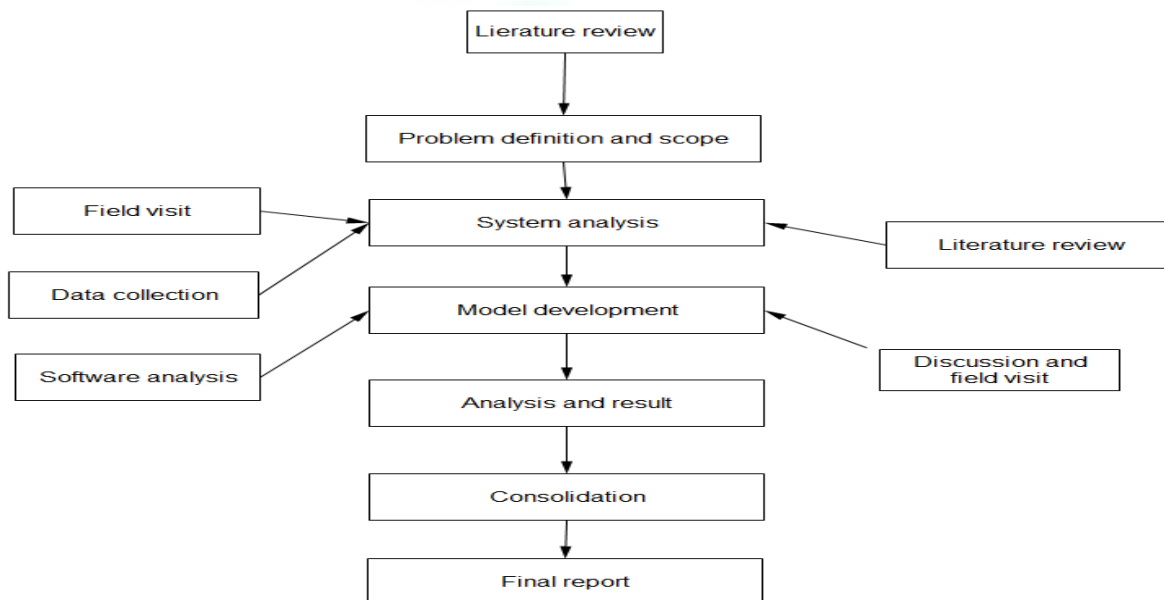
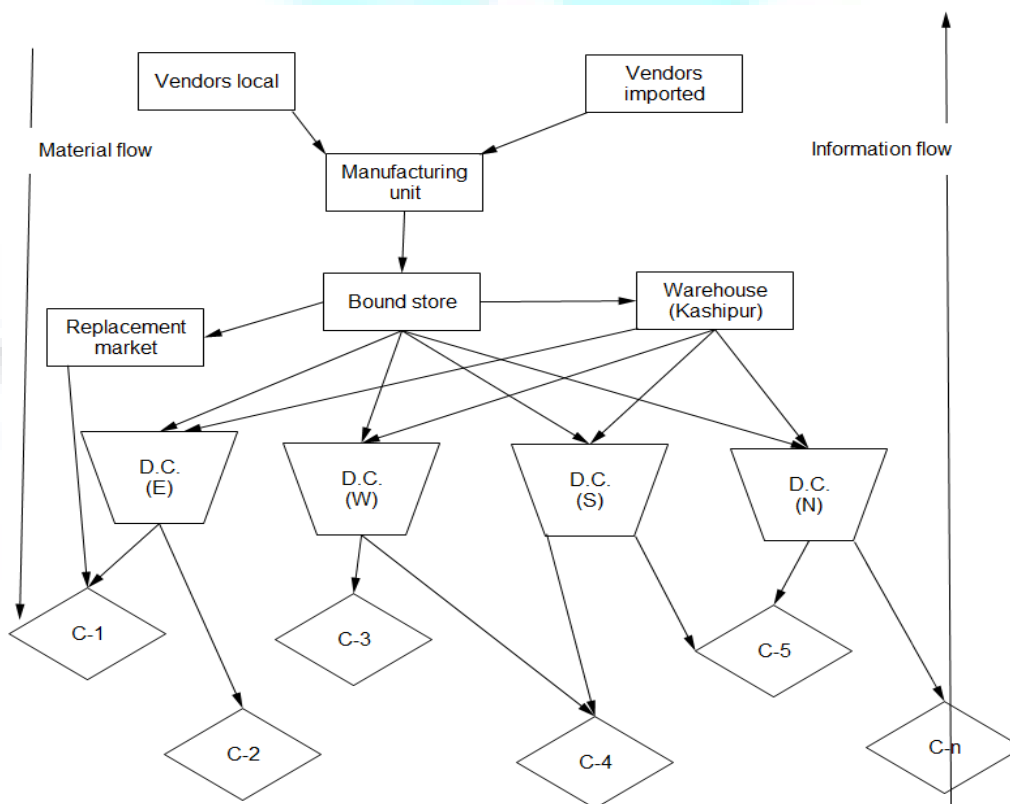


