Mahatma Education Society's

Pillai HOC College of Arts, Science and Commerce, Rasayani

(Accredited by NAAC & ISO 9001:2015 Certified)

3.2. QnM.

Innovation Ecosystem

(FROM AY 2017-18 TO AY 2021-22)

Pillai's HOC College of Arts, Science and Commerce, Rasayani

Principal
Mahatma Education Society's
Pillai's HOC College of Arts
Science and Commerce
HOC Educational Campus,
Rasayani, Tal. Khalapur,
Dist. Raigad. PIN - 410 207

Mahatma Education Society's

Pillai HOC College of Arts, Science and Commerce, Rasayani

(Accredited by NAAC & ISO 9001:2015 Certified)

3.2.2 QnM.

Number of workshops/seminars/conferences including on Research Methodology, Intellectual Property Rights (IPR) and entrepreneurship conducted during the last five years

(FROM AY 2017-18 TO AY 2021-22)

Academic Year

2019-20

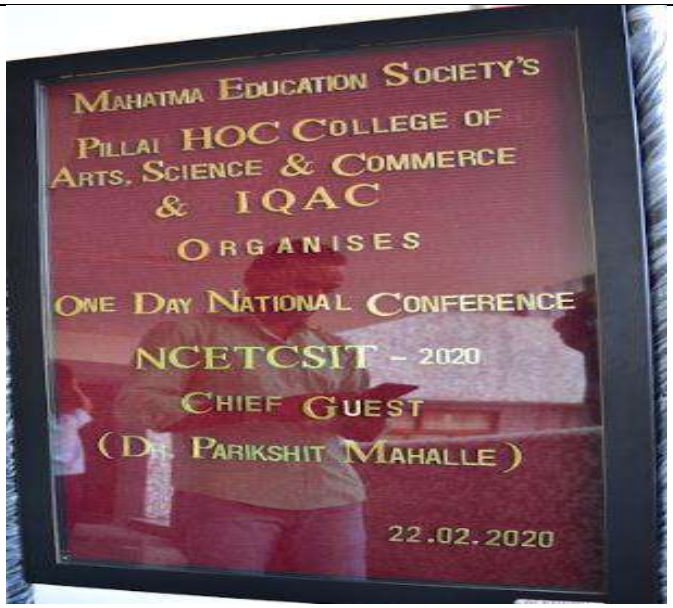
Supporting Documents

One Day National Conference on 'Emerging Trends in Computer Science and Information Technology'

Name of the event :-	One Day National Conference on 'Emerging Trends in Computer Science and Information Technology'
Conducted by:-	Department of BSc IT, CS and DS
Date:-	February 22, 2020
Venue	Conclave
Activity Falls under Criterion/Criteria:-	Criterion III
Convenor:-	Prof. Deepesh Jagdale
Co-Convenor: -(if any)	Prof. Babitha Kurup
Number of participants benefitted:-	**56**
Report:-	Internal Quality Assurance Cell (IQAC) in association with Faculty of IT/ CS, PHCASC organised a One day National Conference on **Emerging Trends in Computer Science & Information Technology. (NCETCSIT 2k19**). The main objective of this conference was to discuss research in the fields of artificial Intelligence, Computing Systems, Data Mining & Analysis ,Databases & Information Systems, Educational Technology, Computer Networks & Wireless Communication,

	Computer Security & Cryptography, Cyber Forensics ,Multimedia, Software Systems, Robotics, Positioning & Navigation ,Machine Learning , Data Science etc.. Dr. Parikshit Mahalle was the Chief Guest for the conference. We express our gratitude to our principal, Dr. Lata Menon, our Vice Principal, all faculty members for their support and cooperation for completing this conference successfully.
Photos:-	 


Mahatma Education Society's
Pillai HOC College of Arts, Science & Commerce
Rasayani
Internal Quality Assurance Cell (IQAC) & USER
National Conference
on

	 MAHATMA EDUCATION SOCIETY'S PILLAI HOC COLLEGE OF ARTS, SCIENCE & COMMERCE & IQAC ORGANISES ONE DAY NATIONAL CONFERENCE NCETCSIT - 2020 CHIEF GUEST (DR. PARIKSHIT MAHALLE) 22.02.2020

Date of Conference : April 03, 2021

Sr.No.	Name of Participant	Name of Institution	Registration Fees	a charges to be collec	Final Amount
1	Remya Madan Gopal	Department of Environmental	1200	300	1500
2	Archana A. Bhagwat	Department of Chemistry Pillai HOC College of	1200	300	1500
3	Vishakha Telgote	Department of Chemistry Pillai HOC College of	1200	300	1500
4	Sapana Chilate1	Department of Chemistry Pillai HOC College of	1200	300	1500
5	Mr. Ravi Bari	Department of Mathematics Pillai HOC	1200		1200
6	Neethumol K.G[1]	Department of Mathematics Pillai HOC	1200		1200
7	Priya Prakash[2]	Department of Mathematics Pillai HOC	1200		1200
8	Harshita Singh	Department of Mathematics Pillai HOC	1200		1200
9	Dr. Jayanta K Behera	Department of Physics Pillai HOC College of	1200		1200
		Total Amount	**10800**		**12000**
Outside presentor					
1	Dr. Noor Mohmad	Bapumiya college of Arts, Science & Commerce, Pimpalgaon Kale ,	1200	300	
2	Mr. Kristen Lobo	IIT , Mumbai	750	300	
			Deposited in account no mentioned in conference brochure	600(G pay to Dr. Jayanta K B)	
				Total amount deposited at college	**12600**

Date of Conference : April 03, 2021

Sr.No.	Name of Participant	Name of Institution	Registration Fees	a charges to be collec	Final Amount
1	Noor Mohammad	Department of Chemistry, Bapumiya Sirajoddin Patel College of Arts, Commerce	1200	300	1500
2	Remya Madan Gopal	Department of Environmental Studies,Pillai HOC College of Arts Science	1200	300	1500
3	Archana A. Bhagwat	Department of Chemistry ,Pillai HOC College of Arts Science and	1200	300	1500
4	Kirsten Lobo[1]	[1]Institute of Chemical Technology, Mum: 400019	1200	300	1500
5	O. T. Sangule	Department of Chemistry, Smt. Kasturbai Walchand College, Sangli-416416.	1200		1200
6	Ms. Ruchika Dilip Nikam	Anandibai Pradhan Science College, Nagothane	1200		1200
7	Vishakha Telgote	Department of Chemistry ,Pillai HOC College of Arts Science and	1200	300	1500
8	Sapana Chilate1	Department of Chemistry ,Pillai HOC College of Arts Science and	1200	300	1500
9	Mr. Ravi Bari	Department of Mathematics ,Pillai HOC College of Arts Science and	1200		1200
10	Neethumol K.G[1]	Department of Mathematics ,Pillai HOC College of Arts Science and	1200		1200
11	Priya Prakash[2]	Department of Mathematics ,Pillai HOC College of Arts Science and	1200		1200
12	Harshita Singh	Department of Mathematics ,Pillai HOC College of Arts Science and	1200		1200
13	Dr. Jayanta K Behera	Department of Physics ,Pillai HOC College of Arts Science and Commerce,Rasayani,	1200		1200
		Total Amount	**15600**		**17400**

Date of Conference : April 03, 2021

Sr. No.	Name of Participant	Name of Institution	Registration Fees
1	Dr. Noor Mohmmad	Buldhana College	300
2	Remya Madan Gopal	PHCASC	1500
3	Archana A. Bhagwat	PHCASC	1500
4	Kirsten Lobo	ICT Mumbai	300
7	Vishakha Telgote	PHCASC	1500
8	Sapana Chilate	PHCASC	1500
9	Mr. Ravi Bari	PHCASC	1200
10	Neethumol K.G	PHCASC	1200
11	Priya Prakash	PHCASC	1200
12	Harshita Singh	PHCASC	1200
13	Dr. Jayanta K Behera	PHCASC	1200
		Total Amount	**12600**

Dr. Vishakha Telgote
Convenor

Dr. Jayanta K. Behera
Coordinator BSc

Guidelines for Paper Submission

- ***All the accepted Research Papers will be published in UGC –Care listed journal***
- Send your Research papers to :
- **bscphcascnc@gmail.com**
- Format of Research paper & other queries related to conference will be discussed in what's app group :
- **https://chat.whatsapp.com/Hpl3zzcxgCO99crGVN29VF**

Registration

Teacher Participant: Rs. 1200/-
Student Participant : Rs. 750/-
To pay the registration fee through NEFT/RTGS
Pillai HOC College of Arts ,Science and Commerce, Rasayani
Account number : 52152200086647
IFSC code:SYNB0005214/CNRB0015214
Bank Name : Canara Bank
Branch: Khaire Patalganga
Please mention "Conference RTIRBS- 2021" in the column of 'subject/ purpose which is transaction through RTGS/NEFT

Deadlines

Abstract Submission	March 20, 2021
Acceptance of Abstract	March 27, 2021
Full Length Paper Submission	April 02, 2021

Conference Team

Patrons

Dr. K.M .Vasudevan Pillai
(Chairman and CEO, Mahatma Education Society)
Dr. Daphne Pillai
(Secretary, Mahatma Education Society)
Dr. Priam Pillai
(COO, Mahatma Education Society)
Dr. Franav Pillai
(Deputy CEO, Mahatma Education Society)

Team Members

Dr Lata Menon
(Principal, Pillai HOC College of Arts, Science and Commerce, Rasayani)

Mahatma Education Society's
Pillai HOC College of Arts, Science and Commerce , Rasayani
(Accredited By NAAC)

Internal Quality Assurance Cell
and
Departments of Physics , Chemistry and Mathematics

Jointly Organise

One Day Online National Conference on

Recent Trends in Interdisciplinary Research in Basic Sciences -2021

April 03, 2021 (Saturday)

Sub Themes

- Physical Sciences
- Chemical Sciences
- Mathematical Sciences
- Nanotechnology
- Material Science
- Meteorology and Climate Science
- Environmental Science
- Pollution and Aerosol study
- Space Science and Technology
- Data Science
- Green Chemistry and Technology
- Probability and Statistics
- Actuarial Sciences
- Quantum Chemistry
- Complex System in Ecology
- Algebra
- Calculus and Analysis
- Number Theory
- Discrete Mathematics
- Numerical Analysis
- Game Theory

Organizing Committee Members

- **Ms. Remya Madan Gopal (IQAC Coordinator)**
- **Dr. Vishakha Telgote (Convener)**
- **Dr. Sapana Chilate (Co-Convener)**
- **Dr. Jayanta Kumar Behera (Member)**
- **Dr. Archana Bhagwat (Member)**
- **Ms. Harshita Singh (Member)**
- **Ms .Priya Prakash (Member)**
- **Ms. Neethumol K.G. (Member)**
- **Mr. Ravi Bari (Member)**
- **Mr. Sumit Kokane (Member)**

About MES

Mahatma Education Society was established in 1979 with objective of spreading education for all. MES is an epitome of vision linked irrevocably to national goals .Born in a time when education was deemed a service ,it set about bringing social and economic changes through proactive personal development of every child that came into its fold. The management of MES is headed by Dr .K. M. Vasudevan Pillai(Chairman and CEO)and Dr. Daphne Pillai (Secretary)with the team of experienced professionals from field of education Today MES owns and manages 48 institutions from pre-primary to post graduation having more than 35 thousand and 2000 teachers.

About PHCASC

Pillai HOC College of Arts ,Science and Commerce is NAAC accredited ,affiliated to University of Mumbai ,one of the reputed institutions of learning and wisdom ,was established in 2008 with noble objective of providing fundamental learning and assuring higher education in semi –urban area of Rasayani .The goal of institution is education for all irrespective of region ,religion ,caste ,economic strata and academic performance thereby becoming the real catalyst for change in society .Being guided by inspiring thoughts and encouraging words of great visionary and CEO of MES Dr. K.M.Vasudevan Pillai,the institution caters to about more than 1600 plus students in various disciplines such as undergraduates ,and post graduates courses of Arts, Science and Commerce.

Aim and Objective

The Interdisciplinary Conference to be held will be themed around modern advancements and challenges hindering contemporary innovations in the areas of Physics ,Chemistry and Mathematics and will cover related fields .

This Conference has been organized with specific intention of gathering researchers from diverse fields to correspond and propagate their findings .

Distinguished speakers ,educators and specialists from around the globe will present outcome of their research work .

This Conference ‘Recent Trends in Interdisciplinary Research in Basic Sciences’ is a one of kind technical conference that is set to be attended by numerous eminent personalities from various fields of basic Sciences.

Participants will be benefited with awareness of modern advancements in Physics ,Chemistry and Mathematics .

About B.Sc .Program

The Bachelor of Science program in PHCASC is introduced in academic year 2016-17.

Specialization in Chemistry was introduced in A.Y. 2018-19 at UG level .

Specialization in Physics and Mathematics was introduced in A.Y. 2019-20.

Guidelines for paper submission

- Original articles are invited for technical sessions. Papers must be appropriately fit under the themes of the conference.
- The abstract text to be limited to a maximum of 250 words. Full length paper must not exceed than 2500 words and should be submitted in electronic format (MS-WORD), typed in Times New Roman font size 12 with 1.5 spacing.
- Paper format sent by the conference team is desirable.(However, it is not mendatory)

  The paper must be sent to:

  phcascnc@gmail.com

- Each paper should have a cover page with the title of the paper, name of the author/s, affiliations of the authors and contact details, (Address, telephone number and email address of authors).

CONFERENCE TEAM

Patrons

Dr. K. M. Vasudevan Pillai
(Chairman and CEO, Mahatma Education Society)
Dr. Daphne Pillai
(Secretary, Mahatma Education Society)
Dr. Priam Pillai
(COO, Mahatma Education Society)
Dr. Franav Pillai
(Deputy CEO, Mahatma Education Society)

Conference Chair Person

Dr. Lata Menon
(Principal)

Deadlines and Important Dates

Abstract submission	29 August 2019
Acceptance of Abstract	05 September 2019
full paper submission	12 September,2019
Last date of Registration	22 September,2019

Financial Support

Provision for limited financial support is available for the students/ Research Scholars. This will be undertaken on request basis and on the credibility of the candidate's ab-

Registration

The fee shall be paid through DD in favor of Pillai HOC College of Arts, Science and Commerce payable at Mumbai/Rasayani.

Paper Presentation with ISBN	**Rs. 1250/-**
Academicians/ Industrial Personnel	**Rs. 1000/-**
Students and Research Scholars	**Rs. 750/-**

Please note that we will provide the softcopy of the conference proceedings to all the participants, which can be used in all platforms.
The participants, who are willing to receive hard copy of the proceeding, have to pay an extra amount of Rs. 200/- (including all charges)

For online payment:
For RTGS/NEFT:
Pillai HOC College of Arts, Science & Commerce, rasayani
Account No.: 52142200086647
IFSC Code: SYNB0005214,
Branch: Khaire Patalganga

- Please mention " **Conference_RTIRBS**" in the section of 'subject/purpose' While doing transaction. through RTGS/NEFT

Mahatma Education Society's

Pillai HOC College of Arts, Science and Commerce

"NAAC Accredited"

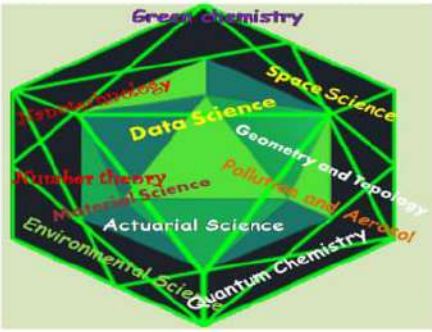
Department of Physics,
Department of Chemistry
&
Department of Mathematics
jointly

Organize

A One day National Conference

On

"Recent Trends in Interdisciplinary Research in Basic Sciences"



28 SEPTEMBER 2019

Venue,
Pillai HOC College of Arts, Science and Commerce,
Pillai HOCL Educational Campus,
Rasayani, Tal-khalapur, Dist-Raigad– 410207
Please visit us: www.phcasc.ac.in

About MES

Mahatma Education Society (MES) was established in 1970 with the objective of spreading education for all. MES is an epitome of vision linked irrevocably to national goals. Born in a time when education was deemed a service, it set about brining social and economic changes through the proactive personal development of every child that came into its fold. The management of MES is headed by Dr. K. M. Vasudevan Pillai (Chairman and CEO) and Dr. Daphne pillai (Secretary) with the team of experienced professionals from the field of Education. Today MES owns and manages over 48 institutions, from pre-primary to post graduation having more than 35 thousand students and 2000 teachers.

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Pillai HOC College of Arts, Science and Commerce, affiliated to the University of Mumbai, one of the reputed Institutions of learning and wisdom, was established in 2008 with the noble objective of providing fundamental learning and assuring higher education in semi-urban area of Rasayani. The goal of the institution is education to all, irrespective of region, religion, caste, economic strate and academic performance thereby becoming the real catalyst for change in the society. Being guided by the inspiring thoughts and encouraging words of the great visionary and CEO of MES, Dr. K. M. Vasudevan Pillai, the institution caters to about more than 1000 students in various disciplines such as B.A, B.Sc, B.Com, B.M.S, B.M.M, B.A.F, B.Sc (IT) and B.Sc (CS).

AIM & OBJECTIVE

Although the need for interdisciplinary research appears to be contemporary, its importance is not new. Many researchers whose discoveries are the foundation of the basic sciences were actually interdisciplinary in a Renaissance sense; they embodied interdisciplinary research by making significant contributions across multiple disciplines, such as Sir Isaac Newton, physicist and mathematician, was largely responsible for the 17th century scientific revolution and the creation of calculus. Rene Descartes, mathematician and philosopher, invented the Cartesian system and the philosophy of mind–body dualism.

Therefore, this conference is designed to cater the quest of interdisciplinary approach to the real time scientific issues among the participants. Also, this conference will certainly throw lights on the recent trends in interdisciplinary areas.

Participating students will be surely benefited by exposed to the contemporary tools used in interdisciplinary approach.

About B.Sc. Program@PHCASC

The Bachelor of Science program at PHCASC, is introduced in the academic year of 2016-17. This program was started with a handful amount of students. Within three years span, this program has immensely developed and marked its significance at the institute. Specialization in Chemistry was introduced in A.Y. 2018-19 at UG level. Specialization in Physics and Mathematics were introduced in A.Y. 2019-20. Interestingly, PHCASC is the only college that offers TY B.Sc. Physics in Raigad region.

SUB THEMES

1. Physical Science
2. Chemical Science
3. Mathematical Science
4. Nanotechnology
5. Material Science
6. Meteorology and Climate Science
7. Environmental Science
8. Pollution and Aerosol study
9. Space Science and Technology
10. Polymers and Technology
11. Data Science
12. Green Chemistry and Technology
13. Probability and Statistics
14. Actuarial Science
15. Quantum Chemistry
16. Complex Systems in Ecology
17. Algebra
18. Calculus and Analysis
19. Number Theory
20. Discrete Mathematics
21. Numerical Analysis
22. Geometry and Topology
23. Dynamic Systems and Differential Equations
24. Game Theory

Conference Organizing Committee

Dr. Jayanta K. Behera (Convener)
Dr. Vishakha Bodade (Co-Convener)
Dr. Archana Bhagwat (Member)
Dr. Sapana Chilate (Member)
Ms. Nethumol KG (Member)
Ms. Harshita Singh (Member)
Ms. Priya Prakash (Member)
Mr. Sumit Kokane (Member)
Mr. Ravi Bari (Member)

Guidelines for paper submission

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- The paper must be sent to: conference.icwes.2019@gmail.com
- Each paper should have a cover page with the title of the paper, name of the author/s, affiliations of the authors and contact details, (Address, telephone number and email address of authors).
- Selected papers will be published in the UGC-CARE listed Journal **(Studies in Indian Place Names)** after peer reviewing.

Conference Team

Patrons

Dr. K. M. Vasudevan Pillai
(Chairman and CEO, MES)
Dr. Daphne Pillai
(Secretary, MES)
Dr. Priam Pillai
(COO, MES)
Mr.Franav Pillai
(Deputy CEO, MES)

Conference Chair Person

Dr. Lata Menon
(Principal)

Deadlines & Important Dates

Abstract Submission	March 05, 2020
Acceptance of Abstract	March 07, 2020
Full Paper Submission	March 10, 2020
Last Date of Registration	March 12, 2020

Financial Support

Provision for limited financial support is available for students. This will be undertaken on request basis and on the credibility of the candidate's abstract.

Registration

The fee shall be paid through DD in favor of Pillai HOC College of Arts, Science and Commerce payable at Mumbai/Rasayani.

Paper Presentation with UGC CARE listed Journal	1500
Research Scholars & PG Students	750

The soft copy of the proceedings will be provided to all the participants. The participants who wish to obtain the hard copy of the proceeding have to pay an extra amount of Rs.200 (including all charges)

Mahatma Education Society's
Pillai HOC College of Arts, Science & Commerce
Rasayani
(Accredited by NAAC)

Department of Commerce
in association with
IQAC

Organises

One Day National Conference on

"Inconclusive World & Current Economic Slowdown"

March 14, 2020
Saturday

Venue

Pillai HOC College of Arts, Science & Commerce,
Pillai HOCL Educational Campus, HOC Colony,
Rasayani, Tal-khalapur, Dist-Raigad– 410207
www.phcasc.ac.in

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Conference Preamble

Inconclusive world is a concept of globalization where the goods, services, technology, information, capital flow through the borders from one nation to other. In this present day world of globalization, components may be produced in one country, assembled in second country, marketed in third country and financed from fourth country. The total productivity of a country depends on all the said components. Currently global slowdown is going on due to several factors. One of the major factors for such slowdown is the low consumption of goods and services. This conference aims at looking into several factors that have caused the current slowdown of world as well as Indian economy and the steps to be taken to eradicate those slowdowns. As per the IMF, the GDP growth of India & the rest of the world will see a downward curve by 2020. Currently global slowdown is visible due to several factors. In India the number of banks with NPA, NBFCs increases every year. The said conference will definitely come out with certain solutions to those problems which will help the policy makers in framing citizen friendly policies in the end.

Online Payment

For RTGS/NEFT Bank Details:
Account No.: 52142200086647
IFSC Code: SYNB0005214,
Branch: Khaire Patalganga
Please mention "Conference_ICWES" in the column of 'subject/purpose' which is transaction through RTGS/NEFT

Conference Topics

1. Accounting
2. Finance
3. Marketing
4. Law
5. Economics
6. IT
7. Education
8. Management

Conference Organizing Team

- Mr. Binit Kumar
- Ms. Babita Panda (Convener) 9861281719
- Ms. Aarushi Dube (Co-Convener) 8451012266
- Ms. Rewati Soman
- Ms. Remya Madan Gopal
- Mr. Sumeet Mhatre 9766693362
- Ms. Sweta Choudhary
- Mr. Vineet Murli
- Ms. Sindhuja Joshi

How To Reach

Our institute is located 15 km away from Panvel Station.
College Buses are available at 8.15 AM from Panvel Station, Karjat Station(8:10 AM), Khopoli Bus Depot (8:10 AM), Pen (8:00 AM), Uran Bus Depot (7:45 AM) and Alibaug Bus (Raigad Bazaar) (7:15 AM)

One day National Conference on " Inconclusive World and Current Economic Slowdown

Name of the event :-	One day
Conducted by:-	Faculty of Commerce
Date:-	14 March , 2020
Venue/ Online Platform:-	- offline
Activity Falls under Criterion/Criteria:-	Criterion III
Convenor:-	Dr. Babita Panda
Co-Convenor: - (if any)	Ms. Arushi Dube
Number of participants benefitted:-	37
Report:-	Internal Quality Assurance Cell (IQAC) in association with * Faculty of Commerce*, PHCASC organised a One day Online National Conference on Inconclusive World and Current Economic Slowdown. We also express our gratitude to our principal, Dr. Lata Menon, our Vice Principal, all faculty members for their support and cooperation the event successfully.
Photos:-	

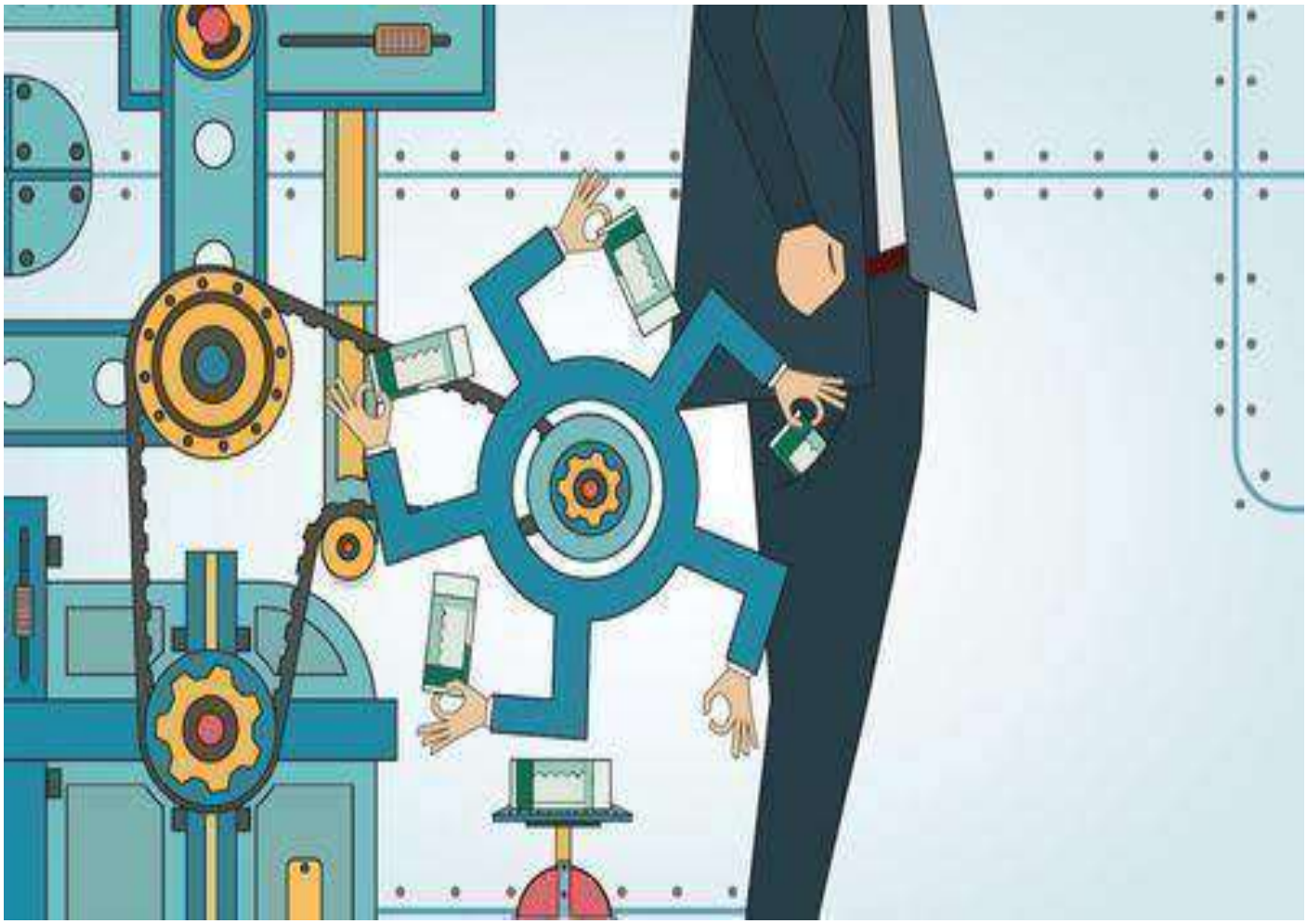

Pillai HOC College of Arts, Science & Commerce
Rasayani

ISBN – 978-93-82626-25-1

Pillai HOC College of Arts, Science & Commerce, Rasayani

"Inconclusive World & Economic Slow Down"



Editorial

It gives us immense pleasure to present our conference proceeding with ISBN. The objective of the conference on "Inconclusive World & Current Economic Slowdown" was to focus on several factors that have caused the current slowdown of world as well as Indian economy and the steps to taken to eradicate those slowdown. We feel privileged to present the special edition of the proceedings of the conference conducted on 14th March 2020.

This book is a compendium of quality research papers providing a deep insight into the different aspects of current slowdown. We strongly believe that the scholarly research papers in this issue would be of immense help to students, researchers and academicians by providing broader and diverse views for difference aspects of current Economic slowdown.

