## AY 2016 – 17 :   Collaborative quality initiatives with other institution(s)

The following are the list of publications and MoU's for Qualitative Assurance Initiatives of the Institutions during the academic year 2016-17:

| S. No. | Details | No of Publications /MoU's |
|---|---|---|
| 1 | Publications | 25 |
| 2 | MoU's | 14 |

28/1/22

(Prof.Dr.V.Rajendran)
Principal

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Publications

| S. No. | Publication Details | Collaborative Institute | Name of the author/s | Department of the teacher | Name of journal | Year of publication | ISBN/ ISSN number |
|---|---|---|---|---|---|---|---|
| 1 | Isolation and partial purification of lectin from Seeds of cucurbita pepo | NMSSVN College, Madurai. | Dr.S. Gowri | Biochemistry | World Journal of Pharmaceutical Research | 2016-2017 | 2277– 7105 |
| 2 | Biosynthesis of copper nanoparticles using annonaMuricata leaf extract-characterization and their Antibacterial activity | NMSSVN College, Madurai. | Dr.S. Gowri | Biochemistry | World Journal of Pharmaceutical Research | 2016-2017 | Vol 5, No. 8, pp 977-987 |
| 3 | Exploration of antimutagenicity of plant mediated synthesis of silver nanoparticles using the plant extract *Anredera cordifolia* | Bharathiar University, Coimbatore | Mrs.K. Rajathi and S.Suja | Biochemistry | World Journal of Pharmaceutical Research | 2016-2017 | 2277– 7105 |

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| 4 | Adaptive On-Demand Multicast Routing Protocol for Mobile Adhoc Networks | Institute of Road and Transport Technology, Erode, | Dr.R.Rajesh Kanna | Computer Applications | International journal for Scientific Research & Development | 2016-2017 | 2278-1021 |
|---|---|---|---|---|---|---|---|
| 5 | A Hybrid Model for Thyroid disease classification using Evolutionary Multivariate KernalSvm Prediction Method | Periyar University | Mrs.K. Geetha | Information Technology | International Journal for Development of ComputerScience & Technology | 2016-2017 | 2278-1021 |
| 6 | Capital Structure Analysis of selected companies in Indian Textile Industry | Kovai Kalaimagal Collegeof Arts and Science, Coimbatore. | Dr.L.Senthil kumar | B.Com - Finance | International Journal of Business and Administration Research Review | 2016-2017 | Print ISSN: 2348-0653 online ISSN: 2347-856X |
| 7 | Factors affecting Consumer Buying Behaviour | CMS Institute of Management Studies, Coimbatore | Mrs.N. Ramya | B.Com (PA) | International journal of Applied Research | 2016-2017 | 2394-7500 |
| 8 | Cashless transaction: Modes, Advantages and | SNR Sons College, Coimbatore | Mrs.N. Ramya | B.Com (PA) | International Journal of Applied Research | 2016-2017 | 2394-7500 |

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| | Disadvantages | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 | A study of consumer buying behaviour in departmental store ( with special reference to Coimbatore City) | CMS Institute of Management Studies, Coimbatore | Mrs.N. Ramya | B.Com (PA) | International Journal of Applied Research | 2016-2017 | 2394-7500 |
| 10 | Spectral Spatial Classification Of Hyper Spectral Image Using Mean Shift Clustering. | SNR Sons College (Autonomous) | Mrs. D. Geethamani | BBA (CA) | International Journal of Science and Engineering Research (IJ0SER) | 2016-2017 | 3221 5687, (P) 3221 568X |
| 11 | A Case Study on Mobile Adhoc Network Security for Hostile Environment | Nehru Arts and Science College, Coimbatore | Dr D. Devi Aruna | BCA | International Journal of Scientific Research in Computer Science, Engineering and Information Technology | 2016-2017 | : 2456-3307 |
| 12 | LITERATURE REVIEW ON DATA MINING TECHNIQUES | Professional Group of Institutions Coimbatore | Dr. Suguna | Computer Applications | Int.J.Computer Technology & Applications | 2016-2017 | 2229-6093 |

| 13 | Characterization of the Wiener Index for Trees and connected graphs G with equal domination and acyclic domination number$\gamma$(G) = $\gamma$a(G) | Nirmala College for Women, Coimbatore- | Mrs. M.Yuvarani | Mathematics | International Journal of Pure and Applied Mathematics | 2016-2017 | 441-446 |
|---|---|---|---|---|---|---|---|
| 14 | Factors influencing Perception and satisfaction level among shoppers and their purchasing outcomes in malls. | SNS College of Engineering Coimbatore | Dr.M. Meenakshi Saratha | B.Com (PA) | International journal of Applied Research | 2016-2017 | 2394-5869 |
| 15 | Situational factors and changes on shoppers purchasing outcomes in Bangalore Shopping Malls | SNS College of Engineering, Coimbatore | Dr.M. Meenakshi Saratha | B.Com (PA) | International Journal of Research in Social Sciences | 2016-2017 | 2249-2496 |
| 16 | Explosives Properties of High Energetic Trinitrophen | Bharathiar University, Coimbatore, Sri Vasavi College, | Dr.R.Karuna than | Physics | Arabian Journal of Chemistry | 2016-2017 | 1878-5352 |

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|---|---|---|---|---|---|---|---|
| | yl Nitramide Molecules: A DFT and Aim Analysis | Erode, Sri Shakthi Institute of Engineering and Technology, Coimbatore | | | | | |
| 17 | Theoretical Studies on 3-Aminorhodaninederivatives in the Gas Phase: Charge Delocalization and NLO Properties | SNS College of Technology, Coimbatore, PSG College of Arts and Science, Coimbatore | Dr.R.Karunathan | Physics | International journal of innovations in scientific and engineering research | 2016-2017 | 2347-9728 |
| 18 | Molecular mechanism underlying quercetin induced apoptosis by insilico analysis and in Prostate cancer PC-3 cells | Bharathiyar University, Coimbatore. | Mrs.K.Rajathi | Biochemistry | International journal of pharma and biosciences | 2016-2017 | 0975-6299 |
| 19 | An certain investigations of emerging data technologies and its applications | Institute of Road and Transport Technology, Erode | Dr.R.Rajeshkanna | BCA | International journal for in scientific research & Development | 2016-2017 | 2321-0613 |
| 20 | An | Institute of | Dr.R.Rajesh | BCA | IJRDO- | 2016-2017 | 2456- |

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|   | improvement of energy efficient multipath routing node management techniques for MANET. | Road and Transport Technology, Erode | kanna |  | Journal of computer science and engineering |  | 184 |
|---|---|---|---|---|---|---|---|
| 21 | An efficient mining technique for web cache of server log files | Chikkanna Government Arts College, Tirupur | Ms.K.Suguna | BCA | International journal of advances in engineering and technology | 2016-2017 | 2231 19 63 |
| 22 | Frequent Pattern Mining of Web Log Files Working Principles | Chikkanna Government Arts College, Tirupur | Ms.K.Suguna | BCA | International journal of computer applications | 2016-2017 | 0975-8887 |
| 23 | Factors influencing freight forwarders in selection of airlines | Kamban College of Arts and Science, Palladam, Tirupur | Dr. P. Jayasubramanian | Commerce CA | International Journal of Interdisciplinary Research in Arts and Humanities | 2016-2017 | 2456 -3145 |
| 24 | Digital Commerce Policy: A Value Design | Kamban College of Arts and Science, | Dr. P. Jayasubramanian | Commerce CA | Indian journal of applied research | 2016-2017 | 2249-555X |

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| | Instrument | Palladam, Tirupur | | | | | |
|---|---|---|---|---|---|---|---|
| 25 | Structural equation modeling on shoppers purchasing outcomes in shopping malls, Coimbatore City | SNS College of Engineering, Coimbatore. | Dr.M. Meeakshi saratha | Commerce PA | International journal of multidisciplinary research and development | 2016-2017 | 2349-5979 |

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## ISOLATION AND PARTIAL PURIFICATION OF LECTIN FROM SEEDS OF CUCURBITA PEPO

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### ISOLATION AND PARTIAL PURIFICATION OF LECTIN FROM SEEDS OF *CUCURBITA PEPO*

Ravichandran P.[1], Dr. Gowri S.[1]* and Sundara Prasath S.[2]

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**ABSTRACT**

Crude plant lectins were isolated from the seeds of Pumpkin seed (*Cucurbita pepo*). Lectins isolated were purified by ammonium sulphate precipitation and dialysis. The amount of proteins and carbohydrates present in crude extract and purified samples were estimated. Lectin was characterized by hemagglutination assay using human erythrocytes of A, B, AB and O groups and the specific activities were determined in crude and purified samples. The stability of the purified lectin samples was determined at various pH and temperature values. The ability of the lectins to bind the bacterial strains were analyzed with strains namely *E.coli*, *Klebsiella pneumoniae* and *S.aureus*.