Fig. Work plan of project

OVERVIEW OF SUPPLY CHAIN OF THE COMPANY

FIGURE 2: OVERVIEW OF SUPPLY CHAIN OF THE COMPANY

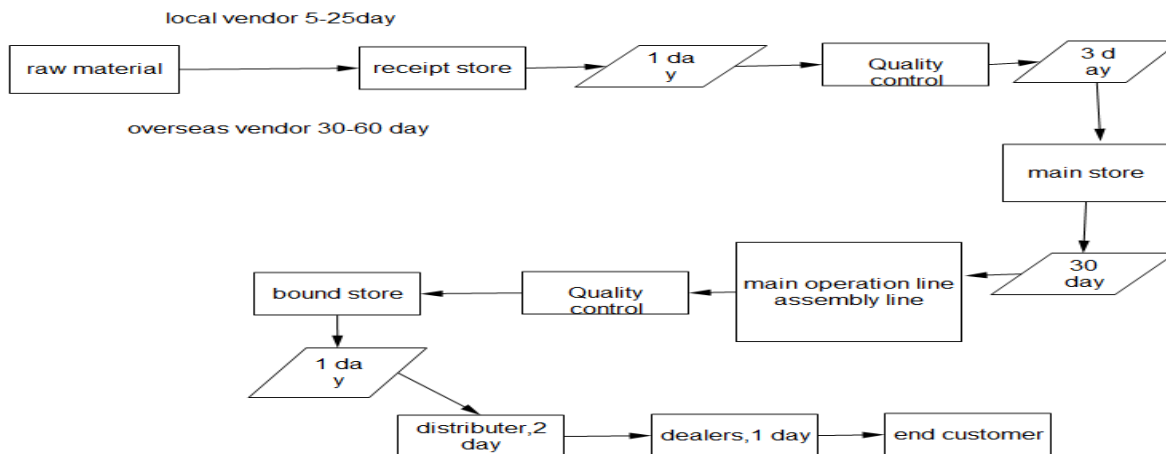


The figure 2 shows the various levels in the supply chain of the company. The simplified diagram gives the overview of the company supply chain. The important point in the company supply chain is that the all distributor are not share the information to each other whenever, uncertain demand occurs in the market for the product, then they inform to the company directly for the more product/quantity and not get it from the nearest distributor due to this stock out occurs and the company experienced the lost sales. This can be avoided by connecting the distributors to each other. In the company supply chain the finished goods are supplied to customers through three routes.

1. Direct to customer.
2. Warehouse/distributor to customer.
3. Replacement market to customer.

SUPPLY CHAIN MODEL OF THE COMPANY

FIGURE 3 EXISTING SUPPLY CHAIN MODEL



SWOT ANALYSIS OF COMPANY

STRENGTHS

1. Top leader in the automobile sector.
2. World class manufacturing technology.
3. Enthusiastic and knowledge manager and staff.
4. Strong financial background.
5. Fast diversifying company.
6. Collaboration with one of the top bike manufacturing in the world.

WEAKNESSES

1. Partially implemented supply chain,
2. Overseas suppliers are not linked with internet.
3. Lack of flexibility between supplier and manufacturing relationship.
4. No system perspective.
5. No consideration to value chain.
6. Partial utilization of resources.
7. Poor inventory management.
8. Distorted information flow.
9. Unable to exploit the potential of ERP.
10. Very high lead time.