We are indeed honoured to convey our since gratitude to all the paper presenters, readers, reviewers, editors and all those who have contributed with their constant support and selfless efforts.

Best wishes

Dr. Lata Menon
Principal

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Impact of GST on Indian Economy

Kanhu Charan Panda, MCOM 1st Year Student, Pillai HOC College of Arts Science and Commerce, Rasayani, Maharashtra-410222. Email-kanhucharanpanda251@gmail.com

Abstract.

Revenue of Government is collected from two types of tax system in India i.e. Direct tax system & Indirect tax system. In case of Indirect Tax System, ***GST,*** *a new system of indirect taxation was presented in the Lok Sabha on 29th March 2017, and was made effective from 1st July 2017.* ***GST*** *stands for Goods and Services Tax .GST is the revamp of entire indirect taxation system in India by abolishing many old taxes like VAT/Sales Tax/Service Tax/Excise etc. This has been promoted by Government as "****One Nation One Tax"*** *or* ***"One Country One Tax"****.* ***GST*** *is an Indirect Tax applicable in all over India which replaces numerous Taxes such as* ***Service Tax, VAT, Sales Tax****, etc imposed by Central/State Governments GST is forecasted to improve State economies and national economic growth of the Country .****GST*** *is a complete indirect tax collected on Manufacture/Sale of goods and with rendering Services at the country level.*

Complication in Previous Tax System :

- ✓ *Variety of Central and State indirect taxes.*
- ✓ *No complete input tax system.*
- ✓ *Negative impact on the raise of* ***VAT*** *on excise duty, services tax.*
- ✓ *No combination between goods and services tax.*
- ✓ *Cascading effect of existing tax system.*

Keywords

GST, Economy, cascading effect of taxes, GST Collections, taxation reforms, Positive Impact, Negative Impact, Central Government, State Government.

I. Introduction

To remove cascading effect of taxes and also to give for a common national market for goods and services ,the Government of India suggest for amendments to introduce the goods and services tax for grant simultaneous taxing ability on the union as well as states plus union territory with lawmakers to make laws for collecting goods and services tax on every transactions.GST is an indirect tax has introduced on 1st July 2017 in India and was relevant all over India which put back multiple cascading taxes imposed by both central and state governments. The GST is ruled by a GST Council. Under GST, goods and services are taxed at the following rates, 0%, 5%, 12%, 18% and 28% and there is a special rate of 0.25% on rough valuable and semi-valuable stones and 3% on gold .Further in addition a Cess of 15% or other rates on top of 28% GST applies on few items like aerated

drinks, luxury cars and tobacco products. Expert viewed it as biggest tax reform in India founded on the notion of "one nation, one market, and one tax". The GST rollout has turned India into a unified market of 1.3 billion citizens. The rollout has a positive hope of India's fiscal reform program regaining momentum and widening the economy of the nation. The idea behind implementing GST in the country in 29 states and 7 Union Territories is that it would offer a win-win situation for every citizen .The entire taxation base will be shared between the assessment mechanism of the center and the states, who would get to collect tax on the economic activities taking place in Indian territorial waters. At the ninth GST council meeting the center made significant concessions to bring states, including the defiant ones. The administrative decisions will be as follows. The state will administer90 percent of the tax players, including service providers with annual turnover up to rupees 1.5 crore with scrutiny, and audit powers and the balanced 10 Percent will be controlled by the Centre. Tax players above that threshold turnover, including those pay integrated 9interstate imports) GST will be equally shared between the canter and state, and this will lead to significant shifting of the tax players base from central to states.

II. Research Methodology

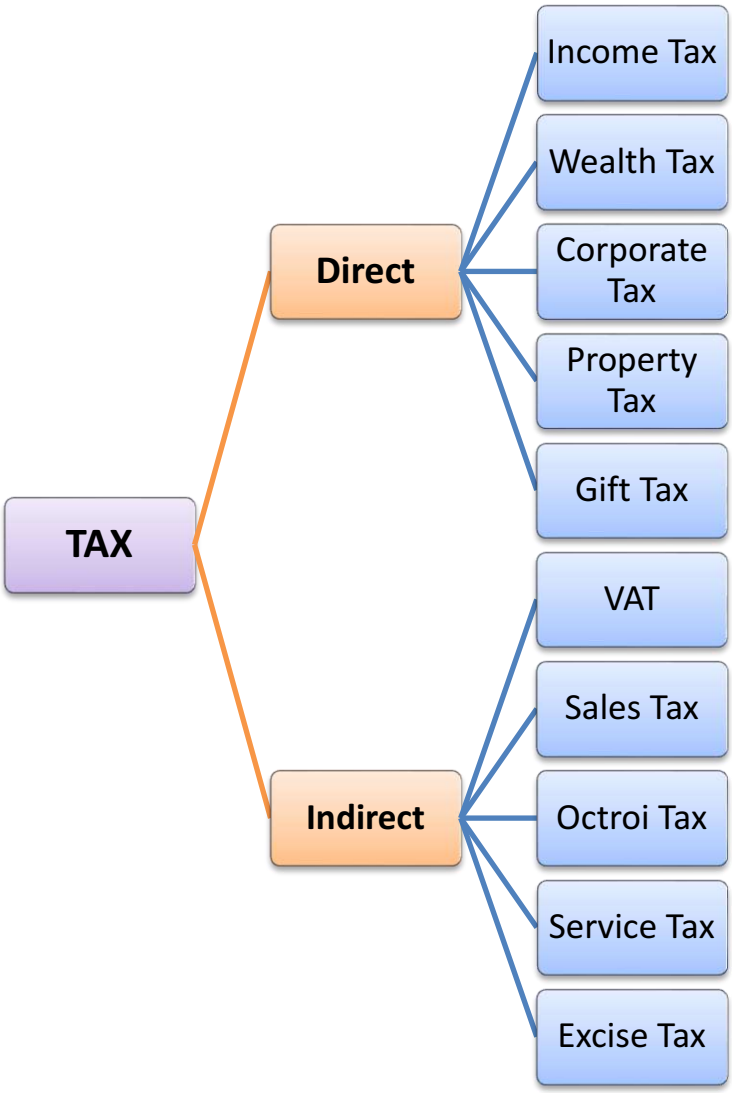
The research paper is based on secondary data. It is a type of descriptive research paper.

Data Collection:

This paper is a descriptive paper based on secondary data collected from different books, news-paper articles, research journals, Department of Revenue and Ministry of Finance.

(A) <u>Tax System in India.</u>

*The **tax system** in **India** allows for two types of taxes—Direct and Indirect **Tax**. The **tax system** in **India** for long was a complex one considering the length and breadth of **India**.*



Direct Tax:-

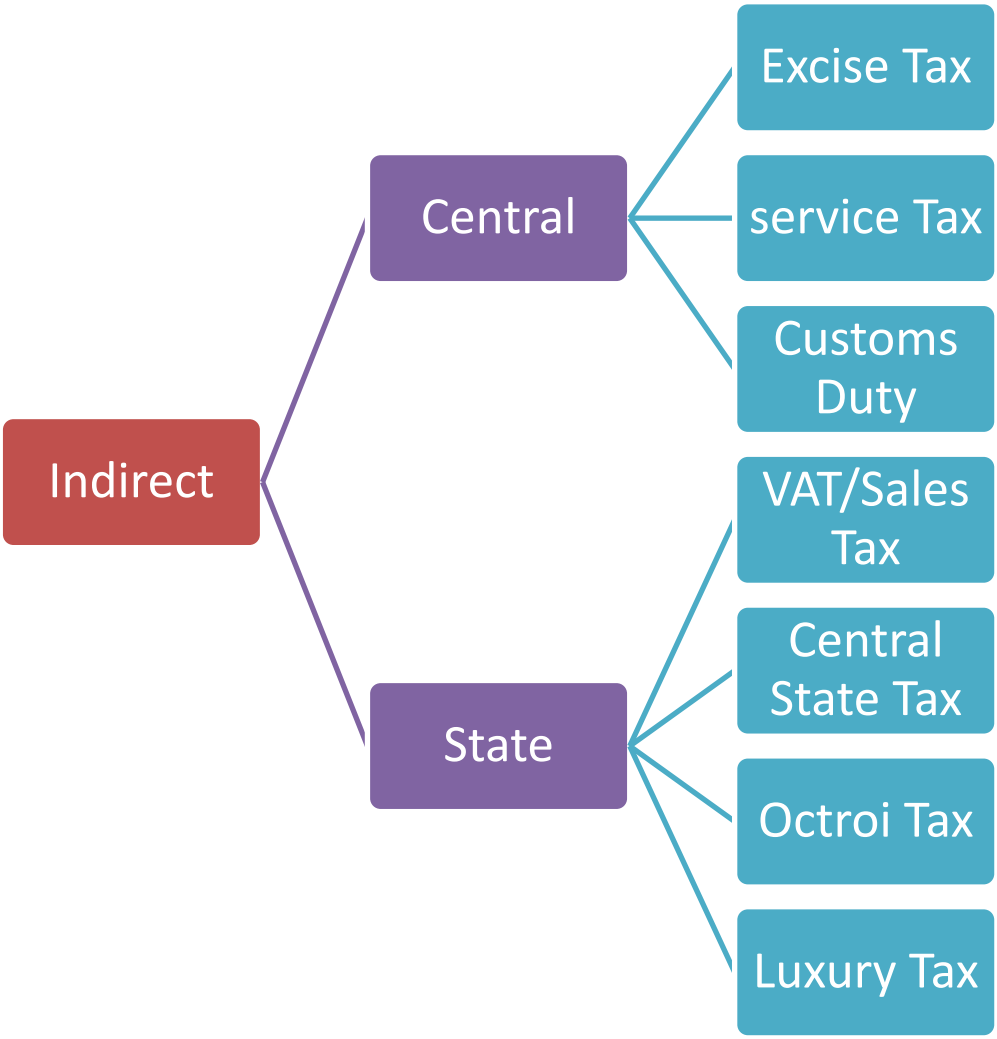
Direct taxes, usually levied on a person's income are paid directly by taxpayers or an organization to tax authorities of the Government of India. The person or the organization in question cannot transfer this type of tax to another person or entity for payment. Some of the examples of direct tax include income tax and corporate tax.

Indirect Tax:-

An indirect tax is collected by one entity in the supply chain (usually a producer or retailer) and paid to the government, but it is passed on to the consumer as part of the purchase price of a good or service. The consumer is ultimately paying the tax by paying more for the product.

(B) Indirect Tax system before GST

Indirect taxes are taxes which are indirectly levied on the public through goods and services. The sellers of the goods and services collect the tax which is then collected by the government bodies.



Sources of Indirect Tax system Pre GST.

GST *will subsume various central and state Taxes levied in old system which are as follows:-*

<u>Central indirect Taxes</u>.

- *Central Excise duty under central excise Act, 1944.*
- *Additional Excise duty.*
- *Excise duty levied under Medicinal and Toilet preparations (Excise Duty) Act, 1994.*
- *Service Tax under Finance Act, 1994.*

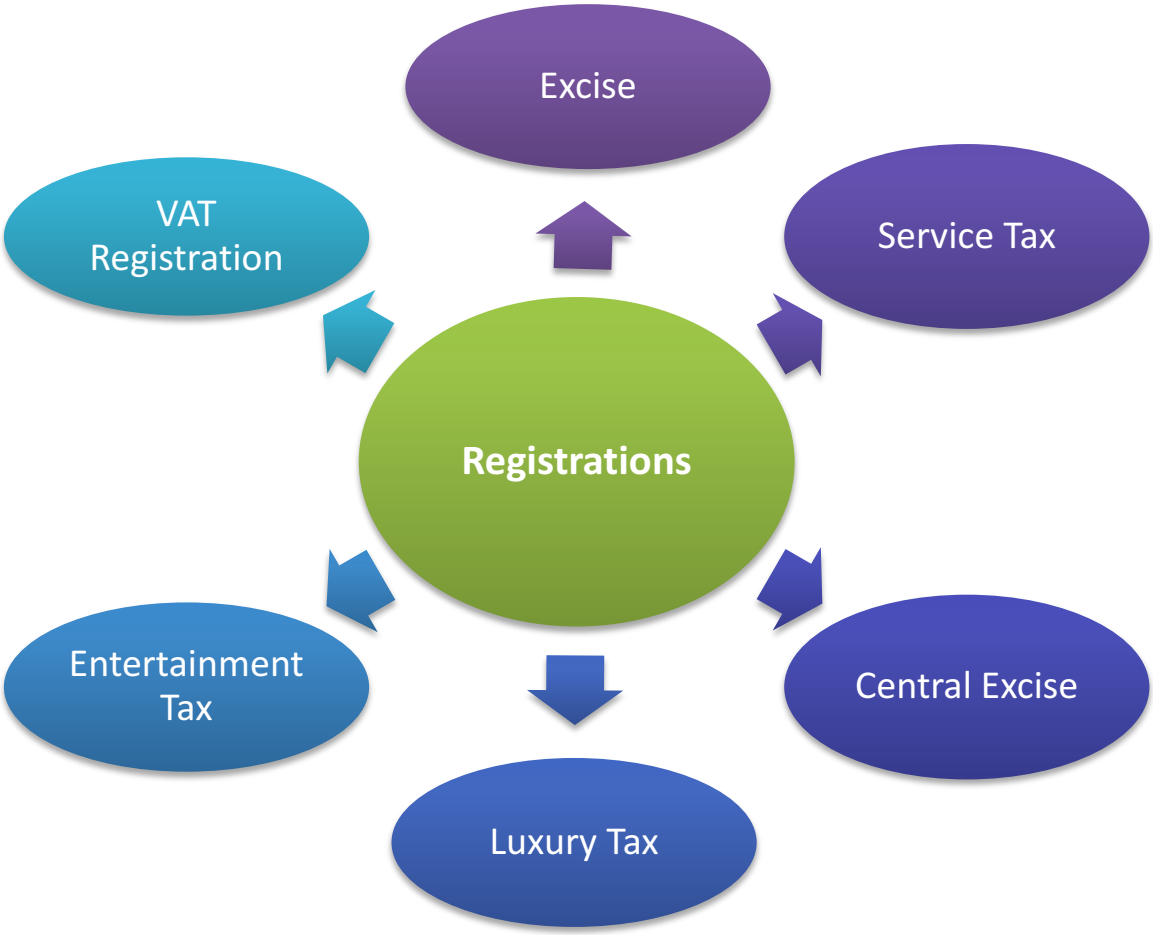
- *CVD (Additional Customs Duty).*
- *Special Additional Duty of Customs.*
- *Central Surcharge.*
- *Central Cesses.*

State Indirect Taxes.

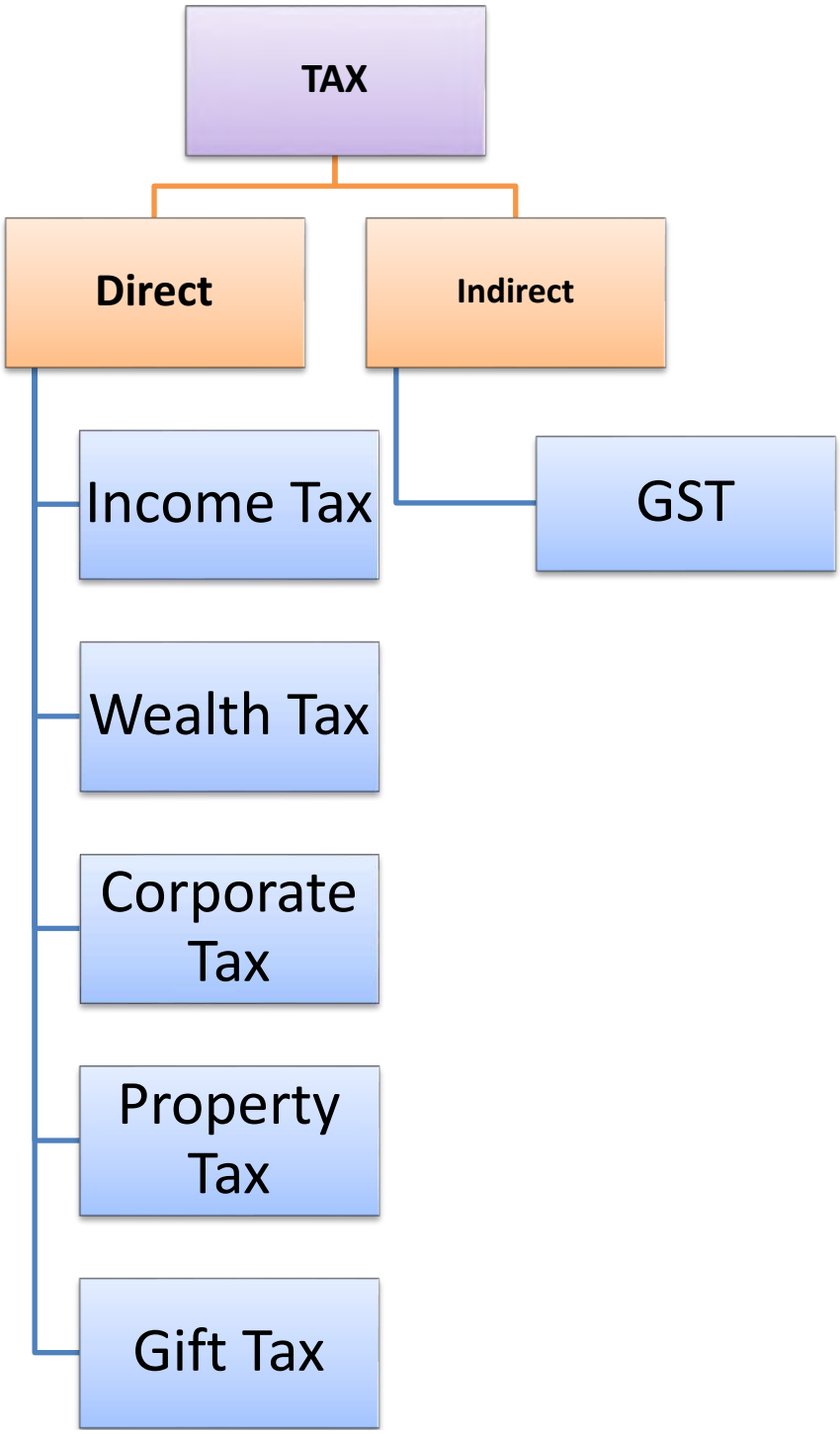
- *State Value Added Tax/Sales Tax.*
- *Entertainment tax (other than tax levied by centre and collected by state).*
- *Octroi duty.*
- *Entry Tax.*
- *Purchase tax.*
- *Luxury Tax.*
- *Lottery tax.*
- *State Surcharges.*
- *State Cesses*

(C) Variety of Registration.

There are multiple Registrations in previous Tax System.
Such as:-
VAT, Excise, Service Tax, Central Excise, Luxury, Entertainment Tax etc.



(D) Post GST Tax System in India.



(E) Introduction to GST:

(F) Types of GST:-

GST		
CGST (Imposed by the Central)	SGST/ UGST (Imposed by the State)	IGST (Imposed by both Central & State)

There are three types of GST such as:-

CGST - Central Goods and Services Tax. (Replacement of CST)
SGST – State Goods and Services Tax. (Replacement of VAT)
IGST – Integrated Goods and Services Tax.
(If Goods or Services provided from one state to another state.)

1. ***The Objective of this Study is :-***

- *AN Over View of GST in India.*
- *To examine the impact of GST on Indian Economy.*

(III) <u>An Over View of GST in India.</u>

Generally India's tax authority completely depended on indirect taxes. Income/Revenue from indirect taxes was the big source of tax. The main objective of GST is to conclude cascading effects of taxes and keep examine on unidentified department by controlling it .How a person would evaluate whether he is responsible to pay taxes in GST or not.

One Hundred and First Amendment of the Law of India legally known as the constitution Act, 2016, this amendment located a national Goods and Services Tax in India from 1st July 2017.Bill drafted in the Lok Sabha the constitution (One Hundred and Twenty Second Amendment) Bill 2014.

*Introduced by : **Arun Jaitley***
Assented to : 8 September 2016
Commenced : 1st July 2017
Citation : 101st Amendment

<u>Positive impact of GST</u>:-

I. *GST is organized to clarify the present indirect system by detaching various taxes. It makes India as a unique market.*
II. *It decrease the tax burden on companies will lower production cost making exporters more aggressive at national and international level.*
III. *The procedural cost is turn down due to constant accounting namely, CGST, SGST, IGST have to be continue for all types of taxes.*
IV. *There are no chances for corruption. GST would introduce a honesty taxation system.*
V. *Due to minimize costs some products like cars, FMCG etc. will become low-cost.*
VI. *GST would not be levied at each point of sale like other indirect taxes so thereby, market would be grew.*
VII. *Other business organizations as well as all organized will come below the tax administration hence expanding the tax base. This may bring about correct and more tax revenue collections.*

<u>Negative impact of GST</u>:-

I. *States May lose their independence to change their tax rates.*
II. *GST rates are higher than existing VAT and Service tax on some products/services.*
III. *GST is a confusing term where multiple taxes are levy in the name of a single tax.*

IV. *Service sector became expensive for higher rate in GST system like Telecom, banking, airline etc.*
V. *For consumers, it will be a mixed bag as some goods become cheaper while others will be expensive.*

Benefits of GST:-

- *Reduction in rising prices.*
- *To take out cascading effect of taxes and also to provide for a common national market for goods and services.*
- *Additional well informed consumer.*
- *Proficiency of effecting business.*
- *Falling off in Black Market transactions.*

To examine the impact of GST on Indian Economy.

GDP *(Gross Domestic Product)*

GDP stands for Gross Domestic Product.

GDP is an important part of Indian Economy. It is the total market value of all Goods and Services which is produced with in a country per year .It is an indicator of the Economic strength of a country.

GST Positive impact on GDP.

Now, there is none tax rate for all which will create a unified market in terms of tax implementation and the transaction of goods and services will be seamless across the states.

The same will reduce the cost of the transaction. In a survey it was found that 10-11 types of taxes levied on the road transport business. So the GST will be help full to reduce transportation cost by eliminating other taxes. After GST implementations the export of goods and services will become competitive because of nill effect of cascading effect of taxes on goods and products. In a research done by NCAER, it was suggested that GST would be the key revolution in Indian Economy and it could increase the GDP by 1.0 to 3.0 percent.

GST is more transparent in comparison to the previous law provision so it will generate more revenue to the government and will be more effecting corruption at the same time. Over all GST will improve the tax compliances.

In a report issued by the finance ministry it was mentioned that make in India program will be more benefited by the GST structure due to the availability of ***input tax credit on capital goods.***

The GST regime has although a very powerful impact on many things including the GDP also. The gross Domestic Product has the tendency to loom on the shoulders of revenue generated by the economy in a year. Still, a worthwhile point includes that the GST has the capability to extend the GDP by a total of 2 percent in order to complete the ultimate goal of increasing the per-capita income of every individual. Also the GST scheme will certainly improve the indirect revenues to the government as the tax compliance will be further enhanced and rigid, extending the tax paying base which will add to the revenue. The increased income of the government will redirect towards the developmental projects and urban financing creating an over all implied scenario.

GST Negative impact on GDP.

In a report, DBS bank noted that initially GST will lead to the rise in inflation rate which will remain for a year but after that GST will affect positively on the economy.

As we know Real Estate also plays important role in Indian economy but some expert

thinks that GST will impact the Real Estate business negatively as it will add up the additional 8 to 10 percent to the cost and reduce the demand about 12 percent.
*GST is applied in the form of **IGST, CGST, SGST** on the Center and State Government, but some economist say that there is nothing new in the form of GST although these are the new names of **Central Excise, VAT, CST and Service Tax** etc.*
As every coin two faces in the same way we tried here to familiarize the things related to GST with both perspective i.e. positively and negatively in this article. Despite having some factor which is being expected to affect the economy adversely there are so many other things which are expected with a positive impact on GDP.

- *Nominal GDP = Gross domestic product, current prices, U.S. dollars.*
- *GDP based on PPP = Gross domestic product, current prices, purchasing power parity, international dollars.*
- *Gross domestic product per capita, U.S. dollars.*
- *Gross domestic product based on purchasing power parity (PPP) share of world total, percent.*

Reason behind Indian Economy Slowdown.

"Financial stress among rural households and sluggish job creation are among the key drivers of the slowdown, while a credit crunch among non-bank financial institutions (NBFIs), the major providers of retail loans in recent years, has exacerbated the weaker conditions," it said in a report titled 'Consumer Trends – India.
Year basis GDP rate before GST:-

India GDP Growth Rate - Historical Data		
Year	**GDP Growth (%)**	**Annual Change**
2018	6.98%	-0.19%
2017	7.17%	-1.00%
2016	8.17%	0.17%
2015	8.00%	0.59%
2014	7.41%	1.02%
2013	6.39%	0.93%
2012	5.46%	0.22%
2011	5.24%	-3.26%
2010	8.50%	0.64%

Tax collected in CPI inflation
The details of Indirect Tax collected by department of revenue.

Indirect Tax Financial Year	**Customs Duty**	**Union Excise Duty**	**Service Tax**	**GST**	**Total (Rs. in core)**
2015-16	210338	288073	211414	----	709825
2016-17	225370	381756	254499	----	861625
2017-18	136929	258636	81231	434670	911466

Financial Year	***Indirect Tax GDP Ratio***
2015-16	*5.16%*
2016-17	*5.65%*
2017-18	*5.43%*

Post GST:-

GDP *(Gross Domestic Product)*

Finally the India gross domestic product figures have been revealed for the 3rd quarter (October 19 to December 19) and it has come to 4.7 per cent down from the 5.1 per cent in the 2nd quarter of (July to September).The lowered GDP for the 3rd quarter has been acknowledged by the chief of the economic affairs Atanu Chakraborty and has blamed the NBFC crisis and weak rural growth for this slowdown. He has stated that the Indian GDP will once again raise to a high level as per the growth in certain industries.

Year	***GDP Growth (%)***
2018	*6.98%*
2019	*4.70%*
2020	*4.05%*

Latest Update on GDP Data for FY 2019-20 3rd Quarter (October to December 2019)

Finally, the India gross domestic product figures have been revealed for the 3rd quarter (October to December 2019) and it has come to 4.7 per cent down from the 5.1 per cent in the 2nd quarter of (July to September 2019).

The lowered GDP for the third quarter has been acknowledged by the chief of the economic affairs Atanu Chakraborty and has blamed the NBFC crisis and weak rural growth for this slowdown. He has stated that the Indian GDP will once again rise to a high level as per the growth in certain industries.

GDP Data for FY 2019-20 2nd Quarter (July to September 2019)

Adding to the woes of the Indian Prime Minister and the Finance Ministry, the GDP (Growth Domestic Product) of India has further dropped down to 4.5% in the second quarter of FY 2019-29 from the earlier ***5% GDP*** *of the first quarter.*

The same trend of the GDP felling has been going on for seven quarters now. While the first quarter of 2019-20 witnessed a GDP of 5%, the second quarter reported a fall of 0.5 per cent. During the same period last year, i.e. the second quarter of FY 2018-19, the ***GDP growth*** *of the country was 7.1 per cent. Compared to that, the latest reported GDP is 2.6 per cent lower, which is also the lowest in the last six years.*

GDP Data for FY 2019-20 1st Quarter (April to June 2019)

As per the recent data by CRISIL, the Indian economy may not see a rise over above 6.3% for the fiscal year 2020. The current data have opposed the previous suggestion of 6.9% GDP for the year.

The news is in the air due to the disclosure of the lowest 5% GDP of the country in recent years. As per the statement by crisil, "We expect growth to get some lift from the low base effect of 6.3 per cent in the second half of the FY19."

There is a lowered 0.6% of GDP for the given financial years due to slowdown in the overall economy and revelation by the economics department responsible for foir the maintenance of the financial health of India.

