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[Faculty: B.C.A., B.A. & B.Com.]
Affiliated to SNDTWU, Mumbai

Criterion 3 – Research Innovations and Extension

3.2 Research Publications and Awards

3.2.2. Total number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

- Any Additional Information

Shri N.B.Education Society's

Shri Venkatesh Mahavidyalaya, Ichalkaranji

organised

ONE DAY INTERNATIONAL CONFERENCE

on

"Advanced and Innovative Practices in Commerce & Management, Science & Technology, Humanities, Languages and Their Role in Achieving the Exponential Growth"

in collaboration with

Shivaji University Commerce & Management Teachers Association, Kolhapur

and

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Certificate

This is to certify that Dr. / Mr. / Ms. _Priyanka Ramchandra More_

of _College of Computer Applications for Women, Satara_

participated in One Day International Conference held on

16ᵗʰ February, 2019 at Shri Venkatesh Mahavidyalaya, Ichalkaranji

and presented a paper entitled _Recent Trends in Agriculture : Agricultural Diversification_

Dr. N. M. MUJAWAR
Convener
Shri. Venkatesh Mahavidyalaya,
Ichalkaranji

Dr. R. S. SALUNKHE
President
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Dr. S. S. VERNEKAR
Dean & Director
IMED, Pune

Dr. V. A. MANE
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of _College of Computer Applications for Women, Satara_
participated in One Day International Conference held on
16ᵗʰ February, 2019 at Shri. Venkatesh Mahavidyalaya, Ichalkaranji
and presented a paper entitled _Cloud Computing : Empowering the Education Sector_

Dr. N. M. MUJAWAR
Convener
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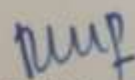
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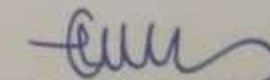### Organized by Department of Commerce

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Maharashtra Bhugolshastra Parishad, Pune on Friday, 31st January and Saturday, 1st February, 2020. He / She has
presented a paper entitled **Problems of Urbanization in india.**
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Is Hereby Awarding This Certificate To

Asst. Prof. Anjali Chandrakant Salunkhe

An Recognition of the Publication of the Paper Entitled

A Study on Performance in Deposit Mobilization and Loans and Advances of Jijamata Mahila Sahakari Bank Ltd, Pune

Editor : Assit. Prof. Vinay S. Hatole

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Dr. S. D. Mundhe
Director - SIMCA - MCA

Dr. Milind Marathe
Director - SIMCA - MBA

Recent Trends in Agriculture- Agricultural Diversification

Priyanka Ramchandra More.

Asst.Prof.

Mksss's College of computer Application for Women Satara,

Maharashtra,India

Abstract

In India more than half of population is still engaged in agriculture for their livihood agriculture is main source of employment. Agriculture sector in post reforms rapidly change in this paper attempt to analyze the recent trends in agriculture through agricultural diversification, it is an opportunity to rural people to earn extra income and overcome on poverty. Agriculture Being Over Crowded cannot further generate employment opportunities there for the view the diversification is one of the essential component of economic growth. It is transformed in to aa commercial sector .An opportunity for maintaining labor throughout the year.eg Horticulture, floriculture, poultry, dairy firm, fishery etc.

KeyWords – Agriculture, Diversification, Horticulture, Floriculture, GDP, Soil   Management

1. Introduction

The History of Agriculture in India dates back to Hindus valley civilization and even before[1].India ranks second worldwide in agricultural outputs. As per2018 agriculture employed 50% of the workforce and contributed 17-18% to Countries GDP.[2]

In2016 Agriculture and allied sectors accounted for 15.4% of GDP. Agriculture is demographically the broadest economic sector and plays a significant role in socio economic composition.

India is 7th largest agricultural exporter and 6th largest net exporter in worldwide. Most of its agriculture exports developing and least developed nations. Indian horticultural and processes food are exported more than 120 countries.[3,4]

Today we discussedhere the new emerging trends in agricultural. In present agricultural is not only a mean of livelihood but also a mode of living life. With advance technology, advanced equipment, better irrigation facility and the specialized knowledge of agriculture stated improving. Today Indian Farmers not just produces the food grain but also produces vegetables, flowers, medicinal aromatic plants spices, arboriculture, condiments etc.

2. Objectives Of The Study:

- To Study the Trends of agriculture in India.
- To Study Diversification of agriculture, Horticulture, Floriculture etc.

3. Methodology

There is aim to know diversification of agriculture,Like Horticulture,Floriculture. The Secondary Data Is Collected From the published Magazines and Papers.

4. Agricultural Diversification

Agriculture has an influence on rural communities,the rural economy.It's position with in the overall economy is altering.A normal response to these changing economic situation is for farm occupiers to seek to improve their household income from other than diversifying their business activities.

Indian agriculture is dependent in the moods of monsoon, agriculture being overloaded cannot further generate employment opportunity,and therefore agricultural diversification is essential.

5. Concept of Diversification

Agricultural Diversification is one of the essential Constituents of economic growth .It is the stage where traditional agriculture is transmuted in to a commercial sector.

Department for Environment, Food and Rural Affairs (DEFRA) defines diversification as "the entrepreneurial use of farm resources for a non-agricultural purpose for commercial gain".[5]

6. Types of Diversification

- The change in the cropping form.
- Transformation of the manpower from agriculture work to other allied activities and non-agriculture sector.

7. Benefits of Diversification

- To reduce risk from agriculture sector.
- Employment Opportunities.
- Extra Income
- Helps TO Overcome on poverty
- Increase in Production

Agricultural Diversification is crucial for rural and economic growth. Indian Farmer motivated towards commercial agriculture like Horticulture, Floriculture, poultry, DairyFirm, fishery etc.

Let us we discuss here horticulture farming in subject to agricultural diversification.

8. Horticulture

Horticulture is a Branch of Agriculture.Horticulture has been defined as the agriculture of plants, mainly for food, materials, comfort and beauty for decoration.[6]

According to American horticulturist LiberlyHyde bailey "Horticulture is the growing of flowers,fruits,vegetables and plants for ornament and fancy".[7]It also includes Plant conservation, landscape,restorationsoil management landscape and garden design construction and main tenance and arboriculture.[8]

The Main Horticulture Sector includes a extensive variety of crops such as fruits, vegetables, spices, plantation crops, floriculture, medicinal and aromatic plants cashew etc.in now a days known as an important sector for diversification in agriculture. It is a crop science which deals with the production and utilization.it is an scientific methodology of farming to make high crops the desired quality.

The horticulture has gained importance in recent year as a major component of agriculture in India. Horticultural farming stimulates the development of natural resources, higher returns from land, create better purchasing power among the people. Development in horticulture is demanding day by day in India.

- **Types of Horticulture**
  - a. **Vegetables**

    In India more than fifty varieties of vegetables are grown on area of 4 million hecter.[9]in recent era vegetables farming increased day by day. China, India and Brazil are the largest vegetable productive countries in the world. India Produces Approximately 15% worldwide. India stands 2nd rank in vegetable production in the world. Major vegetables grown India include onion, potato, tomato, chili, brinjal, green peas, cabbage,carrots, cauliflower,pumpkin, gourds, cucumber, beans etc.

  - b. **Fruits**

    India is the main producer of mangoes, bananas, apple, papayas, orange, grapes and pineapples. India produces approximately 8% fruits in total worldwide production. Knowledge of cultivation growing of fruits, new technical information if accepted by the younger people or farmer in India. Agro industries are increased in India. It is an opportunity to rural people income source and employment. During 2018-19 India exported fruits and vegetable worth Rs 10236.93 crores.[10]

  - c. **Spices**

    After a long period India is very famous for spices.India exported spices in all over the world. Spices are those plants the products of which are made use of as food adjuncts to add flavor.eg pepper, cardamom , clove, chili, turmeric, coriander, garlic, ginger, etc.

  - d. **Condiments**

    Condiments are also plants, products of which are used as food adjuncts to add taste only, coriander.

  - e. **Floriculture**

    India is largest country in the worldwide in exporting the flowers. Floriculture contains broad range of crops.Floriculture is a branch of horticulture that studies in the science of flowers. Flower are cultivated under protected, semi protected and field conditions.[11] Flowers have been an integral part of Indian society and were cultivated for various purpose aesthetic to social and religious purpose. Commercial floriculture is recent origin.Floriculture products mainly consist of cut flowers pot plants,cut flowers,pot plants,cut foilagee,seeds bulbs,tubers,rooted cuttings and dries flowers or leaves. The important floricultural crops in the international cut flowertrade are rose,carnation,chrysanthemum,garggera, gladiooooous,gypsophila, liastris,nerine,orchids, archilea,tulips and lilies .floricultural crops like gerberas,carnation etc are grown in green house .The open field crops are roses gaillardia,chrysanthemum,lily,marigold aster,etc.

Maharashtra, Karnataka,Andhra Pradesh, Haryana,Tamilnadu,Rajsthan,West bangal have major floriculture centers in India. The country has exported 19726.57mt of floriculture products to the world for the worth of RS 571.38 crores, 81.94 USD millions in 2018-19.USA, Netherland, U.k Germany and U Arab were major importing countries in.[12]

9. Importance

- More Returns Per Unit Area.
- Horticultural crops are very important as their nutritional status is high fruits and vegetables etc.
- It is very vital as it beautifies the surroundings.
- Suitable for small and marginal Farmers
- Some fruit crops can offer the best use of wasteland. Litchi etc.
- An Opportunity for maintain labors throughout the year.
- Horticulture plants improve the environment by decreasing pollution, conserves soil,water.
- Horticulture crops develop the socio-economic position of the farmer.
- Growth and development in agro based industries.
- Generate more Employment opportunities

10. Conclusion

It is an opportunity to rural people to earn extra income and overcome on poverty.Increasing the awareness about the nutritional values the horticultural crops also adding towards the imports. India has tremendous opportunities for export. Increasing demand for Indian produces fresh and processed product in international market.

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Cloud Computing: Empowering the Education Sector

Rajshree Shamrao Nikam
Asst. Professor
Mksss'sCollege of computer Application for women Satara, Maharashtra, India

Abstract

Education play important role in social &economical growth of country. Today's world is digital world so now a day's classroom teaching- learning process moving towards technology. Students are becoming more technology oriented, so it is important to concentrate on latest technology incorporated in education sector. One of the new and powerful technology now a days is cloud computing. Implementing cloud computing, it becomes possible to bring teachers and learners together on a uniqueplatform. Teachers can also tie together new and innovative classroom structures through cloud computing.Cloud Computing provides reliable and clear as crystal storage solutions. The cloud helps to create modern, innovative classrooms. Cloud computing can help to enhance students learning experience and improve education values. This paper focuses on impact of cloud computing on education sector and role of cloud computing to empowering education sector.

Keywords: cloud computing, cloud in education, Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS).

Introduction

The word "Cloud computing" was first used by Compaq in 1996 and popularization was done by Amazon.com when they had introduced Elastic Compute Cloud [1].In this era people are engaging more in ICT. Education sector is not out of this trend. Most of the educational institutes, students now rely on web based educational system(i.electures, assignment submissions etc), everything is now online. There comes the need of cloud. Cloud education is new concept in education area. Flexibility is the heart of cloud computing, it offers to create, save, share and work together from anywhere, at any time and at any place.The future of education is in the cloud.

According to Technavio marketing research, the global cloud computing market in education will see a compound annual growth rate of 26% through 2021 as educators within K-12 schools, colleges, and universities try to enhance efficiency and improve the overall learning practice. The term Clouds is an over sized group of simply shared and accessible resources which may be dynamically reconfigured to regulate to permitting additionally for optimum resource utilization [2]. It is becoming an adoptable concept for educational sector with its dynamic scalability and usage of virtualized resources as a service through the Internet. Cloud storage is provided storage facilities through the network and data stored in local storage service provider to provide online storage space [3].Using cloudcan be utilized to build a high quality education system.Cloud provides a variety of services for giving quality education by providing latest infrastructure in terms of hardware and software. An Internet user can interact with multiple servers at a time and the servers can also trade data with each other [4].

Cloud Computing

The term cloud refers to a network. It is a technology that uses servers on the internet to manage, store, and access information online rather than local drives. The data can be anything such as images, audio, files, video, documents and more.