OPPORTUNITIES

1. To implement automobile sector enabled supply chain management as the driver.
2. Exploit the potential of ERP.
3. Growing in rural areas.
4. Growing potential for developing countries.
5. Liberalized economy.
6. To exploit its full resources and its good will.
7. Development performance system.

THREATS

1. Competition in the market due to some player in the area.
2. Variation in the variety of the product is high.
3. Change Govt. of India policies.
4. Obsolescence rate is very high.
5. Competition from the top player in export market.

FIGURE 4 CAUSE-EFFECT DIAGRAMS FOR THE INEFFECTIVE SUPPLY CHAIN

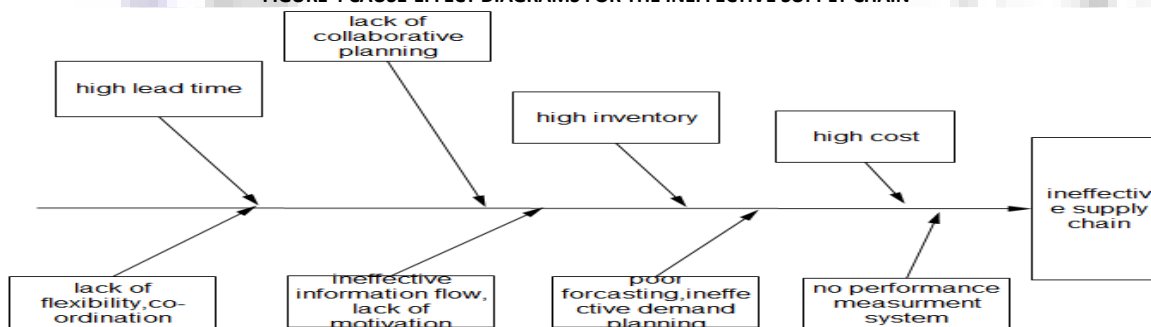
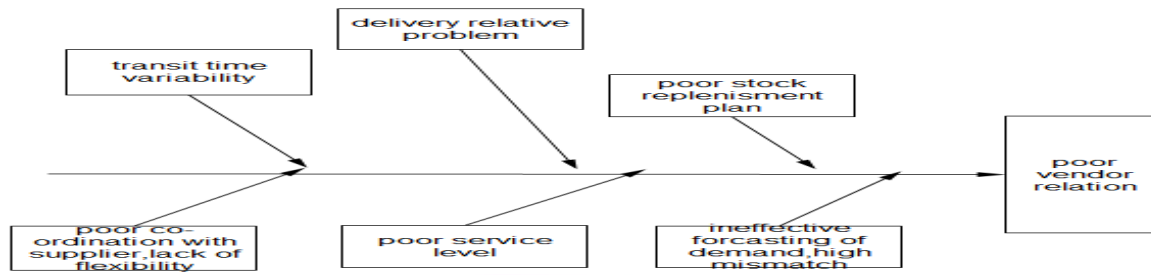


FIGURE 5: CAUSES-EFFECT DIAGRAMS FOR STOCK OUT



PRODUCTION ACTIVITY ANALYSIS

The activity at the company is analyzed and the time for the major activity for value adding and non value adding activity is identified. All the major activities right from the start of ordering to the final dispatching to the customer are analyzed and summarized in the table.1