**KEYWORDS:** *Cucurbita pepo*, Lectin, Isolation, Purification, Hemagluntination, Antibacterial activity.

https://1library.net/document/yng27mkz-isolation-partial-purification-lectin-seeds-cucurbita-pepo.html    1/14

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## BIOSYNTHESIS OF COPPER NANOPARTICLES USING *ANNONA MURICATA* LEAF EXTRACT-CHARACTERIZATION AND THEIR ANTIBACTERIAL ACTIVITY

**Ravichandran P.[1], Dr. Gowri S.*[2], Sundara Prasath S.[3]**

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**ABSTRACT**

Vegetable mediated synthesis of nanoparticles is a green chemistry approach that connects nanotechnology and biotechnology. In the present investigation, we have used a fast, convenient and environment friendly method for the synthesis of copper nanoparticles by biologically reducing copper nanoparticles with aqueous extract of *Annona Muricata* under optimum conditions (pH 7.2). The formation of copper nanoparticles was indicated by the colour change from blue to pale brown. Biosynthesized nanoparticles were characterized by UV-Vis, XRD, SEM, Particle size analysis, Zeta potential analysis and FT-IR analysis. These biologically synthesized copper nanoparticles were tested for antimicrobial activity against three human pathogens viz, *E.Coli*, *Klbesiella pneumoniae* and *Staphylococcus aureus*.

**KEYWORDS:** *Annona Muricata,* UV-Vis, XRD, SEM, FT-IR and Antimicrobial activity.

## INTRODUCTION

The word "nano" is used to indicate one billionth of a meter or $10^{-9}$. Nanoparticles are clusters of atoms and their size from 1–100 nm. "Nano" is a Greek word meaning extremely small.[1] Nanotechnology is a field of science which deals with production, manipulation and use of materials ranging in nanometers.[2] Nanotechnology provides the ability to engineer the properties of materials by controlling their size, and this has driven research toward a multitude of potential uses for Nanomaterials.[3]

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# EXPLORATION OF ANTIMUTAGENICITY OF PLANT MEDIATED SYNTHESIS OF SILVER NANOPARTICLES USING THE PLANT EXTRACT *Anredera Cordifolia*

**Rajathi.K*[1] and S.Suja[2]**

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**ABSTRACT**

Nanotechnology is a rapidly growing field with its numerous applications in science and technology. Mutation is an important factor in inducing carcinogenesis. This study reports that the antimutagenic activity of the plant extract *Anredera Cordifolia* is used to reduce the exposure of mutation and its inducing agent. The antimutagenic activity was assessed in the silver nanoparticle synthesized plant extract of *Anredera Cordifolia*. The synthesized silver nanoparticle was characterized using SEM analysis, X-Ray diffraction and UV-Visible spectroscopy. Ames test was performed. Antimutagenic activity of the silver nanoparticle synthesized plant extract *Anredera cordifolia* was tested against *Salmonella typhimurium* strains TA 98, TA 100 using direct acting mutagens and those needing activation by Ames test. Determination of antimutagenicity against mutagens was assayed using plate incorporation method. The activity indicates that silver nanoparticles of *Anredera Cordifolia* are capable of redending antimutagenic efficiency.

**KEYWORDS:** Silver nanoparticle, antimutagenic, *Anredera cordifolia*.

## 1.0 INTRODUCTION

Cancer is associated with abnormal uncontrolled cell growth or cell proliferation [1]. Cancer is caused by both external factors such as tobacco,chemicals, radiation and infectious organisms and internal factors like inherited mutations,hormones, immune conditions, and mutations

# Adaptive On-Demand Multicast Routing Protocol for Mobile Ad Hoc Networks

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[1]Department of Computer Applications [2]Department of Computer Science and Engineering
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*Abstract*— Mobile ad hoc network (MANET) is a collection of autonomous mobile nodes forming an ad hoc network without fixed infrastructure. Dynamic topology property of MANET may degrade the performance of the network. However, multipath selection is a great challenging task to improve the network lifetime. However, E-ODMRP implements an adaptive control mechanism with a cross-layer algorithm for the physical layer. When a node transmits multicast data, E-ODMRP can adjust the transmission rate and power level of the physical layer to minimize packet drop or retransmission due to interference between nodes belonging to the forwarding group. The proposed algorithm performs cluster formation for the base station using the range of direction and threshold of velocity. We calculate the exchange of the cluster head node probability using the direction and velocity for maintaining cluster formation. Simulation results confirmed that E-ODMRP provides an improved throughput of up to 46% compared to ODMRP.
*Key words:* ODMRP, Routing, Multicasting, Delivery Ratio, MANET

## I. INTRODUCTION

Mobile ad hoc network (MANET) consists of nodes that have mobility. The nodes both send and receive messages and can communicate with each other. Thus, the network builds its own network structure that is not dependent on infrastructure. Due to the characteristics of mobile ad hoc networks, MANET has been used in the environments of poor communication, such as those where infrastructure cannot be built, as in disaster areas or war zones [4, 5]. Cluster networks using properties of the node have been studied particularly extensively. A cluster network is divided into mobile groups by setting the rules of communication protocols. The mobile groups elect the cluster head node for managing groups. The cluster head node aggregates sensing data sent by a cluster member node and then sends the aggregated data to the base station [6]. However, if the cluster head node is discharged or does not move due to poor environmental conditions, the routing path is disconnected from the cluster head node. Therefore, the network cannot communicate in a stable fashion. In that case, the cluster network reelects the cluster head node to recover the routing path. However, dynamic properties of a node cause frequent disconnections and routing recovery. In addition, the nodes have constraints, such as limited transmission bandwidth and energy, as well as topology changes. To reduce the number of disconnections and in order to set the routing path, the network sends a control packet. Eventually, the load is increased.

Multipath routing in a MANET [8] is established in order to increase the reliability of data transmission that provides load balancing among the nodes. The use of multiple disjoint paths transferred the data in parallel that significantly increases the packet delivery ratio. Multipath routing schemes [9] deal with the problem of scalability, confidentiality, integrity, and network lifetime. Multiple-path routing [10] between source and destination ensures reliability of the data transmission in a MANET. Existing multipath routing schemes in a MANET lead to problems such as flooding, empty set of neighbors, flat addressing, widely distributed information, large energy consumption, interference, and load balancing issues. Therefore, the efficient multipath routing scheme is proposed to solve one or more of these issues. And also the existing multipath routing schemes do not perform well in dynamic environment change and frequent path failure. They also generate a routing overhead in the network. The routing overhead occupies a considerable portion of network bandwidth and the energy of the mobile node exhausts rapidly. Hence, with minimum overhead, the reliable multipath routing protocol is essential for designing to restrict the participation of mobile nodes in a route discovery phase that ensure reliability of data transmission. Evolutionary mechanism paradigm [11, 12] is most suitable to resolve multi object problems because they are based on population. It generates a set of solutions in one run.

## II. MANET MULTICASTING CHALLENGES AND ISSUES

Issues and challenges presented by MANET multicasting include the following [2–10].

### A. Resource Management

Mobile nodes in MANETs are limited in resources such as power and memory, so a multicast protocol minimizes the consumption of these resources and utilizes them in such a manner as to ensure competent handling of information with efficient resource consumption, such as by minimizing the use of state information packets.

### B. Link Failure

Because of the random mobility of the nodes and the wireless nature of links, link stability is hard to preserve in mobile ad hoc networks.

### C. Control Overhead

In multicast transmission, we need to keep track of the members involved in the multicast transmission; thus, we need control packets to be exchanged between them. Since only limited bandwidth is provided in MANETs, this may result in significant overhead requirements, so the design of MANET should take into consideration the need to keep the control packet size to a minimum.

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# A Hybrid Model for Thyroid Disease Classification Using Evolutionary Multivariate Kernal SVM Prediction Method

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**Abstract:** Thyroid diseases are widespread worldwide. In India too, there is a significant problems caused due to thyroid diseases. Various research studies estimates that about 42 million people in India suffer from thyroid diseases. There are a number of possible thyroid diseases and disorders, including thyroiditis and thyroid cancer. This paper focuses on the classification of two of the most common thyroid disorders are hyperthyroidism and hypothyroidism among the public. The National Institutes of Health (NIH) states that about 1% of Americans suffer from Hyperthyroidism and about 5% suffer from Hypothyroidism. From the global perspective also the classification of thyroid plays a significant role. The conditions for the diagnosis of the disease are closely linked; they have several important differences that affect diagnosis and treatment. The data for this research work is collected from the UCI repository which undergoes pre-processing. The pre-processed data is multivariate in nature. Curse of Dimensionality is followed so that the available 21 attributes is optimized to 10 attributes using Hybrid Differential Evolution Kernel Based SVM algorithm. The subset of data is now supplied to Support Vector Machine (SVM) classifier algorithm where Radial Basis Function Kernal (RBF) is used. In order to stabilize the errors this iterative process takes 30 runs and the data is classified. The accuracy of classification is observed to be 67.97%. This result is average when compared to our previous work that used the Kernel based Naïve bayes classifier.

**Keywords:** Classification, Curse of Dimensionality, Differential Evolutionary algorithm, Multivariate Bayesian prediction, Radial Basis Function Kernel, Support Vector Machine, Thyroid disease, Wrapper model.

## 1. INTRODUCTION

According to a recent study published by the daily Times of India, one in ten adults in India suffers from hypothyroidism. This estimation is found on the basis of a survey conducted by Indian Thyroid Society. The study also depicts awareness for the thyroid disease and is ranked 9th when compared to other common diseases like asthma, cholesterol, depression, diabetes, heart problem and insomania. Medical practitioners say that the symptoms of thyroid are similar to other disorders. However, the survey revealed that only 50%, of the survey population are aware of thyroid disorder, know that there are diagnostic tests for detection of this disease [3].

Thyroid disorders damage the normal functioning of the thyroid gland which causes abnormal production of hormones leading to hyperthyroidism. The occurrence of hypothyroidism in the developed world is estimated to be about 4-5%. Hypothyroidism may cause high cholesterol levels, an increase in blood pressure, cardiovascular complications, decreased fertility, and depression if not properly treated.