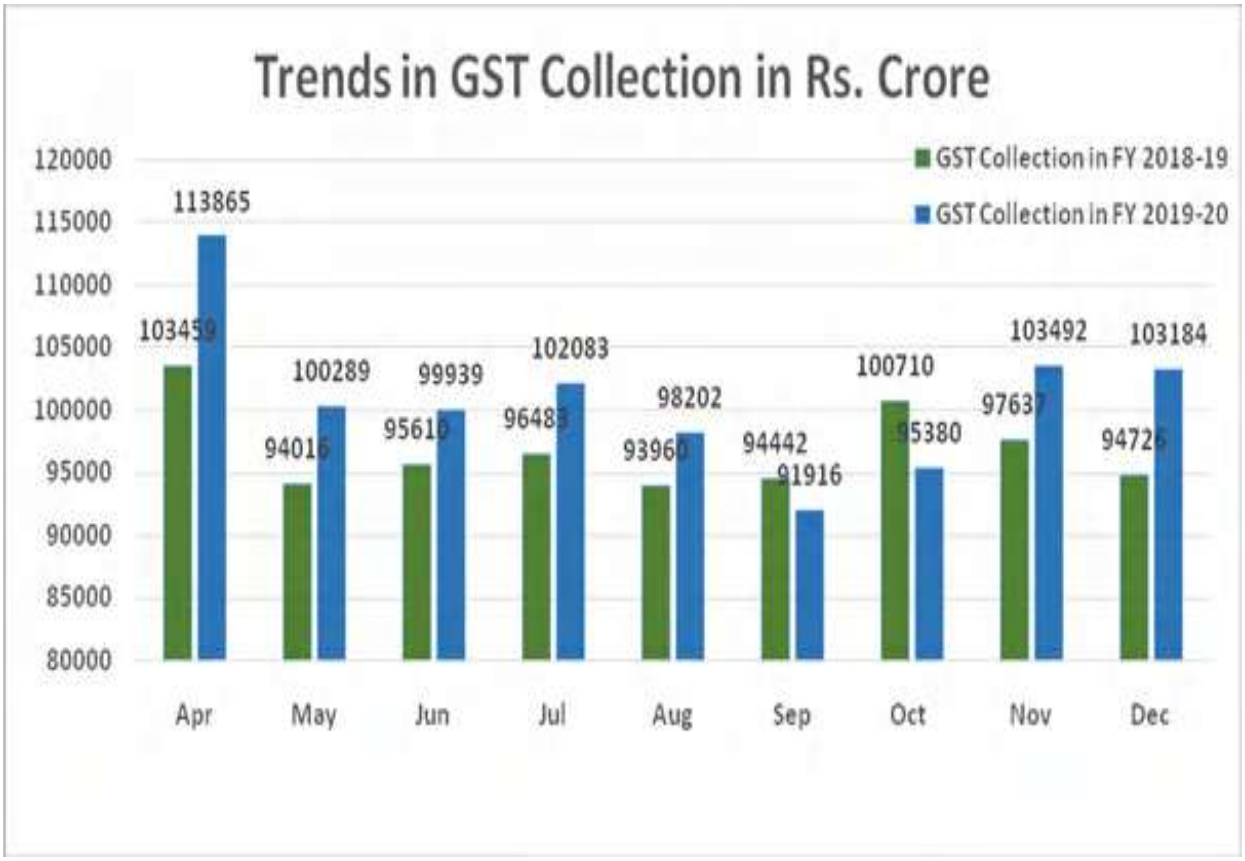
GDP Data for FY 2018-19 Last Quarter (January to March 2019)

India's GDP has been recorded at 7.7 percent in the quarter of January – March, with a fast approach towards better number than 7.0 in the previous quarter. With some expectations for 6.7 percent in the financial year 2018, to the 7.3 percent and 7.5 percent in the FY 19 and FY 20 respectively. There is some hindrance to the GDP number due to GST as speculated by the experts but still, many economists are likely to maintain around 6.5 percent.

So here in this article, we will see the ***GST impact*** *on the Indian Economy.*

Tax collected in CPI inflation

The assesses base in the last two years has increased by 84%. The number of assesses covered by the GST were around 65 lakh. Today they are at 1.20 crores.
In the following financial year 2019-20, the average Revenue collects per month is Rs. 97,100 crore.



The gross GST revenue collected in the month of December, 2019 is ₹ ***1,03,184crore*** *of which CGST is ₹* ***19,962crore****, SGST is ₹* ***26,792crore****, IGST is ₹* ***48,099crore*** *(including ₹* ***21,295crore*** *collected on imports) and Cess is ₹* ***8,331crore*** *(including ₹* ***847crore*** *collected on imports). The total number of GSTR 3B Returns filed for the month of November up to 31stDecember, 2019 is* ***81.21lakh****.*

The GST revenues during the month of December, 2019 from domestic transactions have shown an impressive growth of 16% over the revenue during the month of December, 2018. If we consider IGST collected from imports, the total revenue during December, 2019 has increased by 9% in comparison to the revenue during December, 2018. During this month, the IGST on import of goods has seen a negative growth of (-) 10%, but is an improvement over (-) 13% last month and (-) 20% in the month of October.

The government has settled ₹ ***21,814****crore to CGST and ₹* ***15,366****crore to SGST from IGST as regular settlement. The total revenue earned by Central Government and the State Governments after regular settlement in the month of December, 2019 is ₹* ***41,776 crore*** *for CGST and ₹* ***42,158 crore*** *for the SGS.*

CONCLUSION

A unique taxation way may be stimulated new businesses and entrepreneurs to capture in service and manufacturing sector. GST imposed only on utilization of goods or services .This guides to remove economic distortions in taxation amongst states and also assist in free movement of goods, additionally it also reduce the intricacy of taxation. It will also useful to individuals as the prices will go down due to GST and reduce in price

lead the way to grow in consumption and directly expand the GDP.As GST execution registered at a time for all states insufficiency of policy barrier will removed. Directly GST will increase the investment in FDIs which increase the foreign treasury of the country and indirectly grow the employment chance. It will encourage new startups in India for its business-friendly tax structure.

References

- https://www.researchgate.net/publication/329210122
- https://pib.gov.in/newsite/PrintRelease.aspx?relid=186415
- https://dor.gov.in/
- http://www.cbic.gov.in/htdocscbec/home_links/tickers
- https://www.researchgate.net/publication/329210122
- www.gst.gov.in
- *https://blog.saginfotech.com/gst-impact-on-gdp-india*

A Comparative Analysis of performance of mutual fund schemes and their impact on stock markets for India

Manoj Kumar Dash[1]
PhD Scholar, Department of Commerce, Berhampur University, Berhampur
Dr. Gouri Sankar Lall[2]
Associate professor, PG Department of commerce Berhampur University, Berhampur

Abstract:
The present paper investigates the performance of Mutual Fund Tax saving schemes for the period from 1st January 2008 to 31st December 2017 ten year for transition economy. Monthly NAV of different schemes have been used to calculate the returns from the schemes. for market return the study considered Nifty index and for the risk-free return, the study considered 10-year GSEC yield.. The historical performance of the selected schemes was evaluated on the basis of Sharpe, Treynor and Jensen's measure whose results may be useful for investors for taking better investment decision. The study revealed that 14 out of 29 (48.28 %) sample mutual fund schemes had outperformed bench mark return. The result also finds that some of the schemes had underperformed and is not advisable for diversification. Further this study has applied regression to measure the impact of each of the schemes on market index i.e. Nifty. The study has analysed each year wise impact and a whole sample impact on Nifty.
Key Words: Mutual funds, Performance evaluation, Sharpe and Treynor ratio.

Introduction:
Mutual fund provide households on option for portfolio diversification and relative risk aversion through collection of funds from the households and debt market. Mutual Fund is one of the most attractive financial instruments out of many financial instruments. This instrument plays very vital role for accelerating the economy of a country. The Indian Mutual Fund industries is one of the fastest growing and most competitive segment of financial sector which provides new opportunities for investors. Mutual fund industry was introduced in 1963 with the formation of unit trust of India. During the last few years many extraordinary and rapid changes have been seen in the mutual fund industry. In the last decades the mutual fund industries has shown impressive growth not just in the scale of assets under management but also in term of schemes and product. Mutual fund is a dynamic financial institution which plays a crucial role in on economy by mobilizing savings and investing in the capital markets.

The objectives of this study are

I. To examine the performance of selected schemes on the basis of risk and return and compare the performance of selected schemes with benchmark index to see whether the schemes is outperforming or underperforming the bench mark.

[1] PhD Scholar, Dept. of Commerce, Berhampur University, Berhampur. Pin-760001 Email-dashmanoj1986@gmail.com

[2] Associate Professor, Dept. of Commerce, Berhampur University, Berhampur. Pin-760001 Email- gourilall@gmail.com

II. To examine the performance of select schemes by using the portfolio performance evaluation model namely Sharpe Treynor and Jensen.

III. To examine the impact of selected mutual fund schemes on Nifty

Review of literature:

Review of literature is generally a prerequisite for systematic research endeavors. This enables the researcher to gain comprehensive understanding about earlier research works. This in turn, provides sufficient information to trace out the research gap prevailing in a given area of research. With this in mind, we have carried out the review of literature concerning the research area as under.

Shashikant Uma (1993) critically examined the rationale and relevance of mutual fund operations in Indian Money Markets. She pointed out that money market mutual funds with low-risk and low return offered conservative investors a reliable investment avenue for short-term investment.

Sahu R K and Panda J (1993) identified that, the savings of the Indian public in mutual funds was 5 to 6 percent of total financial savings, 11 to 12 percent of bank deposits and less than 15 percent of equity market capitalization. The study suggested that, mutual funds should develop suitable strategies keeping in view the savings potentials, growth prospects of investment outlets, national policies and priorities.

Jayadev (1996) evaluated the performance of two growth-oriented mutual funds namely Mastergain and Magnum express by using monthly returns. Jensen, Sharpe and Treynor measures have been applied in the study and the pointed out that according to Jensen and Treynor measure Mastergain have performed better and the performance of Magnum was poor according to all three measures.

Tripathy, Nalini Prava (1996) Identified that the Indian capital market expanded tremendously as aresult of economic reforms, globalization and privatization. Household sector accounted for about 80 percent of country's savings and only about one third of such savings were available for the corporate sector. The study suggested that, mutual fund should build investors confidance the through schemes meeting the diversified needs of investors, speedy disposal of information improved transparency in operation, better customer service and assured benefits of professionalism.

Gupta Amitabh (2001), evaluated the performance of 73 selected schemes with different investment objectives, both from the public and private sectors using Market Index and Fundex. NAV of close end and open end schemes from April 1994 to March 1999 were tested. The sample schemes were not adequately diversified, risk and return of schemes were not in conformity with their objectives and there was no evidence of market timing abilities of mutual fund industry in India.

Narasimhan (2001) analyzed the top of 76 mutual fund schemes from January 1998 to March 1999. The study showed that 62 stocks were held in portfolio of several schemes of which only 26 companies provided positive gains. The top holdings represented more than 90% of the total corpus in the case of 11 funds and showed higher risk levels compared to the returns. The correlation between portfolio stocks and diversification benefits were significant at 1% level for 30 pairs and at 5% level for 53 pairs.

Bansal (2003) survey of 2,819 respondents revealed that, the percentage of investors holding only UTI schemes reduced. The unit holders' loyalty seemed to have become a myth as investors were looking for performance. Unit-holders spread their holdings

over two or more funds with an urge to diversify increasing competitive mutual fund environment.

Singh and Chander (2003) identified that past record and growth prospects influenced the choice of scheme. Investors in mutual funds expected repurchase facility, prompt service and adequate information. Return, portfolio selection and NAV were important criteria's for mutual fund appraisal. The ANOVA results indicated that, occupational status; age had insignificant influence on the choice of scheme.

Venkateshwaralu (2004) had analyzed investors from the twin cities of Hyderabad and Secunderabad. Investors preferred to invest in open end schemes with growth objectives. Chi-square value revealed that the size of income class is independent of preference patterns and dependent on the choice of fund floating institution. Reasonable returns and long term strategy adopted by the scheme were the criteria of scheme selection. Investors perceived that too many restrictions led to the average performance of mutual funds in India.

Saha (2003) identified that Prudential ICICI balanced fund, Zurich (I) equity fund were the best among the equity funds while Pioneer ITI Treasury scheme was the best among debt schemes. He concluded that the efficiency of the fund managers was the key in the success of mutual funds and so the AMCs had to ensure more professional outlook for better results.

Satish (2004) researched out that investors from seven major cities in India had a preference for mutual funds compared to banking and insurance products. Investors expected moderate returns and accepted moderate risks. Sixty percent of investors preferred growth schemes. The image of AMCs acted as a major factor in the choice of schemes. Investors had the same level of confidence towards shares and mutual funds.

Sondhi and Jain (2005) examined 17 public sector and 19 private sector mutual funds equity schemes. The mean and median returns for the aggregate period (1993 to 2002) were lower than the returns on 364 days' Treasury bills and higher than the BSE 100 index. Alliance equity fund was the top performer and Can-bonus and LIC Dhanvikas (I) were the worst performers. They hypothesized that the majority of the sample schemes earned returns better than the market. The private equity schemes had superior performance due to their popularity, fund management practices, well researched stock selection and timing skills. More than three fourths of the public sector schemes were unable to achieve better returns in spite of higher investor confidence associated with high safety. The funds did not show consistency in performance.

Muthappan and Damodharan (2006) evaluated 40 schemes for the period April 1995 to March 2000. The study identified that majority of the schemes earned returns higher than the market but lower than 91 days' Treasury bill rate. The average risk of the scheme was higher than that of the market. 15 schemes had above average monthly returns. The growth schemes earned average monthly returns. The risk and return of the schemes were not always in conformity with their stated investment objectives. The sample schemes were not adequately diversified as the average unique risk was 7.45% with an average diversification of 35.01%. 23 schemes outperformed both in terms of total risk and systematic risk. 19 schemes with positive alpha values indicated superior performance. The study concluded that the Indian mutual funds were not properly diversified.

Dhankar and Kumar (2006-7) applied price-earnings ratios to determine future behavior of stock prices to make investment decisions. Their study measured the

performance of a set of portfolios which were based on price/earnings ratios of the stocks. Their study examined the monthly P/E of the stocks of the BSE 100 companies for the period June 1996 to May 2005 with three non over lapping sub-periods: June 1996 to Dec 1999, Jan 2000 to Dec 2002, Jan 2003 to May 2005. Their study found no consistency between the portfolios expected returns and their corresponding price/earnings ratios. It was observed that the stock market failed to reflect instantaneous responses pertaining to earning information. However, during project sub periods, the relationship between the portfolio's expected returns and market risk was found to be positive and significant. These findings could question the efficient market hypothesis but also could uphold the application of CAPM in the Indian stock market.

Chander (2007) studied the risk-return relationship as an important component of investment decision making. Though studies had examined the nature of risk-return relationships, they had not provided adequate evidence on the stationary of such relationships. The study found that investment managers considered both variability and volatility as risk surrogates. Sample portfolios had experienced identical risk performance for measurement criteria but performance variability was noticed for fund characteristics. The results demonstrate a strong positive relationship for 35% high risk-return portfolios and 15% low risk-return portfolios.

Relevant null hypotheses were negated for the remaining portfolios to support Gupta's (2002) observations that risk-return characteristics were in conflict with the stated objectives. Such a bland situation emerged when managers failed to read the directional changes in the market movements.

Aggarwal and Gupta (2007) found that while the global mutual fund industry continued to grow in leaps and bounds, the research on mutual funds were confined to only a few developed markets with USA always getting a special attention. Although emerging markets such as India had attracted the attention of investors all over the world, they had remained devoid of much systematic research, especially in the area of mutual funds. In an effort to plug that gap, their study sought to check the performance of mutual funds operation in India. In this regard, quarterly return performance of all the equity diversified mutual funds during the period from January 2002 to December2006 was tested. Analysis was carried out with the CAPM and Fama French models. Amidst contrasting findings from the application of these two models, the study called for further research and insight into the interplay between the performance determinant factors of portfolios and their effects on mutual fund returns.

Sahoo and Hatti (2007) in their study found neural network technique very useful in the study of mutual fund performance. Financial and economic forecasters had spurted the recent development of a number of new forecasting models. In the hard sciences, neural networks can be used in the context of statistical analyses such as regression, time series, moving average and smoothing methods and numerous judgmental methods as alternatives. In addition, neural networks can also overcome many of the shortcomings of traditional techniques analyzing noisy and incomplete data.

Deb(2008) contribution focuses on return based style analysis of equity mutual funds in India using quadratic optimization of an asset class factor model proposed by William Sharpe. His study found style benchmarks for each of its sample of equity funds as optimum exposure to 11 passive asset class indexes. The study also analyzed the relative performance of the funds with respect to their style benchmarks. The results of this study also showed that the funds had not been able to beat their style benchmarks on

the average.

Kumar and Dhankar (2008) study was on daily, weekly and monthly adjusted opening and closing prices of BSE composite 100 portfolios for the period of June 1996 thru' May, 2005. Their findings suggested that the relationship between portfolio returns and risk was very week based on daily returns. It was moderate in the case of weekly returns. However, portfolio risk and return exhibited a high degree of positive relationship when monthly returns were used. Portfolio nonmarket risk showed a declining tendency with diversification.

Rao (2009) study was concerned with the market timing ability of selected Indian mutual fund managers. For this, two important models, namely, Treynor & Mazum and Henricksson & Merton had been used with the BSE Sensex and NSE Nifty as market proxies. The results indicated that a majority of the selected mutual fund scheme managers were not seriously engaged in any market timing activities and were relying mainly on stock selection skills. Further, fund managers of private sectors exhibited better market timings as per Henricksson & Merton model. The results were similar to those reported by other researchers utilizing data from Indian mutual funds. The results reported were also in line with those for developed capital market.

Rozafitombo (2010) the author attempted to identify the most relevant indicators for classifying mutual funds based on their statistical properties. The study focused on 15 indicators of performance relative to 210 equity mutual funds calculated monthly on three sub periods between 2000 and 2006.

A comparison of statistical distributions, correlation and principle component analysis had not only confirmed the relevance of information ratios, betas and Sharpe ratios but also highlighted the importance of globally integrated approach based on both different calculation periods (short, medium and long terms) and three dimensions on the performance analysis and mutual fund rankings (i.e. managerial skills, market exposure and relative performance).

Cuthbertson,Nitzsche and Sullivan (2010) contribution provides a critical review of empirical on the performance of mutual funds mainly for the US and the UK. Their evidence suggested that the past winner funds persisted where rebalancing was frequent and sophisticated sorting rules were used. But because of the transaction costs, the net economic gains to the investors from the winner funds might be marginal.

Agarwal (2011) analyzed the Indian Mutual Fund Industry and point out that there has been incredible growth in the mutual fund industry in India, attracting large investments from domestic and foreign investors. Tremendous increase in number of AMCs providing ample of opportunity to the investors in the form of safety, hedging, arbitrage, limited risk with better returns than any other long-term securities has resulted in attracting more investors towards mutual fund investments.

Rompotis (2011) investigated several issues concerning the performance of US listed actively managed exchange traded funds. The returns and risks in the new types of ETFs were examined in comparison to the return and risk of market represented by S&P 500 index. The results indicated there was no significant difference between them. A single index regression analysis (CAPM) shows that the managers of the active ETFs failed to deliver any significant excess returns i.e. with respect to market returns.

Data and Methodology

Data:

We collect daily data of Net Asset Value) of Reliance Tax saver fund, SBI Magnum Tax gain scheme, HDFC India Tax saver fund, ICICI pru long term equity saving scheme, LIC

MF Tax plan, Birla Sun Life Tax saving scheme, Risk free rate of 10 year Gsec yield and market index (Nifty)) from Bloomberg data base. The period of the study is from1st January 2008to 31st December 2017. We have analysed the data year wise and also for the whole sample period.

Methodology

Risk and return are two important variables to be used in the performance evaluation of portfolio. Portfolio evaluation is said to be incomplete, if such exercise is based only either on returns or on risk. A comprehensive evaluation is to be based on return and risk. Therefore, risk adjusted return analysis is said to be better way of evaluating portfolio performance. In this context, it is worthwhile to state that, in the lexicon of mutual fund performance evaluation, there is several risk-adjusted performance models evolved and implemented from time to time. These are;

a) Treynor's Index

b) Sharpe's Index

Concept of Beta

Beta measures the systematic risk. Beta shows how prices of securities respond to the market forces. Beta is calculated by relating the return on a security with return for the market. By convention, market will have beta 1.0. Mutual fund can be said as volatile, more volatile or less volatile. If beta is greater than 1 the stock is said to be riskier than market. If beta is less than 1, the indication is that stock is less risky in comparison to market. If beta is zero then the risk is as same as of the market. Negative beta is rare. A relative measure of the sensitivity return on security is to change in the broad market index return. Beta measure the systematic risk, it shows how prices of securities respond to the market forces. Beta is calculated by relating the return on a security with return for the market. Market will have 1.0, if the beta is greater than 1 than the stock is said to be very riskier than market risk, beta less than 1 than the stock is said to be not that much riskier as compare to the market risk. Beta involved market risk, and market risk involved political risk, inflation risk, and interest rate risk. Market risk is measured by beta, which is another measure of investment risk that is based on the volatility of returns.

Beta Calculation

$$\beta = \frac{N\Sigma XY - \Sigma X\Sigma Y}{N\Sigma X2 - (\Sigma X)2}$$

Where

N = No of observations

ΣX = Sum of X returns (Here X is market return)

ΣY = Sum of Y returns (Here Y is a particular fund return)

X2 = X * X

Σ**XY** = Sum of X * Y

<u>Sharpe ratio:</u>

Sharpe Ratio, named after William Sharpe, is a very useful measure of performance that is especially relevant when comparing mutual funds within a category. The Sharpe Ratio is a mutual fund's excess return divided by its standard

deviation, where excess return is the actual return less the risk-free rate of return. Although the Sharpe Ratio is computed from historical data, it is the same formula as the slope of the Capital Allocation Line, which is forward- looking. Risk free rate of return can earn by investing in Government secruties. T-Bill Index is a good measure of this risk free return.

The Sharpe ratio formula:

$$= \frac{rp-rf}{\sigma p}$$

Where

r_p = Expected portfolio return

r_f = Risk free rate

ϱ_p = portfolio standard deviation

Sharpe ratio is the average return earned in excess of the risk free rate per unit of volatility or total risk. Subtracting the risk free rate from the mean return, the performance associated with risk taking activities can be isolated. Generally the grater the value of the Sharpe ratio, the more attractive the risk adjusted return.

Treynor Ratio :

Treynor ratio developed by Jack Treynor. The treynor ratio, also known as the reward to volatility ratio is a metric for returns that exceed those that might have been gained on a riskless investment, per each unit of market risk. Treynor ratio is a risk adjusted measurement of a return based on systematic risk. It is a metric efficiency that makes use of the relationship that exists between risk and annualized risk adjusted return.

Ultimately the ratio attempts to measure how successful on investment is in providing investors, compensation, with consideration for the investments inherent level of risk. The treynor ratio is reliant upon beta that is the sensitivity of an investment to movements in the market to judge risk.

When the value of the Treynor ratio is high, it is an indication that an investor has generated high returns on each of the market risks he has taken. The Treynor ratio allows for an understanding of how each investment within a portfolio an idea of how efficiently capital is being used. The Treynor ratio relates excess return over the risk free rate to the additional risk taken, however systematic risk is used instead of total risk. The higher the treynor ratio, the better the performance of the portfolio under analysis.

The treynor ratio formula

$$= \frac{rp-rf}{BP}$$

T = Treynor's ratio

r_p = portfolio return

r_f = risk free rate

B_p = portfolio beta

Regression:

It is a technique for determining the statistical relationship between two or more variables where a change in a dependant variable is associated with, and depends on , a change in one or more independent variables.

$$Nifty = a_0 + \beta_1 rhdfct + \beta_2 rlict + \beta_3 rrelt + \beta_4 rabt + \beta_5 ricicit + \beta_6 \text{rsbit}\ \varepsilon_i \ldots\ldots\ldots\ldots\ldots\ldots\ldots.(i)$$

Empirical Analysis:

Analysis and Interpretation of Mutual fund Tax Saving Scheme

Analysis and Interpretation :-

Table No.1

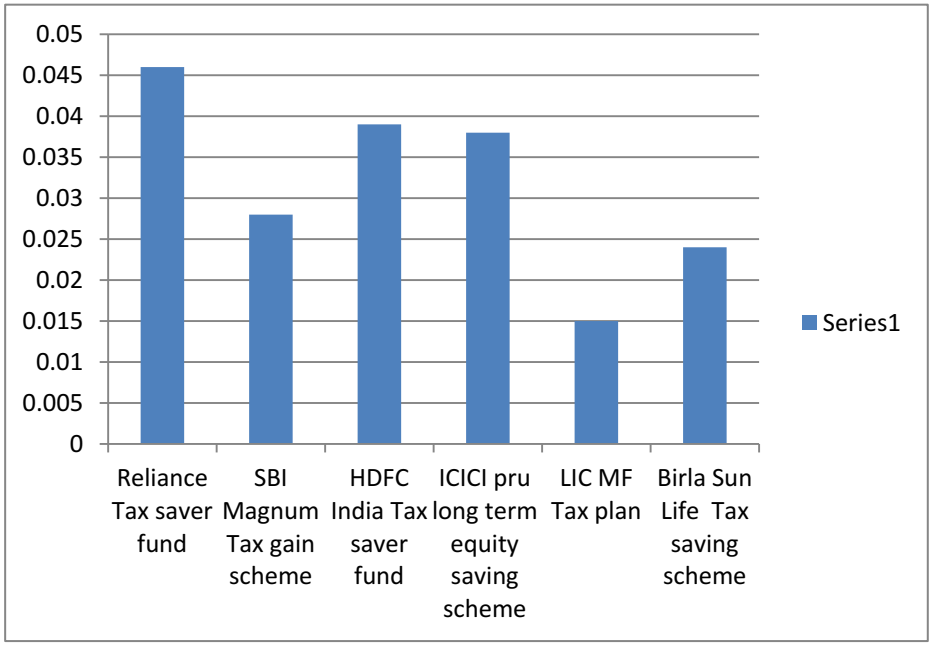
1) Return related analysis and interpretation

Table-5.8: Return for select schemes of the Tax Saving Schemes and benchmark values							
Year	**Market Return (CNX Nifty)**	**Asset Management Companies and Schemes**					
		Reliance Tax saver fund	**SBI Magnum Tax gain scheme**	**HDFC India Tax saver fund**	**ICICI pru long term equity saving scheme**	**LIC MF Tax plan**	**Birla Sun Life Tax saving scheme**
2008	0.331	-0.338	-0.359	-0.329	-0.374	-0.383	-0.479
2009	0. 235	0.256	0.265	0.296	0.32	0.202	0.285
2010	0.063	0.083	0.047	0.097	0.089	0.058	0.092
2011	-0.122	-0.122	-0.117	-0.111	-0.119	-0.134	-0.105
2012	0.095	0.153	0.119	0.093	0.125	0.088	0.075
2013	0.020	0.012	0.025	0.016	0.038	0.029	0.008
2014	0.125	0.263	0.174	0.194	0.178	0.174	0.171
2015	0.224	-0.014	0.012	-0.028	0.017	-0.016	0.033
2016	0.020	0.015	0.006	0.027	0.0146	0.01	0.011
2017	0.104	0.155	0.117	0.135	0.095	0.129	0.15
Average	0.095	0.046	0.028	0.039	0.038	0.015	0.024
Deviation		-0.049	-0.067	-0.056	-0.057	-0.08	-0.071
Over/Under		Under	Under	Under	Under	Under	Under
Rank		1	4	2	3	6	5

Source: authors calculation

This table reveals the year-wise information about the values of holding period returns of select schemes as well as benchmark index. On the basis of these yearly values respective averages are calculated for the study period. It is clear from the above table that, Reliance Tax Saver fund has performed well as compared to other schemes in this category with average return 0.046 but it is astonished that all the schemes are under performance as compare to benchmark index. This is followed by HDFC India tax saver fund which registered an average return of 0.0.039percent and ICICI prudential long term equity tax saving scheme which registered a average return of 0.038percent and SBI Magnum Tax gain scheme registered return of 0.028 and Birla Sunlife Tax Saving schemes registered an average return of 0.024 and LIC MF tax plan registered a return of 0.015

Graph No.1
Return for select Tax saving Schemes and benchmark values



2. Risk related analysis and interpretation

(Figures in percentage)

Table No. 2

Table-:
Standard Deviation for select schemes of the Tax Saving Schemes and benchmark values

Year	S.D Market Return (CNX Nifty)	Asset Management Companies and Schemes					
		Reliance Tax saver fund	SBI Magnum Tax gain scheme	HDFC India Tax saver fund	ICICI pru long term equity saving scheme	LIC MF Tax plan	Birla Sun Life Tax saving scheme
2008	2.874	2.263	2.439	2.251	2.375	2.852	2.801
2009	2.17	1.627	1.889	1.708	1.582	2.131	1.845
2010	1.78	0.975	0.936	0.86	0.859	1.008	0.99
2011	1.352	1.084	1.114	0.989	1.124	1.272	1.109
2012	0.980	0.884	0.817	0.834	0.779	0.939	0.832
2013	1.168	1.079	0.985	1.075	0.962	1.041	1.092
2014	0.814	1.096	0.85	1.106	0.885	0.844	0.88
2015	1.046	1.199	1.04	1.128	0.946	1.064	1.017
2016	0.964	1.164	0.949	1.121	0.86	0.949	0.907

2017	0.577	0.719	0.665	0.762	0.611	0.638	0.557
Average	1.372	1.209	1.168	1.183	1.098	1.273	1.203
Deviation		-0.163	-0.204	-0.189	-0.274	-0.099	-0.169
Risk		Less	Less	Less	Less	Less	Less
Rank		5	2	3	1	6	4

Source: authors calculation

This table provides summarized information about year-wise values of standard deviation for select schemes as well as benchmark index. Further, it also provides the information about the resultant average standard deviation of each scheme and corresponding benchmark index. A closure look at the table reveals that LIC MF tax plan has highest average value of standard deviation (1.273percent) followed by Reliance tax saver fund (1.209 percent), Birla sunlife saving scheme (1.203 percent), HDFC India Tax saver (1.183 percent) , SBI Magnum Tax gain scheme (1.168 percent)and ICICI prudential long term equity tax saving scheme (1.098 percent). Hence, LIC MF tax plan is having higher total volatility whereas ICICI prudential long term equity tax saving schemes has least total volatility during the study period as measured by Standard Deviation.