Fig 1.Picture before and after cloud computing

Above fig shows that in the server room, there should be a database server, mail server, networking, firewalls, modems, routers, switches, configurable system, high net speed, and the maintenance engineers. To create such IT infrastructure, we need to pay out lots of money. To overcome all these problems and to reduce the IT infrastructure cost, and for that solution is cloud computing.Low cost cloud-based services are used by learners to support learning, social interaction, content creation, publishing and collaboration [5].Examples of cloud computing services includes Microsoft's SkyDrive ,Google Drive, Apple iCloud, Amazon Cloud Drive etc.

Cloud computing is based on Service model.

1) Software-as-a-Service (SaaS)
2) Platform-as-a-Service(PaaS)
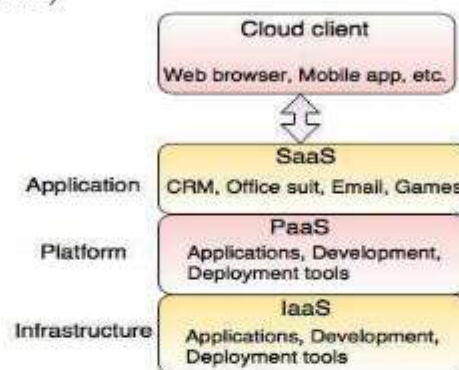3) Infrastructure-as-a-Service(IaaS)

Fig. - Categories of Cloud Computing

Software-as-a-Service (SaaS)

- SaaS is known as 'On-Demand Software service'.
- In this model, the applications are hosted by a cloud service provider and revealed to the customers over internet.
- In SaaS, related data and software are hosted centrally on the cloud server.
- User can access SaaS by using a web browser.
- Office Suite, Email, games, etc. are the software applications are provided as a service through Internet.
- The companies like Google, Microsoft provide their applications as a service to the customers

Advantages of SaaS

- SaaS is easy to buy because the pricing of SaaS is based on monthly or annual subscription and it allows the organizations to access business functionalities at a small cost, which cost is less than licensed applications.
- SaaS needed less hardware, because the software is hosted remotely, hence organizations do not need to additional investment on hardware. Less maintenance cost is required for SaaS.

Disadvantages of SaaS

- SaaS applications are completely dependent on Internet connection.
- It is difficult to switch between the SaaS vendors.

Platform-as-a-Service (PaaS)

- PaaS is a programming platform for developers. This platform is generated for the Developers to create, test, run and manage the applications.
- A developer can easily write the application and deploy it directly into PaaSlevel.
- PaaSprovide the runtime environment for application development and deployment .
- Examples-Windows Azure ,Google Apps Engine(GAE), SalesForce.com .

Advantages of PaaS

- Developer can focus on the development and modernism without worrying about the infrastructure.

- In PaaS, developer only requires a personal computer and an Internet connection to start build applications.

Disadvantages of PaaS

- One developer can write the applications as per the platform provided by PaaS vendor hence the moving the application to another PaaS vendor is a problem.

1) Infrastructure-as-a-Service (IaaS)

- IaaS is a technique to deliver a cloud computing infrastructure like server, storage and operating system.
- The customers can access these resources from cloud computing i.e Internet as an on-demand service.
- In IaaS, you buy complete resources rather than purchasing software, server, data centre space etc
- IaaS also called Hardware as a Service(HaaS).

Advantages of IaaS

- In IaaS, user can dynamically choose a CPU, memory storage, PC configuration according to their requirement .
- Users can easily access the huge computing power available on IaaS Cloud platform.

Disadvantages of IaaS

- IaaS cloud computing model is dependent on ease of use of Internet and virtualization services.

Current Scenario Of Education Sectorin India

In current scenario ICT integration in higher education is very important. As per the survey [7] 80% of teaching in India is done through traditional methods. To improve Indian education services Indian government has to take one step towards the development of IT infrastructure. In India education system is always based on the marks and grades. But in real life the practical knowledge, practical thinking, and some practice is required to remain in competition [6]. Practical knowledge has great impact on career.In Education sector to impart the practical knowledge Institute has to build latest IT Laboratory which required highest cost in hardware configuration and due to technological obsolescence it will becoming recurring cost for the institute. Hence there is need to remove unfeasibility and find out feasible solution and the solution is Cloud Computing service.

Implementation Of Cloud Based Technology In Higher Education
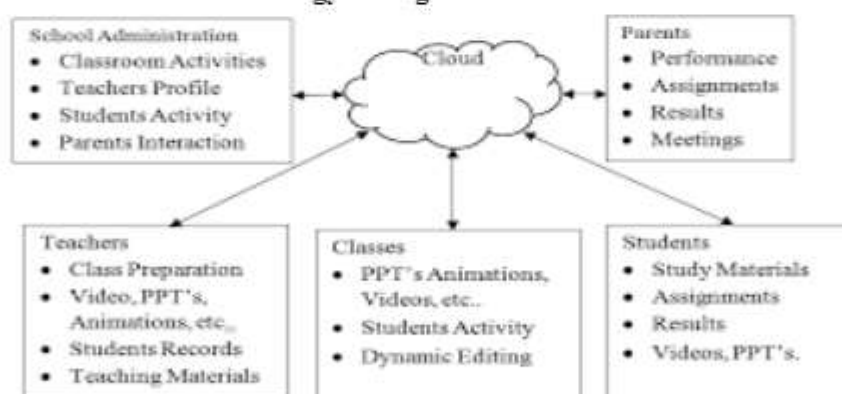

Fig.3: Different users of cloud in education sector

Example is the support of Massive Open Online Courses (MOOCs), which first appeared on the higher education scene in 2012. By 2016, through leveraging cloud-based infrastructures, global MOOC enrolment figures had reached 58 million, with courses being offered by the world's foremost universities such as Stanford, Harvard, and Columbia.

Following fig shows difference between legacy e-learning and cloud based e-learning

Service	Legacy e-Learning	Cloud e-Learning
Acquisition	- Buy assets HW and SW - Own technical architecture	- Buy service - No technical architecture required
Business	- Pay for assets - Overhead for administration	- Pay for use - Limited administration
Access	- Internal Networks - Corporate desktops	- The Internet - Any computer
Technical	- Not shared - static	- Shared - Partly scalable - Dynamic
Delivery	- Expensive - Lengthy	- Cheaper - Reduced time

Fig 4. Difference between legacy e-learning and cloud based e-learning

Benefits Of Cloud Computing In Education

In education area Educational institutions do concentrate more on research & teaching learning rather than how to implementing complex IT infrastructure. Cloud services provide cost effective communication & learning system without large capital investment in IT infrastructure. Cloud computing in education sector helps students, teachers & administrators also. With group of industries around, the world is recognizing the power of cloud based systems. The Cloud has offered very important potential in changing how education as an industry works from with the viewpoint of offering online programs so as to transform the traditional working system to cloud based education system. The teaching learning need of current generation students & teachers are different from past generation. As time changing, learners in current generation preferably use technology. So learner's learn from cloud based education system. With the help of cloud based system learning contents can be retrieved from central place and can be accessed from anywhere and anytime instead of accessed from local servers. Learners don't want to relay on local server.

Following are some of the benefits of adopting cloud computing in education sector

1. Makes academic process more well-organized and Improves institutional productivity

Academic institutions places in different building or campus, so central point is required to access data from anywhere and anytime. So it's possible with cloud computing and its result turns to academic process more effectively run in institute and automatically improves institutional productivity.

2. 24/7 Access to Learning Resources and Universal information access

Cloud based application help to learners. Learners will be able to access learning resources(lessons, websites, assignments, videos, quizzes etc) anytime, anywhere. It saves learners time. Documents are instantly available from wherever you are.

3. Unlimited storage capacity

Cloud computing offers limitless storage. Your computer's current storage capacity of hard drive is small compared to the hundreds of Peta Bytes available in the cloud.

4. Instant software updates

Another advantage to cloud computing is that you are no longer faced with choosing between obsolete software and high upgrade costs. When the application is web-based, updates take place automatically. When you access a web-based application, you get the latest version without needing to payfor.

5. Easier group collaboration

Sharing documents leads directly to better collaboration. Many users do this as it is important advantages of cloud computing multiple users can collaborate easily on documents and projects.

6. Pay Structure

Pay structurewhich means users only pay for those resources that those use by customer

Conclusion

Technology plays a vital role in transforming education sector and taking it to higher level. Cloud computing is definitely one of the innovative technology which is entered in worldwide education sector. Cloud computing plays important role in improving the present status of education sector. The advantages of cloud computing can support education institutions to solve some of the common issues such as privacy, cost, quick and effective communication, security, flexibility and accessibility.This paper present how cloud computing important in education sector for e-learning solution development.

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भारतातील शहरीकरणाच्या समस्या

प्रा. निता नागेश बर्गे

अर्थशास्त्र विभाग, कॉलेज ऑफ कॉम्प्युटर ऑप्लीकेशन फॉर विमेन, सातारा

प्रस्तावना :—

शहरीकरण म्हणजे शहराच्या लोकसंख्येची व त्याच्या क्षेत्राची वाढ होय. आपल्या देशाचा विचार केल्यास शेती हा ग्रामीण भागातील प्रमुख व्यवसाय आहे. परंतु तो खेड्यात चालणारा व्यवसाय आहे. आणि त्याचा विकास फारसा झाला नसल्यामुळे लोकांना विविध सेवा व रोजगार संधी कमी प्रमाणात उपलब्ध होते. त्यामुळे रोजगार मिळविण्याच्या हेतून लोक मोठ्या प्रमाणात शहराकडे धाव घेत आहेत. कारण शहरात मोठ्या प्रमाणात उद्योगधंदे यांचा विकास झाल्यामुळे लोकांना रोजगार संधी उपलब्ध होतात त्यामुळे शहराकडे जाण्याचा व त्याच ठिकाणी राहण्याचा लोकांना ओघ वाढत असल्यामुळे शहरीकरण निर्माण होते.

शहरांचे भारतात मुख्य दोन प्रकार आहेत. पहिला प्रकार म्हणजे, अशी सर्व स्थाने जेथे नगरपालिका, महानगरपालिका, कॅटॉनमेंट बोर्ड किंवा अनुसूचित टाऊन एरिया कमिटी तर दुसरा प्रकार म्हणजे ज्या ठिकाणाची किमान लोकसंख्या ५००० असते. जेथे किमान ७५टक्के प्रौढ पुरुष शेतीशिवाय दुसऱ्या उद्योगात कार्यरत असतात आणि जेथे लोकसंख्येची घनता किमान ४०० व्यक्ती प्रति चौरस किलोमीटर असते अशी सर्व स्थाने शहर मानली जातात यातील पहिला प्रकार घटनात्मक शहरे म्हणून ओळखली जातात व दुसरा प्रकार जनगणना शहरे म्हणून ओळखली जातात.

शहरीकरणाची उद्दिष्ट्ये :

अ) देशाच्या ग्रामीण भागात लोकांच्या जीवनमानाची गुणवत्ता उंचवणे.

ब) ग्रामीण भागात रोजगार संधी उपलब्ध करुन देणे.

क) जाणीव जागृती आणि आरोग्यविषयक शिक्षण यातून शहरातील नागरिकांचे उदबोधन करणे.

ड) शहरी भागात स्वच्छता कार्यक्रमाची व्यापकता वाढविणे.

इ) पिण्याच्या पाण्याच्या स्रोतांचे अन्नपदार्थांचे प्रदूषण कमी करण्यासाठी सहाय्य करणे.

अ.क्र.	वर्ष	नागरी लोकसंख्या वाढ (टक्के)	नागरी वस्तींची संख्या
१	१९६१	१७.७९	२,२७०
२	१९७१	१९.९१	३,५७६
३	१९८१	२३.३४	३,२४५
४	१९९१	२५.७२	३,६०५
५	२००१	२८.०६	५,१६१
६	२०११	३७.०७	७,९३५

भारतातील नागरीकरणाचा विचार करता सन १९६१ ते २०११ पर्यत नागरी वस्तीतील लोकसंख्या सातत्याने वाढलेली आहे. सन १९६१ ते १९८१ पर्यत नागरी लोकसंख्येची वाढ साधारणत: ५.५५ टक्के होती. परंतु १८८१ ते २०११ पर्यत ही वाढ १३.७३ टक्क्यापर्यंत पोहचल्याचे आढळते आणि हे शहरीकरण अनेक कारणामुळे होत आहे. त्यापैकी काही प्रमुख कारणे पुढीलप्रमाणे आहेत.