Hence creating awareness among the public about the symptoms and types of this disease and its diagnosis plays a crucial importance of the hour. The main objective of this research work is to show the classification of more significant features from the available raw medical dataset which helps the physician to arrive at an accurate diagnosis of Thyroid among public.

This paper is organized in such a way that section 2 elaborates about thyroid disease types, symptoms and the ill effects. Section 3 deals with the background study conducted by various authors.

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## CAPITAL STRUCTURE ANALYSIS OF SELECTED COMPANIES IN INDIAN TEXTILE INDUSTRY

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*\*\*Head, Department of Commerce, Kovai Kalaimagal Collegeof Arts and Science, Coimbatore.*

**Abstract**
*Capital structure is the composition of debt and equity securities that are used to finance company's assets. Both debt and equity securities are used by most of the companies to raise funds. Having determined its investment policy, a company should plan the sources of finance and their mix. Companies which do not formally plan their capital structures are likely to face difficulties in raising capital on favourable terms in the long-run. Financial experts and authorities differ as to the composition of funds in capital structure. Some believe that the capital structure and the financial structure are the same and hence, the capital structure represents both long-term and short-term sources of finance..Hence the researcher has made an attempt to study the capital structure analysis of textile industry in India and to make suitable suggestion towards to improve capital structure in future.*

*Key Words: Cost of Capital, Capital Structure and Textile .*

### Introduction
Indian Textile Industry can essentially be categorized into two segments:Organized Textile Industry and Unorganized Textile Industry. Organized Textile Industry is a highly organized one with immense importance on capital intensive production process. This sector is characterized by sophisticated mills where technologically advanced machineries are utilized for mass production of textile products. Unorganized Textile Industry sector is the dominant part in this industry which mainly utilizes the traditional practices (woven or spun) in cloth production and hence is labour intensive in nature. This industry is characterized by the production of clothes either through weaving or spinning with the help of hands. The decentralized nature is considered as another important feature of the unorganized textile industry in India.

### Need for the Study
There is a need to study the industries internal efficiency which ultimately shall determine the overall industrial development in future. Hence the present study is attempted to offer a detailed investigation of analysis of capital structure of Indian textile industry. The importance of textile products in the modern life is so obvious that no other manufactured product possesses such diversity of use. Some research studies have been undertaken to empirically investigate the design of capital structure of textile industry at the state level and a few studies relating to individual mills. But no study has been exclusively conducted to analyze the pattern of capital structure of textile industries. In this context an attempt has been made to investigate the design of capital structure of large scale companies in Indian textile industry for a period of ten years from 2003-04 to 2013-14.

### Statement of the problem
Numerous studies have been carried out to empirically test capital structure theories which try to establish whether they could explain the capital structure of companies as well as figuring out which determinants were important when considering companies' capital structure. With regard to other industries in India, a few scientific and detailed studies have been undertaken by different researchers and institutions. It is observed from the existing literature on capital structure that there is no a single comprehensive and intensive study touching upon various aspects of capital structure of textile industry yet.

### Objectives
The primary purpose of the present study is to obtain a true insight into the capital structure analysis of Indian textile industry. For carrying out the study, the following specific objectives have been set.
1. To examine the capital structure of selected textile companies.
2. To offer suggestions for improving capital structure of selected companies in Indian textile industry.

### Scope of the Study
The study investigated the capital structure analysis of Indian textile industry of listed companies in India.

### Limitations of the Study
a) The entire study is based on secondary data.
b) The nature of the present study is just of an explanatory nature; it does not claim to examine in an exhaustive manner to various other possible diverse factors influencing a company's overall cost of capital.
c) The study is confined only to those companies which are listed on the Bombay Stock Exchange (BSE).

International *Journal* of Applied Research

# Factors affecting consumer buying behavior

**N Ramya and Dr. SA Mohamed Ali**

**Abstract**
Consumer Buying Behaviour refers to the buying behaviour of the ultimate consumer. Many factors, specificities and characteristics influence the individual in what he is and the consumer in his decision making process, shopping habits, purchasing behavior, the brands he buys or the retailers he goes. A purchase decision is the result of each and every one of these factors. An individual and a consumer is led by his culture, his subculture, his social class, his membership groups, his family, his personality, his psychological factors, etc.. and is influenced by cultural trends as well as his social and societal environment. By identifying and understanding the factors that influence their customers, brands have the opportunity to develop a strategy, a marketing message (Unique Value Proposition) and advertising campaigns more efficient and more in line with the needs and ways of thinking of their target consumers, a real asset to better meet the needs of its customers and increase sales.

**Keywords:** Pigeonholing, chunking, law of primacy, socio-economic classification

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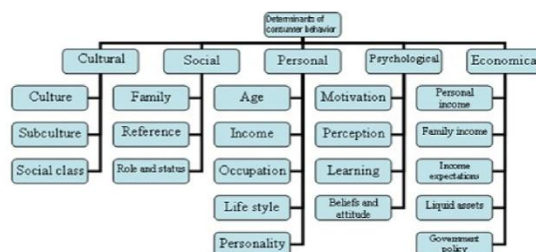Studies, Coimbatore – 641049,
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**Introduction**
Consumer buying behavior refers to the selection, purchase and consumption of goods and services for the satisfaction of their wants. There are different processes involved in the consumer behavior. Many factors, specificities and characteristics influence the individual in what he is and the consumer in his decision making process, shopping habits, purchasing behavior, the brands he buys or the retailers he goes. A purchase decision is the result of each and every one of these factors. Initially the consumer tries to find what commodities he would like to consume, then he selects only those commodities that promise greater utility. After selecting the commodities, the consumer makes an estimate of the available money which he can spend. Lastly, the consumer analyzes the prevailing prices of commodities and takes the decision about the commodities he should consume. Meanwhile, there are various other factors influencing the purchases of consumer such as social, cultural, economic, personal and psychological.

**Factors Influencing Consumer Buying Behaviour**
The consumer behaviour or buyer behaviour is influenced by several factors or forces. They are: 1. Internal or Psychological factors
2. Social factors
3. Cultural factors
4. Economic factors
5. Personal factors.

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**International Journal of Applied Research**

# Cashless transaction: Modes, advantages and disadvantages

**N Ramya, D Sivasakthi and M Nandhini**

**Abstract**
The RBI and the Government are making several efforts to reduce the use of cash in the economy by promoting the digital/payment devices including prepaid instruments and cards. RBI's effort to encourage these new varieties of payment and settlement facilities aims to achieve the goal of a 'less cash' society. With limited cash in hand and an indefinite crunch in sight, most people are rushing to cashless transactions. Digital transactions bring in better transparency, scalability and accountability. The new move will compel more merchants to accept digital money. Cash may no longer be king.

**Keywords:** Convergence, NEFT, RTGS, AEPS, point of sale

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## Introduction
**Cashless Transaction Economy**
The RBI and the Government are making several efforts to reduce the use of cash in the economy by promoting the digital/payment devices including prepaid instruments and cards. RBI's effort to encourage these new varieties of payment and settlement facilities aims to achieve the goal of a 'less cash' society. Here, the term less cash society and cashless transaction economy indicate the same thing of reducing cash transactions and settlement rather doing transactions digitally.

Cashless transaction economy doesn't mean shortage of cash rather it indicates a culture of people settling transactions digitally. In a modern economy, money moves electronically. Hence the spread of digital payment culture along with the expansion of infrastructure facilities is needed to achieve the goal.

On November 8th, government withdrawn Rs 500 and Rs 1000 notes- two highest denominations in circulation. Main objectives were to fight counterfeit money and black money. The action has given tremendous boost to cashless transactions as card based and digital payments were not hindered when all high denomination cash transactions suffered because of absence of high denomination currencies.

## Efforts towards cashless transaction economy
The RBI and government have launched several measures for the spread of electronic and other non-cash settlement culture.

The Vision-2018 for Payment and Settlement Systems in India brought by the RBI in June 2016 reiterates the commitment to encourage greater use of electronic payments by all sections of society so as to achieve a "less-cash" society.

"The broad contours of Vision-2018 revolve around five Cs — coverage, convenience, confidence, convergence, and cost. To achieve these, Vision-2018 will focus on four strategic initiatives such as responsive regulation, robust infrastructure, effective supervision and customer-centricity," – RBI. The vision statement highlights following plans:
- The regulator wants to reduce the share of paper-based clearing instruments
- It aims to raise growth of the digital payments space
- It wants to ensure accelerated use of Aadhaar in payment systems

Government also made fiscal measures for the encouragement of card culture in the 2016 budget. Exempting service charge on card-based and other digital payments was one such step.

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# A study of consumer buying behaviour in departmental store (with special reference to Coimbatore city)

## N Ramya, Dr. SA Mohamed Ali and A Bhuvaneshwari

### Abstract
The growth in the Indian organized retail market is mainly due to the change in the consumer behavior. Organized sector in retailing has to go a long way to understand the customer requirements. Consumer behavior is an important factor that will help them to tap the consumer in a better way. Consumers always look for the benefits of shopping in an organized retail store in the terms of self, selection, etc. Variety and also seek value for the money they pay and purchasing the convenience goods.