TABLE 1: PRODUCTION ACTIVITY ANALYSIS

Left hand Side Activity (LH) Stage		Right Hand Side Activity (RH) Stage	
1.CM-1	Collect bearing. Race and pose bearing. Collect chassis from trolley and load on no. punch M/C number punching cycle start, load/unload with Zimmerman.	1	Collect rear wheel from trolley and load on conveyor, collect kit bin from trolley & load on conveyor. Remove empty kit from the conveyor.
CM-2	Position Sticker on card and position the card on vehicle. Scanning the bar code sticker, removed the rubber band and polythene.	2	Align & adjust rear wheel with co. member & place & place spacer.RBL spring and torque rod bolt placement.
CM-3	Hold chassis by tackle load chassis on slate conveyor align and adjust rear wheel with co-member and insert axle.	3	Fork fitment up to torque reset.
2.	ABS component flag positioning, paint on Number punch, upper bearing cage position, position handle bar holder.	4	Front fender prefitment with 4 bolts.
3.	Position of lock set, profit fork cap with nut, washer and 2 bolts, centre locking tightening.	5	Front fender tightening, torque rod bolt placement, front fender torque verification.
4	Engine inserting, Left side bkt and 14 mm bolts insertion, engine bkt and bolt on conveyor, breather pipe connection with clip, magneto coupler fitment.	6	Engine preferment, position adjusts.
5	Position chain on sprocket, positioning sprocket lock, Allen bolt (2 Nos) prefit and tight.	7	RH Engine lower bkt insertion & 14 mm prefit, carburettor clip fitment.
6	Engine Lower and hanging bkt tightening	8	RH Engine hanging bkt insertion & 12 mm prefit.
7	Seat cowl positioning, adjust chain tension & fit by using poke, Adjust nut and Coupling nut tightening.	9	Silencer gasket insertion, Engine tightening.
8	Bar code sticker on chassis, fork bkt fit with two bolts. Fork cap 2 bolt (17 mm) tightening.	10	Front wheel unloading, front break panel fitment with spacer, carburettor fitment.
9	Lower chain case preferment, handle holder upper positioning.	11	Front wheel tightening,
10	Upper chain case preferment, chain case tightening, adjuster nut tightening.	12	Rear wheel alignment and tightening, break rod tightening
11	Collect handle bar from trolley. Handle bar filament, tight front two bolts, rear nut tightening.	13	Collect muffler from trolley and position cylinder head 2 nuts prefit, 1 rear bolt prefit.
12	RR cover fitment and tightening, gear change lever fitment complete.	14	Silencer front nut tightening rider step tightening.
13	Seat cowl position and 3 screws fitment.	15	RBL insertion lower, silencer tightening complete, snap pin insertion in torque rod bolt.
14	Stem nut torque check, SPM cable fitment to speedometer, TPS connection and play setting.	16	Carburettor insulator insertion
15	PT fitment and tightening.	17	Handle bar cable routing
16	Side panel fitment, pt lock fitment.	18	SPM and flap filament
17	Fairing screw preferment.	19	SPM tightening, throttle wire connection in plunger.
18	Fairing screw tightening, SPM cable connection to panel's cable is tightening, focus screw tightening.	20	Lock in filament, 2 coupler connection.
19	Fork break connection, flag removal.	21	2 coupler connection, choke connection, spark plug filament.
20	Grab handle fitment and tightening.	22	Crab pipe routing, clutch connections/C filament and tightening.
21	Online Inspection	23	Firing screw prefitment.
22	Vehicle offline.	24	Fairing tightening, kick filament. RHSP panel filament.
		25	Online inspection.

OPPORTUNITY IDENTIFIED TO IMPROVE COMPANY PERFORMANCE

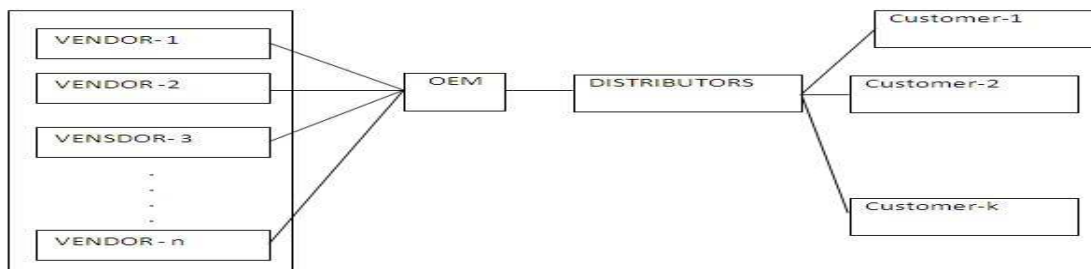
1. Make the supply chain agile, effective and responsive.
2. Development of an integrated performance measurement system
3. Integrate supply chain through IT intervention.
4. Improved the co-ordination with the suppliers to make inbound logistics more responsive and flexible.