Graph 2-: Standard Deviation for select Tax Saving Scheme

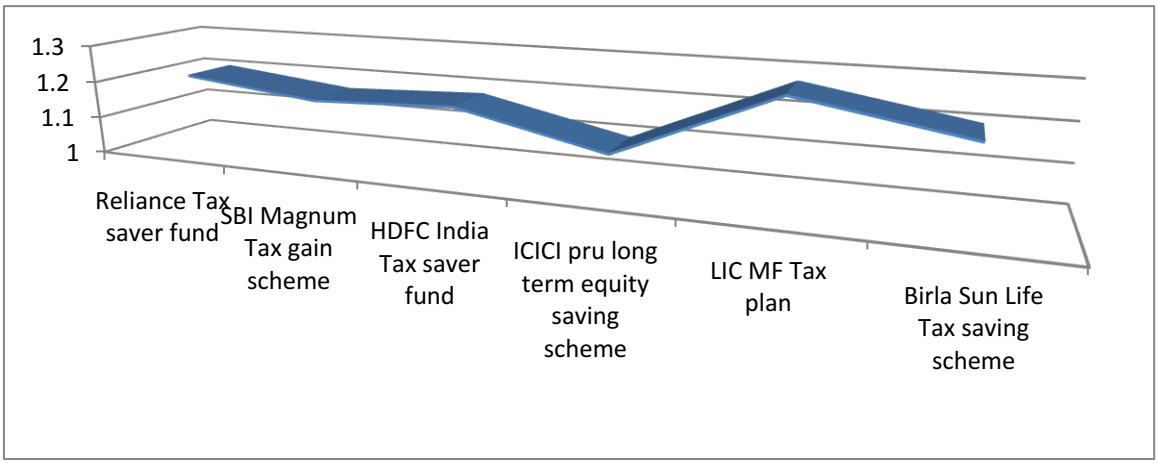


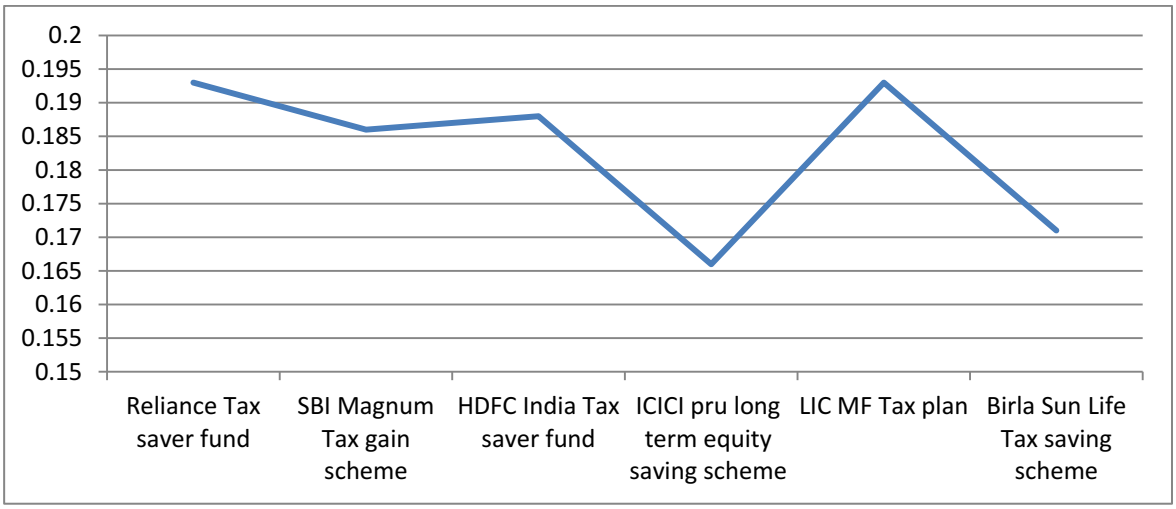
Table No 3: Systematic Risk (Beta) for select schemes of the Tax saving Schemes

Year	Asset Management Companies and Schemes					
	Reliance Tax saver fund	**SBI Magnum Tax gain scheme**	**HDFC India Tax saver fund**	**ICICI pru long term equity saving scheme**	**LIC MF Tax plan**	**Birla Sun Life Tax saving scheme**
2008	0.19	0.246	0.2	0.236	0.285	0.198
2009	0.048	0.064	0.041	0.052	0.065	0.0403
2010	0.186	0.163	0.169	0.15	0.171	0.178
2011	0.215	0.233	0.226	0.247	0.296	0.225
2012	0.039	-0.011	-0.039	-0.014	-0.026	-0.018
2013	0.176	0.189	0.175	0.141	0.181	0.199
2014	0.364	0.296	0.408	0.319	0.293	0.318
2015	0.107	0.12	0.108	0.066	0.099	0.101
2016	0.303	0.238	0.246	0.203	0.263	0.235
2017	0.311	0.323	0.354	0.26	0.306	0.241
Average	0.194	0.186	0.188	0.166	0.193	0.171
Rank	1	4	3	6	2	5

Source: authors calculation

This table portrays the information about Beta values of select schemes belonging to Tax saving scheme for the study period. It is generally known fact that, higher the value of beta higher will be responsiveness of a given fund to the changes in the market index and vice-versa. A fund having higher beta may do well in a general up-trend whereas may not do so during the down-trend. Hence, a fund with lower beta may not exhibit attractive performance but it may save investors from extreme loss during the down- trend. A beta value of 1.0 of a fund implies neither over responsiveness nor under responsiveness to the changes in the market. A beta value of greater than 1.0 shows more than proportionate responsiveness to the changes in the market; a beta of less than 1.0 shows less than proportionate responsiveness. It is clear from the above table that Reliance Tax saver fund has highest beta value of 0.194 showing moderately high responsiveness; ICICI prudential long term equity tax saving schemes has lowest beta value of 0.166 having less responsiveness to the changes in the market; LIC MF Tax plan has a beta value of 0.193; HDFC India Tax saver has a beta value of 0.188; SBI Magnum Tax gain schemes has a beta value of 0.0.186; Birla sunlife Tax saving schemes has a beta value of 0.171. Hence, all the schemes having beta values of less than 1.0, perhaps, it can be inferred that, all portfolios are defensive portfolios.

Graph 3-:
Systematic Risk (Beta) for select schemes of the Tax saving scheme



3.Risk-adjusted return analysis and interpretation

Table: Sharpe's Values for Select Schemes of the Tax saving schemes and benchmark values

Table No 4-: Sharpe's Values for Select Schemes of the Tax Saving Schemes and benchmark values

Year	Market Return (CNX Nifty)	Asset Management Companies and Schemes					
		Reliance Tax saver fund	SBI Magnum Tax gain scheme	HDFC India Tax saver fund	ICICI pru long term equity saving scheme	LIC MF Tax plan	Birla Sun Life Tax saving scheme
2008	-0.054	-0.072	-0.076	-0.069	-0.084	-0.073	-0.109
2009	0.037	0.062	0.059	0.083	0.105	0.023	0.071
2010	0.044	0.069	0.034	0.095	0.086	0.042	0.078
2011	-0.109	-0.136	-0.128	-0.138	-0.129	-0.125	-0.118
2012	0.104	0.182	0.155	0.12	0.171	0.101	0.099
2013	-0.019	-0.028	-0.017	-0.024	-0.005	-0.012	-0.032

2014	0.217	0.286	0.265	0.221	0.259	0.267	0.253
2015	-0.014	-0.006	0.019	-0.018	0.025	-0.008	0.04
2016	0.095	0.074	0.082	0.088	0.1	0.086	0.091
2017	0.088	0.142	0.096	0.107	0.069	0.119	0.173
Average	0.038	0.057	0.048	0.046	0.059	0.042	0.054
Deviation		0.019	0.01	0.008	0.021	0.004	0.016
Over / Under		Over	Over	Over	Over	Over	Over
Rank		2	4	5	1	6	3

Source: authors calculation

This table crystallizes the year-wise information as well as average values of Sharpe's Index both for select schemes and the underlying benchmark index over the period of the study. It is observed from the above table that, all schemes belonging to Tax saving schemes (AMCs) have shown on an average mash-up of over performance as compared to average performance of benchmark index. However, the extent of performance differs from scheme to scheme. ICICI prudential long term equity saving schemes, Reliance tax saver , Birla sunlife tax saving scheme, SBI Magnum Tax gain scheme, HDFC India tax saver fund and LIC MF tax plan have shown over performance (0.059 percent, 0.057 percent, 0.054 percent, 0.048 percent, 0.046 percent and 0.042 percent) respectively . All the six schemes have performed better than the benchmark index.

Graph-4:

Sharpe's Values for Select Schemes of the Equity growth and benchmark values

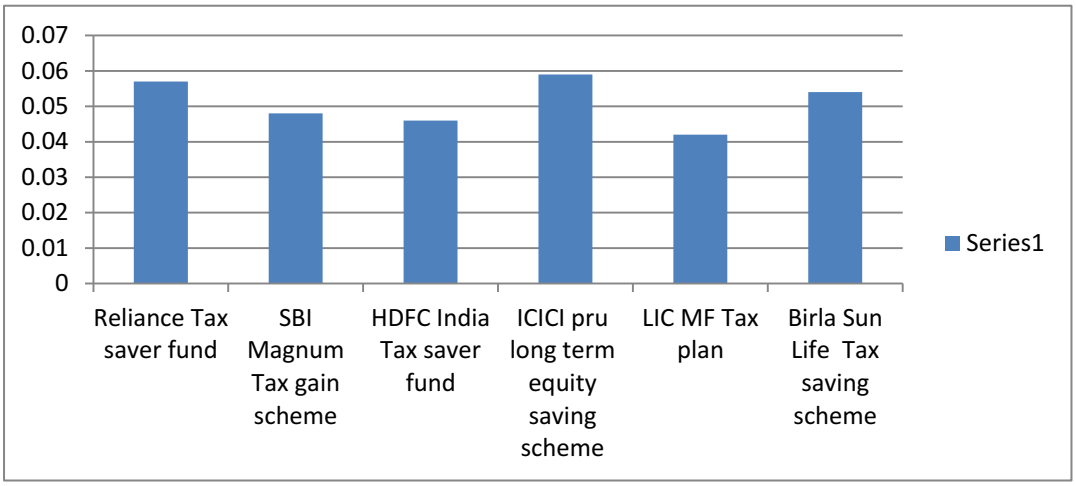


Table No 5 Treynor's Values for Select Schemes of the Tax saving schemes and benchmark values

Table-5.5: Treynor's Values for Select Schemes of the Tax saving schemes and benchmark values							
		Asset Management Companies and Schemes					
Year	**Market Return (CNX Nifty)**	**Reliance Tax saver fund**	**SBI Magnum Tax gain scheme**	**HDFC India Tax saver fund**	**ICICI pru long term equity saving scheme**	**LIC MF Tax plan**	**Birla Sun Life Tax saving scheme**
2008	-0.157	-0.862	-0.753	-0.775	-0.848	-0.735	-1.54
2009	0.082	2.105	1.727	3.44	3.188	0.753	3.27
2010	0.048	0.364	0.198	0.484	0.49	0.253	0.432
2011	-0.148	-0.686	-0.613	-0.607	-0.589	-0.539	-0.583
2012	0.102	-4.04	-11.451	-2.565	-9.414	-3.551	-4.529
2013	-0.022	-0.174	-0.092	-0.15	-0.033	-0.072	-0.176
2014	0.177	0.861	0.762	0.6007	0.72	0.768	0.701
2015	-0.015	-0.071	0.164	-0.197	0.361	-0.093	0.404
2016	0.092	0.285	0.326	0.402	0.424	0.313	0.354
2017	0.051	0.328	0.197	0.23	0.162	0.248	0.4
Average	0.021	-0.189	-0.953	0.086	-0.553	-0.265	-0.126
Deviation		0.21	-0.974	0.065	-0.574	-0.286	-0.147
Over / Under		under	under	over	under	under	Under
Rank		3	6	1	5	4	2

Source: authors calculation

This table exhibit the year-wise information as well as average values of Treynor's Index both for select schemes and the underlying benchmark index over the period of the study. It is surprising to observed from the above table that, five schemes belonging to Tax saving schemes (AMCs) have on an average under performed and one scheme over performed as compared to average performance of benchmark index. wherein, HDFC India tax saver fund (0.086), Birla sun life Tax saving scheme (-0.0126), Reliance tax saver (-0.0189) LIC MF Tax plan (-0.0265), ICICI Prudential long term equity saving schemes(-0.553), SBI Magnum Tax gain scheme(0.953) Hence, only one scheme HDFC schemes have able to generate sufficient return in commensurate with their systematic risk as compared to bench mark index and another five have not able to generate sufficient return.

Graph-5:

Treynor's Values for Select Schemes of the Tax saving schemes and benchmark values

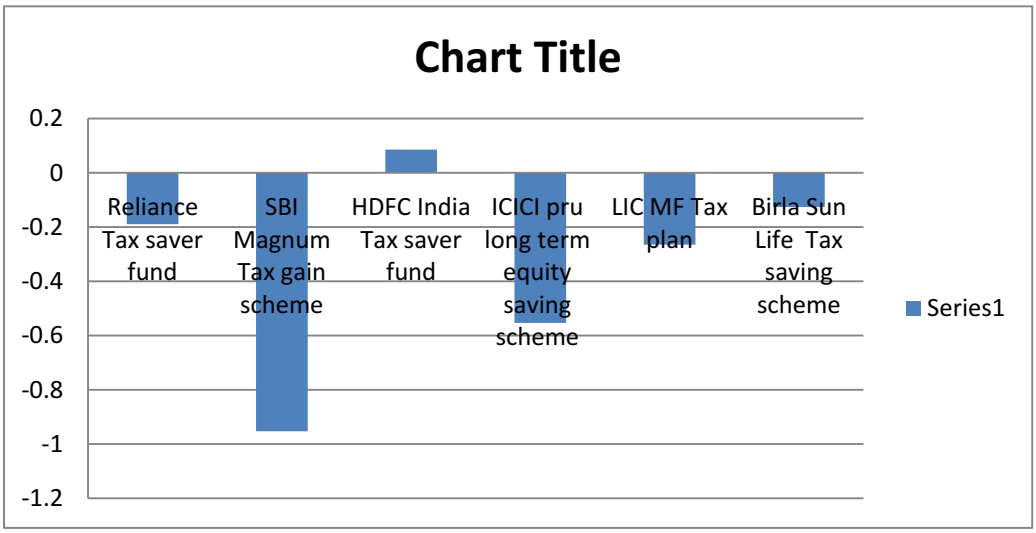


Table No 6-: Jensen's Alpha Values for Select Schemes of the Tax saving schemes

Year	Asset Management Companies and Schemes					
	Reliance Tax saver fund	**SBI Magnum Tax gain scheme**	**HDFC India Tax saver fund**	**ICICI pru long term equity saving scheme**	**LIC MF Tax plan**	**Birla Sun Life Tax saving scheme**
2008	-0.053	-0.093	-0.048	-0.104	-0.13	-0.197
2009	-0.039	-0.026	-0.0005	0.026	-0.088	-0.012
2010	0.064	0.027	0.077	0.068	0.039	0.073
2011	-0.2006	-0.198	-0.191	-0.202	-0.222	-0.185
2012	0.164	0.133	0.104	0.139	0.1	0.088
2013	-0.07	-0.056	-0.065	-0.045	-0.052	-0.074
2014	0.411	0.314	0.348	0.321	0.313	0.314
2015	-0.003	0.042	-0.016	0.029	-0.004	0.045

2016	0.164	0.154	0.175	0.161	0.159	0.159
2017	0.0081	0.044	0.065	0.016	0.054	0.068
Average	0.044	0.034	0.045	0.04	0.016	0.027
Over / Under	over	over	over	over	over	over
Rank	2	4	1	3	6	5

Source: authors calculation

This table narrates the information about year wise values of alpha for each select scheme as well as their average value during the study period. Alpha is an index of management skills of fund managers. Though, all select schemes fund managers have experienced positive alphas the extent of positively is highest in case of HDFC India Tax saver Fund (0.045), followed by Reliance tax saver fund (0.044 percent); ICICI Prudential long term equity saving schemes(0.04) ; SBI Magnum tax gain scheme (0.034),Birla Sun life Tax saving Scheme (0.027) and LIC MF Tax plan (0.016 percent). A positive alpha implies superior returns due to superior management skills and negative alpha implies inferior management skills as compared to the market. From the results shown in the above table, one can infer that, on an average, all schemes have fared well. Hence, we can say that, fund manager's managerial skills required for investment or disinvestment decision making is good.

Graph-6:

Jensen's Alpha Values for Select Schemes of the Tax saving schemes

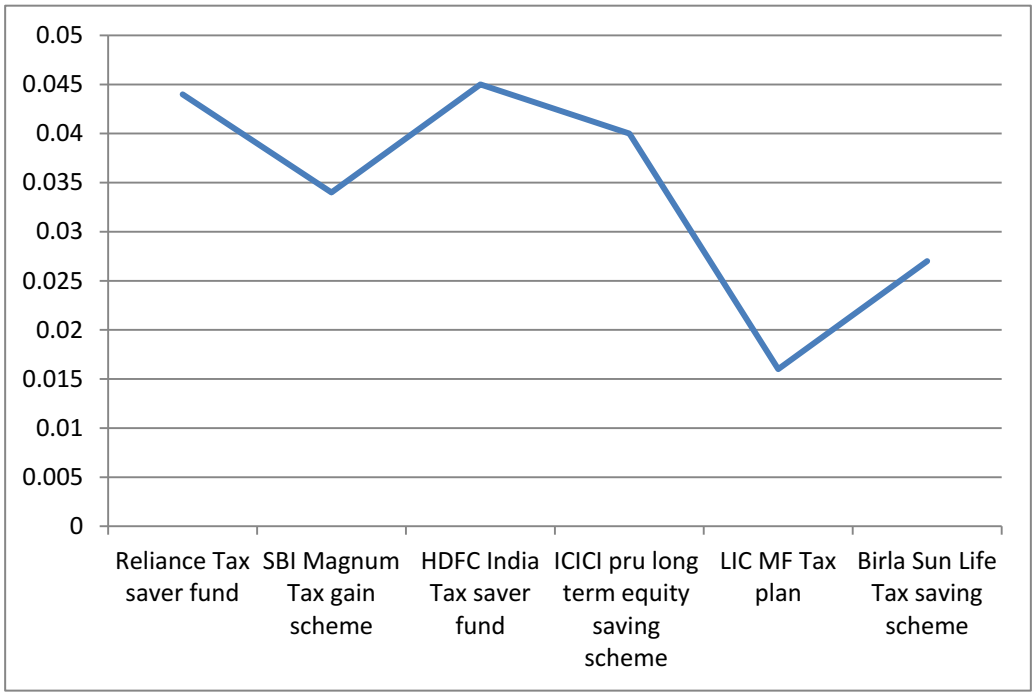


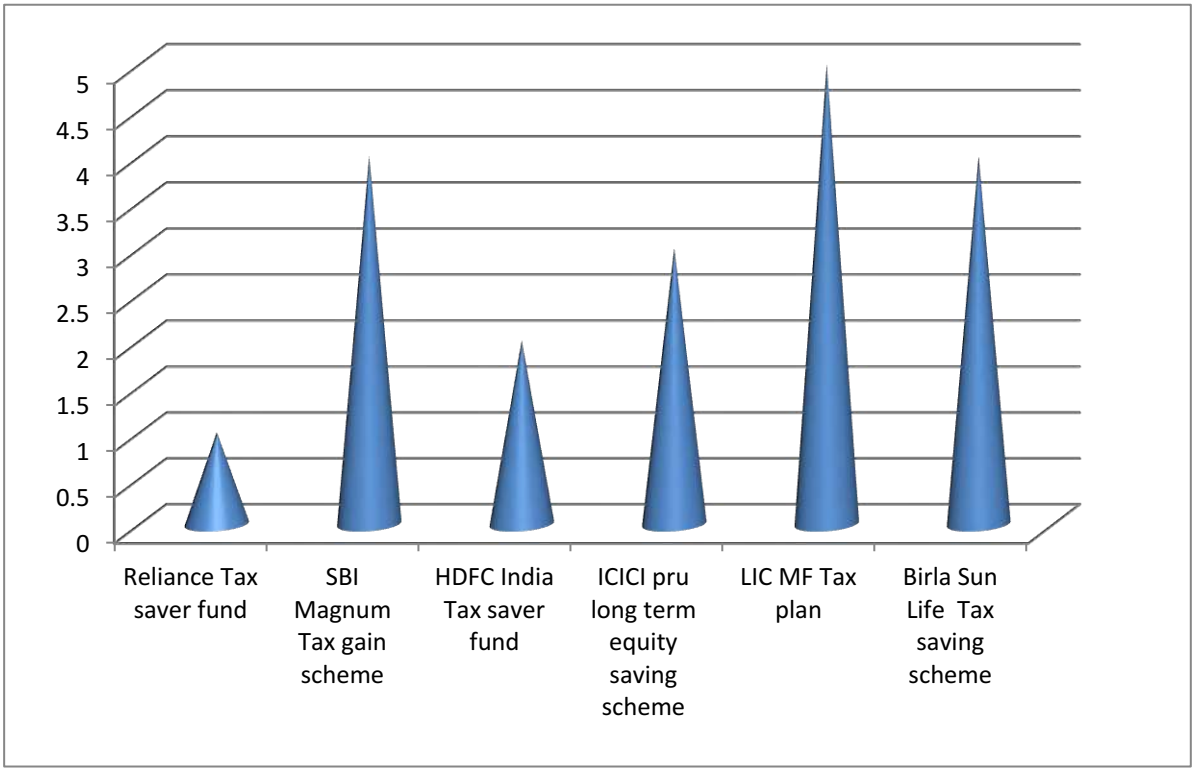
Table No 7-: Overall Ranking of all select Tax Saving Schemes

Models	RANKING					
	Reliance Tax saver fund	**SBI Magnum Tax gain scheme**	**HDFC India Tax saver fund**	**ICICI pru long term equity**	**LIC MF Tax plan**	**Birla Sun Life Tax saving scheme**
Return	1	4	2	3	6	5
SD	5	2	3	1	6	4
Beta	1	4	3	6	2	5
Sharpe's	2	4	5	1	6	3
Treynor's	3	6	1	5	4	2
Jensen's	2	4	1	3	6	5
TOTAL	14	24	15	18	30	24
RANK	1	4	2	3	5	4

Source: authors calculation

The table No. 5.14 indicates the overall ranking of all chosen Tax saving schemes during the study period. From the above table, it is clear that Reliance Tax saver has placed at first position (1st Rank), followed by HDFC India Tax saver fund has placed at second position (2nd Rank); ICICI prudential long term equity saving scheme has placed at the third position(3rd Rank) ; Birla sunlife Tax saving scheme and SBI Magnum Tax gain scheme both has placed at the fourth position(4th Rank); LIC MF Tax plan has placed at the Fifth position(5th Rank).

Graph-7:
Overall Ranking of all select Tax saving schemes



Regrassion:
The regression has been run to measure the imact of the schemes under consederqation on market return.. The regression equation is given below.

$$Nifty = a_0 + \beta_1 reliancet + \beta_2 \text{rsbit} + \beta_3 rhdft + \beta_4 rcicicit + \beta_5 rlict + \beta_6 \text{rbirlat}\ \varepsilon_i \ldots\ldots\ldots\ldots\ldots\ldots\ldots.(i)$$

$\beta_1 rhdfct$ Coefficient of Regression on Reliance Tax saver fund
$\beta_2 rlict$ Coefficient of Regression on *SBI Magnum Tax gain scheme*
$\beta_3 rrelt$ Coefficient of Regression on HDFC India Tax saver fund
$\beta_4 rabt$ Coefficient of Regression on ICICI pru long term equity saving scheme
$\beta_5 ricicit$ Coefficient of Regression on LIC MF Tax plan
$\beta_6 \text{rsbit}$ Coefficient of Regression on Birla Sun Life Tax saving scheme

Table No.8

Regression Result										
Equation-i										
Coefficient										
Variable	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
β_1	-1.40 (0.61)	-0.66 (0.86)	11.30	-6.08 (0.01	-0.55 (0.85)	-17.5 (0.00	0.18 (0.93	8.99 (0.00)	6.90 (0.00)	-6.80 (0.001

			(0.00)	)		)	)			)
β_2	35.51 (0.20)	155.9 (0.00)	90.78 (0.00)	187.3 (0.00)	107.7 (0.00)	-15.75 (063)	-59.5 (0.00)	38.64 (0.014)	84.62 (0.004)	30.35 (0.045)
β_3	-172.1 (0.00)	-201.6 (0.00)	-128.3 (0.00)	-6.625 (0.70)	-91.22 (0.00)	-25.41 (0.04)	-25.86 (0.02)	50.28 (0.00)	-167.2 (0.00)	-19.16 (0.188)
β_4	-32.77 (0.16)	-168.7 (0.00)	-79.73 (0.00)	44.17 (0.13)	26.36 (0.29)	123.6 (0.00)	68.77 (0.00)	-79.82 (0.00)	-16.00 (0.44)	11.15 (0.335)
β_5	33.29 (0.00)	27.10 (0.00)	22.59 (0.00)	10.6 (0.04)	28.26 (0.00)	12.85 (0.00)	2.26 (0.57)	2.19 (0.55)	-4.65 (0.07)	0.040 (0.98)
β_6	69.04 (0.00)	99.22 (0.00)	51.81 (0.00)	-28.91 (0.07)	-4.67 (0.73)	79.9 (0.00)	66.88 (0.00)	30.43 (0.00)	93.77 (0.00)	81.73 (0.00)
R^2	0.97	0.98	0.98	0..95	0.93	0.91	0.99	0.90	0.96	0.97
AR^2	0.97	0.98	0.98	0.95	0.93	0.90	0.99	0.90	0.96	0.97

R^2= R Squared, A R^2= Adjusted R Squared,

It has been run regression in one equation. The regression result is given in table-8. In equation-*i*, we consider the impact of Reliance tax saver fund, SBI Magnum Tax gain scheme, HDFC India Tax saver fund, LIC Tax Plan and Birla sun Life Tax saving scheme. In addition to this run the regression for full sample as well considering all data years in one equation. We find no significant impact from Reliance Tax saver fund, SBI Magnum Tax gain scheme , ICICI pru long term equity saving scheme, LIC MF Tax plan, Birla Sun Life Tax saving scheme. The impact from HDFC India Tax saver fund and Reliance Tax saver fund is negative and significant.

Conclusion:

This Study helps to investors for taking investment decision relating to mutual fund

schemes and it shows mutual fund is better platform for investment and it provide good return with low risk .