**Keywords:** Consumer buying behaviour, organized sector, convenience goods

## Introduction
Consumer buying behavior refers to the buying behavior of the ultimate customers. Consumer behavior has been always of great interest to marketers. A consumer buying behavior is influenced by social, cultural, personal and psychological factors. Consumer behavior refers to the selection, purchase and consumption of goods and services for the satisfaction of their wants. A Departmental stores in any city is a large retail trading organization as the level of services is very high. Department store are very large stores offering a huge assortment of "soft" and "hard" goods which often bear a resemblance to a collection of specialty stores.

## Objectives
- To study about the demographic, social and cultural factors on the stores.
- To know about the consumer awareness about the departmental stores.
- To examine the factors influencing the customers to choose a particular store.
- To study about the consumer buying decision making.
- To identify the problems faced by the consumers in the departmental store.

## Research methodology
- **Sources of data:** The study is based on a primary data and secondary data. The primary data has been collected using the Questionnaire. The secondary data has been collected from other sources like journals, Articles, and websites.
- **Sample size:** The study is based on Primary data which has been collected from 150 respondents.
- **Sampling technique:** The 150 respondents were selected by Convenience sampling technique.

## Tools for analysis
- Percentage Analysis
- Rank Analysis
- Likert scale Analysis

## Review of literature
William Applebaum [1], in the study, consumer behavior in retail stores usually deals with the identification customer and their buying behavior factors.

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# Spectral Spatial Classification Of Hyper Spectral Image Using Mean Shift Clustering

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*Abstract:-*We propose a novel approach for solving the perceptual grouping problem in vision. Rather than focusing on local features and their consistencies in the image data, our approach aims at extracting the global impression of an image. In existing method image segmentation using the normalized cut. The normalized cut criterion measures both the total dissimilarity between the different groups as well as the total similarity within the groups. We show that an efficient computational technique based on a generalized Eigen value problem can be used to optimize this criterion. In our proposed method mean shift algorithm is used for segmenting the region. It requires low computational complexity and is therefore very feasible for real-time image segmentation processing. It preprocesses an image by using the MS algorithm to form segmented regions that preserve the desirable discontinuity characteristics of the image

Keywords: Hyper spectral, segmentation, classification, mean shift clustering

### INTRODUCTION:

Segmentation is an image processing technique which is nearly an unavoidable preprocessing step. There are many techniques used for segmentation in the field of IP, which can be adapted to remote sensing applications. Adapting the algorithm to remote sensing is same as using the techniques for real world datasets. For a remote sensing system the desirable output of segmentation are well defined regions or features of object which can be distinguished from another. These features are affected by the homogeneity of regions. Homogeneity can be recognized as same color or same texture for a region. The remote sensing images of a natural region such as forest have regions of greenery more. This helps in the segmentation of those regions which may be a good part of the image. If it is an urban image the number of regions will be more with lots of small homogenous regions.

In real world remote sensing imagery, the homogeneity may not be evident as expected. There will often be small gradient and textural variation. The images also may contain large number of regions, which may not be known prior to execution. These interfere in the segmentation steps and further processing using those regions. Some of the earlier version of segmentation included edge based, contour based, model based, template based and also region based segmentation. It has stated the usage of edge based segmentation as having the problem of giving large number of edges, due to trees in natural images and blocks in urban areas. The edges were needed then to group and form meaningful geometry. The algorithms are not viable, due to the reason that edge grouping to segment a region with specific geometry is of non-polynomial complexity. Using region based segmentation techniques such as K-Means segmentation techniques has the inherent disadvantage of knowing the number of regions prior to segmentation, which is not known in

real world cases. Contour based techniques such as Active contour models [3], sometimes used in remote sensing also has the problem of knowing the approximate location of the region and also the noises will hinder its performance. A template based approach [4] is not scale invariant and using multiple scales is not suited in real time detection. Color based segmentation is also not suited for the problem due to the fact that the object may have gradient variation and color ranges. It has also given an overview of the use of segmentation technique in remote sensing. He has stated some of the method with example and also given some of the applications in which segmentation can be used. This paper is organized such that the next section describes about the challenges in segmentation, followed by the solution to the challenges which is identified as the technique known as mean shift segmentation. A case study is also presented as proof.

*Exploiting manifold geometry in hyperspectral imagery*

A new algorithm for exploiting the nonlinear structure of hyperspectral imagery is developed and compared against the de facto standard of linear mixing. This new approach seeks a manifold coordinate system that preserves geodesic distances in the high-dimensional hyperspectral data space. Algorithms for deriving manifold coordinates, such as isometric mapping (ISOMAP), have been developed for other applications. ISOMAP guarantees a globally optimal solution, but is computationally practical only for small datasets because of computational and memory requirements. Here, we develop a hybrid technique to circumvent ISOMAP's computational cost. We divide the scene into a set of smaller tiles. The manifolds derived from the individual tiles are then aligned and stitched together to recomplete the scene. Several alignment methods are

# A Case Study on Mobile Adhoc Network Security for Hostile Environment

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## ABSTRACT

A mobile adhoc network (MANET) is a peer to peer wireless network where nodes can communicate with each other without infrastructure. Due to this nature of MANET; it is possible that there could be some malicious and selfish nodes that try to compromise the routing protocol functionality and makes MANET vulnerable to Denial of Service attack in military communication environments. Hence security is an important challenge while deploying MANET. This research effort examines the case study for a Layerwise Security (LaySec) framework that provides security for an ad-hoc network operating in a military environment. LaySec incorporates three security features (Secure neighbor authentication and Layerwise Security techniques and multipath routing) into its framework while maintaining network performance sufficient to operate in hostile environment. layerwise security protocol has been implemented and simulated on Qualnet 5.0. Based on the simulation result, it is observed that the proposed approach has shown better results in terms of Quality of Service parameters like Average packet delivery ratio, Average throughput, Average end to end delay and Routing Overhead.

**Keywords :** Mobile Adhoc Network, Layer Wise Security Protocols, Denial of Service Attack.

## I. INTRODUCTION

Recent years Mobile ad hoc Networks start gaining attention from the industrial and academic research community due to their wide deployment and inherent nature of solving practical real world applications[1][4].The ease of deployment without the existing infrastructure makes ad hoc networks an attractive choice for dynamic situations such as military operations, disaster recovery, and so forth. Especially, military communication environments have been considered as one of the original motivations for MANET, due to the need for battlefield survivability and rapid deployment of self-organizing mobile infrastructure. This research work evaluates the case study for mobile adhoc network with concentration to defend against Denial of Service attack in MANET layers. A military case study scenarios is introduced: the scenario modifies its channel and physical layer settings for army military devices in an unknown and unstable MANET military environment system with concentration to defend against Denial of Service attack[2].

The paper is organized in such a way that Chapter 2 discusses Review of Literature, Chapter 3 discusses problem statement,, Chapter4 discusses proposed method, Chapter5 discusses Experimental evaluation and Chapter6gives the conclusion.

## II. METHODS AND MATERIAL

### 2. Review of Literature

### 2.1 Denial of Service attack

This chapter briefly describes the Denial of Service Attacks for MANET.

An attacker attempts to avoid authorized and legitimate users from the services offered by the network. The typical way is to flood packets to any centralized resource present in the network so that the resource is no longer available to nodes in the network, as a result of which the network no longer operate in the manner in which it is designed to operate. This

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## LITERATURE REVIEW ON DATA MINING TECHNIQUES

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### Abstract

The web is an information system of interlinked hypertext documents that are retrieved over internet. Web mining is the use of data mining techniques to automatically discover and extract information from Web documents and services. A web cache stores copies of documents passing through it; subsequent requests may be satisfied from the cache if certain conditions are met.

**Keywords:** Association, Classification, Clustering, Prediction, Sequential patterns, Decision trees, etc.,

### 1.INTRODUCTION

Data mining is the process of finding the useful information from the large amount of data. The interesting patterns can be mined with the help of the several data mining techniques. This paper has reviewed the literature of data mining techniques such as Association Rules, Classification and Clustering. This review of literature focuses on how data mining techniques are used for different application areas for finding out meaningful pattern from the database.

### 2.DATA MINING TECHNIQUES

There are several major data mining techniques have been developing and using in data mining projects including association, classification, clustering, prediction, sequential patterns and decision tree.

#### a)Association

Association is one of the best known data mining technique. In association, sequential patterns are discovered based on a relationship between items in the same transaction. So the association technique is also known as relation technique. The association rule mining technique is used in market basket analysis to identify a set of products that customers frequently purchase together. Nowadays Retailers are using association technique to research customer's buying habits. The retailers might find out that customers always buy crisps when they buy beers, and therefore they can put beers and crisps next to each other to save time for customer and increase sales.

Association rule mining is normally performed in

an overview to some of the previous research works done on this area.

In 2013, Ditj Guptaao et al. [1] suggest that Association rule mining can be represent in terms of A ⇒B (S, C) where A and B are item set; S is the support of the rules, defined as the rate of the transactions containing all items in A and all items in B. Support (A ⇒B) = P (A UB) and C is the confidence, it is defined as the ratio of S with the rate of transactions containing A, Probability of (B/A). Support and confidence are measures of the interestingness of the rule. They have calculated the support value for justifying the usefulness of the items present in the data set. A Higher support value indicates the effectiveness for the enterprise.