EVALUATION OF VENDORS USING AHP METHOD

The company chosen for this work plan to build a supply chain for its new model of bike. Sub-assemblies and components to the bike can be outsourced to vendors/suppliers. Among the questions that arise are; which vendors are to be selected. The conceptual vendor selection model is shown in Fig. 6. Figure 6 explains about the overall theme (model) of the research, i.e., selection of best vendor from the 'n' numbers of vendors for the original equipment manufacturers (OEM) company. The attributes and the sub-attributes have to be most prevalent and important in the vendor selection process. Choosing the possible criteria for the vendor selection involves a decision making team which includes experts from the industry side (purchasing head, purchasing manager, sales manager, product manager, quality manager and production in-charge). The attributes and sub attributes involved in the vendor selection have been

chosen by conducting a survey. A questionnaire consisting of these factors was designed for the survey. The respondents for the survey are selected randomly from different functional areas of the original equipment manufacturers company who are directly involved with the components/materials supplied by the vendors.

FIGURE 6: BEST VENDOR SELECTION MODEL

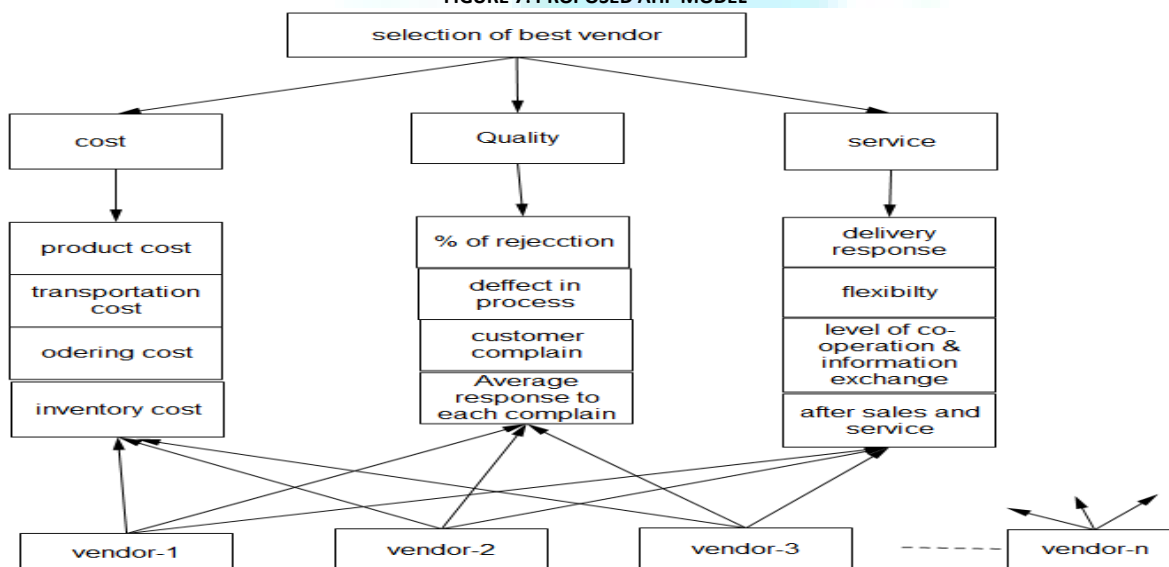


Based On the survey conducted the major influencing attributes and sub-attributes involved in vendor selection is given in Table 2. The objective is to select a set of vendors, evaluate and rank them according to redefined attributes. Figure 7 explains the AHP model.

TABLE 2: ATTRIBUTES & SUB ATTRIBUTE FOR THE VENDOR SELECTION

Attribute	Sub-attribute
Cost (C)	C1-Product Cost
	C2-Transportation cost
	C3-Ordering Cost
	C4-Inventory Cost
Quality (Q)	Q1-Percentage rejections
	Q2-Defect in process
	Q3-Customer complains
	Q4-Average response to each complain
Service(S)	S1-Delivery response
	S2-Flexibility in service
	S3-Level of coordination
	S4-After sales and service