It creates awareness that the mutual funds are beneficial investment for risk averse investors . The mutual fund industries provide to the investors with a wide range of investments options according to his risk bearing capacities and interest. Besides they also give a good return to the investors. This paper analyses fifteen mutual fund schemes of Different Companies. From this study we find Sundaram Global Advantage scheme is shows the greater value of Sharpe ratio as compare to other selected schemes hence this schemes provides better return. Sundaram Global Advantage Schemes is a highest ratio as compare to other selected schemes. It shows the grater skills in managing the investment. After calculating beta value of the selected schemes we find The HSBC India Opportunities Fund Growth is more volatile as compare to LIC MF EQUITY GROWTH and other selected schemes. The Kotak Global Emerging Market Opp. Eg. Offshare Growth is less volatile as compare to selected schemes. On the regression , It has been find that no significant impact from Reliance Tax saver fund, SBI Magnum Tax gain scheme , ICICI pru long term equity saving scheme, LIC MF Tax plan, Birla Sun Life Tax saving scheme. The impact from HDFC India Tax saver fund and Reliance Tax saver fund is negative and significant.

References:

Shashikanta, (1993) "Accounting policy and practices of mutual funds: The need for Standardization", Prajan, Vol. XXIV(2), pp. 91-102.

Sahu and Panda (1993) "The Role and future of mutual funds in India", Management Accountant, PP.91-3

Agrawal D., (2011) "Measuring Performance of Indian Mutual Funds" Finance India, Available at SSRN:http://ssrn.com/abstract=1311761.

s

Bansal, Manish (2003) "Mutual Funds: Eight Steps to nirvana", Chartered Financial Analyst, Vol. 9 (12), , pp. 34-40.

Debasish, Sathya Swaroop (2009). Investigating Performance of Equity-based Mutual Fund Schemes in Indian Scenario. KCA Journal of Business Management, 2(2), 1-15.

Gupta Amitabh,(2001) "Mutual Funds in India: A Study of Investment Management", Finance India, Vol. XV (2), , pp. 631-637.

Jayadev, M (1996). Mutual Fund Performance: An Analysis of Monthly Returns. Finance India, 10 (1), 73-84.

KPMG research report - Indian Mutual Fund Industry .

Muthappan P K & Damodharan E.(2006) "Risk – Adjusted Performance Evaluation of Indian Mutual funds schemes" Finance India, vol. xx(3), . Pp 965-983.

Narasimhan M S and Vijayalakshmi S (2001) "Performance Analysis of Mutual Funds in India", Finance India, Vol. XV (1), , pp.155-174

Ramesh Chander(2000) "Performance Appraisal of Mutual Funds in India", Finance India, Vol. XIV (4) , pp.1256-1261.

Rao, Mohana P,(1998) "Working of mutual fund organizations in India", Kanishka Publishers, New Delhi, ..

Saha, Tapas Rajan"(2003) Indian Mutual Fund Management", Management Accountant, Vol. 38 (10), pp. 765-771

Sathis D,(2004) "Investors Perceptions: A Survey by MARCH Marketing Consultancy & Research", Chartered Financial Analyst,. Vol. 10(7), pp.35-36.
Singh, Jaspal and Subhash Chander,(2003) 'What Drive the Investors towards Mutual Funds: An Epirical Analysis', The ICFAI Journal of Applied Finance, Vol. 9 (8), ,pp.38-46.
Sondhi H J and Jain P.K, (2005)' Financial Management of private public equity mutual funds in India : An Analysis of profitability',The ICFAI Journal of Applied Finance , 2005 pp.14-27
Tripathy, Nalini Prava, (1996) "Mutual Fund in India: A financial service in capital market", Finance india, Vol. X (1), , pp.85-91.
Venkateshwarlu M (2004), "Investors' Perceptions of Mutual Funds", Southern Economist, , pp.14-16.
www.amfiindia.com
www.business.mapsofindia.com
www.mutualfundsindia.com

A study of Prospects of Cooperation and Integration between states

Mrs Sana Ansari
(Lecturer)
Patuck Gala College of commerce & management
Email Id: sana.ansari@patuck.edu.in

Abstract:

A possibility of change for betterment, development and prosperity. We must first look into the few existing organizations working hard towards the goals of Cooperation and Integration since decades. This is a small effort to list out some of the well-known organizations, who laid down their objectives, principles and goals towards the enrichment of a better place this globe exist in. Number of organizations effortlessly contributing towards forecasting and giving indications of democratic issues, economic factors, safety & security concerns, environmental effects, hydrological aspects, planetary crises, socialism concept, war threats and many more….. Yet scope is there for improvements and integrations of materiality, tranquillity and most important industrial development of the nations. Efforts are to be taken up by the countries massively on planning, arrangements and corrective measures to overcome the barriers for under developed and developing countries to come up on the same wave level of the fast growing world.

A possibility of change for betterment, development and prosperity. We must first look into the few existing organizations working hard towards the goals of Cooperation and Integration since decades. This is a small effort to list out some of the well-known organizations, who laid down their objectives, principles and goals towards the enrichment of a better place this globe exist in.

Objectives:

- **To study the practices and policies in different organization towards harmony**
- **To understand role of Cooperation and Integration in the development of the states**
- **To find areas of improvements for the betterment of nations**

Let us first study about the existing organizations working towards Cooperation and Integration

1. **World Trade Organization**

Following are the Principles and Objectives practised by the organization

- A country should not discriminate between its trading partners and its own and foreign products, services or nationals.
- Reducing trade barriers is one of the most obvious ways of encouraging trade
- With stability and predictability, investment is encouraged, jobs are created, and consumers can fully enjoy the benefits of competition through choice and lower prices.
- Discouraging 'unfair' practices, such as export subsidies and dumping products at below cost to gain market share, the issues are complex.
- Giving countries more time to adjust, greater flexibility and special privileges; over three-quarters of WTO members are developing countries and countries in transition to market economies.
- The agreements permit members to take measures to protect not only the environment but also public health, animal health and plant health. However, these measures must be applied in the same way to both national and foreign businesses.

2. **Union of International Association (UIA)**

Developmental goals of the organisation are as follows:

- End poverty in all its forms everywhere
- Zero Hunger
- Ensure healthy lives and promote well-being for all at all ages
- Enhancing Quality Education
- Achieve gender equality and empower all women and girls
- Ensure access to water and sanitation to affordable, reliable, sustainable and modern energy
- Promote inclusive and sustainable economic growth, employment and decent work for all and reduce inequality within and among countries
- Make cities inclusive, safe, resilient and sustainable consumption and production patterns
- Take urgent action to combat climate change and its impacts
- Conserve and sustainably use the oceans, seas and marine resources
- Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss, promote just, peaceful and inclusive societies
- Revitalize the global partnership for sustainable development

3. **Shanghai Cooperation Organisation (SCO)**

The aim of SCO is to establish cooperation between member nations on:

- Security-related concerns
- Resolving border issues
- Military cooperation
- Intelligence sharing
- Countering terrorism
- Countering American influence in Central Asia

4. **International Studies Association**

To promote international understanding it supports the following goals:

- Provide opportunities for communications among educators, researchers, and practitioners to continually share intellectual interests and meet the challenges of a changing global environment.
- Develop contacts among specialists from all parts of the world to facilitate scientific and cultural change.
- Provide channels of communication between academics and policy makers to promote a successful link between the production of knowledge and its utilisation.
- Improve the teaching and dissemination of ideas, concepts, methods, and information in the field of International Studies.
- Publication of knowledge through its seven journals, compendium, and other publications.
- Maintain a World Wide Web Page on the Internet

5. **Inter Parliamentary union (IPU)**

The IPU aims to:

- Foster contacts, coordination, and the exchange of experience among parliaments and parliamentarians of all countries
- Contribute to the defence and promotion of human rights, and
- Contribute to better knowledge of the working of representative institutions and to the strengthening and development of their means of action.

The main area of activity of the IPU include representative democracy, peace and security, sustainable development, human rights, women in politics, and education, science and culture.

6. **World Meteorological Organization (WMO)**

WMO programmes facilitate and promote:

- The establishment of networks of observational stations to provide weather, climate and water-related data;
- The establishment and maintenance of data management centres and telecommunication systems for the provision and rapid exchange of weather, climate and water-related data;
- The creation of standards for observation and monitoring in order to ensure adequate uniformity in the practices and procedures employed worldwide and, thereby, ascertain the homogeneity of data and statistics;
- The application of science and technology in operational meteorology and hydrology to aviation, transport (air, land and maritime), water resource management, agriculture and other focus areas

7. **Arctic Council**

- The Arctic Contaminants Action Program (ACAP) acts as a strengthening and supporting mechanism to encourage national actions to reduce emissions and other releases of pollutants.
- The Arctic Monitoring and Assessment Programme (AMAP) monitors the Arctic environment, ecosystems and human populations, and provides scientific advice to support governments as they tackle pollution and adverse effects of climate change.
- The Conservation of Arctic Flora and Fauna Working Group (CAFF) addresses the conservation of Arctic biodiversity, working to ensure the sustainability of the Arctic's living resources.
- The Emergency Prevention, Preparedness and Response Working Group (EPPR) works to protect the Arctic environment from the threat or impact of an accidental release of pollutants or radionuclides.
- The Protection of the Arctic Marine Environment (PAME) Working Group is the focal point of the Arctic Council's activities related to the protection and sustainable use of the Arctic marine environment.
- The Sustainable Development Working Group (SDWG) works to advance sustainable development in the Arctic and to improve the conditions of Arctic communities as a whole.

8. Organization of Black Sea Economy (BSEC)

Objectives are laid down as follows:

- Act in a spirit of friendship and good neighbourliness and enhance mutual respect and confidence, dialogue and cooperation among the Member States;
- Further develop and diversify bilateral and multilateral cooperation based on the principles and rules of international law
- Act for improving the business environment and promoting individual and collective initiative of the enterprises and companies directly involved in the process of economic cooperation
- Develop economic collaboration in a manner not contravening the international obligations of the Member States including those deriving from their membership to international organizations or institutions of an integrative or other nature and not preventing the promotion of their relations with third parties
- Consider the specific economic conditions and interests of the Member States involved;
- Further encourage the participation in the BSEC process of economic cooperation of other interested States, international economic and financial institutions as well as enterprises and companies.

9. International Hydrographic Organization (IHO)

The object of the Organization is to bring about:

- The coordination of the activities of national hydrographic offices
- The greatest possible uniformity in nautical charts and documents

- The adoption of reliable and efficient methods of carrying out and exploiting hydrographic surveys
- The development of the sciences in the field of hydrography and the techniques employed in descriptive oceanography.

10. International Institute for Democracy & Electoral Assistance (IDEA)

- Develop comparative knowledge,
- Assist in democratic reform,
- Influence policies and politics,
- Focusing in three main impact areas: electoral processes, constitution-building, political participation and representation
- Address issues of gender, diversity, and conflict and security.
- Advancing democracy worldwide, as a universal human aspiration
- Enabler of sustainable development
- Through support to the building, strengthening and safeguarding of democratic political institutions

11. International Simultaneous Policy Association (ISPO)

- Who use their votes in a coordinated, effective way to drive all nations to co-operate in solving our planetary crisis
- Goes beyond merely demanding greater political accountability by offering citizens a new way of restoring genuine democracy lawfully and peacefully, one vote at a time."

12. International Crisis group (ICG)

"Working to prevent wars and shape policies that will build a more peaceful world".

- Providing early warning through its monthly CrisisWatch bulletin
- A global conflict tracker it says is designed to identify both risks of escalation and opportunities to advance peace
- It produces detailed analysis and advice on specific policy issues that are affecting conflict or potential conflict situations;
- It engages with policy-makers, regional organisations and other key actors to promote peaceful solutions to major conflicts;
- It offers new strategic and tactical thinking on intractable conflicts and crises

13. Socialist International

Aim of SI - Progressive politicsfor a fairer world

- Seek to establish democratic socialism
- Consist mostly of democratic socialist, social-democratic and labour political parties and other organisations.

14. Nuclear Threat Initiative (NTI)

Objects to the Globe

- Working with leaders, partners, and citizens from around the world to develop policies to reduce reliance on nuclear weapons, prevent their use, and end them as a threat.
- Biosecurity
- Balancing the promise of biotechnology with preventing the biological weapons threat
- Radiological
- Raising awareness, improving security and strengthening global standards to prevent dirty bombs.

Suggestive recommendations

- Organizations mentioned above are practically working towards the harmony and peace maintenance amongst the countries and nations to make this world a better place to live.
- Pertaining to the above objectives and aims framed and practised by these organizations, we can conclude that a realistic approach is required to the implementation part of the countries and states as these framed guidelines would helpin pursuing strategies and programmes towards development economically, socially, democratically, safety & security of every individual living at the Globe.
- Number of organizations effortlessly contributing towards forecasting and giving indications of democratic issues, economic factors, safety & security concerns, environmental effects, hydrological aspects, planetary crises, socialism concept, war threats and many more.....
- Despite of existence of these organizations, we are lagging behind in many aspects.First and foremost we may focus on humanitarianism aspects and at the same time taking into consideration earth as a whole, which may prosper collectively in future context.
- Efforts are to be taken up by the countries massively on planning, arrangements and corrective measures to overcome the barriers for under developed and developing countries to come up on the same wave level of the fast growing world.
- Yet scope is there for improvements and integrations of materiality, tranquillity and most important industrial development of the nations.

References:

https://www.wto.org/
https://www.investopedia.com › Economy › Government & Policy
https://uia.org
https://ccdcoe.org/organisations/sco/
https://www.isanet.org/
https://www.ipu.org/
https://public.wmo.int/en
https://arctic-council.org/index.php/en/
http://www.bsec-organization.org/
https://www.iho.int/srv1/index.php?lang=en
https://www.idea.int/
https://simpol.org/
https://www.crisisgroup.org/

https://www.socialistinternational.org/
https://www.nti.org/

Cloud Computing Security using Blockchain Technology

Santosh Kumar Singh[1], Dr. P.K.Manjhi[2], Dr. R.K.Tiwari[3]

Research Scholar, Department of Computer Applications, Vinoba Bhave University, Hazaribag, India [1]

Assistant Professor, University Department of mathematics, Vinoba Bhave University, Hazaribag, India [2]

Professor, H.O.D CSE, R.V.S College of Engg. & Tech., Jamshedpur, India [3]

Abstract: Cloud computing has come of times since Amazon's deployment of the first of its category of cloud services in 2006. As a research topic, cloud computing now simply topmost in any list of existing topics for computer science because of its across-the-board implications in various areas in computing and which has become present day's most recent research area because of its capability to decrease the operational costs linked with computing. A rapid growth in Cloud Computing adaption has been observed but, still, the data security concerns have not been fully countered. Data security anxiety is still obstacle the expansion of Cloud Computing to some extents and need to be determined. Earlier we have used techniques for cloud environment security in our research work like OTP (two-factor authentication), AES algorithm, RSA Cryptography, ECC (Elliptic curve cryptography), HECC (Hyperelliptic curve cryptography) Homomorphic Encryption, Steganography, Usage Control (UCON) collective with encryption and the digital watermarking technology. Apart from used techniques Blockchain has come into view as a key technology to ensure security particularly in aspects of authenticity confidentiality and integrity. Therefore this time we have selected Blockchain technology to avoid the security concerns of cloud environment. This time we will reviews the various features of security in Blockchain and further analyses the application of Blockchain in Cloud Environment for computing security.

Keywords: Cloud Computing, Blockchain, E-Wallet, Security, Cloud Services, Cryptography, Authentication.

I. INTRODUCTION

Blockchain was made-up by a person (or group of people) with the name Satoshi Nakamoto to provide as the open transaction book of the crypto currency bitcoin. The invention of the blockchain for bitcoin prepared it the foremost digital currency to resolve the double spending difficulty without the requirement of a reliable authority or central server. Blockchain is a rising file of records, known *blocks*, which are connected with cryptography. Every block in hold a cryptographic hash of the preceding block, a timestamp, and operational data (usually represented as a Merkle tree).

By design, a blockchain is opposed to tempering of the data. Basically it is an open, distributed ledger that can store the transactions details between two parties proficiently and in a provable and everlasting way. For employ as a distributed book, a blockchain is normally headed by a peer to peer network jointly hold on to a procedure for inter node transmission as well as authenticate latest blocks [1].

Blockchain has pulled focus as the succeeding generation monetary technology due to its security that suits the informatization era. In particular, it gives security through the validation of peers that distribute virtual money, encryption, and the production of hash value. According to the worldwide monetary industry, the future market for security based blockchain technology is possible to grow near about United States Dollar twenty billion in 2020.

Blockchain is able to supply advanced security compared to keeping the entire information in a central database. In case of the records repository space and management feature, dent from attacks on a database can be prohibited. Furthermore, since the blockchain has unrestricted attribute, it can make available transparency in data when apply to region requiring to exposé the data. Because of such facilities, it can be utilized in different areas including the monetary sector and the Internet of Things background as well as its applications is expected to increase [2–5].

The blockchain completes transaction record during the work authentication procedure, once a human being who loans electronic cash creates a block by merging the transactions over the network.

The hash value is next produced by confirming it and linking the previous block. This block at regular intervals simplified and reflected on the electronic money operation facts contribute to the most recent transaction detail block. This procedure gives safety for the transaction of electronic money and allows utilizing of a dependable mechanism [6–8].

Cloud customers demand for the services from the Cloud Service Providers. CSPs are third parties that provide cloud storage services to their customers. Several other third party service providers are Third Party Auditor and Attribute Authority that are hypothetical to provide safety functionalities in cloud. As we all known that safety and faith are the most significant and essential issues while benefitting the organizations and institutions with cloud [9, 10].

Cloud customers data are on highest threat which can be misplaced, revealed or attacked but they do not have any choice to come out of this substandard position. Cloud customers do not even know of to whom they are interacting with or sharing

their valuable data. Transparency is also a very serious concern, cloud customers do not have any idea about the users of their data and how the data is roaming within the cloud. Cloud computing has been implemented to many Information technology based environments because of its effectiveness and accessibility. Furthermore, cloud safety and privacy concerns have discussed in terms of significant security elements like confidentiality, integrity, authentication, access control, and many more [11].

In this research work we studies and surveys the blockchain technology by analyzing generic (provide services in software applications) technology and research trends. The outcome of this research can provide as important base data in the study of blockchain. We can encourage the improvement of future blockchain technology by understanding the inclination of blockchain security in cloud environment.

The rest of this paper is structured in following manner. In Section II, we are establishing the basic concept of blockchain. Section III presents a detailed argument on blockchain security as well as improved blockchain. Section IV proposes secure blockchain solutions in cloud computing. At the end we conclude our study in Section V.

II. STRUCTURE OF BLOCKCHAIN

A blockchain is a not centralized, distributed, and frequently public, digitalized ledger that is used to hold transactions across various computers so that any concerned record cannot be misrepresented. This permits the participators to test and audit transactions autonomously and comparatively inexpensive. A blockchain database is handled autonomously using network and a distributed time stamp server. The use of a blockchain takes away the characteristic of unlimited duplicability from a digital asset. It approves that every unit of value was transmitted only one time, removing the time consuming standing problem. A blockchain has been portrayed as a value-exchange protocol [12]. The blockchain is the mechanics that permits every member to maintain a book containing the whole transaction information and to revise their books to maintain integrity when there is a latest transaction. All members to validate the reliability of a transaction are possible just because of internet and encryption technologies. The blockchain has agent free features, since rights of the transaction information by several people makes hacking complicated security expenditure is saved, transactions are mechanically accepted and recorded by group of participation, and swiftness is guaranteed. Furthermore, the system can be simply executed, linked and extended using public resource plus operation records can be openly retrieved to make the operations public and minimise regulatory costs [13].

The blockchain is an arrangement which is combination of a header with a body. Header incorporates hash values of the preceding and recent blocks and nonce value. The block data are explored in the database using the index function. Even though the block does not include the hash value of subsequently block as shown in Figure 1. As hash values kept in every peer inside the block are affected through the values of previous blocks, it is not easy to forge and modify the registered data [14].

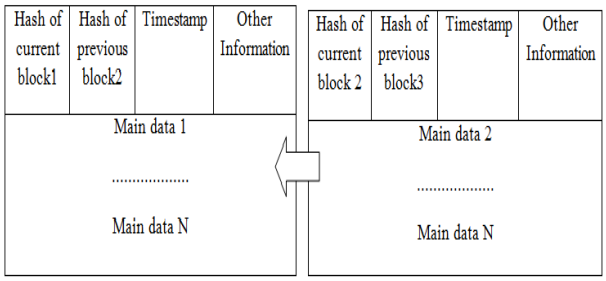


Figure 1: Blockchain structure

Basically in above figure blockchain block holds the main data which is depends with hash of current block, hash of previous block, timestamp which is duration of block creation and other information i.e. nonce value, user define data and block signature.

Verification based on Public key with a hash function used to provide security in the blockchain. Curve Digital Signature Algorithm permitted the digital signature produced during a transaction between persons is used to provide evidence that the transaction data have not been changed [15]. There are various ongoing studies to make stronger security using blockchain. The most significant part of the blockchain is security associated to the personal key used in encryption. An attacker strive a "reuse attack" and other attacks to acquire the personal key deposited in a peer's device in order to crack the bitcoin. The attacker can crack the bitcoin as the information may be leaked if the attacker can obtain the personal key [16].

III. BLOCKCHAIN SECURITY: CHALLENGES

Blockchain technique has been applied as cyber money or electronic cash. Still, a variety of security issues happening in blockchain contract, basically transaction, wallet, and software based issues have been raised. We are trying to checks trends of security issues raised to date and the security measure of current blockchain.

Security challenges are as follows:

I. Blockchain contract

II. Transactions Security

III. Wallet Security

IV. Software Security

Blockchain Contract:

Blockchain is the collection of nonparallel connection of produced blocks. A blockchain might be separated into two blocks because the two most recent blocks can be produced momentarily if two dissimilar peers be successful into operating the response used for producing the block at the same time. This type of case, the block that is not selected as the most recent block by the most of peers into the bitcoin network (is a peer to peer payment *network* which working on a cryptographic protocol) to keep on mining will become worthless In other words, the bitcoin will go after the majority of peers who have fifty percent or more operating capability. Hence if an attacker has fifty one percent operating capability, a "fifty one percent Attack", in which the hackers has the control of the blockchain and they may include fallacious transactions, can be a problem. According to an investigation, a hacker can perceive

unlawful gain with just twenty five percent operating capability through a malicious mining process instead of fifty one percent. Since the existing operating capacity of the whole bitcoin network is measured to be complex. However, mining pools the links of mining peers have been dynamically mining to enhance the possibility of mining. Hence this risk has become a problem. The chances of influencing the blockchain is connected to the fundamental protection of the bitcoin and such protection terrorization have momentarily affected the financial factors just because of the features of the bitcoin [17, 18].

Transactions Security:

Many transaction forms can be designed using a flexible programming language i.e. scripting language for inputs and outputs to manage safety issues. A bitcoin agreement [19] is a process of applying bitcoin for the existing verification, validation and financial services. A broadly used method involves generating the agreement using the script that involves a various signature techniques known as multisig. Even though the scripts are used to resolve a broad series of bitcoin troubles, the chance of an inappropriately configured operation has also amplified as complication of the script increases. A bitcoin with an inappropriately configured locking script is discarded since no one can apply it as the unlocking script cannot be produced. In order to achieve an aim, some studies who suggest that models of bitcoin agreement type dealings to validate the correctness of a characters used in operation [20].

Wallet Security:

The bitcoin wallet holds information like the address of personal key to be used for the producing of unlocking script. It shows that thrashing of data/information into wallet helps to hammering of bitcoin because the information is necessary for using the bitcoin. Therefore, the bitcoin wallet has become the most important topic of bitcoin attack by hacking [21].

Multisig for multiple signatures have been introduced to ensure security of the bitcoin wallet services. In particular, if multisig is locate in an online bitcoin wallet and is set up to necessitate the owners signature in addition to the signature of the internet wallet site at any time transaction is executed from wallet, destructive bitcoin withdrawal can be banned since the owners personal key is not saved, even when online wallet location is possessed by a hacking harass. Furthermore, multisig is developing into services that permit departure from the bitcoin wallet simply in the course of biometric statistics or separate device using a two-factor authentication and other measures [22].

Software Security:

Software used in Bitcoin is very important and its concern is major. The bug or any technical issue of the software used in bitcoin can be crucial. Even though the administrative official Bitcoin Developer Documentation site describe every bitcoin processes and bitcoin core software is still successful as the reference since complete processes of the early bitcoin system have been set on through the software implemented by Satoshi Nakamoto [23]. However, even the bitcoin dedicated software, which must be more trustworthy than anything, is not

free from the setback of software break down. Most popular software bug is the value overflow incident (CVE-2010-5139) having little resistance i.e. vulnerability that materialized in August 2010[24].
The requirement for the security of bitcoins based on blockchain has amplified since hacking cases were reported so we are with improved blockchain.

Improved Blockchain:

Since the existing payment system is very difficult and transaction facilitators are scattered, the points selected through security attacks are rapidly growing. A client planning to buy and sell currency will pay fee for yearly membership to obtain a card and use this card to buy goods or use services. Buyers bank and the seller's bank operate together with each other to resolve the charge and a shop setting up to use the card receives it from a bank and uses it for the buy of goods and services. A simplification of transaction is essential since most people use smart phones to buy goods or services as shown in Figure 2 [25].
Peer to peer based operation with blockchain is not only trustworthy and provable but also profitable since there are no third parties involvements. Furthermore, a transaction using blockchain can be finished very rapidly in this case distance does not matter, while conventional transactions across the boundary can be very slow. Furthermore, conventional, centrally managed transactions are in danger to leaks of significant information when the operating server is hacked. In contrast to, it is extremely complex to attack blockchain based transactions as all important data is distributed and hacker must hack and alter fifty one percent of the peer to peer transactions. As a result, the enhanced blockchain should be used for transactions to resolve the trouble of usual transactions [26].

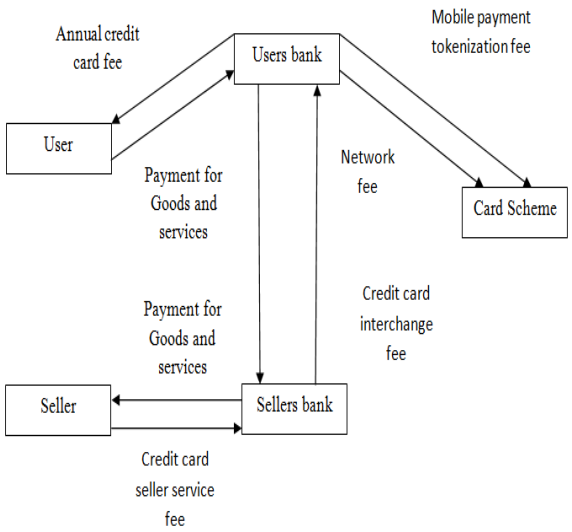


Figure 2. Basic payment process system

One of major problems of bitcoin using the blockchain is the risk of a dual transaction. A dual transaction is the work of transferring the bitcoin to two or more than two accounts for destructive purposes. Basically Total Currency and Longest Chain Wins both are used as technologies for avoiding it. The longest chain wins technology creates the next block first once a blockchain is now split by dual

transaction and the largest chain along with the majority work will constantly win. The double spending problem can be deal with through a mechanism as shown in Figure 3 [27].

IV. BLOCKCHAIN SOLUTION FOR CLOUD ENVIRONMENT

Users' sensitive information due to the leak monetary plus psychological damages can occur in the cloud computing environment.

Blockchain is a representative technique for ensuring anonymity. User anonymity can be ensured if the blockchain process is used in the cloud computing environment. Basically once using the blockchain technology E- wallet is installed and if E-wallet is not appropriately deleted, the user information can be left which may be used to guess the user information.
To avoid this issue we propose a solution that installs plus deletes the electronic wallet strongly.

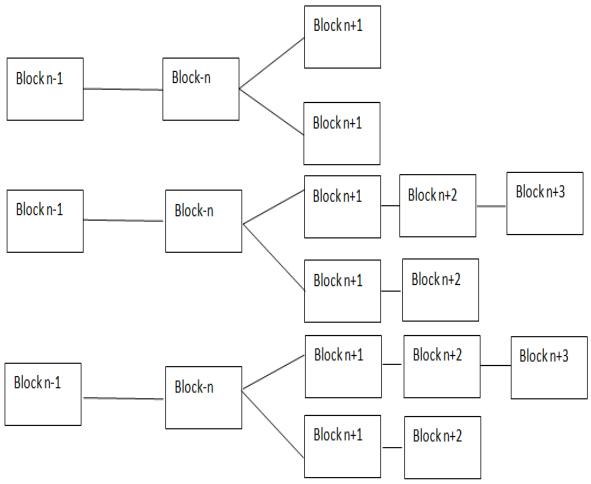


Figure 3. Technique for Double spending prevention

Secure wallet is required to resolve above security problem. Basically E-wallet installed and used in the PC. The security of E-wallets in mobile phone and devices should be confirmed as mobile devices have become extraordinarily accepted. Now security of a transaction can be confirmed only when both the reliability and accurateness of a time stamp generated in a mobile device are guaranteed [28, 29].