Negative association rules of form A=>~B means supp(AU~B)≥ms.supp(AUB)= supp(A)-supp(AU~B). For most transactions, the supp(A) < 2*ms. so supp(AUB)<cms, which means AUB is infrequent itemsets. To find negative association rules,leads to find infrequent itemsets first. The support count shows the frequency of the patterns in the rule; it is the percentage of transactions that contain both A and B, i.e. Support = Probability (A and B) Support = (# of transactions involving A and B) / (total number of transactions). Confidence is the strength of implication of a rule; it is the percentage of transactions that contain B if they contain A, ie. Confidence = Probability (B if A) = P(B/A) Confidence = (# of transactions involving A and B) / (total number of transactions that have A).

In 2014, T. Karthikeyan and N. Ravikumar et al. [2] suggest that the two significant basic measures of association rules are support(s) and confidence(c). Since the database is huge in size, users concern about only the frequently bought items. The users can pre-define thresholds of support and confidence to drop the rules which are not so useful. The two thresholds are named minimal support and minimal confidence. Support(s) is defined as the proportion of records that contain X ∪ Y to the overall records in the database. The amount for each item is augmented by one, whenever the item is crossed over in different transaction in database during the course of the scanning.

Support sum of XY

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# Characterization of the Wiener Index for Trees and connected graphs G with equal domination and acyclic domination number$\gamma(G) = \gamma_a(G)$.

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## Abstract

Wiener index deal with chemical compounds that have acyclic organic molecules also. so we deal with characterization of Wiener index for trees and also special case of connected graphs that is blocks which have equal domination number and acyclic domination number.

AMS Subject Classification: 05C12
Key Words and Phrases: Cyclic domination, Global domination, Self complement, Wiener index.

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**Criterion VI Metric 6.5.3**

# Factors influencing perception and satisfaction level among shoppers and their purchasing outcomes in malls

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**Abstract**
India's retail infrastructure is slowly undergoing a change with many hi-fi supermalls being constructed and operating in various cities. The mall concept has come to stay for good. The Indian consumer seems to be undergoing a shift in terms of personality, buying motives, interests, attitudes, beliefs and values when he or she is making a shift from 'Kirana' stores towards shopping malls. In this context it assumes significance to study the buying behaviour of consumers in Mumbai especially with changes taking place in India's retail scenario. The scope of this research is to assess the overall customer satisfaction, response of customers with regard to the availability and quality of products and services offered at shopping malls and the comfort level of the respondents towards shopping in the shopping malls in Mumbai. This study is restricted to 5 shopping malls in Mumbai. Factors influencing the customer to shop in the shopping malls of Mumbai such as socio-economic profiles, income, frequency of visit, period of relationship between the respondents and shopping malls, purpose of visit, occasion to visit shopping malls are some of the aspects studied in the present study.

**Keywords:** Perception, factors, shopping mall, purchasing outcome

## Introduction
The growth in the Indian organized retail market is mainly due to the change in the consumer's behavior. This change has come in the consumer due to increased income, changing, lifestyles, and patterns of demography which are favorable. Now the consumer wants to shop at a place where he can get food, entertainment, and shopping all under one roof. This has given Indian organized retail market a major boost. While on the other hand the traditional stores are shops where the various product available are the range of product really required by the customers. They cautiously take care of the choice of the customers and bring the product which is demanded by them. They try to satisfy them with the wide range and at the same time maintain a good relationship to retain them and consequently convert them into their loyal customer. The shopkeepers keeps latest products to their stores and then learn how is it actually affecting the sales of products although there stores have comparatively less product range the selection made is quite relevant. Having looked at the features let us find the loopholes. However good is the ambience and wide is the product range, when it comes the selling price of the various goods, traditional shops are always more efficient than these newly evolved stores. Hence the researcher has made an attempt to study "Factors Influencing Perception and Satisfaction Level among Shoppers and Their Purchasing Outcomes in Malls:

## Objectives of the study
1. To study the attributes that influence consumers' preferences towards shopping malls
2. To study the impact of demographic factors on satisfaction level towards purchasing outcome in shopping malls

## Methodology
The study is descriptive in nature. Both primary and secondary data were collected systematically. Field survey method was employed to collect the primary data from 620 respondents in Coimbatore City. The respondents were selected by using stratified random

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# SITUATIONAL FACTORS AND CHANGES ON SHOPPERS' PURCHASING OUTCOMES IN BANGALORE SHOPPING MALLS

**Dr. V. Ramadevi**[*]

**Dr. M. Meenakshi Saratha**[**]

**Dr. K. Vanaja**[***]

**Abstract:**

The economic condition would have to stabilize before there is an improvement in consumer spending and further development of the retail sector is most important success way for the retails industry. Analyzing and understanding shoppers' behaviour and the impacts of situational factors may reduce uncertainty in decision-making. Situational factors should be taken into consideration in designing promotional programs, store layout, merchandising and store atmosphere tailored to specific behaviour's patterns and consumer situations. The aim of this research is to study on the impact of situational factors on shoppers' purchasing outcomes in the selected shopping malls, Bangalore. This study ascertains the influence of socio, physical and temporal factors, to analyse the impact of task definition and antecedent states, to find the impact of the Pricing perception and shopper's mood and to analyse the common problems faced by the mall users.

**Keywords: Situational factors, Shopping Malls, Shopping Outcome, Consumer Behaviour**

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# Explosives properties of high energetic Trinitrophenyl Nitramide molecules: A DFT and AIM analysis

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## Abstract

The high level density functional theory, B3LYP, was proposed for the derivatives of energetic molecule Trinitrophenyl Nitramide [TNPN]; MTNPN, ETNPN and NETNPN respectively, in order to understand its explosive characteristics. The geometrical analysis has been studied from both the polarized, 6-311g** and augmented, aug-cc-pVDZ basis sets, and found consistency between the structural parameters. The bond strength of each molecule has been characterized from bader's AIM analysis, thereby correlating the bond topological properties with the impact sensitivity, which predicts that $C-NO_2$ bonds were the weakest and found more sensitive among the rest of the bonds in all three molecules. The impact sensitivity of the molecules were measured in terms of $\Delta E_{LUMO-HOMO}$, $OB_{100}$, $Q_{NO2}$, $h_{50}\%$ and $V_{mid}$, revealed the high sensitive nature of NETNPN towards the external shock. The reaction surface of all the three molecules has been located from the isosurface of electrostatic potential.

*Key words: TNPN; AIM; Impact Sensitivity; ESP*

## 1. Introduction

The most important criteria for a high energy density material to be a good explosive candidate depend on its sensitivity towards the external shocks. The ability of the high energetic materials to release high amount of energy should be controlled

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# THEORETICAL STUDIES ON 3-AMINORHODANINEDERIVATIVES IN THE GAS PHASE: CHARGE DELOCALIZATION AND NLO PROPERTIES

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**Abstract:** The effect of type and substituent position of 5-X-3-aminorhodanine derivatives (X= Cl,F and Br) were analyzed at HF and B3LYP method using 6-311++G(d,p) basic set in gas phase. The second order perturbation energies of the most interacting NBO's and the population of electrons in core, valence and Rydberg sub-shells have been predicted. In this study, the natural atomic orbital occupancies showed the presence of charge delocalization within the molecules. The natural hybrid atomic orbital studies enhance us to know about the type of orbitals and its percentage of $s$-type and $p$-type character. Important NLO properties such as electric dipole moment, anisotropy polarizability and first hyperpolarizability of 5-X-3-amino rhodanine (5X3AR) have been computed at different levels of quantum chemical calculation. In addition to that, the complete molecular orbital simulations, Mulliken population and HOMO-LUMO energy gap of the molecules were also derived and interpreted.

**Keywords:** 3 aminorhodanine; Tautomerism; NBO; HOMO-LUMO; NLO; Mulliken charges; Uv-visible spectra

## 1. INTRODUCTION

Rhodanine are heterocyclic contain two sulfer and one nitrogen atom that exist in constitutional isomeric form (2-ethanylidene-1,3-thiazolidine-4-one-3 amine).These heterocyclic compounds are a great importance in many areas of chemistry and biochemistry. Rhodanine, and its derivatives have wide biological activities including antibacterial [1], antiviral [2], antidiabetical [3], anti-inflammatory action[4], and anticancer agent[5] and industrial applications are vulcanizing agents of synthetic rubbers, extreme-pressure lubricants, intermediates in the synthesis of dyes, as well as pharmacological [6]. The interesting aspect of these compounds is their donating power to metal ions, which makes them strong ligands in coordination compounds [7, 8]. They compounds are also used in analytical chemistry as highly sensitive reagents for heavy metals [9, 10].

Tautomerism interconversions have been investigated by chemists for the last few years. The tautomerism of rhodanine was studied experimentally by several authors [11,12]. Most theoretical investigations have been carried out at a semi-empirical level and are devoted to the structure and electronic spectra of rhodanine[7, 12–14].

In recent years, the charge delocalization and chemical reactivity of polyatomic molecules have been focused widely. This information is helpful to the drug designers to design new type of drugs. The natural bond orbital (NBO) is an effective tool for the predicted of residual resonance delocalization effects of a molecule and it also illustrates the molecular wave function in terms of Lewis structure's change, bond order, bond type, hybridization, resonance, donor-acceptor interactions, etc [15].Therefore, the NBO analysis of certain pharmaceutical compounds has been performed by various spectroscopists [16-18].