FIGURE 7: PROPOSED AHP MODEL



ESTABLISHMENT OF A STRUCTURAL HIERARCHY

The AHP is a multi-attribute evaluation method that involves three phases: decomposition, comparative judgments, and synthesis of priorities (Saaty, 1980). In the decomposition phase, the project team can explicitly develop the AHP hierarchy model from the fundamental-objective hierarchy as mentioned above. In the second phase, each decision maker utilizes paired comparisons for the attributes and alternatives to extract judgment matrices with a nine-point scale at each level. In the third phase, the paired comparison process is repeated for each attribute in the alternative prioritization problem based on the largest Eigenvalue method. Finally, the relative importance of attributes and the global priority of alternatives can be obtained by aggregating the weights over the hierarchy. Hence, AHP can accelerate the development of a consensus amongst multiple decision makers in vendor management and selection process. A schematic representation of the AHP methodology is shown in Figure 8. This step allows a complex decision to be structured into a hierarchy descending from an overall objective to various 'criteria', 'sub-criteria', and so on until the lowest level. The objective or the overall goal of the decision is represented at the top level of the hierarchy. The criteria and sub-criteria contributing to the decision are represented at the intermediate levels. Finally, the decision alternatives or selection choices are laid down at the last level of the hierarchy. According to Saaty [3], a hierarchy can be constructed by creative thinking, recollection, and using people's perspectives. He further notes that there is no set of procedures for generating the levels to be included in the hierarchy. Zahedi [4] comments that the structure of the hierarchy depends upon the nature or type of managerial decision. Also, the number of the levels in a hierarchy depends on the complexity of the problem being analyzed and the degree of detail of the problem that an analyst requires to solve [3]. As such, the hierarchical representation of a system may vary from one person to another.

FIGURE 8: A SCHEMATIC REPRESENTATION OF THE AHP METHODOLOGY (ADOPTED SATTY, 1980)