To use an E-wallet strongly, a client installs it on his or her Personal computer and the platform sends electronic wallet and data to establish a secure environment. The client must download and installs the electronic wallet software to make use of the bitcoin through blockchain along with the platform public key is sent to the E-wallet when the installation is finished. The E-wallet transfers the certificate distributed during development to the platform, which proves the authority of the certificate in the E-wallet. Using the Diffie–Hellman technique the platform and E-wallet swap the key, with each accepting the shared key. As a client desires a transaction linking the use of a bitcoin, the book data holding the time stamp data between the E- wallet and the platform are encrypted through the shared key and then transferred. When a

demand for discarding is executed, the user's certificate is establish and deleted from the E- wallet after that the finished message is sent to prove that it has been strongly discarded. Furthermore, every related file is deleted so that the residual data are strongly isolated as shown in Figure 4.

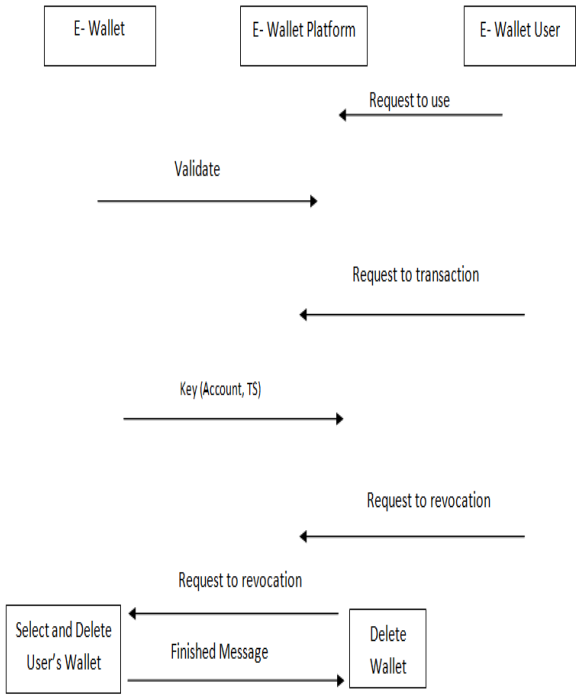


Figure 4. Process of Secure bitcoin

This process uses a blockchain based E-wallet in cloud computing environment. Blockchain procedure is used to eliminate the information of the user who uses cloud. This method installs and uses an E-wallet and removes it usually. The E-wallet is strongly removed by transfer the finished message. Reveal of client information can be prevented only when the E-wallet is entirely removed.

We compared the processes by existing studies with regard to confidential issue, integrity issue, anonymity issue, privacy protection issue, and residual information protection problem as show in Table 1.

The secured blockchain solution enhances security by providing residual information protection because it encrypts the information using public key and confirm the entire deletion of the E-Wallet.

	Authentication Case [30]	Fifty One Percent Attack Case [31]	Secure Blockchain Solution
Confidentiality	--	YES	YES
Integrity	YES	YES	YES
Anonymity	YES	YES	YES
Availability	YES	--	YES
Privacy Protection	YES	YES	YES
Residual Information	--	--	YES
Protection	--	--	YES

Table 1. Comparison of related techniques

V. CONCLUSION

We examined the blockchain technique and interrelated core technologies. A variety of existing issues must be taken into account to use blockchain within cloud computing environment. The secrecy of client information have to be ensured when using blockchain in the cloud computing environment and the client information must be totally deleted when removing the service. In case the client information is not deleted but left, in result the client information can be guessed from the remaining information. For that reason this study discussed the technique of providing security by presenting a method of secure blockchain use and removal procedure. Hence it has been established that Blockchain can be a suitable and powerful tool to provide security in the Cloud Computing environment.

REFERENCES

Narayanan, A., Bonneau, J., Felten, E., Miller, A., & Goldfeder, S. (2016). *Bitcoin and cryptocurrency technologies: a comprehensive introduction*. Princeton University Press.

Beikverdi, A., & Song, J. (2015, June). Trend of centralization in Bitcoin's distributed network. In *2015 IEEE/ACIS 16th International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD)* (pp. 1-6). IEEE.

Huang, H., Chen, X., Wu, Q., Huang, X., & Shen, J. (2018). Bitcoin-based fair payments for outsourcing computations of fog devices. *Future Generation Computer Systems*, *78*, 850-858.

Beikverdi, A., & Song, J. (2015, June). Trend of centralization in Bitcoin's distributed network. In *2015 IEEE/ACIS 16th International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD)* (pp. 1-6). IEEE.

Christidis, K., & Devetsikiotis, M. (2016). Blockchains and smart contracts for the internet of things. *Ieee Access*, *4*, 2292-2303.

Zhang, J., Xue, N., & Huang, X. (2016). A secure system for pervasive social network-based healthcare. *Ieee Access*, *4*, 9239-9250.

Johnson, B., Laszka, A., Grossklags, J., Vasek, M., & Moore, T. (2014, March). Game-theoretic analysis of DDoS attacks against Bitcoin mining pools. In *International Conference on Financial Cryptography and Data Security* (pp. 72-86). Springer, Berlin, Heidelberg.

Moreno-Sanchez, P., Kate, A., Maffei, M., & Pecina, K. (2015, February). Privacy preserving payments in credit networks. In *Network and Distributed Security Symposium*.

Li, J., Jia, C., Li, J., & Chen, X. (2012, October). Outsourcing encryption of attribute-based encryption with mapreduce. In *International Conference on Information and Communications Security* (pp. 191-201). Springer, Berlin, Heidelberg.

Hur, J., & Noh, D. K. (2010). Attribute-based access control with efficient revocation in data outsourcing systems. *IEEE Transactions on Parallel and Distributed Systems*, *22*(7), 1214-1221.

Singh, A., & Chatterjee, K. (2017). Cloud security issues and challenges: A survey. *Journal of Network and Computer Applications*, *79*, 88-115.

Bheemaiah, K. (2015). Block chain 2.0: the renaissance of money. *Wired, January*.

Park, J. H., & Park, J. H. (2017). Blockchain security in cloud computing: Use cases, challenges, and solutions. *Symmetry*, 9(8), 164.

Bonneau, J., Miller, A., Clark, J., Narayanan, A., Kroll, J. A., & Felten, E. W. (2015, May). Sok: Research perspectives and challenges for bitcoin and cryptocurrencies. In *2015 IEEE Symposium on Security and Privacy* (pp. 104-121). IEEE.

Aitzhan, N. Z., & Svetinovic, D. (2016). Security and privacy in decentralized energy trading through multi-signatures, blockchain and anonymous messaging streams. *IEEE Transactions on Dependable and Secure Computing*, *15*(5), 840-852.

Tschorsch, F., & Scheuermann, B. (2016). Bitcoin and beyond: A technical survey on decentralized digital currencies. *IEEE Communications Surveys & Tutorials*, *18*(3), 2084-2123.

Hari, A., & Lakshman, T. V. (2016, November). The internet blockchain: A distributed, tamper-resistant transaction framework for the internet. In *Proceedings of the 15th ACM Workshop on Hot Topics in Networks* (pp. 204-210).

Vasek, M., Thornton, M., & Moore, T. (2014, March). Empirical analysis of denial-of-service attacks in the Bitcoin ecosystem. In *International conference on financial cryptography and data security* (pp. 57-71). Springer, Berlin, Heidelberg.

Möser, M., & Böhme, R. (2015, January). Trends, tips, tolls: A longitudinal study of Bitcoin transaction fees. In *International Conference on Financial Cryptography and Data Security* (pp. 19-33). Springer, Berlin, Heidelberg.

Meiklejohn, S., & Orlandi, C. (2015, January). Privacy-enhancing overlays in bitcoin. In *International Conference on Financial Cryptography and Data Security* (pp. 127-141). Springer, Berlin, Heidelberg.

Gkaniatsou, A., Arapinis, M., & Kiayias, A. (2017, November). Low-level attacks in bitcoin wallets. In *International Conference on Information Security* (pp. 233-253). Springer, Cham.

Bamert, T., Decker, C., Wattenhofer, R., & Welten, S. (2014, September). Bluewallet: The secure bitcoin wallet. In *International Workshop on Security and Trust Management* (pp. 65-80). Springer, Cham.

Haber, S., & Stornetta, W. S. (1990, August). How to time-stamp a digital document. In *Conference on the Theory and Application of Cryptography* (pp. 437-455). Springer, Berlin, Heidelberg.

Sapirshtein, A., Sompolinsky, Y., & Zohar, A. (2016, February). Optimal selfish mining strategies in bitcoin. In *International Conference on Financial Cryptography and Data Security* (pp. 515-532). Springer, Berlin, Heidelberg.

Kogias, E. K., Jovanovic, P., Gailly, N., Khoffi, I., Gasser, L., & Ford, B. (2016). Enhancing bitcoin security and performance with strong consistency via collective signing. In *25th {usenix} security symposium ({usenix} security 16)* (pp. 279-296).

Bamert, T., Decker, C., Wattenhofer, R., & Welten, S. (2014, September). Bluewallet: The secure bitcoin wallet. In *International Workshop on Security and Trust Management* (pp. 65-80). Springer, Cham.

Karame, G. O., Androulaki, E., & Capkun, S. (2012, October). Double-spending fast payments in bitcoin. In *Proceedings of the 2012 ACM conference on Computer and communications security* (pp. 906-917).

Stinson, D. R., & Paterson, M. (2018). *Cryptography: theory and practice*. CRC press.

Haber, S., & Stornetta, W. S. (1990, August). How to time-stamp a digital document. In *Conference on the Theory and Application of Cryptography* (pp. 437-455). Springer, Berlin, Heidelberg.

Mann, C., & Loebenberger, D. (2017). Two-factor authentication for the Bitcoin protocol. *International Journal of Information Security*, *16*(2), 213-226.

Bastiaan, M. (2015, January). Preventing the 51%-attack: a stochastic analysis of two phase proof of work in bitcoin. In *Availab le at http://referaat. cs. utwente. nl/conference/22/paper/7473/preventingthe-51-attack-a-stochasticanalysis-oftwo-phase-proof-of-work-in-bitcoin.*

"Inconclusive world & Current Economic Slowdown"

Research scholar **Research Guide**
Shivmurti K Gupta **Dr.Anant Pandurang Jadhav**
Viva Jr.college of commerce Mahavidyalaya,
Nallasopara (East),Palghar

Abstract

The world has witnessed unprecedented growth in 20th and 21st century in terms of technology innovation and transfer, communication, knowledge sharing and thereby global trade. The globalisation has succeeded in bridging gap between producer country in west of globe to consumer country to east of globe. This has made world economy into a single human body where all countries have taken the shape of hands,legs,eyes,ears etc.If anything happen to eye country will impact whole body. So is reason for current economic slowdown. Any news of US-China trade war, US-Iran cold war, Corona virus may endanger the world economy. The2008 world economic crisis is witnessed by large scale defaults on US housing mortgage. Indian economy may be victim of such crisis due to corona virus issues but current slowdown in India is more caused due to demonetisation, GST roll out, Increasing NPA of banks and policy failures. This study gives more insight of current slowdown. This study uses official data. It is aimed at to resolve the issues with some suggestive parameters.

Keyword: World economy, Economic slowdown, Demonetisation, GST, Coronavirus, NPA, Budget, US $, Digitaltransaction, Stock market

Introduction:

The industrial revolution in late 18th century created the new face of trade and world economy. It made Britishers to come out of European continent. They went to different parts of world. It began the process of globalisation. In the later decades. It deeply rooted. The globalisation brought countries together and fulfilled the needs of one among another through boundary less trade and helped in development of trading block. It led to inconclusive world. Today goods, services, knowledgesharing, capital and technology are moving from one country to another country with a round of mutual interest agreement. In era of globalisation, The Apple an iphone company which has its head office in California buys its component from 43 countres, assemble it in China and then sell it to world market. (Magdalena Petrowa, 2018)Hence any natural, economic and political disaster in China will surge the price of Apple iphone and thereby its turnover and corresponding effect on its stock prices and also its supplier's stock prices. Hence economic slowdown runs. Global recession during 2008-2009 was effect of US recession, where US's largest bank Lehman Brothers went bankrupt.The growthof global economy for 2019 downgradedto 3% (Gopinath, 2019)is the outcome of such natural. Economic and political changes. The global economy in 2020 started rebounding but again hit a low due to corona virusdisaster. So is affecting Indian economy. India has been witnessing economic slowdown since 2016 where the country has recorded fall in annual GDP growth from 8.17% in 2016to6.12% in 2019. (H.Plecher, 2019)

Aims of Study:

1. To analyse inconcurrent world happening due to globalisation.
2. To understand reflective change in rest economy due to change in one economy.

2. To discuss policy failures during slow down.

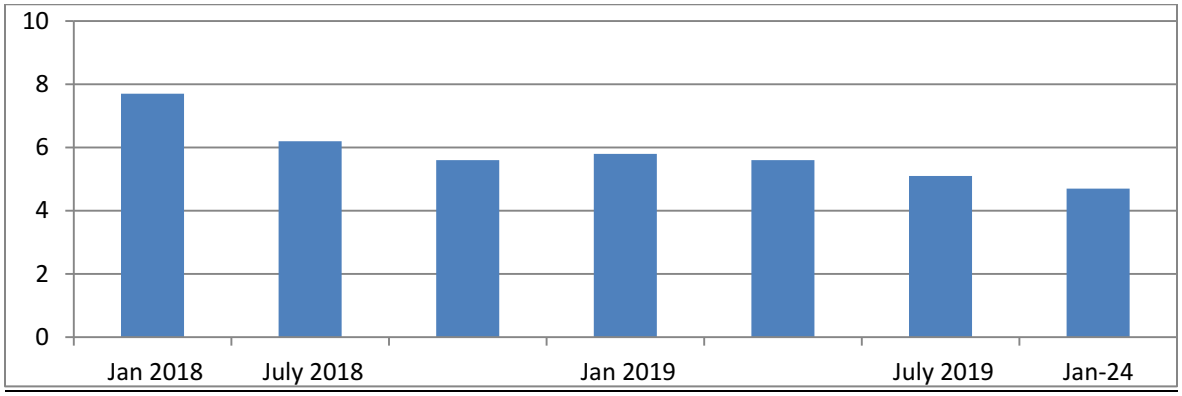
Objectives of study:

1. To study the causes of slow economic growth from 2016 to 2019.
2. To analyse rate of growth of economy over the years.i.e. 2015-2019.
3. To seek and suggest solution for slow down.
4. To discuss policy achievements and failures during last five years.
5. To understand need of policy repair and remodelling.

Scope of study:

- The study seeks causes of downturn in Indian economy in recent.
- The study is aimed at discussing efforts taken by policy maker to tackle with downturn.
- The study is setting alarm to policy makers by putting economic downturn statistics.
- The study could suggest measures to control slow economic growth.

The reasons for slowdown in India were noted as Demonetisation, GST roll out, NPA of Banking sector and poor implementation of policies etc (Juneja).
Following chart show an analysis of India's GDP growth rate.



Source:Tradingeconomics (economics)

The above chart gives a clear picture of slow economic growth.
Certain reasons for slow economic growth arenoted as followings.

1. Demonetisation

The demonetisation was announced on November 8, 2016 by Prime Minister Narendra Modi to control black money and to promote digital transaction. The note of ₹500 and ₹1000, figured to be 86.4% of total currency in circulation, weredeclared to be non-legal tender the note ban created cash crunch in market. It heavily destroyed informal and unorganised sectors. Demonetisation dehydrated the cash from market and declined consumer purchasing power which in turn hugely affected on macro demand and supply bottlenecks ineconomy. It badly impacted MSME sector as they deal on cash basis. Economic growth declined by 1 % in wake of demonetisation quoted by HSBC report. (NDTV, 2016)This decline resulted in huge loss of jobs.

2. NPA of banks.

NPA refers to classification of loans and advances in which there is no payment of principal and interest for a period of 90 days.

Public sector bank got stumped with high NPA. As of March 31, 2018, a rough calculation gave a tip that the total volume of gross NPAs in the economy stands at Rs 10.35 lakh crore.About 85% of these NPAs are from loans and advances of public sector banks. For example, NPAs in the State Bank of India are noted worth Rs 2.23 lakh crore. (Paul, 2018)In the last couple of years, gross NPAs of banks (as a % of total loans) have increased from 2.3% of total loans in 2008 to 9.3% in 2017.(Paul, 2018)Bank's gross NPAs ratio may rise from 9.3% to 9.9% by September 2020. (RBI report Business Standard dated December 27, 2019)

Higher NPA**s** spoil banking businesses which lead to decline in purchasing power of consumer community. For instance.PMC bank crisiswhich appeared on September 24,2019 made RBI to direct the limit of withdrawal Rs.1,000 per each customer for sixmonths, which later raised to Rs.10,000 and then to Rs.40,000. (PTI, 2019)This limit has corresponding effect on decline in macro demand of country and less capital formation by MSME and small traders as their money are seized into accounts. Recently YES bank NPAs are reported to Rs.42, 000 crore which made RBI to impose withdrawal up to Rs 50,000 per account. YES bank crisis impacted business of other private bank like RBL bank, Karnataka bank and South Indian bank who needed to clarify to their customers about their good health. (Rebello, 2020)With the news of Yes bank storm, Market capitalization on BSE fell to Rs. 144.31 lakh crore from 147 lakh crore on March 6, 2020.Sensex crumbled to over1, 459 points during the day finally settled 893.99 points. (Thapliyal, 2020)

3. GST

GST policy was introduced on 1st July, 2017.Raghuram Rajan has advocated for implementation of GST in India. He was in favour of GST as it will have long term benefit for country if introduced with infrequentchanges. But changes were consistently made to GST and its structure leading to mismanagement and unintelligent changes. The mismanagement of policy resulted in inflation rate from 1.79% in July 2017 to 5.11% in January 2018. (Srivastava, 2019)

Erroneous implementation of GST created chaos in business class of India as people were unaware of rules to be followed for filing. WorldBank quoted- Indian GST is among most complexes in world. (Service, 2018)

4. Coronavirus

WHO has declared the worldwide disruption of corona virusa globally over 1, 18,000 cases in 114 countries and 4,291 deaths? (Aljazeera news on March 11, 2020)It originated from China but spreaded to rest of world. In the wake of corona virus, the world economy is suffering through a great slowdown. Ithas hit financial sectors hard that has shockedNYSE,NASDAQ,SSE etc.Dow Jones Industrial average plunged 1,465 points on March 12,2020 .Various agency in world have reported a rate cut in economic growth of major trading countries like USA,Japan,China,Italy ,South Korea etc.

The epidemic has resulted a great shock to revival policy of government of India. It made slow down to be continued in India. The trade shock of corona virus for India is figured to be around 348 million dollars. The government has to impose on imports from China. It is to be reported that epidemic hit most for chemical sector at 129 million dollars, textiles and apparel at 64 million doallrs, leather products at 13

million doallrs, metals and metal product at 27 million dollars, wood product and furniture at 15 million dollars. (PTI, 2020)

5. Global slowdown:

Before corona virus news hit the world economy. Global economy growth dipped to 3% for 2019 by IMF chief economist Gita Gopinath.These slowdown noted due to US-China trade war, US-Iran tension, highertariffs by other developing countries etc.It severely affected imports and exports of India.US-China trade war affected present global growth in many aspect and so on India.

6. Policy shocks

India's GDP growth for first quarter FY 2020 fell to 5%.According to Centre for Monitoring Indian Economy (CMIE),unemploymentrate in India has kissed 8.2%,with urban statistics as high as 9.6% and rural 7.8%. (Business Today, 2019)These developments did not come sudden. It is consistent failure of policies like GST, Demonetisation and other economic policy by government. They continuedto get away from target.

Effect over economy:

1. Nominal GDP growth rate is 15 year low. (Team BL, 2019)
2. Real estate sector has not been performing well for couple of years, affecting allied industry such as bricks, steel and electrical sector.
4. Unemployment rate has reached an all time high of 8.20% in August, 2019. (Tradingeconomics)
5. Centre for Monitoring Indian economy reported that 1.5 million jobs were lost in unorganized sector during Jan-April 2017. (Team BL, 2019)
6. Corporate investment fell from 7.5 % of GDP to 2.7% of GDP in 2019. (Team BL, 2019)

Limitations of study:

A slowdown is the effects of so many internal and international factors. The study is limited only to certain factors of slowdown in India likeDemonetisation, GST rollout, NPA of banks, Globalrecession, Policyfailures and Corona virus. The study does not use any questionnaires and use official and published sources of secondary data. The data and reasons for downturn have been derived of last four years.i.e. From 2016 - 2020.The study is being made descriptive containing limited statistics and not analytic.

Importance of Study:

The study is very fruitful as it inquires into loss to economy in recent years and their reasons. Statistics are used in the study to validate the facts. The importance of study lies in analysis of and discussion over factors for slowdown and policy undertaken by government to push its aspiration of becoming US$5 trillion economy. The economy could be revived if policies undertaken kiss its target on regular basis.

Government initiative and achievement:

Modi 2.0 government has done a lot to simplify GST changing its structure in arena of common man understanding. Concept of 'One country, Onetax, One market' has become reality-opined by President Ramnath Kovind.To protect PSU from NPA and

increase profitability, Merger of Punjab National bank with Oriental bank of Commerce, Indian bank with Allahabad bank and Union bank of India, Andhra bank together with Corporation bank are announce. Central bank is revising a rate cut in Repo to enhance market liquidity.Budegt 2020 announced many more policy of investment and revival in area of Infrastructure, Agriculture, Realestate, Artificial intelligence etc.

Prime Minister Narendra Modi has vision for US $ 5 trillion economy by 2024.For that, Modi government consistently introducing new policy and existing policy changes to meet desired target. Finance Minister Nirmala Sitaraman reported in budget speech that FDI got elevated to US $ 284 billion during 2014-19 and it grew 15% to US$26 billion during first half of current financial year 2019-20. (PTI, 2020)The GST revenues during February 2020 from domestic transaction have demonstrated a rise of 12% over during month of February 2019. (Finance, 2020)The government is alert to curbCorona virus epidemics and its effect on economy.

Suggestion:

India's slowdown is reasoned by both Internal and external factors.Extrnal factors like global recession cannot be controlled. Butinternalfactors are in access of government. The government need to simplify GST and and make GST handy in operation by common people. Both RBI and government has to make policy evaluation and policy correction if required to control rise of NPAs.If government meet its policy target on regular basis, aspiration of becoming US$ 5 trillion economy would be possible.

Conclusion:

The world economy is so connected that if one country faces downturn, the corresponding effect could be found in rest of the world. So is with Indian economy but slowdown in India is also caused by some policy failures. The numbers of unemployment reached at its high. But Modi government has been introducing lots of new policy and existing policy correction. The government succeeded in attracting more foreign investment during its tenure. The stock market touched new height. Budget 2020 announced new investment into Infrastructure, Agriculture, Artificial intelligence and many more prominent areas.

The study is fruitful as it includes many official data. It analysed various reasons for slowdown in India. It also comes with some sorts of suggestion in terms of policy simplification and policy evaluation.

References:

Business Today. (2019, september 11). Retrieved Marcch 12, 2020, from Living Media Limited: https://m-businesstoday-in.cdn.ampproject.org

economics, T. (n.d.). Retrieved March 6, 2020, from tradindeconomics.com: https://tradingeconomics.com/india/gdp-growth

Finance, M. o. (2020). *GST Revenue colection for february 2020.* Press Information Bureau.

Gopinath, G. (2019, October 15). *IMFBlog*. Retrieved March 5, 2020, from http://blogs.imf.org/2019/10/15/world economyhtt: https://blogs.imf.org/2019/10/15/the worl- economy-synchronized-slowdown-precarious-outlook/

H.Plecher. (2019, Nov 6). *Statista*. Retrieved March 5, 2020, from statista.com: https://www.statista.com/statistics/263617/gross-domestic -product-gdp-growth-rate-in-india/

Juneja, P. (n.d.). *MSG*. Retrieved March 05, 2020, from managementstudyguide.com: http://www.managementstudyguide.com/causes-for-present-slowdown-in-indian-economy.htm

Magdalena Petrowa, C. (2018, december 14,Friday). Tech. *We traced what it takes to make an iphone* .

NDTV. (2016, November 20). *https://www.ndtv.com/business/gdp-to-fall-post-demonetisation-follow-up-reforms-key-hsbc-1627725*. Retrieved March 6, 2020, from ndtv.com: https://www.ndtv.com/business/gdp-to-fall-post-demonetisation-follow-up-reforms-key-hsbc-1627725

Paul, A. (2018, September 13). Examinig the rise of Non performing Assets in India. *PRS Legislative Research* . India: PRS Legislative Research.

PTI. (2020, February 01). *Business Standard Private Limited.* Retrieved March 12, 2020, from https://wap-business-standard-com.cdnampproject.org

PTI. (2019, November 04). *ET Prime.* Retrieved March 12, 2020, from m-economictimes-com.cdn: https://m-economictimes-com.cdn

PTI. (2020, March 5). *Kasturi & Sons(KSL).* Retrieved March 12, 2020, from BusinessLine: https://www-thehindubusinessline-com.cdn.ampproject.org

Rebello, J. (2020, March 12). *ET Prime.* Retrieved March 12, 2020, from m.economictimes.com: http://m-economictimes-com.cdn.ampproject.org/v/s/m.economictimes.com/banking/finance/yes bank

Service, I. A. (2018, march 16). GST:Indian system among the most complex globally,says world bank report. *Economic policy* .

Srivastava, A. (2019). Economic slowdown As An Effect of GST. India.

Team BL. (2019, September 11). *Kasturi & Sons Ltd(KSL).* Retrieved March 12, 2020, from Businessline.comBusiness Line: https://www-thehindubusinessline-com.cdn.ampproject.org

Thapliyal, A. (2020, March 6). *Bustness Today.* Retrieved March 12, 2020, from Living Media India Limited: https://m-businesstoday-in.cdn.ampproject.org/v/s/m.businesstoday.in/lite/story/sensex-nifty crash-coronavirus fears-yes bank

Tradingeconomics. (n.d.). *Trading Economics.* Retrieved March 12, 2020, from https://tradingeconomics.com/india/unemployment

Analysis of Ujjivan Small Finance Bank IPO

TanguduNeelakantha[3], Shivam Ashish[4]&Akhilesh V Krishnan[5]

Abstract

This paper analyses the performance of Ujjivan Small Finance Bank IPO and its impact on Ujjivan Financial Services as an event study. For accomplishing the same the subscription data of IPO is taken from NSE and BSE. Closing price data of Ujjivan Financial Services and nifty50 index from 1st January 2018 to 2st March 2020 from NSE. The IPO is analysed on the basis of listing gains, monthly returns and grey market prices. The impact on Ujjivan Financial Services is represented by abnormal returns and cumulative abnormal returns using regression. Thus the conclusion obtained establishes before and after impact of IPO.

What is an IPO Process?

An Initial Public Offering IPO Process is where a previously unlisted company sells new or existing securities and offers them to the public for the first time. Prior to an IPO, a company is considered to be private – with a smaller number of shareholders, limited to accredited investors (like angel investors/venture capitalists and high net worth individuals) and/or early investors (for instance, the founder, family, and friends). After an IPO, the issuing company becomes a publicly listed company on a recognized stock exchange. Thus, an IPO is also commonly known as "going public".

Overview of the IPO Process

Below are the steps a company must undertake to go public via an IPO process:

1. Select a bank
2. Due diligence and filings
3. Pricing
4. Stabilization
5. Transition

Step 1: Select an investment bank

The first step in the IPO process is for the issuing company to choose an investment bank to advise the company on its IPO and to provide underwriting services. The investment bank is selected according to the following criteria:

- Reputation
- The quality of research
- Industry expertise

[3]TanguduNeelakantha, PGDM in Securities Markets (PGDM-SM) at National Institute of Securities Markets, Navi Mumbai- 410222, Phone- +91- 9090212423, Email- tangudu-pgdm-2019@nism.ac.in

[4]Shivam Ashish, PGDM in Securities Markets (PGDM-SM) at National Institute of Securities Markets, Navi Mumbai- 410222, Phone- +91- 7782033616, Email- shivam-pgdm-2019@nism.ac.in

[5]Akhilesh V Krishnan, PGDM in Securities Markets (PGDM-SM) at National Institute of Securities Markets, Navi Mumbai- 410222, Phone- +91- 9400721347, Email- akhilesh-pgdm-2019@nism.ac.in

- Distribution i.e. if the investment bank can provide the issued securities to more institutional investors or to more individual investors.
- Prior relationship with the investment bank

Step 2: Due diligence and regulatory filings

Underwriting is the process through which an investment bank (the underwriter) acts as a broker between the issuing company and the investing public to help the issuing company sell its initial set of shares. The following underwriting arrangements are available to the issuing company:

Firm Commitment: Under such an agreement, the underwriter purchases the whole offer and resells the shares to the investing public. The firm commitment underwriting arrangement guarantees the issuing company that a particular sum of money will be raised.