Only a few articles were found in the literature that deals with the relative stabilities and structures of the potential five tautomeric forms of rhodanine. For example Boyd et al. measured the cluster analysis and charge distribution [19].El-Gogary and his co-worker studied temperature and substituent effect of 5-

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## MOLECULAR MECHANISM UNDERLYING QUERCETIN INDUCED APOPTOSIS BY *insilico* ANALYSIS and in PROSTATE CANCER PC-3 CELLS

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### ABSTRACT

The study was aimed to investigate the molecular mechanisms underlying triggering of apoptosis by quercetin using *in silico* analysis. The mechanism of binding of quercetin with NF-kB and other apoptotic proteins like $BCL_2$ and $BCL_{XL}$ was analyzed *in silico* using Schrodinger suite 2009. Quercetin was found to exhibit high-affinity binding resulting from greater intermolecular forces between the ligand and its receptor NF-kB (-0.281 Glide score and -6.172 Docking Score). Quercetin binds to NFκB very strongly with metallic coordination. It can act as a inhibitor of apoptosis inhibitor when compared to $BCL_{XL}$ and $BCL_2$ Quercetin down regulates the cell survival proliferative anti-apoptotic proteins thereby can prevent prostate cancer. To confirm this, in vitro study can be carried out with techniques like MTT Assay, Western blot, and polymerase chain reaction.

✉

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# An Certain investigations of Emerging Big Data Technologies and its Applications

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*Abstract*— In the digital era, enormous amounts of data have become available on hand to decision makers. Big data refers to datasets that are not only big, but also high in variety and velocity, which makes them difficult to handle using traditional tools and techniques. Due to the rapid growth of such data, solutions need to be studied and provided in order to handle and extract value and knowledge from these datasets. Furthermore, decision makers need to be able to gain valuable insights from such varied and rapidly changing data, ranging from daily transactions to customer interactions and social network data. Such value can be provided using big data analytics, which is the application of advanced analytics techniques on big data. This paper aims to analyze some of the different analytics methods and tools which can be applied to big data, as well as the opportunities provided by the application of big data analytics in various decision domains.

*Key words:* Big data, Mining, Medical image processing, Analytics, Hadoop

## I. INTRODUCTION

The 21st century is an era of big data involving all aspects of human life, including biology and medicine. With the fast increasing popularity of mobile smart devices, mobile crowd sensing has become a new paradigm of applications that enables the ubiquitous mobile devices with enhanced sensing capabilities, such as smartphones and wearable devices, to collect and to share local information towards a common goal. Most of the smart devices are equipped with a rich set of cheap and powerful sensors, including accelerometer, digital compass, GPS, microphone, and camera. These sensors can be utilized to monitor mobile users' surrounding environment and infer human activities and contexts. In recent years, a wide variety of applications have been developed to realize the potential of crowd sensing throughout everyday life, such as environmental, noise pollution assessment, road and traffic condition monitoring, road-side parking statistics, and indoor localization. The data acquired through mobile crowd sensing exhibits a number of important characteristics, such as being large in scale (volume), being fast generated (velocity), being different in forms (variety), and being uncertain in quality (veracity). The 4 Vs of crowd sensing data make it extremely interesting and challenging in designing participatory and opportunistic sensing technologies, human-centric data management and analytics models, and novel visualization tools. Clustering is a widely used technique for big data analytics and mining. However, most of current algorithms are not effective to cluster heterogeneous data which is prevalent in big data. In this paper, we propose a high-order CFS algorithm (HOCFS) to cluster heterogeneous data by combining the CFS clustering algorithm and the dropout deep learning model, whose functionality rests on three pillars: (i) an adaptive dropout deep learning model to learn features from each type of data, (ii) a feature tensor model to capture the correlations of heterogeneous data, and (iii) a tensor distance-based high-order CFS algorithm to cluster heterogeneous data.

## II. BIG DATA AND NETWORK BIOLOGY

Recently, biology has become a data intensive science because of huge datasets produced by high throughput molecular biological experiments in diverse areas including the fields of genomics, transcriptomics, proteomics, and metabolomics. In molecular biology, the list of components at the genome, transcriptome, proteome, and metabolome levels is gradually becoming complete and well-known to scientists. However, it is not holistically known how these components interact with each other to grow and maintain and reproduce life at different phases, in different environments, or with different challenging conditions.

Networks at the molecular level are constructed to understand and explain processes and subprocesses of the cell. New tools and algorithms are being continuously developed for the purpose of handling and mining big biological data and networks aiming to serve humanity by developing smart health care systems, new generation medical tests, drugs, foods, fuel, materials, sensors, and so on. Overall, this improves the understanding of the cell or in other words the life as a system. Therefore, the range of topics under big data and network biology is extensive and the present special issue is not a comprehensive representation of the subject. Nonetheless, the articles selected for this special issue represent versatile topics concerning the title that we have the pleasure of sharing with the readers.

The review paper "A Glimpse to Background and Characteristics of Major Molecular Biological Networks" focuses on biological background and topological properties of gene regulatory, transcriptional regulatory, protein-protein interaction, and metabolic and signaling networks. Versatile information contained in this article is helpful to facilitate a comprehensive understanding and to conceptualize the foundation of network biology.

The paper titled "METSP: A Maximum-Entropy Classifier Based Text Mining Tool for Transporter-Substrate Identification with Semistructured Text" discusses a method for identifying transporter-substrate pairs by text mining and

# An improvement of Energy Efficient Multipath Routing Node Management Techniques for MANET

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## Abstract

A mobile ad hoc network (MANET) is a continuously self-configuring, infrastructure-less network of mobile devices connected wirelessly. Each device in a MANET is free to move independently in any direction, and will therefore change its links to other devices frequently. In such networks, the mobile nodes may dynamically enter the network as well as leave the network. Due to the restricted transmission range of wireless network devices, multiple hops are usually needed for a node to exchange information with any other node in the network. A joint routing and energy allocation plan is developed which stabilizes the system and provides surrounded average delay guarantees whenever the input rates are within this capacity segment. This paper considers jointly optimal design of cross layer congestion control, routing overhead and Throughput for Mobile ad hoc networks.

Keywords : Congestion Control, Multipath Routing, Mobile Adhoc Networks, Bandwidth Availability

## I.INTRODUCTION

# AN EFFICIENT MINING TECHNIQUE FOR WEB CACHE OF SERVER LOG FILES

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## ABSTRACT

*Data mining contemplates on non-trivial extraction of implicit previously unknown and useful information from the huge amount of data. Web mining is the one of the application of data mining which becomes a significant area of research due to huge amount of World Wide Web services in recent years. The World Wide Web is an interactive and popular way to transfer information. The prefetching approaches based on data mining techniques are popularly applied on caching problems. The data mining techniques classification and clustering are applied to find the interesting unknown data patterns in large data sets. This approach is used to analyze web access pattern of user by using information present in the proxy server log files. The frequently used web pages by the users are identified and integrated with the prefetching scheme. The web caching is used to achieve performance improvement for the cache proxy server. The most important problem of predicting a user's behavior on web sites is gained importance due to the rapid growth of the World Wide Web and the basic to personalize user's browsing history.*

**KEYWORDS**– *Data mining, Web caching, K-means, Web logs, B-CART.*

## I. INTRODUCTION

Data mining is an availability of huge amount of data and the need for resolving such data into useful information and knowledge. Web is a magnificent source of data and a large number of internet users access the web to find data. The web is a way of accessing information over the medium of the Internet.

It is an information-sharing model that is built on top of the Internet. Web mining can be classified into three areas: content mining, structure mining and usage mining. Web content mining extracts useful information or knowledge from the contents of Web pages. Web structure mining discovers useful knowledge from hyperlinks that portrays the structure of the Web. Web usage mining refers to the discovery of user access patterns from Web server's logs, which keeps record of every click made by each user. In general, Web usage mining consists of three processes: Data pre-processing, patterns discovery and patterns analysis.

Web usage mining is used to make efficient data access for the internet users in various web caching and pre-fetching techniques are applied. These techniques are applied on data, which is needed to distribute.

Web servers provides two diverse types of data,
1. Static data are kept in files at a server side.
2. Dynamic data which are constructed by programs at runtime.

The program is executed when a user makes request for a particular content.