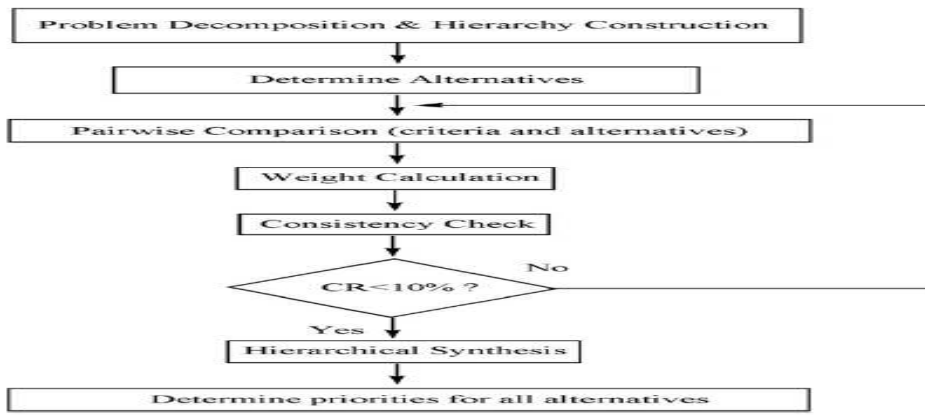


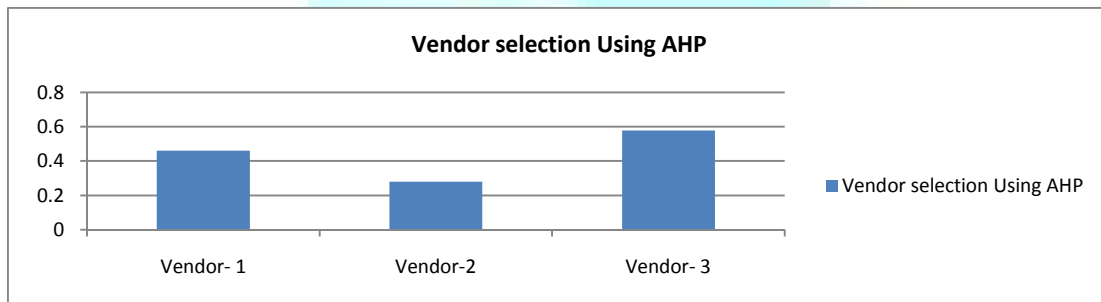
TABLE 3: OVERALL RATING OF THREE VENDORS IDENTIFY BY COMPANY USING AHP

Issues	Sub criteria	Weight	Local weight			Global weight		
			V-1	V-2	V-3	V-1	V-2	V-3
Cost C 0.1675	C-1	0.746	0.0315	0.3020	0.6660	0.00392	0.0377	0.0832
	C-2	0.176	0.0698	0.2573	0.6718	0.00205	0.00758	0.0198
	C-3	0.022	0.1102	0.3230	0.5675	0.00040	0.00119	0.0020
	C-4	0.056	0.0743	0.6021	0.3233	0.00069	0.00564	0.0030
Quality Q 0.7402	Q-1	0.660	0.0525	0.02568	0.6908	0.0256	0.1254	0.330
	Q-2	0.2062	0.0625	0.1830	0.7543	0.0095	0.0279	0.1140
	Q-3	0.0761	0.7268	0.0759	0.1973	0.0409	0.0042	0.0111
	Q-3	0.5750	0.7799	0.1603	0.0595	0.3319	0.0682	0.0253
Service S 0.0932	S-1	0.6042	0.7608	0.00613	0.2326	0.0428	0.000345	0.0130
	S-2	0.1189	0.7866	0.0332	0.180	0.00817	0.00367	0.00199
	S-3	0.0689	0.2960	0.0850	0.6183	0.00190	0.00540	0.00397
	S-4	0.0211	0.7010	0.0970	0.250	0.00137	0.00190	0.00491
						0.4612	0.2793	0.5770

TABLE 4: VENDOR RANKING USING AHP METHOD

Vendor Rating	Vendor 1	Vendor 2	Vendor 3
AHP	0.4612	0.2793	0.5770
Rank	2	3	1

FIGURE 9: OVER ALL COMPARISON OF VENDOR'S PERFORMANCE USING AHP



RESULTS OF AHP MODEL

In Table 3 and 4 based on the comparison of vendors and the methods applied it can be seen that vendor 3 is the preferred, since it has the highest weight of (0.5770) among three vendors. Vendor 1 is at the second choice (0.4612) and vendor 2 is at the last choice (0.2793). Figure 4 and table 9 explains the overall comparison of vendor ratings using AHP in the form of bar charts whose values are shown in Figure 4. Interestingly, the finding using the AHP approach is consistent with the determined vendor selection. It can be claimed that in this instance there are no clear decisions as to the best option especially between vendor 3 and vendor 1 since the difference is very low. In practice, sensitivity analysis should be carried out to determine the robustness of such decisions with respect to variations in the pair-wise rankings. An analysis can be made based on the changes in the significance of each sub-factor relative to others.

PROPOSED SUPPLY CHAIN MODEL FOR SUPPLY CHAIN

FIGURE 10 PROPOSED SUPPLY CHAIN MODEL FOR SUPPLY CHAIN

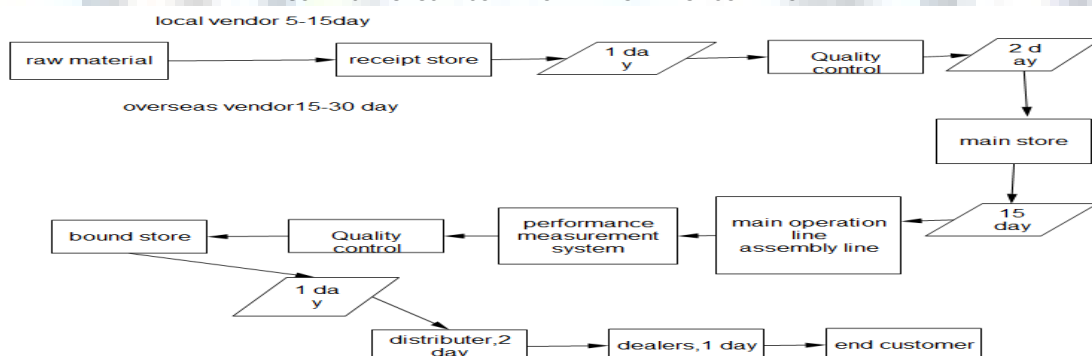


TABLE 5: COMPARISON OF EXISTING AND PROPOSED MODEL OF SUPPLY CHAIN

S.No.	Attributes.	Existing System.	Proposed System.
1.	Lead Time	High	Low
2.	Inventory	High	Reduced
3.	Quality of Service	Poor	Improved
4.	Information System	Ineffective	Effective
5.	Material Flow	Complex	Smooth
6.	Transportation Cost	High	Reduced
7.	Stock out	High	Reduced
8.	Sales	Low	Improved
9.	Documentation	Unstructured	Structured
10.	Vendor Rating	Absent	Initiated
11.	Spoilage	High and ignored	Decreased and Recycled
12.	Quality Assurance	Absent	Designed
13.	Customer Feedback	Absent	Initiated
14.	Supply Chain	Fragmented	Integrated

SUMMARY OF WORK DONE

- The existing supply chain of XYZ was reviewed and opportunities available for improvement have been identified.
- The existing planning process has been revised to make it more responsive to the market
- A strategic decision model using AHP framework for improving inbound logistics and good manufacturer-supplier relationship has been developed. The model contains inbuilt flexibility and it will be helpful to the XYZ Ltd. to meets the changing demand of the end customer.