Best Efforts Agreement: Under such an agreement, the underwriter does not guarantee the amount that they will raise for the issuing company. It only sells the securities on behalf of the company.

Syndicate of Underwriters: Public offerings can be managed by one underwriter (sole managed) or by multiple managers. When there are multiple managers, one investment bank is selected as the lead or book-running manager. Under such an agreement, the lead investment bank forms a syndicate of underwriters by forming strategic alliances with other banks, each of which then sells a part of the IPO. Such an agreement arises when the lead investment bank wants to diversify the risk of an IPO among multiple banks.An underwriter must draft the following documents:

Engagement Letter: A letter of engagement typically includes:

- **Reimbursement clause:** This clause mandates that the issuing company must cover all out-of-the-pocket expenses incurred by the underwriter, even if the IPO is withdrawn during the due diligence stage, the registration stage, or the marketing stage.

- **Gross spread/underwriting discount:** Gross spread is arrived at by subtracting the price at which the underwriter purchases the issue from the price at which they sell the issue.

Gross spread = Sale price of the issue sold by the underwriter – Purchase price of the issue bought by the underwriter

Typically, the gross spread is fixed at 7% of the proceeds. The gross spread is used to pay a fee to the underwriter. If there is a syndicate of underwriters, the lead underwriter is paid 20% of the gross spread. 60% of the remaining spread, called "selling concession", is split between the syndicate underwriters in proportion to the number of issues sold by the underwriter. The remaining 20% of the gross spread is used for covering underwriting expenses (for instance, roadshow expenses, underwriting counsel, etc.).

Letter of Intent: A letter of intent typically contains the following information: The underwriter's commitment to enter an underwriting agreement with the issuing company A commitment by the issuing company to provide the underwriter with all relevant information and thus, fully co-operate in all due diligence efforts. An agreement by the issuing company to provide the underwriter with a 15% overallotment option. The letter of intent does not mention the final offering price.

Underwriting Agreement: The letter of intent remains in effect until the pricing of the securities, after which the Underwriting Agreement is executed. Thereafter, the underwriter is contractually bound to purchase the issue from the company at a specific price.

Registration Statement: The registration statement consists of information regarding the IPO, the financial statements of the company, the background of the management, insider holdings, any legal problems faced by the company, and the ticker symbol to be used by the issuing company once listed on the stock exchange. The SEC requires that the issuing company and its underwriters file a registration statement after the details of the issue have been agreed upon. The registration statement has two parts:

The Prospectus – this is provided to every investor who buys the issued security.

Private filings – this is comprised of information which is provided to the SEC for inspection but is not necessarily made available to the public.
The registration statement ensures that investors have adequate and reliable information about the securities. The SEC then carries out due diligence to ensure that all the required details have been disclosed correctly.

Red herring document: In the cooling-off period, the underwriter creates an initial prospectus which consists of the details of the issuing company, save the effective date and offer price. Once the red herring document has been created, the issuing company and the underwriters market the shares to public investors. Often, underwriters go on roadshows (called the dog and pony shows – lasting for 3 to 4 weeks) to market the shares to institutional investors and evaluate the demand for the shares.

Step 3: Pricing
After the IPO is approved by the SEC, the effective date is decided. On the day before the effective date, the issuing company and the underwriter decide the offer price (i.e. the price at which the shares will be sold by the issuing company) and the precise number of shares to be sold. Deciding the offer price is important because it is the price at which the issuing company raises capital for itself. However, after the stock starts trading on the secondary market, money raised through the sale of shares the company, not the underwriter. The following factors affect the offering price:

- the success/failure of the roadshows (as recorded in the order books)
- the company's goal
- condition of the market economy

IPOs are often underpriced to ensure that the issue is fully subscribed/ oversubscribed by the public investors, even if it results in the issuing company not receiving the full value of its shares. If an IPO is underpriced, the investors of the IPO expect a rise in the price of the shares on the offer day. This increases the demand for the issue. Furthermore, underpricing compensates investors for the risk that they take by investing in the IPO. An offer that is oversubscribed 2 to 3 times is considered to be a "good IPO".

Step 4: Stabilization

After the issue has been brought to the market, the underwriter has to provide analyst recommendations, after-market stabilization, and create a market for the stock issued. The underwriter carries out after-market stabilization in the event of order imbalances by purchasing shares at the offering price or below it. Stabilization activities can only be carried out for a short period of time – however, during this period of time, the underwriter has the freedom to trade and influence the price of the issue as prohibitions against price manipulation are suspended.

Step 5: Transition to Market Competition

The final stage of the IPO process, the transition to market competition, starts 25 days after the initial public offering, once the "quiet period" mandated by the SEC ends. During this period, investors transition from relying on the mandated disclosures and prospectus to relying on the market forces for information regarding their shares. After the 25-day period lapses, underwriters can provide estimates regarding the earning and valuation of the issuing company. Thus, the underwriter assumes the roles of advisor and evaluator once the issue has been made.

Research Methodology

The closing prices of Ujjivan Small Finance Bank is taken from NSE for the calculation of monthly returns since listing, listing gains, annualised return. The grey market premium data is taken from www.ipowatch.com. The subscription data is taken from both NSE and BSE.For the purpose of event study the closing data prices for Ujjivan Financial Services is taken from NSE for the calculation of abnormal returns and cumulative abnormal returns.

Monthly listing gains is calculated by taking average daily returns of that month
Where, daily returns = (closing price of N day – closing price of N – 1 day) / (closing price of N – 1 day)× 100
Listing gains = (Closing price on listing date – Issue price) / Issue price × 100
Annualised return = average returns from listing date i.e. 12th Dec 2019 to 02 March 2020 ×(365/57)
Abnormal returns = Actual returns – Expected returns
Actual returns = (closing price of N day – closing price of N – 1 day)/ (closing price of N – 1 day)× 100
Where expected returns is calculated using regression
Expected Returns = $\alpha + \beta(R_m) + Ei$
Where α = Intercept
β = Co-efficient of market returns
Ei = Error term

Cumulative returns = Sum of all N-1 abnormal returns

The regression study is divided into estimation window and event window. The estimation window has 262 data points before the event window. The event window which has abnormal returns and the cumulative abnormal returns has 21 data consists of 10 days before and after the listing of Ujjivan small finance bank.

We are looking into the impact of Ujjivan Small Finance Bank listing on Ujjivan Financial Services as an event study. The α, β and error term values are calculated using data of estimation window by regression in Excel version of 2013.

Performance Metrics forUjjivan Small Finance Bank IPO

Business Model

Ujjivan Small Finance Bank started as a non-banking financial corporation in 2005 where they targeted unbanked and underprivileged with micro lending and in 2016 they got a small finance bank license. What makes unique about this bank is the way they lend. They basically lend to group of people instead of small individuals which would help them reduce risk and they prefer lending to women as per their records women generally don't add to their NPA's. They spread all across India covering 24 states and all union territories and 4.72 million customers with over 387 ATM's which shows their penetration in the market.

Financial Performance

These numbers are game changers and the reason why they have record subscription for the IPO. The total assets have grown at a CAGR of 17.7% which is pretty good. The top line numbers have grown at 108.1% CAGR and the bottom line number has grown at humungous 1607.7% within a span of 3 years which exceptional.

Subscription Data

Quota	QIB	NII	RII	Others	Total
Shares offered	56,250,000	28,125,000	18,750,000	20,833,333	123,958,333
No of times subscribed	110.72	473.0	48.97	4.13	165.66

In this case also the qualified institutional buyers had subscribed 110.72 times and non-institutional Investors also pro-actively subscribed 473 times which made a whopping 165 times oversubscribed. When you see huge numbers from these categories normally market thinks it is a good bet as they have superior investment decision taking abilities than retail Investors. Others quota includes Ujjivan Financial Services shareholders and employees of Ujjivan Small Finance Bank.

Grey Market Premiums

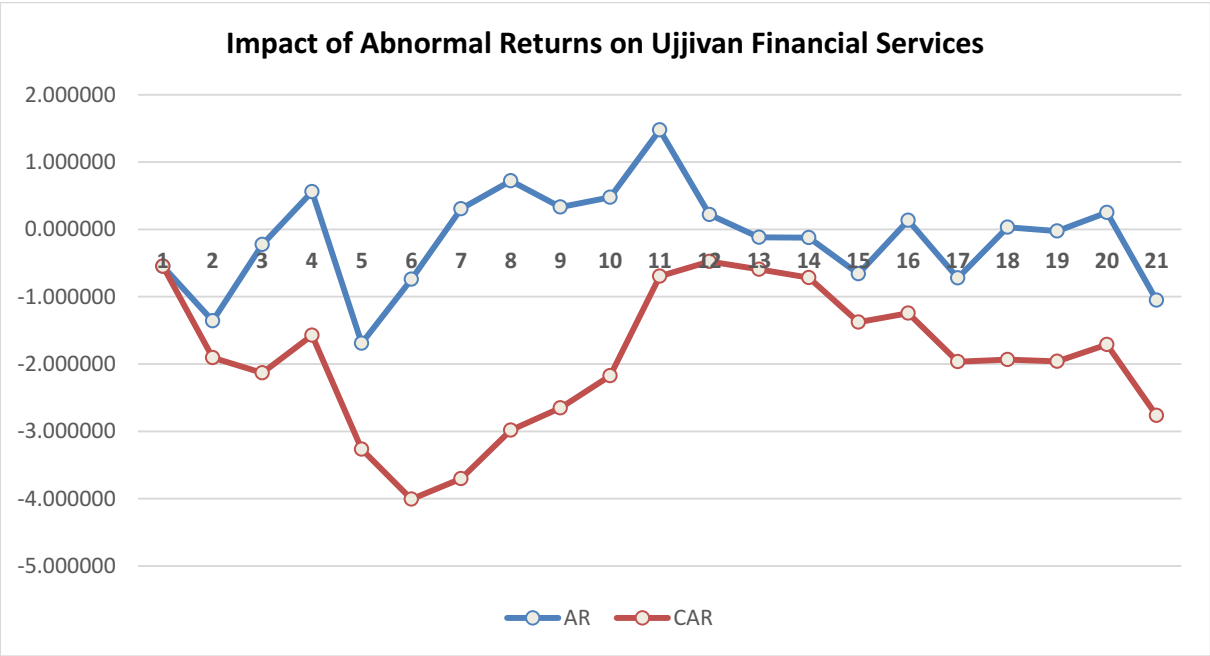
The grey market premiums the day before listing was around 22-24 per share which is around 59% premium of the issue price. This shows the optimism and expectation from the market for the IPO given its core activities running in the best possible way by maximising the bottom line.

Interpretation& Results

The listing gains of Ujjivan Small finance bank is 58.78% on NSE which is second best returns after IRCTC in 2019.

Though the monthly returns were good the monthly returns were not up to the mark. The first month return of -0.28% while second month recovered with a positive return of 0.18% and last 17 days returns were -0.89% mainly due to the market risk of COVID – 19 virus. The annualised return was -1.36% which is again not impressive after a huge listing gains.

The event study results shows the volatility component β of the stock to be around 1.424 which shows that the stock is more volatile than the market. The Ei was 0.0243 and the α was around 0.0006.



From the graph we can see that the UjjivanFinancial Serviceswas giving a positive abnormal return just few days before the listing of Ujjivan Small Finance Bank and

on the day Ujjivan Small Finance Bank was listed we can see that the stock gave a very high abnormal return compared to the previous days.

Due to the sudden spike in abnormal return, cumulative return which was having a negative return came to almost 0 on the event day. Similarly, after the event day the abnormal return was cooling down, thus making the cumulative return to fall.

Thus we can say that the IPO of Ujjivan Small Finance Bank IPO had a small impact on Ujjivan Financial Services for a small period of time.

Conclusion

The huge listing gains of Ujjivan Small Finance Bank is mainly due to its over subscription and its past financial performance. To subscribe for an IPO we can evaluate the company on the basis of business model, financial performance in the past, subscription data and grey market premiums before listing. Ujjivan Financial Services had a small impact on abnormal returns and cumulative returns on the listing of Ujjivan Small Finance Bank. We can say that there is an impact on parent company with the listing of its subsidiary company which may affects it abnormal returns as well as cumulative abnormal returns.

CORPORATE SOCIAL RESPONSIBILITY AND ACCESS TO FINANCE

TEJAL MAHADIK
304 A -Morya appartment, Rees- Raigad
7378447062
mahadiktejal4@gmail.com

ABSTRACT

Corporate social responsibility (CSR) is now seen as an integral part of corporate strategy. The main purpose of the study is to analyze the corporate social responsibility (CSR) activities carried out by TATA Group and to study the Indian government policies and programmes of CSR and access to finance . The study is based on the secondary data. In India, the concept of CSR is governed by clause 135 of the Companies Act, 2013 encourages companies to spend at least 2 per cent of their average net profit in the previous three years on CSR activities. CSR is a process with the aim to embrace responsibility for the company's actions and encourage a positive impact through its activities on the environment, consumers, employees, communities, stakeholders and all other members of the public sphere who may also be considered as stakeholders.

INTRODUCTION

India is the first country in the world to make corporate social responsibility (CSR) mandatory, following an amendment to the Companies Act, 2013 in April 2014. Businesses can invest their profits in areas such as education, poverty, gender equality, and hunger as part of any CSR compliance. The amendment notified in the Companies Act, 2013 requires companies with a net worth of INR 500 crore (US $70 million) or more, or an annual turnover of INR 1000 crore (US $140 million) or more, or net profit of INR 5 crore (US $699,125) or more, to spend 2 percent of their average net profits of three years on CSR. Prior to that, the CSR clause was voluntary for companies, though it was mandatory to disclose their CSR spending to shareholders. CSR includes but is not limited to the following: Projects related to activities specified in the Companies Act; or Projects related to activities taken by the company board as recommended by the CSR Committee, provided those activities cover items listed in the Companies Act.

Businesses must note that the expenses towards CSR are not eligible for deduction in the computation of taxable income. The government, however, is considering a re-evaluation of this provision, as well as other CSR provisions recently introduced under the Companies (Amendment) Act, 2019 (“the Act”).

CSR amendments introduced under the Companies (Amendment) Act, 2019

Until now, if a company was unable to fully spend its CSR funds in a given year, it could carry the amount forward and spend it in the next fiscal, in addition to the money allotted for that year. The CSR amendments introduced under the Act now require companies to deposit the unspent CSR funds into a fund prescribed under Schedule VII of the Act within the end of the fiscal year. This amount must be utilized within three years from the date of transfer, failing which the fund must be deposited in to one of the specified funds.

The new law prescribes for a monetary penalty as well as imprisonment in case of non-compliance. The penalty ranges from INR 50,000 (US $700) to INR 25 lakh (US $35,000) whereas the defaulting officer of the company may be liable to imprisonment for up to three years, or a fine up to INR 5 lakh (US $7,023), or both. The government, however, is reviewing these rules after the industry objected to the strict provisions, especially with respect to the jail terms for CSR violations, and is yet to operationalize them.

BACKGROUND OF THE RESEARCH

CSR is the procedure for assessing an organization's impact on society and evaluating their responsibilities. It begins with an assessment of the following aspects of each business:

Customers;
Suppliers;
Environment;
Communities; and,
Employees.

The most effective CSR plans ensure that while organizations comply with legislation, their investments also respect the growth and development of marginalized communities and the environment. CSR should also be sustainable – involving activities that an organization can uphold without negatively affecting their business goals.

Organizations in India have been quite sensible in taking up CSR initiatives and integrating them into their business processes.

It has become progressively projected in the Indian corporate setting because organizations have recognized that besides growing their businesses, it is also important to shape responsible and supportable relationships with the community at large.

Companies now have specific departments and teams that develop specific policies, strategies, and goals for their CSR programs and set separate budgets to support them.

Most of the time, these programs are based on well-defined social beliefs or are carefully aligned with the companies' business domain

REVIEW OF LITERATURE

As par the Companies Act 2013, corporate social responsibility is emerging as a catalyst in socio economic development of the country. Due to the provisions of corporate social responsibility, it is evolving as a new tool of social development. It minimizes the cost as well as risks thereby, increasing the brand value and reputation of the company.CSR actions have positive impacts not only on development of the community but also in their business. The CSR activities need to be in tune with effective strategic policies so that the aim of sustainable environment, social and economic progress may be achieved.

Despite a dramatic increase in CSR research in recent years, little is known about how and why companies invest in some CSR practices but not others, or how such choices are affected by the cultural, socioeconomic, and competitive contexts in which companies operate. Business operations affect the well-being of people and the environment around the globe, making it vital to understand how companies manage and communicate their CSR practices to stakeholders.

CSR trends in India

Since the applicability of mandatory CSR provision in 2014, CSR spending by corporate India has increased significantly. In 2018, companies spent 47 percent higher as compared to the amount in 2014-15, contributing INR 7,536 crores (US $1 billion) to CSR initiatives, according to a survey.

Listed companies in India spent INR 10,000 crore (US$1.4 billion) in various programs ranging from educational programs, skill development, social welfare, healthcare, and environment conservation, while the Prime Minister's Relief Fund saw an increase of 139 percent in CSR contribution over last one year.

The education sector received the maximum funding (38 percent of the total) followed by hunger, poverty, and healthcare (25 percent), environmental sustainability (12 percent), rural development (11 percent). Programs such as technology incubators, sports, armed forces, reducing inequalities saw negligible spends.

Taking into account the recent amendments to CSR provisions, industry research estimates CSR compliance to improve and range between 97 to 98 percent by FY 2019-20.

Examples of CSR in India

Tata Group

The Tata Group conglomerate in India carries out various CSR projects, most of which are community improvement and poverty alleviation programs. Through self-help groups, it has engaged in women empowerment activities, income generation, rural community development, and other social welfare programs. In the field of education, the Tata Group provides scholarships and endowments for numerous institutions.

The group also engages in healthcare projects, such as the facilitation of child education, immunization, and creation of awareness of AIDS. Other areas include economic empowerment through agriculture programs, environment protection, providing sports scholarships, and infrastructure development, such as hospitals, research centers, educational institutions, sports academy, and cultural centers.

CSR Activities Of Tata Companies :

Tata Motors Ltd

Tata Motors CSR programmes reach over 7 lakh lives in 12 months

Tata Motors has reinforced its commitment towards nation building, touching lives of over 7 lakh people, of which nearly 40% belong to SC and ST communities, under its corporate social responsibility (CSR) programme.

1. AROGYA: Building and Strengthening Healthcare Facilities

In FY19, over 3 Lakh people benefitted from this programme and over 90% of the malnourished children brought to sustained healthy zone, besides ensuring water security across 450 habitations.

2. VIDYADHANAM: Augmenting Primary Education System

This programme is engineered to improve academic performance of secondary/college going students through targeted approach by instituting need-based financial support, special coaching classes, etc. Tata Motors is the first corporate in India to support IIT Bombay under Affirmative Action (AA) for Financial Aid Programme (FAP) program.

3. KAUSHALYA: Enhancing programmes on Employability

Under this programme, the company focuses on training unemployed youth in three segments – auto trades, non-auto trades and agriculture & allied activities.

Tata Motors has skilled over 1 lakh youth and farmers, and 56% have found employment in selected trades, while 4% of the trained youth started their own enterprise. The initiative has helped people increase their annual income by Rs 1 lakh.

4. VASUNDHARA: Nurturing sustainability through environmental programmes

Tata Motors through its concentrated efforts has strived to increase the green cover through sapling plantation, enhancing environmental awareness among communities.

5. AADHAR: Inclusive, Equitable and holistic development of society

Over the last five years, the company has touched over 2.45 million lives, invested over Rs 100 cr and has brought per beneficiary cost down from Rs 740 in 2014-15 to Rs 332, the company added.

Tata Steels Ltd

Financial Insights

Estimated Prescribed CSR Budget FY 2019-20: INR 188.15 Cr

The Company is always dedicated towards CSR activities and has spent more than the prescribed CSR budget in last five financial years.

CSR projects of the company

- For Promoting Sports (2018-19) Project Budget was INR 10.19 Cr
- For Ensuring Environmental Sustainability (2018-19) Project Budget was INR 2.63 Cr

- For Preserving the Tribal Heritage (2018-19) Project Budget was INR 8.06 Cr
- For Livelihood Enhancement Programmes (2018-19) Project Budget was INR 18.35 Cr
- For Education Initiatives (2018-19) Project Budget was INR 66.52 Cr

Tata Chemicals Ltd

The principle aim and objective as written in the memorandum of association, of which Tata Chemicals is a principle promoter is to undertake, carry out, promote, sponsor, assist or aid directly or in other manner, any activity for:

The promotion and growth of rural economy.

Rural welfare.

Activities relating to environmental protection.

Conservation of natural resources.

Creating and developing facilities for public education.

Fostering conservation and research in the field of natural history.

Other programmes for promoting the socio-economic development and welfare or uplift of the people in any rural area in India.

Although the prescribed CSR for 2018-2019 was 19.86 Crores, the company went on to spend 25.68 crores this year. Improving the quality of life and fostering sustainable and integrated development in the communities where it operates is central to Tata Chemicals' corporate philosophy.

In order to do so Tata Chemicals established Tata Chemicals Society for Rural Development (TCSRD) in 1980 as a society and trust. It lays emphasis on the spirit of participatory development by involving the beneficiaries at each stage of the development process which ensures viability and sustainability of the programmes.

Tata Chemicals spends INR 12 crores on CSR annually, and wildlife conservation accounts for 30 per cent of the budget of the TCSRD. The spend is distributed over the three places the company has operations — Mithapur in Gujarat, Haldia in West Bengal and Babrala, Uttar Pradesh.

Tata Power Company Ltd.

Tata Power is India's largest integrated power company. It has always undertaken various initiatives with an aim to improve quality of life and ensure holistic development of its surrounding communities. They deploy development initiatives to incubate, implement and multiply diverse community-based projects and interventions, to help build a better and sustainable society through Tata Power Community Development Trust (TPCDT).

The underlying goal of the interventions is to transform the lives of the community through result oriented participatory approach. The efforts are directed towards inclusive growth, so as to reach out to its nearby communities and help them build a sustainable future. All their community development projects work with the concept of 'Leadership with Care' at our heart, which translates as 'Care for Community'.

OBJECTIVES

To understand the concept of CSR
To study the various activities of Tata Group and Access to Finance

DATA AND METHODS

The study is based on secondary data. The data is taken from different websites.

DATA ANALYSIS

Tata Group	Actual CSR FY 2019	Prescribed CSR FY 2019
Tata Motors Ltd	22.21 Cr	0.00 Cr
Tata Steels Ltd	314.94 Cr	82.40 Cr
Tata Chemicals Ltd	25.68 Cr	19.86 Cr
Tata Power Ltd	12.66 Cr	12.65 Cr

Source
https://csrbox.org/India_Company_Tata-Motors-Ltd-Maharashtra_41
https://csrbox.org/India_Company_Tata-Power-Company-Limited-Maharashtra_89
https://csrbox.org/India_Company_Tata-Steel-Ltd-Maharashtra_62
https://csrbox.org/India_Company_Tata-Chemicals-Limited-Maharashtra_5427

CONCLUSION

Hence when it comes to CSR activities TATA Group believes in putting efforts into education of children, women empowerment, and cultural benefits TATA Group process the environment initiatives, education programs, health care programs, rural development program, etc. Businesses can invest their profits in areas such as education, poverty, gender equality, and hunger as part of any CSR compliance.The amendment notified in the Companies Act, 2013 requires companies with a net worth of INR 500 crore (US $70 million) or more, or an annual turnover of INR 1000 crore (US $140 million) or more, or net profit of INR 5 crore (US $699,125) or more, to spend 2 percent of their average net profits of three years on CSR.

SUGGESTIONS

Business may give back to people what they earn from them. The most effective CSR plans ensure that while organizations comply with legislation, their investments also respect the growth and development of marginalized communities and the environment. CSR should also be sustainable – involving activities that an organization can uphold without negatively affecting their business goals.

REFERENCE

https://csrbox.org/India_Company_Tata-Chemicals-Limited-Maharashtra_5427
https://csrbox.org/India_Company_Tata-Steel-Ltd-Maharashtra_62
https://csrbox.org/India_Company_Tata-Power-Company-Limited-Maharashtra_89
https://csrbox.org/India_Company_Tata-Motors-Ltd-Maharashtra_41
https://www.india-briefing.com/news/corporate-social-responsibility-india-5511.html/
International Journal Of Development Research
Vol. 09, Issue ,01, pp.25485-25489, January , 2019
International Journal of Humanities and Social Science Invention (IJHSSI)
ISSN (Online): 2319 – 7722, ISSN (Print): 2319 – 7714
www.ijhssi.org ||Volume 8 Issue 06 Ser. I || June 2019 || PP 14-18
International Journal for Research in Engineering Application & Management (IJREAM)
ISSN : 2454-9150 Vol-04, Issue-02, May 2018

INCONCLUSIVE WORLD & CURRENT ECONOMIC SLOWDOWN

VARSHA RAHUL SINGH
(M.COM, B.ED, M.A (ECONOMICS) ,M.PHIL)

(NAVNEET EDUCATION SOCIETY NIGHT DEGREE COLLEGE)

ABSTRACT

The paper provides an overview of services – led growth of India in the face of falling external demand. The paper examines three services subsectors that are mostly sustaining the momentum of growth of Indian economy, retail/wholesale trade, software services & banking services .it is also analysis the contribution of disaggregated services to total gross domestic product (GDP) & decomposes growth. Addressing the four balance sheet problem decisively will be critical to durably reviving growth raising agricultural productivity is also high priority. and even before that a big bang is needed to restore trust and enable better policy design.

Keywords: slowdown, service sector, emerging ,financial crisis, IT-BPM.

INTRODUCTION

The global economic recession has taken its toll on the Indian economy that has led to multicrore loss in business and export orders, tens of thousands of job losses, especially in key sectors like the IT, automobiles, industry and export-oriented firms. Indian economy also passed through these stages during the year 2008. The economic growth rate, which was above 8% for consecutive period of three years since 2006, suddenly plunged to an average of 5.5%. Developed world is under the fear that recession may not turn out to be continuous process resulting into great depression. Generally recessions are for two quarters, but depression is a severe economic downturn that lasts several years. Earlier India was affected less by external world depressions as it relied more on internal consumption, saving and import substitutions.

However, after 1991 India opened up its economy to global players, share of exports, both goods and services, in GDP grew significantly. The effects of the global financial crisis have been more severe than initially forecast. By virtue of globalization, the moment of financial crisis hit the real economy and became a global economic crisis; it was rapidly transmitted to many developing countries. India too is weathering the negative impact of the crisis. There is, however, an important difference between the crisis in the advanced countries and the developments in India. While in the advanced countries the contagion traversed from the financial to the real sector, in India the slowdown in the real sector is affecting the financial sector, which in turn, has a second-order impact on the real sector. The paper is an attempt to analyze the variables responsible for India's recent growth, impact of world recession on these variables and their significance. It needs to validate whether India's economy has shifted away from consumption and saving to external sector dependence.

Evaluating the impact of domestic and external shocks on the growth of developing. Economies is of utmost importance, as the consequences of these shocks push millions of People into abject poverty and deprivation. Broadly, there are five distinct types of shocks that have affected the performance of the Indian economy, sometimes working in tandem. The first two types are domestic shocks:

1. Drought, i.e., below normal rainfall. Since the agricultural sector is still significant part of the economy and has strong demand and supply interlinks ages with the rest of the economy, this is perhaps the shock that causes maximum damage to the Indian economy.