The dynamic data makes the web sites very slow, because of data is organized on request basis. A web cache is a temporary storage of web documents. A web cache stores copies of web documents transient through it. The web architecture is categorized by
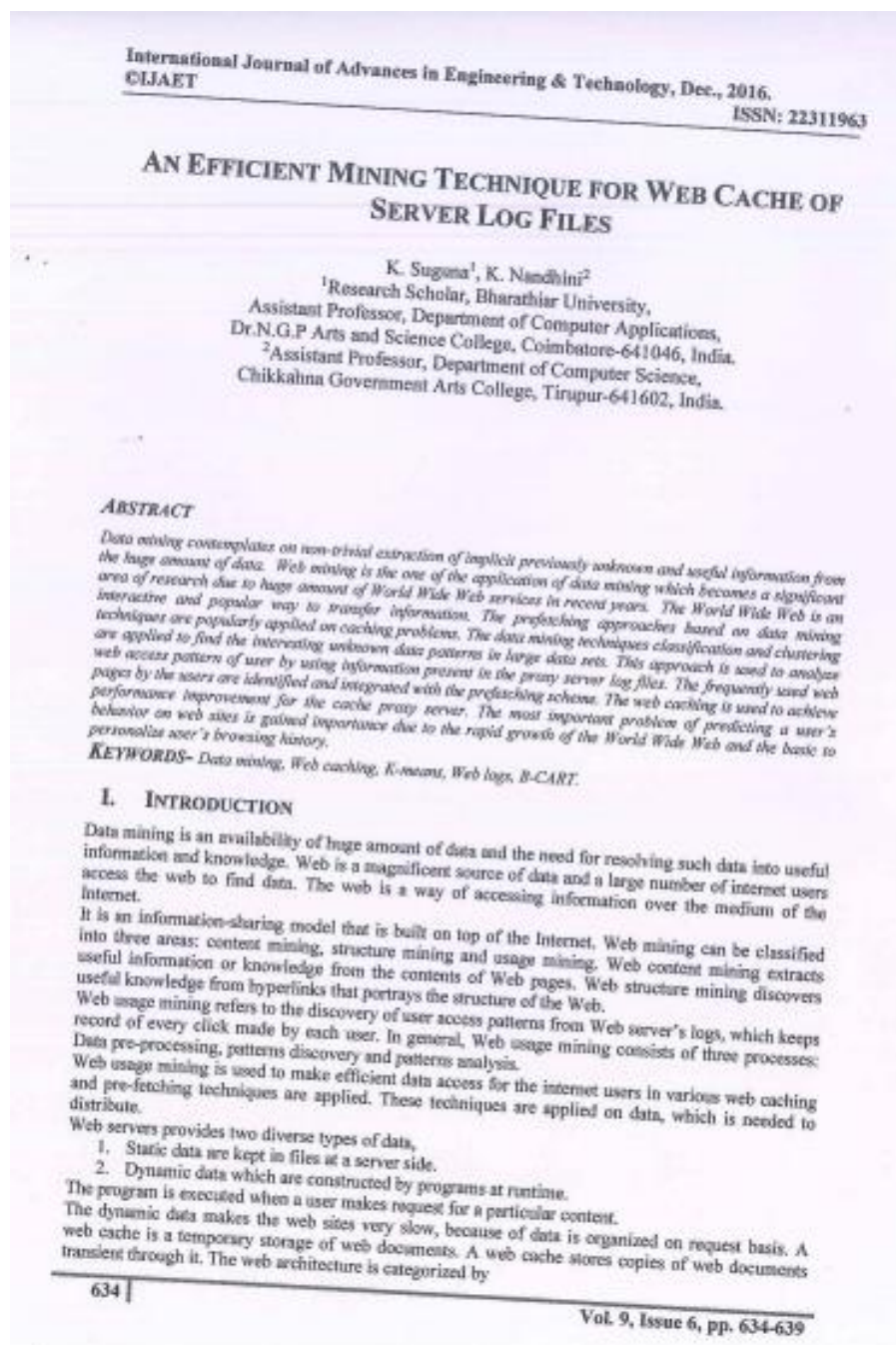
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# Frequent Pattern Mining of Web Log Files Working Principles

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## ABSTRACT
Frequent pattern mining plays a major role in mining of web log files. Web usage mining is the one of the web mining process that involves application of mining techniques to web server logs to extract the behavior of users. A web usage mining consists of three important phases: data preprocessing, patterns discovery and pattern analysis. In data preprocessing phase the unwanted data are removed and that are structured into necessary format for mining. It enables the user to translate the unprocessed data which is from server log files into useful data. The appropriate analysis of a web server log proves that the websites efficiently from the administrative and users' prospective. Preprocessing results also more useful for the next phases of web usage mining.

## General Terms
Data Preprocessing, pattern analysis, Apriori and FP Growth.

## Keywords
World wide web, Preprocessing, Web usage mining and web server logs.

## 1. INTRODUCTION
The web is a way of retrieving information over the internet. It is the one of the model developed for an internet for sharing the information[1]. Web mining is the data mining technique used to mine the web data. The web mining can be classified into three Categories: Web content mining, Web structure mining and Web usage mining.

Web content mining is used to extracts useful information or knowledge from web documents. The web structure mining discovers useful knowledge from hyperlinks that describes the structure of the web.

Web usage mining refers to the discovery of user access patterns from web server logs, which maintains the record of every click made by each user[3]. In general, Web usage mining consists of three processes: data preprocessing, patterns discovery and patterns analysis.

## 2. WEB USAGE MINING
Web mining is the application of data mining techniques which is used to discover useful patterns from the web. The web mining can be divided into three categories: web usage mining, web content mining and web structure mining.
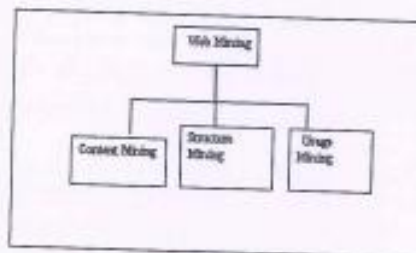


Figure 1: Web mining classification

Web usage mining is a process of picking up information from user how to use web sites.

The process of Web Usage Mining consists of three main steps are Data Preprocessing, Pattern Discovery and Pattern analysis.

### 2.1 Data Preprocessing
In this phase, a sequence of tasks is applied on web log file such as data cleaning, user identification, session identification, path completion and transaction identification.

### 2.2 Pattern Discovery
In this phase, methods from various research areas, such as data mining, machine learning, statistics, and pattern recognition are examined to be applied on data obtained after preprocessing in order to generate identify meaningful patterns.
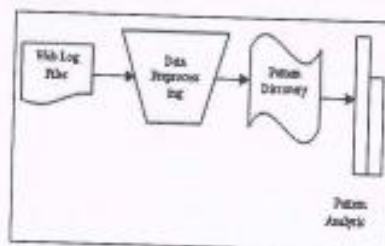


Figure 2: Phases of Web Usage Mining

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# PROFITABILITY ANALYSIS OF SELECTED INDIAN PHARMACEUTICAL COMPANIES

**KEYWORDS**

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## INTRODUCTION

Industries play an important role in the economic development of any nation. Industries make the country self reliant by fulfilling the various needs of the people. In India, industrial economy is dominated by various industries like, automobile, iron and steel, real estate, cement, tourism, energy, textile, airlines, pharmaceutical, biotechnology, electronics, hardware and power industry. Of them, pharmaceutical industry is one of the fasted growing and life saving sector. The sector is unique as it traverses across geographies. Moreover, as health has no boundaries, this very boundary-less nature supports consolidation in this industry.

The pharmaceutical industry plays a key role in promoting and sustaining development in the field of medicines. From simple headache pills to sophisticated antibiotics and complex cardiac compounds, almost every type of medicine is now made indigenously

The Indian pharmaceutical industry is at present enjoying a top rank among the developing nations with wide ranging capabilities in the complex field of drug manufacturing and technology used. It ranks very high in the third world, in terms of technology, quality and range of medicines manufactured The Pharmaceutical sector in India is highly fragmented with more than 10,000 listed and unlisted companies. India is one of the fastest-growing pharmaceutical markets in the world, and its market size has nearly doubled since 2005. There are approximately 300 large companies and over 10,000 medium and small scale companies in the sector, of which 77 per cent units manufacture formulations and 23 per cent of units manufacture APIs. The pharma sector has a significant presence of small and medium companies with revenues of around Rs. 60,000 crore which contribute to 40 per cent of volume and value and the balance is contributed by large companies with revenue more than Rs 90,000 crore. These API manufacturers not only export 50 per cent of their production to various countries, but also meet majority requirements of the domestic formulations units. The country's pharmaceutical industry accounts for about 1.4 per cent of the global pharmaceutical industry in value terms and 10 per cent in volume terms.

Financial ratios are useful indicators to measure a company's performance and financial situation. The present study aims to analyze the liquidity and profitability performance of selected Indian pharmaceutical companies. The ratio is a simple arithmetical expression of the relationship of one number to another. The ratio analysis is one of the most powerful tools of financial analysis. It is the process of establishing and interpreting various ratios. It is with the help of ratios that the financial statements can be analyzed more clearly. With the help of ratio analysis financial executives can measure whether the firms at present are financially healthy or not. They highlight the liquidity, solvency and profitability of the firm.

## NEED FOR THE STUDY

Analysis of profit is of vital concern to stockholders since they derive revenue in the form of dividends. Profitability can be defined as the final measure of economic success achieved by a company in relation to the capital invested in it. Profits are also important to creditors because profits are one source of funds for debt coverage. Furthermore, Management uses profit as a performance measure.

## SCOPE OF THE STUDY

The study focuses about the financial performance of selected pharmaceutical companies in India. This research is based on cross sectional analysis which means comparing of one firm with another firm in the same industry at the same point in time. Moreover, the findings of the study provide some guiding principle for minimizing problems associated with the liquidity and solvency management. The study has taken financial, accounting and quantitative data covering a period of fifteen years from the financial year 2000-01 to 20014-15.

## OBJECTIVES OF THE STUDY

* To study the growth and development of selected Pharmaceutical companies
* To know the profitability position of selected Pharmaceutical companies

## HYPOTHESES OF THE STUDY

There is no significant difference in the mean values of financial ratios between the selected pharmaceutical companies and the years.

## RESEARCH DESIGN

The universe of Indian pharmaceutical companies consists of Presently there are 10,500 manufacturing units and over 3,000 pharma companies in India, growing at an exceptional rate. Out of top 15 listed companies in BSE, irrespective of their size to see to what extent they are profitable, financially strength, and liquidable.