१)   औदयोगिकीकरण —

एखादया प्रदेशामध्ये उदयोगाचा विकास व केंद्रीकरण होणे हा नागरीकरणाला साहाय्यभूत ठरणारा घटक आहे. उदयोगधंदयाच्या वाढीमुळे नोकरीच्या आशेने आजूबाजूच्या प्रदेशातील लोक या प्रदेशाकडे आकर्षित होतात. त्यामुळे शहरीकरणाची प्रक्रिया गतिमान होते. एकोणीसाव्या शतकादरम्यान मुंबई शहरी वाढ झपाटयाने झाली. कारण मुंबईमध्ये मोठया प्रमाणावर कापडगिरणी उदयोग सुरु झाला होता. त्यामुळे मूळची कोळ्याची वस्ती असलेली अनेक गावे औदयोगिकीकरणामुळे व शहरीकरणामुळे मुंबई महानगराचा भाग झाली.

२)   व्यापार —

एखादया प्रदेशातील ठिकाण, मालाची ने—आण, चढ—उतार व साठवणूक यासाठी अनुकुल असते. अशा ठिकाणी व्यापार व त्या अनुषंगाने असणाऱ्या इतर सेवाची वाढ होते. उदा: व्यापारी संकुल, बॅंका, पनसंस्था, गोदामे, शीतगृहे इ. या सेवा बरोबरच अशा ठिकाणी रस्ते, उपहारगृहे निवास इ. बाबीही वाढीस लागतात. भारतातील नागपूर शहर देशाच्या केंद्रस्थानी आहे. हे शहर व्यापाराच्या दृष्टीने सोईचे असल्यामुळे तेथे नागरीकरण वाढत गेले.

३) <u>यांत्रिकीकरण व तंत्रज्ञान —</u>

यांत्रिकीकरण आणि तंत्रज्ञान यांचे अनेक फायदे विविध क्षेत्रात पहायला मिळतात. नागरीकरणासाठी देखील हे दोन्ही घटक सहाय्यभूत ठरतात.

गेल्या काही दशकात शेतीमध्ये तंत्रज्ञानाचा वापर वाढला आहे, तसेच यांत्रिकीकरण वाढले आहे. ग्रामीण भागातील शेतीही आता मोठया प्रमाणावर यंत्राच्या सहाय्याने केली जाते. त्यामुळे शेतीतील मनुष्यबळ शेतीच्या कामातून मोकळे झाले आहे. हा कामकरी वर्ग कामधंदयाच्या शोधात शहराकडे स्थलांतरीत झाला. परिणामी शहरी लोकसंख्या वाढू लागली आहे.

४) <u>वाहतूक व संदेशवहन —</u>

रस्ते, लोहमार्ग इ. वाहतुकीच्या सोईचा ज्या भागात विकास होतो, त्या भागातील छोटया वस्त्या व गावाचे नागरीकरण वेगाने घडून येते. उदा: कोकण रेल्वे विकसित झाल्यावर या मार्गाच्या सान्निध्यात असलेल्या सावर्डे (जिल्हा रत्नागिरी) सारख्या अनेक गावांचे नागरीकरण होऊ लागले आहे. महत्त्वाचे लोहमार्ग एकत्र आल्यामुळे भुसावळचा (जिल्हा जळगाव) विकास झपाटयाने झाला.

५) <u>स्थलांतर —</u>

स्थलांतर हा नागरिकणावर परिणाम करणारा महत्त्वाचा घटक आहे. हे स्थलांतर अल्पकालीन दीर्घकालीन किंवा कायम स्वरुपाचे असते. हे स्थलांतर प्रमुख्याने एका ग्रामीण भागातून दुसऱ्या ग्रामीण भागाकडे किंवा ग्रामीण भागाकडून शहराकडे होत असते. उच्च राहणीमानाच्या आकर्षणामुळे देखील शहरातील स्थलांतरीत लोकांची संख्या वाढू लागली आहे. उदा: भारताच्या विविध भागातून पुणे, मुंबई या ठिकाणी होणारे स्थलांतर.

<u>शहरीकरणाच्या समस्या —</u>

१) <u>झोपडपट्टी —</u>

नागरीकरणामुळे शहरातील लोकसंख्या झपाटयाने वाढते. ज्या प्रमाणान लोकसंख्या वाढते, त्या प्रमाणात शहरामध्ये निवास व्यवस्था वाढत नाही. बहुतांशी स्थलांतरीत हे आर्थिकदृष्टया दुर्बल असतात त्यांना शहरातील निवासस्थाने परवडत नाहीत. स्थलांतरीत होणारे बहुतेक लोक रोजगारानिमित्त शहरात येतात. परंतु सर्वांना योग्य रोजगार मिळतोच असे नाही. त्यामुळे अनेक लोकांचे उत्पन्न कमी असते. असे लोक शहरात उपलब्ध असलेल्या मोकळया जागेवर तात्पुरती व कच्च्या स्वरुपाची घरे बांधतात ही घरे बहुधा अनधिकृत असतात. त्यांना स्थानिक स्वराज्य संस्थाकडून सोईसुविधा मिळत नाहीत.

२) **वाहतुकीची कोंडी —**

शहरांचा क्षेत्रीय विस्तार झाल्याने शहरांच्या बाहयवर्ती भागात व उपनगरात लोक निवास करतात. शहरांच्या केंद्रवर्ती भागात व्यवसाय, उद्योग, व्यापार, नोकरी, शिक्षण इ. साठी रोज उपनगरातून लोकांची ये—जा सुरु असते. सार्वजनिक वाहतुक सेवा लोकसंख्येच्या प्रमाणात पुरेशा उपलब्ध नसल्यास खाजगी वाहनांची गर्दी वाढते. परिणामी वाहतुकीची कोंडी होते व प्रवासात बराच वेळ जातो.

३) **प्रदुषण —**

प्रदुषण ही शहरामधील एक प्रमुख समस्या आहे. त्याचा नागरी जीवनावर विपरीत परिणाम झालेला दिसून येतो. यात वायुप्रदुषण, ध्वनीप्रदुषण, जलप्रदुषण पाहायला मिळते. शहराचा वाढता विकास सोईसुविधांचा तुटवडा तसेच नियमांचे उल्लंघन यामुळे प्रदुषण ही एक गंभीर समस्या निर्माण होते. शहरांची जशी वाढ होते. तशी प्रदुषणातदेखील वाढ होते.

४) **गुन्हेगारी —**

स्थलांतरित लोकसंख्येपैकी अनेक लोकांना रोजगार उपलब्ध होत नाही त्यामुळे अवैध मार्गांचा वापर करुन अनेक वेळा पैसे कमवले जातात. यातून शहरांमध्ये गुन्हेगारी वाढलेली दिसते. चोरी, घरफोडी, खून इ. स्वरुपाचे गुन्हे शहरात मोठ्या प्रमाणात होतात आढळतात. यामुळे कायदा व सुव्यवस्थेचे प्रश्न गंभीर बनतात व पोलीस यंत्रणेवरील ताण वाढतो.

५) **गृहनिर्माण —**

वाढत्या शहरी लोकसंख्येसाठी गृहनिर्माण हे सर्वात मोठे आव्हान आहे. शहरी मध्यमवर्गीयांच्या उत्पन्नाशी तुलना करता घरच्या वाढत्या किंमतीमुळे कमी उत्पन्न गटातील लोकांना परवडणारी घरे घेणे कठीण आहे. त्यामुळे ते अशा ठिकाणी राहतात. जेथे योग्य वेंटिलेशन प्रकाश, पाणीपुरठा, सांडपाणी इ. पासुन ते वंचित असतात.

६) **सुरक्षित पिण्याचे पाणी —**

शहरातील पिण्याच्या पाण्याचे स्रोत दूषित असतात. कारण शहरातील पाणी मूळताच अपूरे असते आणि भविष्यात अपेक्षित लोकसंख्या वाढीसाठी पुरेशा प्रमाणात पाणी उपलब्ध होत नाही.

७) अस्वच्छता —

अस्वच्छता ही शहरी भागात विशेषतः झोपडपट्टीतील आणि अनधिकृत वसाहतीमध्ये मोठ्या प्रमाणात असते. यामुळे अनेक प्रकारच्या अस्वच्छतेमुळे पसरणाऱ्या रोगराई, जसे की डायरिया, मलेरिया इ. चा प्रादुर्भाव होतो. असुरक्षित कचरा विल्हेवाट ही शहरी क्षेत्रातील एक गंभीर समस्या आहे आणि कचरा व्यवस्थापन तर एक कायम मोठे आव्हान आहे.

८) आरोग्य आणि शिक्षण —

शिक्षण आणि आरोग्य हे मानवी विकासाचे महत्वाचे साधन मानले जात आहे. शिक्षण आणि आरोग्य या दोन्ही बाबतीत ग्रामीण भागाच्या तुलनेत शहरी भागाची परिस्थिती जास्त बिकटच आहे. सार्वजनिक आरोग्य व्यवस्था दिवसेंदिवस संकुचित होत चालल्या आहेत आणि नागरिकांना अधिकाधिक खासगी आरोग्य सेवावर अवलंबून रहावे लागत आहे. शिक्षणाची देखील अशीच स्थिती आहे. सरकारी शिक्षण व्यवस्थेचे देखील असेच संकुचन होत चालले आहे. त्यामुळे लोकांना खाजगी शिक्षण संस्थावर अवलंबून राहावे लागत आहे. मर्यादित जागा आणि उच्च शुल्क आकारणी यांना तोंड द्यावे लागते सरकारी शैक्षणिक संस्थांची स्थिती निराशाजनक आहे.

९) पर्यावरण —

मानवनिर्मित आणि नैसर्गिक आपत्ती ओढवून धोकादायक परिस्थिती आणि जोखीम निर्माण होत आहे. शहरीकरणाच्या निर्मितीसाठी मोठ्या प्रमाणात झाडांची कत्तल केली जाते. त्यामुळे पर्यावरणाला हानी पोहोंचते. त्यामुळे पर्यावरणाचा समतोल बिघडतो. समुद्राची पातळी वाढत आहे. डोंगर नष्ट होत आहेत. नुकत्याच झालेल्या उत्तर काशीतील जलप्रलयालासुध्दा अनियंत्रित बांधकामच जबाबदार आहे. कॉंक्रीट, विटा यासारखे साहित्य उष्णता शोषून घेतात. त्यामुळे शहरातील हवा रात्रीसुध्दा गरम असते. शहरातील वेगवेगळ्या घडामोडींमुळे वातावरणात वेगवेगळी विषारी द्रव्ये उत्सर्जित केली जातात. जसे कार्बन डायऑक्साईड, सल्फर डायऑक्साईड यांचे प्रमाण खूप वाढत चालले आहे. त्यामुळे शहरात श्वास घ्यायला शुध्द हवा मिळत नाही.

११) समाजव्यवस्था नष्ट —

शहरीकरणामुळे सामाजिक व्यवस्थेवरसुध्दा परिणाम होतो. आता शहरातून एकत्र कुटुंब पध्दती जवळजवळ नष्ट झाली आहे. सर्वजण आत्मकेंद्रित झाले आहेत ते स्वतःच्या विश्वात मग्न असून व्यक्तीची सामाजिक बांधिलकी कमी होत चालली आहे. आता वृध्दाश्रमाची गरज वाढते आहे. या शहरी संस्कृतीमध्ये शेजारच्या घरात एखादयावर हल्ला होत असेल तरी कोणी धावून जात नाही.

१२) राजकीय दृष्टीकोनावर परिणाम —

शहरीकरणामुळे राजकीय दृष्टीकोनावरसुध्दा परिणाम होण्याची शक्यता आहे. शहरात राहणाऱ्या मतदारांची संख्या खेड्यातील मतदारांच्या संख्येपेक्षा जास्त झाल्यामुळे राजकारण्यांना शहरी विकासावर जास्त भर दयावा लागेल.

• उपाययोजना —

१) जमिनीचा सुयोग्य उपयोग —

वाढत जाणारी लोकसंख्या वाढतच असते. पण जमिन ही तेवढीच असते. तेव्हा वाढत्या लोकसंख्येच्या जमीनविषयक गरजा व उपलब्ध जमीन यांचा सुयोग्य उपयोग व्हावा, यासाठी नियोजन करणे गरजेचे असते. घर बांधणी, उदयोग व्यवसाय, क्रिडांगण, शाळा, कार्यालय रस्ते, करमणुकीची केंद्रे इ. विचार करुन कोणत्या कारणासाठी जमिनीचा किती वापर करावा, यावर शहर नियोजनात लक्ष दिले जाते.