EXPECTED BENEFITS TO COMPANY

- By implementing the suggested models the company will be able to meets the customer's expectation with desired flexibility. The models are flexible enough to react quickly to changing market scenario.
- Necessary change for improvement is thus possible as a result of inbuilt flexibility in the model.
- Rapid introduction of new or modified product.
- By sharing information, supply chain partners will be able to respond more rapidly to known demand and to do so with less inventory in the system as a whole and hence at lower cost.
- Reduction in lead-time of vendors due to online procurement and low operating costs by collaborated planning among the supply chain partners.

CONCLUSIONS AND DISCUSSION

This project concerned itself with developing a decision support model and performance measurement frame work which could give the management of XYZ Limited the flexibility and support to take strategic level, operational level and planning and control decisions effectively. A system analysis indicated that the flow of materials and information in the supply chain is complex with logistics strategy, changing demand and multiple parts, a choice of different objectives by the manager and the uncertainties associated with them. Due to these complexities, there is scope for assisting the managers to improve the decision effectiveness by using the developed models. Part of the difficulty in analytically modelling strategic decisions is their basis on quantitative and qualitative information with multiple dimensions. A quantitative model that can be used to integrate qualitative information and quantitative values and analysis is the Analytic Hierarchy Process (AHP) but a primary limitation is that its basic relationships do not allow for an integrated dynamic modelling of the environment. AHP assumes the system elements are uncorrelated and are single directionally influenced by a hierarchical relationship. The advantage of this approach helps management to better structure the decision to approach towards flexible supplier-manufacturer relationship with trust in online procurement. It also provides a structure for an organization to develop and enhance a logistics strategy. This analysis framework can be used for selection or justification of various logistics strategies and systems for trust building e-markets.

All the above models were discussed with the management of XYZ and management had appreciated the work done under this project.

REFERENCES

- [1] Garavelli, A., (2003). "Flexibility configurations for the supply chain management", *Int. J. Production Economics*, (85) 141–153.
- [2] Krause, D., Pagell, M., and Curkovic, S., (2001). "Toward a measure of competitive priorities for purchasing", *Journal of Operations Management*, (19) 497–512
- [3] Saaty, TL (2000) *Fundamentals of decision making and priority theory*, 2nd edn. RWS, Pittsburgh, PA 32.
- [4] Zahedi F (1986) The analytic hierarchy process: a survey of the method and its applications. *Interfaces* 16(4):96–108
- [5] Byrda, T., and Davidson, N., (2003). "Examining possible antecedents of IT impact on the supply chain and its effect on firm performance", *Information & Management* (41), 243–255.
- [6] Krause, D., Handfield, R., and Tyler, B., (2007). "The relationships between supplier development, commitment, social capital accumulation and performance improvement", *Journal of Operations Management*, (25) 528–545.
- [7] Vinay Patel (2010), *Supply Chain Management: A Case study of An Automobile Company*, an unpublished thesis, SLIET, Longowal, Punjab.
- [8] Shin, H., Collier, D., and Wilson, D., (2000). "Supply management orientation and supplier buyer performance", *Journal of Operations Management*, (18)317–333.

REQUEST FOR FEEDBACK

Esteemed & Most Respected Reader,

At the very outset, International Journal of Research in Commerce and Management (IJRCM) appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to take this opportunity to request to your good self to supply your critical comments & suggestions about the material published in this issue as well as on the journal as a whole, on our E-mails i.e. info@ijrcm.org.in or infoijrcm@gmail.com for further improvements in the interest of research.

If your good-self have any queries please feel free to contact us on our E-mail infoijrcm@gmail.com.

Hoping an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-

Co-ordinator