The selected top most companies is followed by the financial year (i.e.) starting from 1<sup>st</sup>

April to 31<sup>st</sup> March. The companies are
1. Lupin ltd
2. Dr.Reddy's Labs
3. Aurobindo pharma
4. Sun pharmaceutical industries ltd
5. Cardila health care
6. Glenmark
7. Torrent pharma
8. Gsk(Glaxo Smith Kline)
9. Ipca labs
10. Abbott India ltd
11. Biocon
12. Sanofi India ltd
13. Pfizer
14. Novartis India
15. Ajanta pharma

Period of study: The study covers a period of 15 years covering a

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# FACTORS INFLUENCING FREIGHT FORWARDERS IN SELECTION OF AIRLINES

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**Abstract:**
The purpose of the study is to institute the factors influencing the freight forwarders on selection of airlines. The survey was conducted among the freight forwarders of different places. The study was focused to find whether there is any relationship with the profile of freight forwarders and services rendered by them. Through factor analysis four factors were identified such as swiftness, pre-emptiveness, Business tactics and vitality. The factors of services of freight forwarders were tested with the profile of the freight forwarders.
**Key Words:** Freight, Swiftness, Pre-Emptiveness, Tactics & Vitality

**Introduction:**
Indian economy is one of the fastest growing economies in the world and fourth largest in terms of purchasing power parity. In order to maintain this sustainable economic development, country has to improve its transportation and infrastructure sector. Air transportation is indispensable for crossing international and national boundaries and consequently stimulates expansion of trade and economic growth. According to Boeing, India is the largest submarket in Southwest Asia, comprising about 63% of international flows in the region, and it possesses a vibrant domestic market as well. (World air cargo forecast).

Airfreight is an essential mode of transport for many industry sectors, ranging from high end manufacturing, engineering, pharmaceuticals, retailing and the automotive sectors. It can take a month to take goods from Europe to the Far East by ship; it takes a day by air. There are also time-sensitive goods such as medicines and documents which cannot travel any other way. Yet, its importance to the global economy is often overlooked with the focus almost exclusively centered on passenger and business travel. Aviation is a key enabler of global economic growth and social development.(Global shipper's forum 2015).Thus the selection of airlines for the purpose of stuffing the cargo is a paramount importance for a freight forwarder.

**Review of Literature:**
According to the study that has been stated by Rieple& Helm (2008); the airline sector can be taken into consideration as segments depending on scope, scale, and type of operation. The concentration in that point is major international, full-service, legacy airlines which are close to comparing within the customer segments.

According to Kilpi and Vepsäläinen (2004) case study; in a perfectly reasonable pooling arrangement the stock levels can be decreased by over 30% by making a minor sacrifice in short time service levels. As seen that inventory level should not be zero to reduce the need emergency transshipments. Furthermore, first-in-first-out (FIFO) can be used as an inventory method in that bases to improve service levels also to reduce to reduce same number of spare components.

**Objectives of the Study:**
The objective of the study is to find the factors influencing the freight forwarder in selecting a airline for stuffing the cargo.

**Need for the Study:**
The present day business is mounting in terms of air cargo. The freight forwarder and clearing house agents are striving hard to achieve the business volume to a greater extent. For the purpose the freight forwarders coordinate with various airlines to book the cargo space and to avail value added services too. The present study aims at analyzing the opinion of the freight forwarders, in terms of selection of airport and the factors influencing them in selection.

**Methodology:**
Research methodology is an approach to receive the needed information by discovering the data from various sources which may be primary and secondary. The adopted methodology is primary data collection

**Sampling Size:**
The Questionnaire was distributed to 400 freight forwarders all over Tamilnadu and only 329 returned which were valid and the remaining 71 were rejected.

**Data analysis and Interpretation:**

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# DIGITAL COMMERCE POLICY: A VALUE DESIGN INSTRUMENT

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**ABSTRACT** Digitalization in the commerce world aids to drive more customized and personalized dealings with all stakeholders. This study aims to predict the variables which influence the commerce concern for digital revolution. Proposed research model in this study helps to analyse the process of digital revolution. It is revealed that the revolution was dictated by the personal, environmental, and firm characteristics of the enterprises. The study therefore urgently recommends formalization of elements of reactive strategic management and the personal factors in medium firm controls.

## INTRODUCTION

Digital Commerce is defined as the electronic selling and buying of goods however it goes farther than that, nowadays technology is having a tremendous influence in our lives; currently we have to deal with the fact that a large share of market economy is being done electronically.

Digital commerce policy refers to the use of technology in order to improve the productivity and its operation efficiency. In the commerce concern top executives use the technology for facilitating data-driven decision making and forward planning by the way of analyzing data. And also it helps to improve the traditional technology like ERP through smart embedded device and communication via social media. Successful implementation of digital policy will be happen in the top executive level, but it should be supported by all the stakeholders of the commerce.

Digital commerce is the buying and selling of goods and services using the Internet, mobile networks and commerce infrastructure. It includes the marketing activities that support these transactions, including people, processes and technologies to execute the offering of development content, analytics, promotion, pricing, customer acquisition and retention, and customer experience at all touch points throughout the customer buying journey.

## OBJECTIVES

- To study about the digital awareness and policy formulation in the corporate companies.
- To analyze the factors influence the company for digital revolution.

## METHODOLOGY

This study was carried out in Tirupur District, Tamil Nadu, which is located in the southern part of India. There are more than 2500 factories in Tirupur district; out of this 100 companies were selected. Non Probability Sampling method is adopted since the sampling area and sample size are large. In descriptive research survey, the primary data were collected by both questionnaire method and also by scheduling method i.e by interviews. SPSS 16.0 version (Statistical Package for the Social Sciences) is used in this study to analyse the data using the statistical instrument multiple regression analysis.

## Digitalization Framework



### Digital Awareness

Optimization of website by proper website designing, relevant data like title tag, logo images etc., for the targeted audience. This provides a clear idea for the customer to select the apt action; Social networking sites plays a significant role in digitalization of commerce, the revolution of information for the stake holders can develop core value of the company; Personalization aids companies to make pleasant experience for the customer. This can be proceed by the segmentation of customer and communicating information via email, whatapp, twitter, facebook etc., and also it gives the feedback for the companies to improvise the product or service according to their needs; Automation of office organization plays a major role in digitalization because all the newly formulated policy is operated by the low level / supervisory management.

### Formulation of Digital Policy

Formulation of digital policy key factor to accomplish the commerce goal; this formulation is based on the Situational Analysis or analyzing commerce environment by SWOT (strengths, weaknesses, opportunities and threats) and PESTLE (political, economic, social, technological, legal and environment factors) analysis. This analysis helps to formulate the best mix digital policy such as stability, expansion or combination policy which is suitable for the concern. Once the digital policy is formulated it can implemented at the standard level. Optimization is critical to the success of your digital policy. This optimization stage helps to alter our policy according to the requirement of commerce.

### Digital Revolution

Digital revolution is constructed on advanced digital technology such as analytical instruments including big data, mobile instruments includes social media and internet oriented applications. The combination of digital technology with apt policy improves the overall performance of commerce unit. Efficiency of digital policy can be measured with the expected level of standard if any corrections action required it can be modified and again it should be verified.

### Variables Influencing for Digital Revolution - Using Multiple Regression Model

A multiple regression model is used to predict the independent variables which influence more on the dependent variable and also the relationship exist between those variables. This study focuses on the digitalization of commerce using the acceptable policy. For this digitalization which independent factors such as Operation scope, size of organization, involvement of top management, socio-economic factors, global factors and technological factors, influence the organization for transforming or implementing digital policy?

Hence the following hypothesis and regression model is proposed.

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| 2 | Professional Info Tech Ram Nagar,  Coimbatore. | Medical Coding |  |
| 3 | Yellow Tree Academy 126,R-Rennaissance Terrace, Race course, Coimbatore - 641 048. | Training & Placement |  |
| 4 | Voice Training Solution, 80, DPF Street, P.N.Palayam, Coimbatore - 37. | English for Employability Skills |  |
| 5 | The Auditors Association of Southern India  No.08, DB Road (OPP Savitha Hall), R.S.Puram, Coimbatore - 641 002. | Computer Accountant Course |  |
| 6 | SRIKARA No-265/1, Vidhya Complex 1st Floor, Maruthamalai Main Road, Perumal Kovil Stop, P.N.Pudur, Coimbatore - 641 041. | Diploma in Computerized accounting & Taxation with E- Filling |  |
| 7 | iSTAR Skill Development Private Limited, Banglore - 560 064. | ILAB Programme |  |

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| 8 | Tata Consultancy Service LTD, TCS House, Raveline Street, Fort, Mumbai - 400 001. Mumbai School of Distance Education, Bharathiar University. | TCS Designed Courses | PDF |
| 9 | AOSTA Software Technologies India Limited No.940, 1A & B, 5th Floor, Kovai Estate, Kalapatti main Road, Coimbatore - 641 048. | Software and Services | PDF |
| 10 | Tamil Nadu Open University, 577, Anna Salai, Saitapet, Chennai - 600 015. | Rental Agreement | PDF |
| 11 | Electronics Sector Skills Council of India, New Delhi. | Skill Development | PDF |
| 12 | Indian Institute of Technology(IIT) -Bombay, Powai, Mumbai - 400 076, India. | Spoken Tutorial | PDF |
| 13 | A.V.V.M Sri Phuspam College, Poondi, Thanjavur - 613 503. | Educational and Academic Exchanges | PDF |
| 14 | UTL Technologies Limited, No.19/6, Ashokapuram School Road, Industrial suburB, Yeshwanthpur, Bangalore - 560 022. | Skill Development | PDF |

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