२) झोपडपट्टी नियंत्रण व गृहनिर्माण योजना —

शहरातील झोपडपट्ट्या ही शहराची वाढती समस्या आहे. यावर शहरी नियोजनात उपाययोजना करण्यावर भर देण्यात येत आहे. याविषयक विविध योजना करुन त्यांना कायदयाचा आधार देऊन इतरत्र हलविणे व झोपडपट्टीतील लोकांसाठी आरोग्यदायक इतरत्र घरे उपलब्ध करणे यावर भर दिला जावा.

३) प्रभावी वाहतूक व्यवस्था —

शहराची अंतर्गत व बाह्यपरिवहन व्यवस्था प्रभावी व सुरक्षितपणे होणे अत्यावश्यक असते. त्यासाठी प्रामुख्याने अंतर्गत विभागात बस, लोकल, खाजगी वाहने, भुयारी रेल्वे यांचा विचार केला जावा. तसेच आवश्यक तेथे पुल, बोगदे यांची निर्मिती करावी. तसेच पायी चालणाऱ्यांसाठी फुटपाथ निर्माण करावे.

४) करमणुकीची केंद्रे —

मानसिक ताण कमी होईल, शरीराचे स्वास्थ्य वाढेल, तसेच स्पर्धा—संघर्ष यांना उत्तेजन न मिळता फक्त करमणूक होईल यासाठी काही लोकसंख्येच्या आधारे उदयाने, विहार स्थळे, म्युझियम क्रिडांगणे, प्राणी संग्रहालये, लहान मुलांसाठी खेळावयासाठी मोकळी जागा इ. घटकांवर जाणीवपूर्वक भर दयावा.

५) पाण्याची व विजेची योग्य व्यवस्था —

शहरातील लोकांना स्वच्छ पाण्याचा पुरवठा नियमित व्हावा लागतो. त्याचप्रमाणे विजेचाही नियमित पुरवठा व्हावा लागतो. यासाठी कायम स्वरुपाच्या योजना हाती घेऊन त्या राबवाव्या लागतात. शिवाय या सोयींची व्यवस्था सुरक्षित राहण्यासाठी काळजी घेणे.

६) सांडपाण्याची व कचऱ्याची योग्य व्यवस्था —

वापरलेले पाणी शहराबाहेर योग्यरित्या टाकले गेले पाहिजे त्यासाठी तज्ञांच्या सहाय्याने भुयारी गटाराची प्रभावी व्यवस्था राबविली जाते. तसेच रोज हजारो टनांनी निर्माण होणाऱ्या कचऱ्याचीही योग्य प्रकारे विल्हेवाट लावावी. तसेच ओला कचरा व सुका कचरा वेगळा करुनच टाकावा. त्यामुळे शहरे स्वच्छ ठेवण्यासाठी मदत होत आहे.

७) शैक्षणिक सोयी—सुविधा —

शहरातील विदयार्थी व नागरिक यांच्या शैक्षणिक व त्या अनुषंगाने इतर गरजांची पुर्तता करण्यासाठी नगर नियोजनात भर दिला जातो. या सोयी एकाच ठिकाणी केंद्रित न होता त्यावर विशेष लक्ष केंद्रीत करावे.

८) सौंदर्य —

शहरे सुंदर असणे हा देखील नगर नियोजनाचा एक भाग आहे. यात विविध तज्ञांचे मार्गदर्शनासाठी विविध योजना राबविल्या जाव्यात उदा; लांब—रुंद रस्ते, कारंजे, पुतळे, नौकाविहार, म्युझियम, करमणुक गृहे, वृक्षारोपण यासाठी तज्ञ लोकांची समिती नेमावी.

- **निष्कर्ष —**
  १) शहरी भागांचे आकर्षण जास्त.

Sanskruti International Multidisciplinary Research Journal
IMPACT FACTOR - (IFSIJ) – 5.355 (2019), (CIF)–4.186 (2018)
Special Issue 004- Impact of Urbanization on Socio-Economic Development in India

E-ISSN: 2455-1511

March- 2020

२) शहरातील बहुसंख्य मोठ्या गावात पुरेशी सार्वजनिक जागा आणि निधी उपलब्ध नसल्यामुळे त्या गावातील सांडपाण्याचे व कचऱ्याचे नियोजन व व्यवस्थापन करता येत नाही त्यामुळे अस्वच्छतेचे साम्राज्य निर्माण झाले आहे.

३) ग्राम स्वच्छता अभियान ज्या कालावधीत राबविण्यात आले तेवढ्याच कालावधीपुरती व गावापुरतेच हे अभियान मर्यादित राहिले.

४) रोजगार मिळविण्यासाठी नागरिकांची शहराकडे धाव.

५) वाढत्या जागेच्या समस्येमुळे झोपडपट्टीत वाढ झाली आहे.

६) वाढत्या लोकसंख्येमुळे वाहतुकीची कोंडी मोठ्या प्रमाणात निर्माण होते.

७) शहरीकरणाचा पर्यावरणावर विपरित परिणाम होतो.

- संदर्भ सूची –

१) जिल्हा परिषद सातारा

२) www.shodhganga.com

३) www.academia.edu.com

४) आंतरराष्ट्रीय व्यापार – डॉ. भोसले कांटे

५) लोकसंख्याशास्त्र – डॉ. एस. एन. कुलकर्णी

६) व्यावसायिक पर्यावरण – डॉ. सुधाकर उध्दवराव जाधव.

QUEST FOR SELF IN NAIR'S SHORT FICTION

KALYANI JITENDRA BARTAKKE   JAYAWANT AMBADAS MHETRE

Abstract:

The Self is the distinct form of an individual. It is a self-organizing, interactive system of thoughts feelings and aspirations which exemplifies the uniqueness of an individual. As all the human activities are centered on these endeavors in pursuit of the self, the quest and recreation. In Anita Nair's fictions, her characters have come out of their struggles in their identity crisis. Her work explore the freedom of the woman to fulfill herself basically as a human being. The present article intends to explore the searching for the self and recreation of it, to redefine the role of woman.

Keyword: Selfhood, patriarchy, self-discovery

Introduction:

As in her novels, Anita Nair has dealt with the question of self-discovery in her short fiction as well. It is a fact that in the male-dominated society everywhere, women are marginalized and subjugated, leading to the question of their self-hood. In her short fiction also Anita Nair has dealt with self-discovery especially in the life of women. Her short stories in the collection Satyr of the Subway. She has presented a variety of female character, who experience melancholy and sadness on account of disruption in their family life. These women struggle to attain their self-hood in spite of the odds, they experience in their life.

Quest for Self in short fiction:

Saro in the story 'The Witch Wife's Tale, is caught in a loveless marriage. Her husband, Sushil, hardly talks to her with love and understanding. She feels that she has been abandoned as neither her husband nor the neighbours are there to share her feelings. Her husband mechanically says 'I love you' and goes to sleep. This behavior of her husband is described by Kate Millett (2010:6) as-

"... a male assertion of dominance over a weak, compliant, and rather unintelligent female." Saro is disgusted with her routine and tiresome life, and one day she leaves the house. She has a boy friend called Neil, with whom she lives. Saro is happy with Neil but when his wife comes back home, she has to leave him. But, in the short life with Neil, she discovers her 'self'. She is really starved of real love in her sexual life, which her husband did not feel for her, but Neil gives her this experience and she is happy. Saro searches for her 'self' in her relationship with Sushil, her husband. But she experiences it with Neil. She has been, in a way, colonized by her husband, and she tries to gain her autonomy by forming alliance with Neil,

Dr. Kalyani Jitendra Bartakke, Asst. Prof., Dept. of English, BCA College, Satara
Dr. Jayawant Ambadas Mhetre, HOD, SBS College, Satara

though it is only for the time being. Saro has to break the traditional Indian norm for this.

In another story 'The Heart of a Gerund' the writer portrays the life of Norah Webber, a spinster abandoned by her brothers after the death of her mother. She lives in an orphanage, in Room NO, 62. Her life is the result of negligence of the selfish male relatives. Norah realizes how she has been deprived of an opportunity to live life fully. She has to live in the orphanage yet she tries to realize her selfhood. A photographer of news magazine takes her photograph, and publishes it. It received an award. Norah believes that the photographer meets her with friendly interest. But later she comes to see her photograph in the newspaper, presenting her as a wrinkled lady with a vacant eyes and lined face. Norah dislikes this portraiture of herself as a destitute woman. Her sense of self is greatly hurt, and she does not like to meet the photographer because he presented her as an orphan. She becomes aware of her own self, and decides to reject sympathy and company of the photographer.

In the story of Lisa, the writer portrays the character of a prostitute in search of her 'self'. She certainly dreams of meeting a man who would accept her wholeheartedly, with love for her and establish her as a family. As Simone de Beauvoir (1984:506) notes, women "are not responsible for initiating their projects, they are rather instruments in masculine hands." They are mere playthings in the hands of men. When a man proposes to marry Lisa,' she refuses to accept the offer, as she says:

> "I want somebody who will put me first, see in me some truth he's been seeking all his life. I don't want a man looking for a cause to give meaning to his life. I don't want a man avenging himself on society by taking up with a whore. I don't want heroes or saints. And you are too traped up in yourself for my liking, in all this time we've been together." (SOTS, P.65)

Lisa is in two minds about the question of her self-hood. In her profession, she has some sort of independence. She does not belong to any one man and acquires independence. In her profession, she lends her service to several men but does not belong to any one. And she gets money. She is like a product, and acquires a name, and economic independence. In her profession, she can keep her 'self' independent. She has a right to say 'no'.

In her short story 'Mercury Woman', Anita Nair tackles the problem of lesbianism, a way for women to achieve their selfhood and avoid male-dominance. Malini in this story is a vigorous and active woman. She is well-educated and she has a roommate, Ingrid Clark both of them are attached to each other in an alien land. There is a picture of both of them hanging on the wall. When Gautam, a prospective groom for Malini, visits her and looks at the picture, he feels, "They looked so right together. The tall blonde and the petite brunette. Hand in hand, cheek to cheek."(SOTS, P.141)

Gautam realizes the kind of bonding Malini has with her roommate, and he tells the parents of Malini how marrying Malini is not possible. In the male-world, a woman as a wife loses her individuality. It is said that she becomes pathetic. Simone de Beauvoir (1984:431) has also noted that women who dislike contact with men, many favour lesbian relationship. She says:

> Not admitting male superiority, they do not wish to make a pretence of recognizing it or to weary themselves in contesting it. They are looking for relaxation, appeasement and diversion in sexual pleasure, they do better to avoid a partner who appears in the guise of an adversary, and in this way they get rid themselves of the fetters implied in feminity.

It is typical of lesbian relationship that women in it feel free of men, and feel proud that they do not have to obey the male/the husband. When others, the bridegroom and his family, come to know her lesbian relationships, Malini does not feel ashamed of it. Women bonding becomes very strong in this relationship. Women in this relationship can spend time together and there may not necessarily be a sexual relationship between them. Malini discovers her selfhood in this relationship.

In another story, the protagonist Ila is in search of a right kind of man. She is an educated and emancipated woman, she needs a man who can understand her. She grows up in spinsterhood, and she is misunderstood by men who propose to her. Ila dislikes the patriarchal attitude of men who propose to her, or her parents bringing such proposals to her. She discovers that-

> "The right kind of man was difficult to find among men of her age, no matter how much they enjoy her companionship, then wanted only one thing- girls with slender haunches, dewy complexion and wide 'will you show me the world' eyes. As for the younger men, they wanted passion without strings, and may be a pizza thrown for a free." (SOTS, P. 149)

Ila wanted to marry only after attaining her 'self' but in this search of selfhood, she grows into a spinster. She is intelligent, economically, well-settled, but in terms of patriarchy, the woman should be slender and have attractive personality.

Amma in the story "Consider the Tree" is an exemplary mother. She has three children, and she has thrown her husband out of the house when she comes to know his affair with another woman. She tells him in plain words:

> "Please leave. I can't be your wife anymore. Go back to the woman. Make her your queen, your wife, your whore, whatever. I don't want to see you, talk to you or even breathe the same air as you do for the rest of my life." (SOTS, P.83)

When her husband leaves her, Amma on her own brings up her children. She supplies idlies for a canteen in the area. She has a philosophy about women as she says to the' owner of the house: "But God makes us women with a special ingredient. One little element that makes us go on, no matter how bad the odds are." (SOTS, P.83)

Amma takes up a job of helper at one house. But, from mere helper, she very soon became Amma for the household, the mother of the house. The owner says, "She became Amma, Mother. My mother. More beloved to me than my real one in so many ways." (SOTS, P. 81)

The owner is wonderstruck at the energy and determination of Amma. Amma, thus discovers her selfhood and also love and admiration of the owner of the house.

Another dimension of her selfhood and personality is the place of nature in Amma's life. She loves her trees. The trees give her strength when she faces difficult times. Her love for nature extends to all men and women around. She is the one to take care of all, the owner of the house, the children and her trees. As a woman, she cares for others nurtures and protects them. She is the feminine principle incarnate. Her tree was the companion for her in times of her sufferings. She used to talk to her tree and see refuge under it in her emotional turmoil. She says, " In its branches I hung all the vampires of my life. and the tree accepted them all without protest." (SOTS, P. 88-89) Amma finally goes to live in the house of her owner and finds her selfhood.

Conclusion:

All these women suffered in their life on account of the patriarchal domination and irresponsibility. Men and women in Anita Nair's novels struggle to achieve their selfhood, through a lot of suffering. The characters in Anita Nair's fiction, men and women both, endure hardship, face domination but emerge successful after their trials of life.

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Prediction of Typhoid Disease using Naive Bayes Classifier

Dr. S. D. Mundhe[*1], Mr. D.R. Vidhate[*2]

Director[1], Sinhgad Institute of Management and Computer Application (SIMCA), Narhe,
Asst. Prof[2], College of Computer Application for Women, Satara,
[1]director_mca_simca@sinhgad.edu
[2]vidhatedhananjay@rediffmail.com

Abstract— Today huge amount of data is being collected for analysis of various diseases in the field of medical science. But unfortunately collected data are not mined. It is very important to mine the data for finding hidden information. The popular technique of information technology such as knowledge mining helps to discover hidden patterns. This paper focuses on study of typhoid disease. Typhoid infection is often passed on through bacteria or through contaminated food and drinking water, and it is more prevalent in places where hand washing is less frequent. It can also be passed on by carriers who do not know they carry the bacteria. It requires some tests to be carried out by the patients to detect the disease. This paper presents how naive bays classifier technique of knowledge mining can systematically study data of typhoid patients based on their symptoms and parameters suggested by doctors. This paper will be helpful for medical practitioners for effective decision making or decrease the number of tests for patients.

Keywords— Knowledge mining, Naive bays classifier, Typhoid disease, decision making.

I. INTRODUCTION

In India, typhoid is a common bacterial infection. Symptoms include a high fever and gastrointestinal problems. Some people carry the bacteria without developing symptoms. If a disease is not treated properly it is fatal in around 25 precent of cases. This paper helps to decrease laboratory test of patents. It will help medical practitioners to take intelligent decisions and also save their valuable time. The main aim of this paper is to study data of typhoid patients by using naïve bays classifier technique of knowledge mining which will help to diagnose the disease.

II. REVIEW OF LITERATURE

Margaret H. Dunham, S. Sridhar in his book "Data Mining Introductory and advanced topics" mentioned that, database is growing at phenomenal rate. The users are expecting more sophisticated information from database. Simple structured query language queries are not adequate to support the increased demands for information. Data mining is used to solve this problem by finding hidden information in a database.

T V Suresh Kumar, B Eswara Reddy, Jagdish S Kallimani in his book "Data Mining principles and applications" highlighted that, keeping in mind the changeable and complicated needs of business environment, it is necessary to examine the need of evolution in the traditional decision support techniques. The aim is to intensify the need for integrated performance measurement and management, which are currently based on historical data. Because of the nature of challenges and trends in the retail industry, it is considered to be an appropriate scenario.

Andrew Newmen & Peter Cullen in their book 'Retailing: Environment & Operations' have focused on various aspects of Retailing as a Business. They have considered retailing as a important part of our changing society and major source of employment. The retailing is closely tied to the changing moods of the consumers and new ways of business, spread on by the impressive development in Technology and Management Theory. The book provided importance to retailing, including Logistics and Distribution, Merchandising, Store Layout and design, pricing and location strategy. Retail services and out of store retailing have been included as new areas. This book tried to find out the different market structures that are required for retail operations. This helps the readers to understand different facets, challenges and changes that are happening in the retailing environment.

III. TYPHOID DISEASE

Typhoid fever is an acute infectious illness associated with fever that is most often caused by the Salmonella typhi bacteria. The bacteria are deposited through fecal contamination in water or food by a human carrier and are then spread to other people in the area. Typhoid fever is rare in industrial countries but continues to be a significant public health issue in developing countries. Typhoid is a bacterial infection that can lead to a high fever, diarrhea, and vomiting. It can be fatal. It occurs predominantly in association with poor sanitation and lack of clean drinking water. According to the most recent estimates (published in 2014), approximately 21 million cases and 222 000 typhoid-related deaths occur annually worldwide.

Typhoid fever symptoms are:-
- poor appetite
- headaches
- diarrhoea
- generalized aches and pains
- fever
- lethargy
- weakness

Countries with less access to clean water and washing facilities typically have a higher number of typhoid cases. This can happen through an infected water source or when handling food. Even when the symptoms of typhoid have passed, it is still possible to be carrying the bacteria. The only

effective treatment for typhoid is antibiotics. The most commonly used medicines are ciprofloxacin and ceftriaxone. Some studies have found Salmonella typhimurium resistance rates to be around 35 precent. No animals carry this disease, so transmission is always human to human. For those traveling to high-risk areas, typhoid vaccines are now available.

IV. KNOWLEDGE MINING

Knowledge mining is process of analysing data from different perspectives and summarizing it into useful information. Different knowledge mining services can help us increase revenue. Knowledge mining is used to construct six types of models aimed at solving business problems: classification, regression, time series, clustering, association analysis, and sequence discovery. The first two, classification and regression are used to make predictions, while association and sequence discovery are used to describe behaviour. Clustering can be used for either forecasting or description. Time series analysis and forecasting are used to detect temporal patterns from historical time-dependent data and project the detected patterns into the future. Time series analysis, like all other forms of data analysis, is used to characterize or explain the reasons for the behaviour of a system and to predict its future behaviour.

V. NAÏVE BAYES CLASSIFEIR

Bayes' theorem is stated mathematically as the following equation.

$$P(A/B) = \frac{P(B/A)\, p(A)}{P(B)}$$

Where A & B are events & $P(B) \neq 0$

P(A/B) is a conditional probability the likelihood of event A occurring given that B is true.

P(B/A) is a conditional probability the likelihood of event B occurring given that A is true.

P(A) and P(B) are the probabilities of observing A and B independently of each other. This is known as marginal probability.

The Naive Bayesian classifier is based on Bayes' theorem with independence assumptions between predictors. A Naive Bayesian model is easy to build, with no complicated iterative parameter estimation which makes it particularly useful for very large datasets. Despite its simplicity, the Naive Bayesian classifier often does surprisingly well and is widely used because it often outperforms more sophisticated classification methods.

Bayes theorem provides a way of calculating the posterior probability, P(c|x), from P(c), P(x), and P(x|c). Naive Bayes classifier assume that the effect of the value of a predictor (x) on a given class (c) is independent of the values of other predictors. This assumption is called class conditional independence.

$$P(c \mid x) = \frac{P(x \mid c) P(c)}{P(x)}$$

Likelihood — Class Prior Probability — Posterior Probability — Predictor Prior Probability

$$P(c \mid X) = P(x_1 \mid c) \times P(x_2 \mid c) \times \cdots \times P(x_n \mid c) \times P(c)$$

P(c|x) is the posterior probability of class (target) given predictor (attribute).

P(c) is the prior probability of class.

P(x|c) is the likelihood which is the probability of predictor given class.

P(x) is the prior probability of predictor.

Example:- Following is data collected from the hospital for study of various patients suffering from typhoid disease. Their symptoms and diagnosis are shown in the following table.

Headache	Fever	Poor Appetite	Generalized pain	Weakness	Typhoid
Y	N	Y	Y	Y	Y
Y	N	N	Y	Y	N
N	N	Y	N	Y	N
Y	Y	Y	N	N	Y
N	Y	N	Y	N	N
N	Y	Y	N	N	Y
N	Y	N	Y	Y	Y
Y	Y	N	Y	Y	Y

Table No: 1

If there is new entry of patient in the hospital having following symptoms which listed below in the Table no2. So do we believe that a patient with following symptoms has the typhoid or not?

Table No: 2

Headache	Fever	Poor Appetite	Generalized pain	Weakness	Typhoid
Y	N	Y	N	Y	?

The stepwise algorithm for naive bays classifier is mentioned below:

Step1: Start
Step2: Accept input attribute
Step3: for each input attribute find its probability against all output
Step4: Multiply all the probabilities with respect to each attribute
Step5: Select probability with maximum value
Step6: Attribute will belong to class variable with maximum value
Step7: End

By using above algorithm we can conclude that patient has been suffered from typhoid or not. This will be tested from the incoming attribute which belongs to class variable with maximum value.

First all possible individual probabilities are computed based on target attribute of typhoid contained all probabilities of attribute of typhoid disease.

P(typhoid =Y)= 5/8= 0.625
P(heachache=Y/typhoid =Y) = 3/5=0.6
P(typhoid =N)=3/8=0.375
P(heachache=Y/typhoid =N) = 1/3=0.3333

Just like above we can simply compute the possible probabilities for all conditions and this probabilities are enlist in table no: 3

Table No: 3

P(Typhoid=Y)	0.62	P(Typhoid=N)	0.37
P(heachache=Y/typhoid=Y)	0.6	P(heachache=Y/typhoid=N)	0.33
P(heachache=N/typhoid=Y)	0.4	P(heachache=N/typhoid=N)	0.66
P(fever=Y/typhoid=Y)	0.8	P(fever=Y/typhoid=N)	0.33
P(fever=N/typhoid=Y)	0.2	P(fever=N/typhoid=N)	0.66
P(poor appetite=Y/typhoid=Y)	0.6	P(poor appetite=Y/typhoid=N)	0.33
P(poor appetite=N/typhoid=Y)	0.4	P(poor appetite=N/typhoid=N)	0.66
P(Generalizd pain=Y/typhoid=Y)	0.6	P(Generalizd pain=Y/typhoid=N)	0.66
P(Generalizd pain=N/typhoid=Y)	0.4	P(Generalizd pain=N/typhoid=N)	0.33
P(weakness=Y/typhoid=Y)	0.6	P(weakness=Y/typhoid=N)	0.66
P(weakness=N/typhoid=Y)	0.4	P(weakness=N/typhoid=N)	0.33

And then we decide that p has split into two cases one for Y and second for N

p1->
argmax   P(typhoid=Y)*P(heachache=Y/typhoid=Y)* P(fever=N/typhoid=Y)* P(poor appetite =Y/typhoid=Y)* P(Generalizedpain=N/typhoid=Y)*P(weakness=Y/typhoid =Y)

P1=0.62*0.6*0.2*0.6*0.4*0.6
P1=0.0107

P2->
argmax
P(typhoid=N)*P(heachache=Y/typhoid=N)*P(fever=N/typhoid=N)*P(poor appetite =Y/typhoid =N) *P(Generalized pain=N/typhoid =N)* P(weakness=Y/typhoid =N)

P2=0.375*0.33*0.66*0.33*0.33*0.66
P2=0.0058

Therefore, the argument probability of p2 seems smaller than p1 so that newly entered patient in the hospital is suffering from typhoid diseases.

VI.   CONCLUSION

Naive bays classifier technique of knowledge mining can be used for the diagnosis of typhoid disease. This paper has shown a simplest way to identify the typhoid patients based on the data of typhoid patients. This result has shown that knowledge mining could be effectively utilized for diagnosis of various diseases in the field of medical science.

VII.   FUTURE RESEARCH

Knowledge mining techniques such as classification, clustering, association rules and many other techniques could be effectively utilized for studying patient data. In future, it is possible to get more accurate diagnosis of typhoid patients by increasing various parameters suggested by doctors by using knowledge mining.

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A study on Consumer Purchase Behaviour towards Super Bazaar Business

Dr. S. D. Mundhe

Director, Sinhgad Institute of Management and Computer Application (SIMCA), Narhe.
director_mca_simca@sinhgad.edu

Mr. D.R. Vidhate

Asst. Prof. College of Computer Application for Women, Satara
vidhatedhananjay@rediffmail.com

Abstract— Super bazaar is one of the formats of retail business which is self service shop. The study of purchase behaviour of consumer is vital in decision making process of super bazaar business. Purchase behaviour is important and it is difficult to predict. This paper studies survey data and finds valuable information helpful for business owners in decision making. This paper presents how different statistical techniques can systematically study purchase behaviour of consumers related to various form of super bazaar data.

Keywords— Super Bazaar, Consumer, Purchase Behaviour, Retail Sector, statistical techniques.

I. INTRODUCTION

Retail is final stage of any economic activity and it is growing very fast. Retail occupies an important place in the world economy. Super bazaar is one of the booming business format of retail sector. A super bazaar is larger in size and has wider selection than traditional grocery store.

Super bazaar is one of highly competitive business. Purchase behaviour study is based on consumer purchase behaviour. If super bazaar business is unable to understand behaviours of its customers, it will lose revenue and customers. To be able to do so, super bazaar business has to understand behaviours of its customers. Information of behaviours of customers can come from customer data that super bazaar has collected. When business understands behaviours and attributes of customers, it will be able to develop products or services that satisfy customers' demands.

The main aim of this paper is to study how statistical techniques can systematically study purchase behaviour of consumers which helps super bazaar owners in designing better marketing strategies and to increase profitability of super bazaars.

II. STATISTICAL TECHNIQUES

A statistical test provides a mechanism for making quantitative decisions about a process. The intent is to determine whether there is enough evidence to reject a hypothesis about the process. For this research paper ANNOVA and Chi-Square tests are used.

ANNOVA:-

Analysis of Variance (ANOVA) is a statistical method used to test differences between two or more means. ANOVA assess the importance of one or more factors by comparing the response variable means at the different factor levels. The null hypothesis states that all population means are equal while the alternative hypothesis states that at least one is different.

Chi-Square:-

The test is used to determine if there is a significant relationship between two nominal variables. The frequency of one nominal variable is compared with different values of the second nominal variable. The data can be displayed in an R*C contingency table, where R is the row and C is the column.

III. HYPOTHESIS OF STUDY

The proposed research study was carried out to test the following hypothesis.

1. There is a strong association between the education qualification of consumers and brand awareness.
2. The consumer attraction is dependent on sales promotion.
3. Higher income level of consumers has a positive effect on the buying behavior of consumers.

IV. RESEACRH METHODOLOGY

Population of Study

A total of 480 consumers from 5 districts Pune, Satara, Sangli, Kolhapur and Solapur were surveyed for this research study. The survey was based on filling questionnaire from consumers.

Primary Data

Tools Used

Questionnaire method was used for primary data collection.

Sample Method

The sampling method chosen is simple random sampling convenience sampling.

Sample Size

The data is collected using a random sample of consumers. Consumers who have significant knowledge of the topic were identified and selected at random for questioning.

Questionnaire

Questionnaire was designed keeping in mind the hypothesis of the study to analyze the purchase behavior of consumers. The questionnaire consisted of few open ended questions, some questions were either using ranking scale or Likert scale.

Secondary Data

Secondary data was collected through research papers, Newspapers, journals, websites, books, project reports and so on.

V. LIMITATION OF STUDY

The sample size decision is influenced by factors like time, manpower and costs.

VI. RESULT AND DISCUSSION

HO: There is a strong association between the education qualification of consumers and brand awareness.

Table No. 4.1
Education Wise Product Brand Awareness of Consumer Respondents

Education	Fully Aware	Aware	Least Aware	Neither Aware nor Disaware	Not at all Aware	Total
SSC	4	6	11	18	19	58
HSC	12	15	51	3	15	96
Graduate	38	182	21	2	10	253
PG	52	8	8	1	4	73
Total	106	211	91	24	48	480

Calculation of ANOVA:

SUMMARY

Groups	Count	Sum	Average	Variance
SSC	5	58	11.6	46.3
HSC	5	96	19.2	340.2
Graduate	5	253	50.6	5577.8
PG	5	73	14.6	445.8

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	4863.6	3	1621.2	1.011653	0.413328	3.238872
Within Groups	25640.4	16	1602.525			
Total	30504	19				

Assuming the 5% level of significance the table value of F with 3 degree of freedom in the numerator and 16 degree of freedom in the denominator equals to 3.24. Since the computed value of F is 3.23 which is less than the tabulated value of F. Also, calculated value of P is 0.413328 which is greater than $\alpha=0.05$. level of significance, therefore there is not enough evidence to reject the null hypothesis this means that there is positive association between education qualification of consumers and brand awareness.

HO: The consumer attraction is dependent on sales promotion.

Calculation of ANOVA:

Manager Respondents Regarding Sales Promotion Schemes

Sales Promotion	Fully Agree	Agree	Not Sure	Disagree	Don't Know/ Not Applicable
Free Product	25	54	17	106	5
Coupons	10	33	25	126	13
Extra Products	8	118	17	56	8
Price Off	12	108	23	58	6
Samples	14	139	19	25	10
Discounts	23	149	13	14	8

Source: Compiled by researcher (Reference Table No. 4.93, Table No. 4.94, Table No. 4.95, Table No. 4.96, Table No. 4.97, Table No. 4.98)

Sales Promotion	Agreed	Not Sure	Disagreed
Free Product	79	17	111
Coupons	43	25	139
Extra Products	126	17	64
Price Off	120	23	64
Samples	153	19	35
Discounts	172	13	22

Source: Compiled by researcher

Groups	Count	Sum	Average	Variance
Agreed	6	693	115.5	2263.5
Not Sure	6	114	19	19.2
Disagreed	6	435	72.5	2001.1

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	28047	2	14023.5	9.820836664	0.001877989	3.682320344
Within Groups	21419	15	1427.933333			
Total	49466	17				

Assuming the 5% level of significance the table value of F with 2 degree of freedom in the numerator and 15 degree of freedom in the denominator equals to 3.68. Since the computed value of F is 3.68 which is equal to the table value of F and P-value is equal to 0.001877989 which is less than 0.05, the assumed level of significance. Therefore, the null hypothesis is rejected. It means that consumer attraction is independent of sales promotion.

HO: Higher income level of consumers has a positive effect on the buying behaviour of consumers.

Calculation of Chi-square:

Income * Purchase per Month Cross tabulation

		Purchase per Month				Total
		Less than Rs. 1000	Rs. 1000 to Rs. 2000	Rs. 2001 to Rs. 3000	Rs. 3001 and Above	
Less than 1.5 lakh	Count	2	6	9	20	37
	Expected Count	2.2	5.9	8.6	20.4	37.0
1.5 lakh to less than 3 lakh	Count	4	11	16	38	69
	Expected Count	4.2	10.9	16.0	37.9	69.0
3 lakh to less than 4.5 lakh	Count	7	18	26	64	115
	Expected Count	6.9	18.2	26.6	63.3	115.0
4.5 lakh and Above	Count	16	41	60	142	259
	Expected Count	15.6	41.0	59.9	142.5	259.0
Total	Count	29	76	111	264	480
	Expected Count	29.0	76.0	111.0	264.0	480.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.099[a]	9	1.000
Likelihood Ratio	.100	9	1.000
Linear-by-Linear Association	.005	1	.943
N of Valid Cases	480		

a. 2 cells (12.5%) have expected count less than 5. The minimum expected count is 2.24.

The calculated value of chi-square is 0.099 which is highly significant at the 5% level of significance. The calculated value of P is 1.000 which is above 0.05 it means that we can accept the null hypothesis therefore there is enough evidence that the higher income has positive effect on the buying behaviour of consumers.

VII. CONCLUSION

It has noted that sales promotion features like extra products, price off, samples and discounts are used to attract consumers in super bazaar. The study revealed that buying decision of consumer is dependent on factors such as gender, occupation, age, education, location, brand, management cooperation and support staff. . It was found that more income group consumers purchase more items per month in super bazaar. It has noted that sales promotion features like extra products, price off, samples and discounts are used to attract consumers in super bazaar. The result of the study has shown that

graduate consumers, business consumers, male consumers and consumers between age group categories 28 to 40 are aware about the brand of products

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An Implementation of Apriori Algorithm on a Super Bazaar Database for Association Rule Mining

Dr. S. D. Mundhe[1], D. R. Vidhate[2]

Director[1], Sinhgad Institute of Management and Computer Application (SIMCA), Narhe,
Asst. Prof[2], College of Computer Application for Women, Satara,
[1]director_mca_simca@sinhgad.edu
[2]vidhatedhananjay@rediffmail.com

Abstract:
Super bazaar is one of the formats of retail business which is self service shop. Knowledge mining is an approach which refers to the extraction of unknown information from large super bazaar databases. In knowledge mining, Apriori is an algorithm for finding association rules. This paper takes transactional data and applies Apriori algorithm to find hidden patterns. This paper will help super bazaar owners in understanding the customer behaviour more easily and giving maximum profit to the super bazaar business.

Keywords : Super Bazaar, Knowledge Mining, Consumer, Manager, Buying Behaviour.

I. INTRODUCTION

Consumer is a king in super bazaar business. The study of buying behaviour of consumer is vital in decision making process of super bazaar business. Association rules mining is an important branch of knowledge mining research. Frequent pattern analysis is a technique of association rule mining which allows a researcher to systematically identify buying patterns from the database. Market Basket Analysis is a knowledge mining technique that is widely used to identify consumer patterns such that if customer buys certain group of items then customers are likely to buy another group of items. Apriori algorithm is widely used algorithm to generate strong buying patterns from consumer purchase data.

II. ASSOCIATION RULE MINING

Association rule mining is used for finding frequent patterns and associations among sets of items in transactional databases, relational databases, and other information repositories. [2] An association rule is the relationship between two disjoint itemsets, X and Y. An association rule is of the form:- X => Y
X => Y: - When X occurs, Y also occurs.

Given a set of items $I = \{I1, I2, \ldots, Im\}$ and a database of transactions $D = \{t1, t2, \ldots, tn\}$ where $ti = \{Ii1, Ii2 \ldots Iik\}$ and $Iij \subseteq I$, an association rule is an implication of the form $X => Y$ where $X, Y \subseteq I$ are sets of items called itemsets and $X \cap Y = \emptyset$.

III. FREQUENT ITEMSETS

Finding frequent itemsets are those with frequency larger than or equal to a user specified minimum support. The identification of sets of items, products and characteristics which often occur together in the given database can be seen as one of the most basic tasks in frequent itemset mining. The association rule mining can be reduced to mining frequent itemset. Once frequent itemsets are obtained, it is straightforward to generate association rules with confidence larger than or equal to a user specified minimum confidence [5].

IV. MARKET BASKET ANALYSIS

It is a very useful technique for finding out co-occurrence of items in consumer shopping baskets. Such information can be used to provide the super bazaars with information to understand purchasing behavior of consumer in super bazaar. Market basket analysis is an important component of analytical system in retail organizations to determine the placement of goods, designing sales promotions for different segments of customers to improve customer satisfaction and hence the profit of the supermarket. [3]

V. SUPPORT

It is the measure of how often the collections of items in an association occur together as percentage of all transactions. Support(s) for an association rule X => Y is the percentage of transactions in the database that contains X U Y. A low support rule is not profitable to promote items that customers seldom buy together. So, support is often used to eliminate uninteresting rules. Association rule find all set of items that has support

greater than minimum support. Support could be absolute or relative.

VI. CONFIDENCE

Confidence for an association rule X=>Y is the ratio of the number of transaction that contain both antecedent and consequent to the number of transaction that contain only antecedent. A rule with low confidence is not meaningful. Confidence (?) for an association rule x=>Y is the ratio of number of transactions that contains X U Y to the number of transactions that contains X.

VII. MINIMUM THRESHOLD VALUES

The strength of an association rule can be measured in terms of its support and confidence. The rules derived from itemsets with high support and high confidence. The number of association rules discovered is affected by a user's decision concerning the minimum support threshold and minimum confidence threshold. It may be decided on the basis of number of transactions in database. support and confidence values occur between 0% and 100%.

VIII. OBJECTIVES

It has the following main objectives:

1. To identify hidden patterns from transactional database.
2. To study the usefulness of found patterns to maximum profit of the super bazaar business.

IX. APRIORI ALGORITHM

Apriori algorithm is very effective algorithm of association rule which finds data associations. The two basic steps can be summarized as:

a) Joining: In this step candidate itemsets are joined.
b) Pruning: In this step frequent itemsets are discovered and used whereas non-frequent itemsets are discarded.[2]

Steps in Apriori Algorithm:

1) Take transactional data as input from super bazaar database.
2) Find frequent itemsets from transactional data.
3) Generate strong association rules from frequent itemsets.
4) Take decisions based on the rules.

X. APRIORI IMPLEMENTATION

In super bazaar business consumers are mostly purchasing the items cloths, personal, stationary, toys and food.

Purchase by consumers:

Following is a transactional data by consumers which contains a list of 10 different transactions in a super bazaar. For simplicity, We have below given table:

A-Cloths, B-Personal, C- Stationary, D- Toys, E- Food

Transaction IDs	List of Item IDs
T1	A,B
T2	A,D
T3	A,D,E
T4	C,D,E
T5	B,D,E
T6	A,C,D,E
T7	B,D,E
T8	D,C,E,B
T9	A,D,E,B
T10	D,E

1) Find all Frequent Itemsets:

Step1: Scan all the transactions in the database to get candidate 1-itemsets, C1.

Item ID	Items	Support
A	Cloths	5
B	Personal	5
C	Stationary	3
D	Toys	9
E	Food	8

Step2: Use minimum support count=3 to get frequent 1-itemsets, L1

Item ID	Items	Support
A	Cloths	5
B	Personal	5
C	Stationary	3
D	Toys	9
E	Food	8

Step3: Generate candidate 2-itemsets, C2 from frequent 1-itemsets, L1

Item ID	Items
A,B	Cloths, Personal
A,C	Cloths, Stationary
A,D	Cloths, Toys
A,E	Cloths, Food
B,C	Personal, Stationary
B,D	Personal, Toys
B,E	Personal, Food
C,D	Stationary, Toys
C,E	Stationary, Food
D,E	Toys, Food

Step4: Scan all the transactions in the database to get candidate 2-itemsets, C2.

Item ID	Items	Support
A,B	Cloths, Personal	2
A,C	Cloths, Stationary	0
A,D	Cloths, Toys	4
A,E	Cloths, Food	3
B,C	Personal, Stationary	1
B,D	Personal, Toys	4
B,E	Personal, Food	4
C,D	Stationary, Toys	3
C,E	Stationary, Food	3
D,E	Toys, Food	8

Step5: Use minimum support count=3 to get frequent 2-itemsets, L2.

Item ID	Items	Support
A,D	Cloths, Toys	4
A,E	Cloths, Food	3
B,D	Personal, Toys	4
B,E	Personal, Food	4
C,D	Stationary, Toys	3
C,E	Stationary, Food	3
D,E	Toys, Food	8

Step6: Generate candidate 3-itemsets, C3 from frequent 2-itemsets, L2 and pruning using the apriori property.

Item ID	Items	Support
A,D,E	Cloths, Toys, Food	3
B,D,E	Personal, Toys, Food	3
C,D,E	Stationary, Toys, Food	3

Step7: Scan all the transactions in the database to get candidate 3-itemsets, C3.

Item ID	Items
A,D,E	Cloths, Toys, Food
B,D,E	Personal, Toys, Food
C,D,E	Stationary, Toys, Food

Step8: Use minimum support count=3 to get frequent 3-itemsets, L3.

Item ID	Items	Support
A,D,E	Cloths, Toys, Food	3
B,D,E	Personal, Toys, Food	3
C,D,E	Stationary, Toys, Food	3

Step9: Generate candidate 4-itemsets, C4 from frequent 3-itemsets, L3 and pruning using the apriori property.

Item ID	Items
A,B,D,E	Cloths, Personal, Toys, Food
A,C,D,E	Cloths, Stationary, Toys, Food
B,C,D,E	Personal, Stationary, Toys, Food

Pruning the above itemsets
{A,B,D,E}, {A,C,D,E} & { B,C,D,E} we get
After pruning {A, B, D, E} it is found that the itemset
{A, B, D} is not frequent thus violating apriori property
After pruning {A, C, D, E} it is found that the itemset
{A, C, D} is not frequent thus violating apriori property
After pruning {B, C, D, E} it is found that the itemset
{B, C, D} is not frequent thus violating apriori property

Thus C4= and algorithm terminates. It indicates that it has found all frequent itemsets. This completes apriori algorithm.

2. Generating Association Rules from Frequent Itemsets:
The rules are generated using following method:
For every nonempty subset s of I, output the rule
"s ? (I-s)"
if support_count(I)/support_count(s)>= minimum confidence threshold.

We have the list of frequent itemsets
Item ID Items   Support
A,D,E Cloths, Toys, Food   3
B,D,E Personal, Toys, Food   3
C,D,E Stationary, Toys, Food 3

Generating all non empty subsets foe each frequent itemsets I

For I= {A,D,E}
all non empty subsets are
{A},{D},{E},{A,D},{A,E},{D,E}
For I= {B,D,E}
all non empty subsets are
{B},{D},{E},{B,D},{B,E},{D,E}
For I= {C,D,E}
all non empty subsets are
{C},{D},{E},{C,D},{C,E},{D,E}

Consider minimum confidence threshold=60%

For I= {A, D, E} association rules generated are as below:
Rule1:- {A, D} ?E
Confidence=Support_Count(A, D, E)/Support_Count (A, D) = 3/4 = 75%.
Rule2:- {A, E} ?D
Confidence=Support_Count(A, E, D)/Support_Count (A, E)
= 3/3 = 100%
Rule3:- {D, E} ?A
Confidence=Support_Count(D, E, A)/Support_Count (D, E) = 3/8 = 37%
Rule4:-A? {D, E}
Confidence=Support_Count(A, D, E)/Support_Count (A)
= 3/5 = 60%.
Rule5:- D? {A, E}
Confidence=Support_Count(D, A, E)/Support_Count (D) = 3/9 = 33.33%
Rule6:- E? {A, D}
Confidence=Support_Count(E, A, D)/Support_Count (E) = 3/8 = 37%

For I= {B, D, E} association rules generated are as below:
Rule7:- {B, D} ?E
Confidence=Support_Count(B, D, E)/Support_Count (B, D) = 4/4 = 100%
Rule8:- {B, E} ?D
Confidence=Support_Count(B, E, D)/Support_Count (B, E) = 4/4 = 100%
Rule9:- {D, E} ?B
Confidence=Support_Count(D, E, B)/Support_Count (D, E) = 4/8 = 50%
Rule10:-B ? {D, E}
Confidence=Support_Count(B, D, E)/Support_Count (B)

= 4/5 = 80%
Rule11:-D ? {B, E}
Confidence=Support_Count(D, B, E)/Support_Count (D) = 4/9 = 44%
Rule12:-E ? {B, D}
Confidence=Support_Count(E, B, D)/Support_Count (E) = 4/8 = 50%

For I= {C, D, E} association rules generated are as below:
Rule13 :-{ C, D} ? E
Confidence=Support_Count(C, D, E)/Support_Count (C, D) = 3/3 = 100%
Rule14:- {D, E} ? C
Confidence=Support_Count(D, E, C)/Support_Count (D, E) = 3/8 = 37%
Rule15:- {C, E} ? D
Confidence=Support_Count(C, E, D)/Support_Count (C, E) = 3/3 = 100%
Rule16:-C ? {D, E}
Confidence=Support_Count(C, D, E)/Support_Count (C) = 3/3 = 100%
Rule17:- D ?{C, E}
Confidence = Support_Count (D, C, E)/Support_Count (D) = 3/9 = 33.33%
Rule18:-E ? {C, D}
Confidence = Support_Count (E, C, D)/Support_Count (E) = 3/8 = 37.50%
Selected association rules generated from frequent itemsets {A, D, E}, {B, D, E}, {C, D, E} are:
Rule1 = {A, D} ?E = {Cloths, Toys} ?Food
Rule2 = {A, E} ?D = {Cloths, Food} ?Toys
Rule3 =A? {D, E}   = Cloths? {Toys, Food}
Rule4 = {B, D} ?E = {Personal, Toys} ?Food
Rule5 = {B, E} ?D = {Personal, Food} ?Toys
Rule6 =B ? {D, E} = Personal ? {Toys, Food}
Rule7 = {C, D} ? E = {Stationary, Toys} ? Food
Rule8 = {C, E} ? D = {Stationary, Food} ? Toys
Rule9 =C? {D, E}   = Stationary ? {Toys, Food}

XI. CONCLUSION

The selected rules are considered as strong association rules because they satisfies minimum confidence threshold. From above rules it is to be concluded that purchase preference of consumers is clothes, food, toys and it is found that their association is with items like toys and food. It is observed that a consumer mostly purchases items personal, toys, food and their association is with items food and toys. It is also

A Study on Performance in Deposit Mobilization and Loans and Advances of Jijamata Mahila Sahakari Bank Ltd, Pune

Dr. Govind Mahadeo Dumbre

HOD & Vice-Principal, A.W.College, Otur., Chairman BBA BOS, Member Academic Council, Savitribai Phule Pune University.

Asst. Prof. Anjali Chandrakant Salunkhe

Maharshi Karve Stree Shikshan Sansth's College of Computer Application for Women, Satara, SNDT University, Mumbai.

Abstract

Co-operation is a way of life and business, service and profit are important element. Co-operation is for the members. Its' motto is "Each for all, and All for Each." Co-operative banks have spread their tentacles across the nation. Every nook and corner would display the boarding of the office of one or other Co-operative Banks. The Banks are the heart of financial structure of economy. Bank's lending's', investments and related activities facilitate the production, distribution and consumption in the economy. Deposits are the mainstay of a bank and they constitute its life-blood. This paper examines the Performance in Deposit Mobilization and Loans and Advances of **Jijamata Mahila Shakari Bank Ltd Pune**.

Key Words: Co-operative Banks, Deposits, Loans & Advances, Performance

Introduction

Jijamata Mahila Shakari Bank Ltd Pune, is working since 1974 in Pune. Bank has its branches in Pune district. Jijamata Mahila Shakari Bank Ltd Pune, is standing up to the rules and regulation put forth by the Reserve Bank of India. Easy job is a common man's work but paving path through difficulty is the aim and ambition of the bank. The bank gives priority to build up new policies, eminent management and use of new advanced technologies. Bank is maintaining best services for their customers, and is running successfully with the trust of the depositors. The bank is supports the needy women members, in their financial difficulties to make them capable to overcome their financial problems. The bank offers wide range of deposit schemes to customers. Deposits and advances are the main products of banking industry. Bank provide productive loans to self employed personnel and professionals.

Objective of the study

1)   To study the various Deposits schemes and Loans and Advances offered by bank.

2)   To study the comparative analysis of Deposits schemes and Loans and Advances of the bank

Scope of study

Researcher has decided to make a study of Jijamata Mahila Shakari Bank Ltd Pune, for five financial years i.e. 2010-11 to 2014-15. Geographical scope is limited to branches of the bank in Pune district. The Analytical scope of study is limited to use tables, graphs, charts, pie diagrams etc.

Review of Literature

The review of literature is based on the information which was made available through books, Ph.D. thesis, M.phil dissertations, research papers, reports of various committees, articles published in periodicals and websites.

Research Methodology

This study is depended upon primary and secondary sources of data. For collecting data from the primary sources face to face discussions were held with bank manager and the office staff of the bank. Data were also collected through secondary sources, like the annual reports of the said bank, finance report of RBI. Co-operative prospective, Maharashtra co-operative Quarterly etc.

Deposit Mobilization of the Bank

The activities of the bank generally revolve around two things that mobilization of deposits and proper utilization of the same. Deposits and advances are therefore, the main products of banking industry. Both the activities are interdependent in the sense that without deposits, advances are least possible, and if there is no advance, there is no question of mobilizing the deposits. Mobilization of deposits promotes social well-being of the depositors as also the public at large by instilling in them the habit of saving. Deposits constitute one of the primary sources of external capital. A deposit helps the banks to reduce the quantum of borrowings from financial agencies. The volume of deposits collected by Mahila Co-operative Bank in relation to 'deposit potential' of its area is considered to be a reliable index of the performance of the bank.

Table No. 1.1: Table Showing the Trends in growth of deposit mobilization of Jijamata Mahila Shakari Bank Ltd Pune.

(Rs. In Lakhs)

Co-operative year	Saving Deposit	Current Deposit	Fixed Deposit	Recurring Deposit	Total Deposit
2010-11	6566.46 (25.93)	1791.94 (7.07)	15557.18 (61.43)	1408.07 (5.57)	25323.65 (100.00)
2011-12	7045.96 (25.29)	1910.89 (6.85)	17333.49 (62.21)	1570.25 (5.65)	27860.59 (100.00)

Co-operative year	Saving Deposit	Current Deposit	Fixed Deposit	Recurring Deposit	Total Deposit
2012-13	6701.57 (21.97)	1864.22 (6.11)	20288.49 (66.52)	1642.37 (5.4)	30496.65 (100.00)
2013-14	6361.37 (19.46)	1725.09 (5.27)	22713.52 (69.50)	1881.06 (5.77)	32681.04 (100.00)
2014-15	6900.98 (20.60)	1527.01 (4.55)	23153.2 (69.12)	1911.25 (5.73)	33492.44 (100.00)

(Source: Annual Reports of the Bank)

(Note: Figures in parentheses at columns indicate percentage increase over the base year 2010-11)

Bank has categorized into Four types of deposits viz.1) Saving deposits 2) Current deposits 3) Fixed deposits 4) Recurring deposits

The following inferences can be drawn from the table no. 1.1:

A)   Saving deposits have increased from Rs. 6566.46 to 6900.98 from 2010-11 to 2014-15. The percentage share of saving deposit to total deposits varied between 25.93 lakhs in 2010-11 and Rs. 21.97 in 2012-13 and Rs. 20.60 in 2014-15.

B)   Current deposits have registered an increase from Rs. 1791.94 lakhs in 2010-11 to 1864.22 lakhs in 2012-13 and Rs.1527.01 lakhs in 2014-15. The percentage share of current deposit to total deposits varied from 7.6 lakhs in 2010-11 to 6.11 lakhs in 2012-13 and Rs.4.55 lakhs in 2014-15.

C)   As regards to fixed deposits, have registered an increased from Rs.15777.18 lakhs in 2010-11 to 23153.2 lakhs in 2014-15. The percentage share of fixed deposits to total deposits of Rs. 61.43 in 2010-11 to Rs. 69.12 in 2014-15

D)   Recurring deposits have increased from Rs. 1408.07 to 1911.25 from 2010-11 to 2014-15. The percentage share of recurring deposits to total deposits increased of Rs.5.57 lakhs to Rs. 5.73 lakhs in 2010-11 to 2014-15.

D)   Total deposits have increased from 25323.65 lakhs in 2010-11 and 33492.44 lakhs in 2014-15 indicating about 1.32 times increased in total deposits.

Therefore it is concluded that the rate of growth of the bank is increasing in the context of deposits of the bank in the study period.

The diagrammatic presentation of average percentage distribution of types of the deposits of the bank has been furnished in the following table.

Table No. 1.2: Table showing the Average Growth of Deposit Mobilization of Jijamata Mahil

Shakari Bank Ltd Pune.

Type of Deposit	Average Growth
Saving Deposit	22.65 %
Current Deposit	5.97 %
Fixed Deposit	65.75 %
Recurring Deposit	5.63 %
TOTAL DEPOSITS	**100%**
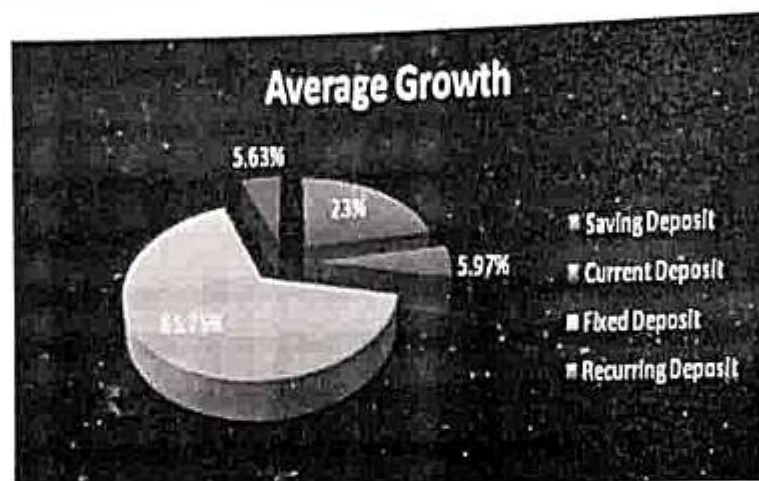
(Diagram No. 1.1: Average Growth of Deposits)

Average growth of Saving Deposit was 23%, Current Deposit was 5.97% and Fixed Deposit was 65.75% and Recurring deposit was 5.63% of Jijamata Mahila Shakari Bank Ltd Pune.

Loans and Advances of the Bank

The lending operations of the bank mainly comprise of short term and medium term advances which are distributed as credit, overdrafts, and loans to their members. The bank usually disburses two types of loans, secured loans and advances and non-secured loans are provided against the salary certificate and personal guarantee.

Table No. 1.3: Table Showing the Term- wise trends in Loans & Advances of Jijamata Mahila

Shakari Bank Ltd Pune.

(Rs. In Lakhs)

Co-operative Year	Short Term Advances	Medium Term Advances	Long Term Advances	Total Advances	Index Total Advances
2010-11	2680.42 (18.95)	2562.75 (18.11)	8901.32 (62.94)	14144.49 (100.0)	100.00

Co-operative Year	Short Term Advances	Medium Term Advances	Long Term Advances	Total Advances	Index Total Advances
2011-12	3870.09 (22.73)	2634.71 (15.47)	10520.7 (61.80)	17025.50 (100.0)	120.3
2012-13	4357.26 (23.50)	3161.72 (17.05)	11021.05 (59.45)	18540.03 (100.0)	131.0
2013-14	4021.36 (20.07)	4593.87 (22.93)	11418.04 (57)	20033.27 (100.0)	141.6
2014-15	3530.90 (15.97)	5379.87 (24.34)	13189.48 (59.69)	22100.25 (100.0)	156.2

(Source: Annual Reports of the Bank)

Table No. 1.3 divulges the information about term-wise trends in advances taking 2010-11 as the base year. The table also contains percentage share of each of the term-wise advances to total advances. On a detailed analysis, the table reveals the following:

A)   There has been an increase of short term advances of Rs. 2680.42 lakhs in 2010-11 to 3530.90 lakhs in 2014-15

B)   About one-fold (22100.25/14144.49) increase in advances during five years.

C)   As regards short- term advances, there has been 1.3 times (3530.90/2680.42) increase in respect of Jijamata Mahila Shakari Bank Ltd Pune.

D)   As regards medium-term advances, there has been two times (5379.87/2562.75) increase in respect of the bank.

E)   As regards long term advances, there has been one times (13189.48/8901.32) increase in respect of the bank
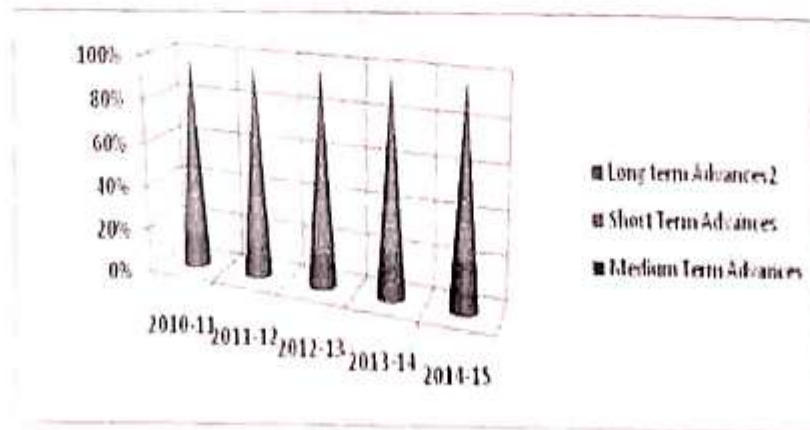
(Diagram No. 1.2: Term-wise Trends in Advances)

The diagrammatic presentation in respect of each of the term-wise components of advances has been furnished in the diagram. In such diagram compare to short term advances are much more than medium term advances. Compare to medium term advances, long term advances are more distributed among the people.

Table No. 1.4: Statistical Calculations of Deposits and Advances of Jijamata Mahila Shakari Bank Ltd Pune.

Cooperative Year	Deposits	Loans & Advances
2010-11	25323.65	14144.49
2011-12	27860.59	17025.50
2012-13	30496.65	18540.03
2013-14	32681.04	20033.27
2014-15	33492.44	22100.25
Mean	29970.87	18368.70
SD	3393.84	3015.49
AVEDEV	2703.00	1226.97
Harmean	29650.97	17950.93
Max	33492.44	22100.25
Min	25323.65	14144.49

(Source: Complied & Calculated by Researcher)

Therefore it is concluded that the rate of growth of the bank is increased in the context of deposits and loans and advances.

Credit Deposit Ratio

It measures the utilization of deposits resources by the bank and it results in income generation of the bank. Credit Deposit Ratio is calculated by using following equation

> **Credit Deposit Ratio = Loans and Advances/ Deposits * 100**

Table No. 1.5: Table showing the credit deposit ratio of Jijamata Mahila Shakari Bank Ltd Pune.

Co-operative Year	Credit Deposit Ratio
2010-11	55.8%
2011-12	61.1%
2012-13	60.7%
2013-14	61.2%
2014-15	65.9%

(Source: Complied & Calculated by Researcher)
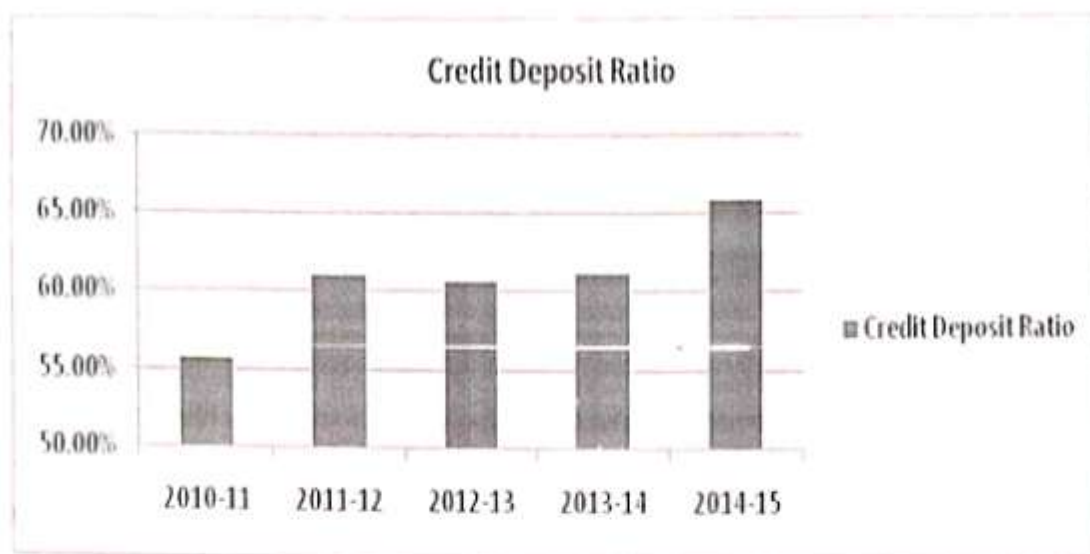
Credit Deposit Ratio

Table & Graph shows the fluctuating trend in credit deposit ratio of the bank. The ratio shows the proportion of deposits used for giving loans. The ratio of the bank was in the range of 55 to 65 percent over the study period of five years under the study.

Conclusion & Suggestions

It can be conclude that there has been constant increase in deposits and Loans and Advances of Jijamata Mahila Shakari Bank Ltd Pune. Credit Deposit Ratio of the bank shows the fluctuating trend during the study period. In 2014-15 ratio of the bank can be considered satisfactory. While granting the loans, the bank examines the ability of the borrower to pay his debt.

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