2. Fiscal profligacy of the government, which is a non-developmental expenditure undertaken due to political economic compulsion or to mitigate the effect of other shocks, leading to a fiscal burden. The next three types are external shocks International Journal of Applied Research 2016; 2(11): 178-183 ~ 179 ~ International Journal of Applied Research Hike in the international price of oil (petroleum). This• is a major import item and is highly price inelastic as a result of which it has a strong impact on the economy. Stagnation or fall in world trade. World trade is a strong• determinant of Indian exports and hence any fluctuation in this also affects the economy adversely. Sudden capital outflow induced foreign exchange• market shock. This is phenomenon that has precipitated a crisis in many developing economies and India is no exception to that.

Economic Slowdown and Telecommunication Sector:

Over the last few years Indian Telecom market has shown overwhelming growth, factors likeregulatory liberalization, structural reform and competition played a very important role in thisrapid growth. The telecom industry has witnessed significant growth in subscriber base over thelast decade with increasing network coverage and competition induced decline in tariffs acting as catalyst for the growth in subscriber‟s base. Telecom sector has witnessed a continuous rising
trend in the total number of telephone subscribers. From a meager 22.8 million telephone subscribers in 1999, it has grown to 926.53 million at the end on the December, 2011, reaching tele density of 76.86 percent. The total number of telephones in the country stands at 904.56million, while the overall tele density has increased to73.32 percent as 31 October 2013 and thetotal number of mobile phone subscribers has reached 875.48 million as of October 2013. Theoverall teledensity in a country has increased to 76 percent from 75.80 percent at the end of June,2014. FDI (Foreign Direct Investment) has been one of the major contributors in the growth ofthe Indian Economy, and therefore the need for higher FDI is felt across sectors in the Indian Economy. Today, telecom is the third major sector attracting FDI inflows after services and computer software sector. Telecommunication sector in India has been proved to be the fittest survivor in this nerve breaking period of recession. People will not stop communication with each other due to globalcrisis, rather it has been that it will increase much particularly with mobile communication.Telecom sector, according to industry estimates year 2008 started with a subscriber base of 228million and will likely to end with a subscriber base of 332 million by the end of the century. The telecom industry expects to add at least another 90 million subscriber in 2009 despite of recession. The Indian telecom industry is one of the fastest growing in the world and India is projected to

become the second largest telecom market globally by 2010. It should be kept in themind that the Indian telecom sector, which has so far remain untouched by the slump in theglobal economy, could see the growth rates slowing down by the end of the year. Thetelecommunication sector will likely be hit by the recession in two main ways. First, due to thelack of the credit in the global economy, investment fell in the beginning of 2009. Second,consumption reduced as people move away from wants and focus on their needs. As for asemployment is concerned during recession, while others worry about the looming recession and
job losses, the country‟s telecom companies beg to differ. The sector needed up to 1, 50,000
additional hands in 2009. Government had issued 120 new license in the same year, so manynew players in this had took entry , which begun to look for experienced hands, so getting peoplein such large number was such a great challenge and the new players started to attract talent byoffering 15-20 percent higher salaries.On the concluding note it is viable to acknowledge thattelecom is one sector that has so far bucked the trend in India while other industries faced issues.Reason behind the upward trend of this sector at the time of recession too, was sufficient amount

Statement of problem

Effects of the Slowdown In general, we know the kind of effects which a slowdown in growth brings about.

Firstly, exports, foreign investments (direct and portfolio) and ODA flows suffer, reflected in slower growth.

Secondly, this means poverty-reduction effects of growth also suffer.

Thirdly, government revenue is adversely affected, limiting the fiscal space available to governments. Unlike developed countries, the base for taxes, especially indirect taxes, is narrower in developing countries and tax revenue drops relatively more when there is a slowdown. The Centre's fiscal deficit is likely to be 6.5 percent of GDP in 2009-10, with the states contributing another 3.5 percent. Even without including off-budget items (such as oil and fertilizer bonds), this illustrates the limited fiscal space the government possesses.

Fourthly, there are differential spatial effects, since those who are more integrated and connected with global and national markets suffer more3 . The rural sector, particularly in rice and wheat-growing irrigated areas, seems to have offered some kind of a cushion to India in the growth slowdown. The Rural Marketing Association of India conducted a study, between July and December 2008, on India's rural markets and found no evidence (at least during this period) of a slowdown, particularly among those who earn a living from agriculture. There was a marginal impact among those who earn a living from trade and manufacturing.

Recent Slow Down of Indian Economy: Impact is Prominent The GDP growth of Indian Economy has touched the six year low in the first financial quarter of AprilJune 2020. It touched 5.8% growth in January-March, although in nominal terms India's GDP grew by 7.99% which is also lowest since December 2002. Key sectors bearing the brunt of Indian Economy slow down are Agriculture, Automobile, Real Estate, FMCG among others. The $100 billion automobile industry that employs 370 lakh people and contributes 12% to the national GDP, is suffering from huge slow down. Around 3 lakhs jobs are lost, Sales have gone down and the automobile industry appears to be going in reverse gear. The official data released by the National Statistics Office (NSO) confirm that. Weaker consumer demand and slowing private

investments are the two key factors behind the Indian Economy Slow Down. Eight core sectors have registered negative growth of just 2.1% in July, compared to 7.3% in the corresponding month last year. According to the Centre for Monitoring Indian Economy (CMIE), the overall unemployment in India has now touched 8.2%, with a high urban figure of 9.4%

Significance of the Study

Agricultural sector is the primary sector whose growth will act as a catalyst to the growth of other sectors. Theorists have propounded the growth stages in that an economy's growth is transited from agriculture through industry to the service sector. So far as the state economy is concerned there is virtually no growth in the agricultural sector and in the manufacturing sector. The growth of the economy is mostly contributed by the service sector. However, one cannot neglect the primary sector if one seeks long run sustainable growth of the economy. The performance of the agricultural sector, especially in developing countries often depends on environments outside the reach of policy-makers. The weather, world prices (depending on how much the world demands of agricultural products and how much the rest of the world delivers), external trade barriers, terms of trade and global market access all play pivotal role in influencing agricultural outcomes. Consequently, the agricultural sector is arguably more susceptible and more reliant on a fair global policy changes than any other sector. Apart from that, most development economists and development agencies agree that the neglect of the agricultural sector during the process of industrialization can constrain the whole development process. In a study, Martin and Mitra (1999)10 examined the growth of convergence of TFP in agriculture and manufacturing in 50 countries of different levels over the period of 1967 to 1992 and found that at all levels of development technical progress was faster in agriculture than in manufacturing. Their analysis suggests that a large agricultural sector need not be a disadvantage in terms of growth performance. Thus, their result weakens the case for often advocated discriminatory policies against agriculture. In Indian context, on studying the nature and direction of the linkages between agricultural and nonagricultural sectors in 14 states in India, using Granger Causality test, Kalirajan and 5 Sankar (2001)11 found that Kerala has a bi-directional causality (linkage) indicating strong interdependence between agriculture and manufacturing sectors.

Objective of the research paper:

1) The objective of the paper is to analyze the impact of economic slowdown on specific emerging components of service sector in India.
2) 2)It will also try to suggest some policy recommendations to sustain the growth of these key components of service sector.
3) The whole service sector is classified into 12 sub-sectors, but for this research paper, we would concentrate on only four emerging components of services for discussion, whose share in the services sector are significant over the time period.
4) The four components are- Travel Services, Telecommunication Services, Financial Services and IT- Software Services. Further, we will try to discuss the

contribution of these emerging sub-sectors in GDP and employment as well as impact of economic meltdown on these important sectors.

5) To find out the impact of slow GDP on society
6) To find the impact of slow down on service sector

Indian Economic Slowdown

A long term problem, how to come out of it? With an aim to acquire USD five trillion economy status, India has to consistently achieve a minimum of 9%+ growth rate for next five years. On the other hand economic indicators reflect that the GDP growth of India has gone down to almost five percent in the first quarter of financial year 2019-20. Many sectors that contribute to the Indian Economy's growth path, like Automobile, Real estate, FMCG, Manufacturing, Agriculture are lagging behind in achieving desired growth rate and jobs in these sectors are not only going down but are also trimmed. To become a USD five trillion economy in 2025, India must achieve USD 3.3 trillion economy status by 2021; USD 3.6 trillion economy status by 2022; USD 4.1 trillion economy status by 2023; USD 4.5 trillion status by 2024 and USD 5 trillion economy status in 2025. However, the current trends and prospects do not favour this dream.

Recent Slow Down of Indian Economy

Impact is Prominent The GDP growth of Indian Economy has touched the six year low in the first financial quarter of April June 2020. It touched 5.8% growth in January-March, although in nominal terms India's GDP grew by 7.99% which is also lowest since December 2002. Key sectors bearing the brunt of Indian Economy slow down are Agriculture, Automobile, Real Estate, FMCG among others. The $100 billion automobile industry that employs 370 lakh people and contributes 12% to the national GDP, is suffering from huge slow down. Around 3 lakhs jobs are lost, Sales have gone down and the automobile industry appears to be going in reverse gear. The official data released by the National Statistics Office (NSO) confirm that. Weaker consumer demand and slowing private investments are the two key factors behind the Indian Economy Slow Down. Eight core sectors have registered negative growth of just 2.1% in July, compared to 7.3% in the corresponding month last year. According to the Centre for Monitoring Indian Economy (CMIE), the overall unemployment in India has now touched 8.2%, with a high urban figure of 9.4%.

Causes of Economic slow down

The cause of the problem as shared by some of the experts consists of supply-side shocks. Besides, three important contributors to this problem include Demonetization & stressed banking sector, GST Implementation and problems in Agriculture sector. The public goods are provided by government and the government needs tax revenues to supply them, and these depend upon national income. Then there is employment. A demand for labor exists only when there is a demand for goods. So growth is necessary if employment is to be assured. There is not only a pool of unemployed persons in India to absorb but the country also needs to provide employment to youth continuously entering the labour force. The slowing of the economy is a source of concern as an economy that has been slowing for five quarters is unlikely to turn around quickly. Besides, it may not be able to revive on its own.

The sectors are facing maximum slowdown

The stock markets have cheered finance minister Nirmala Sitharaman's decision to cut corporate tax rates. Investors have gained more than INR 1.33 trillion since the announcement was made last week. However, there are arguments both for and against the move.

While some believe that letting go INR 1.45 trillion of corporate tax will affect the fiscal math for the current financial year and deficit may go up to 4%, Sitharaman has assured that will not be case. She said expenditure secretary G.C. Murmu has been asked to ensure that PSUs front-load their capital expenditure to spur demand.

The move comes at a time when India's gross domestic product growth rate is at a six-year low 5%, manufacturing growth has declined and various sectors are affected due to a slow down in consumption, the main driver of the Indian economy.

Here are five sectors which have been affected the most:

FMCG: When some of the biscuit makers talked about job losses due to fall in demand, the entire nation was taken aback. However, it turns out that the situation is not that grim and the entire episode was more about getting a GST rate cut for the sector. Nevertheless, companies such as Hindustan Unilever, Dabur India and Britannia Industries, among others, witnessed fall in volumes in the June quarter. These companies are mainly affected due to a fall in rural demand.

Automobiles: The much-anticipated cut in GST did not come for the automobile sector during the meeting of the GST Council in Goa last week, leaving manufacturers to fend for themselves. The sales of automobile companies have been declining for at least 13 months. While a slowdown in the economy is the prime reason for falling auto sales, other factors such as the country's transition to BS VI norms and push towards electric vehicles have further affected sentiments.

Steel: High iron ore prices and weak demand have forced many steel makers to cut production as much by 50% in some cases. The steel sector also feels the pinch when auto makers go slow as this sector is the biggest client. In July, for the first time since December, 2017, steel prices went below INR 40,000 per tonne, making it unviable for steel manufacturers.

Consumer Durables: If FMCG is affected, how can consumer durables remain far behind. Sale of televisions, washing machines and other white goods have gone down just before the festive season. Makers of consumer durables have are clamouring for cut in GST rates. As a reprieve, the government last week scrapped import duty on open cell LED panels which accounts for 60-70% of the cost of televisions.

Real estate: The housing real estate market was already under pressure as non-delivery of projects became a huge menace and the government had to step in. With RERA rules applicable in various states, builders are now finding it tough to lure customers as penal provisions have become stiff. With the slowdown kicking in, consumers are uncertain about future income and are reluctant to make buying

decision just yet.

Statistics of unemployment as compared to other countries

The economic downturn is global. IMF has projected that 90% of the world economy will grow at a lower rate in 2019 than in the previous year. Industrialised countries have what economists call 'automatic stabilisers' that pump funds into the wallets of consumers in times of recessions. Unemployment insurance is one such automatic stabiliser. The idea being that for several months after workers lose their jobs, they receive unemployment insurance, which is often large enough to keep them afloat .
Launched by the UPA government in 2006, MGNREGA has steadily increased in size over the past five years of BJP rule, from Rs 36,025 crore in 2014-15 to Rs 61,080 crore in 2018-19. However, a common complaint is that wages are often delayed. Last year, 56% of the wage payments were delayed. In the two prior years, payments to over two-thirds of the workers were delayed. In 2016-17, 15% workers seeking work did not get

Research Methodology:

This paper is based on secondary data. Secondary data are collected from Annual Report of RBI, Economic Survey of India, various issues, CSO, DGCIS, articles, journals and various literature son this sector. To identify the trends in reference to the economic slowdown period and potential prospectsof these important components, trend line as well as Compound A nnual Growth Rate(CAGR) is used to compare the growth in pre and post-crisis period.

Role of Services sector in the Growth Process:

Developing countries are becoming global players in various sectors. They are increasingly emerging as important destination market for services investment as they open their economies to foreign investment. The service sector has played an important role in India‟ s rapid economic growth in recent years. It grew at an average annual rate of 90 percent during the 1990,contributing nearly 60 percent in the overall growth rate of the economy during this period. After the reform period, India has obtained a fruitful position in trade by balancing the difference between deficit and surplus. The deficit in BoP was not much favorable as i t was expected by New Trade Policy (NFTP 2009.Business services whose contribution was quite modest inthe nineties, has a low base, and expected to continue growing at a very high rate and likely to contribute more significantly to services growth in the future. Communication sector has also
registered the growth of 14 percent a year during the 1990‟s which
was due to telecom revolution.

REVIEW OF LITERATURE

Global demand plays an important role in determining a sector's export growth. The rise in global incomes is accompanied with a rise in demand for normal and luxury products, while for inferior products or services it may decline. Income elasticity of

demand4 for luxury products is expected to be greater than one, while for normal goods it is expected to be between 0 and 1. The kind of products or services a country exports, i.e. the income elasticity of demand of the products or services, is an important factor that determines the impact of external demand shocks such as a global economic crisis on a country's exports. Along with income elasiticity, price competitiveness may determine the impact of the global economic crisis on exports. If the services exported are less price sensitive, then in case of a slowdown, the option of lowering prices to maintain market shares may not be feasible.

There is a vast literature that estimates the income or price elasticities for the export of goods, but very few studies exist, especially for developing economies, which estimate the income elasticity for the export of services. There are even fewer studies that estimate the income elasticity for services exports for India. The small number of empirical time-series studies that exist on the determinants of United States exports of services largely model export volumes in terms of foreign income and the real exchange rate. All show that conventional models of merchandise trade can be applied successfully to trade in services, as argued by van Welsum (2003). Recent examples include Huang and Viana (1995), Wren-Lewis and Driver (1998), Deardorff et al. (2000), Ansari and Ojemakinde (2003) and Mann (2004).

Most of these studies find that the income elasticity of demand is above unity, while relative price effects are comparatively small, compared with those typically found for merchandise trade. For example, Wren-Lewis and Driver (1998) use various estimation techniques and find that the income elasticity of demand for the aggregate volume of exports of services in the United States lies in the range of 1.50–1.95 per cent, while the relative price elasticity lies in the range of -0.21 to -0.40 per cent. The findings of Huang and Viana (1995), Deardorff et al. (2000) and Mann (2004) raise the possibility of heterogeneous income and price elasticities for different categories of services exports, although none of these studies seek to test this explicitly. Huang and Viana (1995) and Deardorff et al. (2000) both find much higher income and price elasticities of demand for passenger fares and other travel-related exports, than for other categories of service exports. In a panel data analysis of subcategories of business and technical services, Mann (2004) reports that relative price elasticities are typically insignificant and in some cases do not have the expected negative sign

Scope and Limitations of the Study

The definition of agriculture used in this study is restricted to the crop sector of the state. Though a study of agricultural sector encompasses several aspects from agricultural production to marketing this study takes into account only the production side of the crop sector. The eleven crops included were grouped into seasonal, annual and perennial crops. It examines such questions as whether the crop sector was subject to stagnation or to cyclical fluctuations; what were the factors contributing to the land productivity of crops in the state from 1960-61 to 2004-05. To measure technical change, total factor productivity in crop production in the state is used though TFP captures all the factors including technical change that contributed to the growth of output. The study is based mainly on time series data relating to selected crops on output, area, yield, fertilizer consumption, rainfall, irrigation, and other inputs. Though there are several economic factors that influence the productivity behavior, only wages and prices are incorporated in the model as data on them are readily available. Cost of cultivation data were used for estimating

the 6 total factor productivity. Cost of cultivation data relates to the performance of sample farms selected from different parts of the state that are assumed to be replicating the true plight of crop situation in the state.

Conclusion

To summarize, the impact of the global economic downturn is beginning to be pervasive. However, its impact for the lower income segments of the population seems to be the largest for those employed in export-oriented sectors like diamond polishing, garments, carpets and hosiery. There have been large scale job loses and mass unemployment in many such clusters like Surat, Bangalore, Bhadoi and Tirupur. In the middle are those who are employed in the sectors which had witnessed a high growth due to derived demand — such as construction, retail trade, transport, personal services, etc. Here the demand has gone down and so have jobs but there are no mass closures or layoffs. The situation in the roti, kapda aur makaan producing sectors has remained stable, with little job loss. However, the 11.1 percent per annum increase in the consumer price index for agricultural labourers over the December 2007 - - December 2008 period has had a negative effect even on the workers in these sectors whose jobs are intact.

References

Asian Development Bank. 2008. Special Note to the Asia Economic Monitor: Developing Asia's Prospects in the Global Slowdown.

Banik, N. 1999. Indo-Sri Lankan investment opportunities under the new trade regime, Foreign Trade Review, vol. 34, No. 1, pp. 72-91.

Caporale, G.M and M. Chui (1999). Estimating income and price elasticities of trade in a cointegration framework, Review of International Economics, 7, 254-264.

Clarida, Richard H. 1993. Permanent Income, Import Prices, And The Demand For Imported Consumer Durables: A Structural Econometric Investigation, National Bureau Of Economic Research, working paper no. 4437, August. Dées and Vansteenkiste. 2007.

The transmission of US cyclical developments to the rest of the world. Working Paper series No. 798, August 2007. Duarte, A. and Holden, K. 2003. The Business Cycle in the G-7 Countries. International Journal of Forecasting, vol.19, 685-700. Emran, M. Shahe and Shilpi, F. 2007. Estimating Import Demand Function in Developing Countries: A Structural Econometric Approach with Applications to India and Sri Lanka, Institute for International Economic Policy, Working Papers Series no.10, June. Fagerberg. J. 1988. International Competitiveness,

The Economic Journal, 98 (June): 355-374. Feenstra, R., 1994. New Product Varieties and the Measurement of International Prices, American Economic Review, 84, 157-177. Garg, Deepak & Sandeep, Ramesh 2005. Income and exchange rate elasticity of imports and exports, working paper series, April. Giannone, D. and Reichlin, L. 2006. Trends and cycles in the euro area: how much heterogeneity and should we worry about it? Working Paper Series 595, European Central Bank. Goldstein, M., and M.S. Khan, 1985. Income and Price Effects in Foreign trade in R. Jones and P. Kenen (eds.), Handbook of International Economics, 2 (North-Holland, Amsterdam), 1041- 1105.

Hélène Erkel-Rousse & Daniel Mirza, 2002. Import price elasticities: reconsidering the evidence, Canadian Journal of Economics, Canadian Economics Association, vol. 35(2), pages 282- 306, May. Houthakker, Hendrik S & Magee, Stephen P, 1969.

Income and Price Elasticities in World Trade,
The Review of Economics and Statistics, MIT Press, vol. 51(2), pages 111-25, May. IMF. 2008. Financial Stress, Downturns, and Recoveries. World Economic Outlook October 2008. Jim Malley & Thomas Moutos, 2002. Vertical product differentiation and the import demand function:
theory and evidence, Canadian Journal of Economics, Canadian Economics Association, vol. 35(2), pages 257-281, May. Joshi V & Little I M D 1994. India, Macroeconomics and Political Economy1964-1991 (Washinton D. C.: The World Bank). Marques, J., McNeilly, C. 1988. Income and price elasticities for exports of developing countries, Review of Economics and Statistics, Vol. 70 No.2, pp.306-14. Marquez, J. 2000. The Puzzling Income Elasticity of US Imports, Econometric Society World Congress, No 1128.

A Study on
Application of Artificial Intelligence In The Field Of Human Resource Management

ApoorvaBhoir
(Student Department of BMS)
Pillai HOC College of Arts Science and Commerce (PHCASC)
Rasayani, Raigad, Maharashtra

VineetMurli
(Assistant Professor)
Pillai HOC College of Arts Science and Commerce (PHCASC)
Rasayani, Raigad, Maharashtra

Keywords: Innovative Human Resource Practices, Artificial Intellegence ,Data Science, Machine Learning ,Big Data ,Recent Trends, Future of HR

1. INTRODUCTION - Abstract

1. 1 Research Background

In today's globalized world, the traditional ways of how business is conducted are being challenged. There are no longer only local firms as competitors, but organizations have to compete constantly on a global level as new technology is making the world smaller. This implies that for an organization to stay up to date and keep a competitive advantage, embracing these new technological developments is key.

HRM involves many different aspects, such as training employees, recruitment, employee relations and the development of the organization. Humans work as a source of knowledge and expertise which every organization can and should draw on. Therefore, acquiring and retaining these types of employees through recruitment play a big role today. Due to the importance HR has for the organization, the recruitment process of how these resources are obtained is the key to success . The recruitment process used to be longer, take a large amount of time and imply a large amount of paperwork for the recruiters, however this has already slowly started to change with online recruitment becoming common.

In later years due to the technological changes, research has been conducted on how these two important aspects of HRM and technology can be combined. Usually, studies are conducted of how the recruitment process can be smoother and optimized with the help of technology.

Right now, the focus lies a lot more on technological advances helping recruiters, for an example the process is becoming more automated. Due to this, it can be stated that the human touch in recruitment is becoming lessened. In the article by Baxter (2018) he tries to predict the trends which will take over recruitment in 2019. He suggests predictive analytics to take away some of the guessing which takes place in recruitment, but he also brings up AI as a tool which will be used when interviewing candidates .

This research aims to explore the aspect of one of the newer technologies: Artificial Intelligence (AI). Application of AI to HRM was one of the most remarkable trends. The adoption of AI in HRM can be called as 'the new age of HR'. AI as a field is wide and a multidisciplinary domain, which can be exploited not only in computing disciplines but also in linguistics and philosophy. AI can take many different forms, such as robots, bots or software .The concept of AI is one of the most novel domains in engineering and science and it has been studied since the Second World War.

The name of Artificial Intelligence was verified in 1956 .Salin and Winston (1992) defined AI as being a set of techniques that allow computers to accomplish tasks that would otherwise necessitate the reasoning skills that human intelligence brings. According to Nilsson (2005) machines should be able to do most of the jobs that human intelligence demands, which he calls for human-level AI.

1.2 Statement of Problem

Currently, a HRM process is carried out mostly by human recruiters who personally sit and scan through CV's, online profiles and other sources to find candidates. Recruiters conduct all initial contact, give feedback to rejected employees and conduct interviews with candidates. As humans have limited abilities, keeping up with all the tasks that is necessary is not an easy job, and usually requires lots of dedicated time from every individual recruiter.

The problem that have been identified is that there are human limitations, such as biases, preconceptions and time restraints, which can hinder how effective a HRM process ends up. This is a problem as it, in turn, can lead an organization to lose the better fit candidates for a job as well as monetary value. It has been identified that the methods of investigating technology-based HRM are lacking and comes behind the current practice.

Hence more in-depth empirical research must be conducted in the future with the regard of new technology allowing more flexibility and better access than before . In addition, the implications of new technologies for HRM are still somehow unclear whether these new and efficient technologies entail challenges or opportunities to work. Since the current literature is still lacking the same problem as it was in the 2000s, a more in-depth understanding of the topic should to be conducted with the fact new technologies being a part of the HRM.

Purpose

The purpose of study is to explore the current state of AI and how it can be applied in HRM. It will research what impact AI technology has on Human Resource Management and where it would be most useful.

1.3 Research Question(s)

RQ: 1. What is the current state of AI in the HRM ?

RQ: 2. What impact can AI make on HRM ?

2. LITERATURE REVIEW

2.1 Human Resource Management (HRM)

There are many definitions of human resource management brought forward by a range of researchers, however most of the definitions do complement each other. A definition by Schemerhorn (2001) is that "HRM is how you are able to gain and develop a workforce which is talented, to help the company achieves its goals, as well as its mission, vision and different objectives at hand".

Another definition is that "HRM is an approach to employee management with the aim of retaining a workforce which is both capable and committed by different techniques, such as cultural, structural and personnel to bring the organization a competitive advantage". For the purpose of this study, HRM will be defined as the process of acquiring and maintaining new skills, capabilities and competences in an

organization through its workforce by the means of different management techniques.

HRM practices include recruiting new employees, managing employees, hiring employees and developments. Most of these practices have a specific focus on retaining new employees and keeping up their satisfactory level. This is because human resources are such a dynamic part of the company and is ever changing, therefore it needs the right management by an organization. The management and retention of HRM can be argued to have a special importance within manufacturing companies which beholds a focus on innovation within manufacturing to get a comparative advantage and better performances.

The role that HRM have within an organization have changed severely during many years and are no longer just used as a way to manage an organization's internal costs of labor . More recent researches are looking into HRM as being a strategic asset to organizations where employees are the key assets and how to acquire and manage these play the most important role.

Human Resource Management involves management functions like planning, organizing, directing and controlling

- It involves procurement, development, maintenance of human resource
- It helps to achieve individual, organizational and social objectives
- Human Resource Management is a multidisciplinary subject. It includes the study of management, psychology, communication, economics and sociology.
- It involves team spirit and team work.
- It is a continuous process.

Human resource management as a department in an organisation handles all aspects of employees and has various functions like human resource planning, Conducting Job analysis, recruitment and conducting job interviews, selection of human resources, Orienting , training, compensating ,Providing benefits and incentives, appraising, retaining, Career planning, Quality of Work Life, Employee Discipline, black out Sexual Harassments, human resource auditing, maintenance of industrial relationship, looking after welfare of employees and safety issues , communicating with all employees at all levels and maintaining awareness of and compliance with local, state and federal labor laws.

3. **Functions of HRM**

A. Managerial Functions

1.Planning

One of the primary function where number & type of employees needed to accomplish organizational goals are determined. Research forms core HRM planning which also helps management to collect, analyse and identify current plus future needs within the organization.

2. Organizing

Organization of the task is another important step. Task is allocated to every member as per their skills and activities are integrated towards a common goal.

3. Directing

This includes activating employees at different levels and making them contribute maximum towards organizational goal. Tapping maximum potentialities of an employee via constant motivation and command is a prime focus.

4. Controlling

Post planning, organizing and directing, performance of an employee is checked, verified and compared with goals. If actual performance is found deviated from the plan, control measures are taken.

B. Operative Functions

1. Recruitment/Hiring

Hiring is a process which brings pool of prospective candidates who can help organization achieve their goals and allows managements to select right candidates from the given pool.

2. Job Analysis & Design

Describing nature of the job like qualification, skill, work experience required for specific job position is another important operative task. Whereas, job design includes outlining tasks, duties and responsibilities into a single work unit to achieve certain goal.

3. Performance Appraisal

Checking and analysing employee performance is another important function that human resource management has to perform.

4. Training & Development

This function allows employees to acquire new skills and knowledge to perform their job effectively. Training and development also prepares employees for higher level responsibilities.

5. Salary Administration

Human Resource Department also determines pays for different job types and incudes compensations, incentives, bonus, benefits etc. related with a job function.

6. Employee Welfare

This function takes care of numerous services, benefits and facilities provided to an employee for their well-being.

7. Maintenance

Minimizing employee turnover and sustaining best performing employees within the organization is the key. Minimizing ROI within HR department is also a key goal for

Human resource management team.

8. Labor Relations

Labor relation is regards to the workforce who work within a trade union. Employees in such domain form a union/group to voice their decisions affectively to the higher management.

9. Personal Research

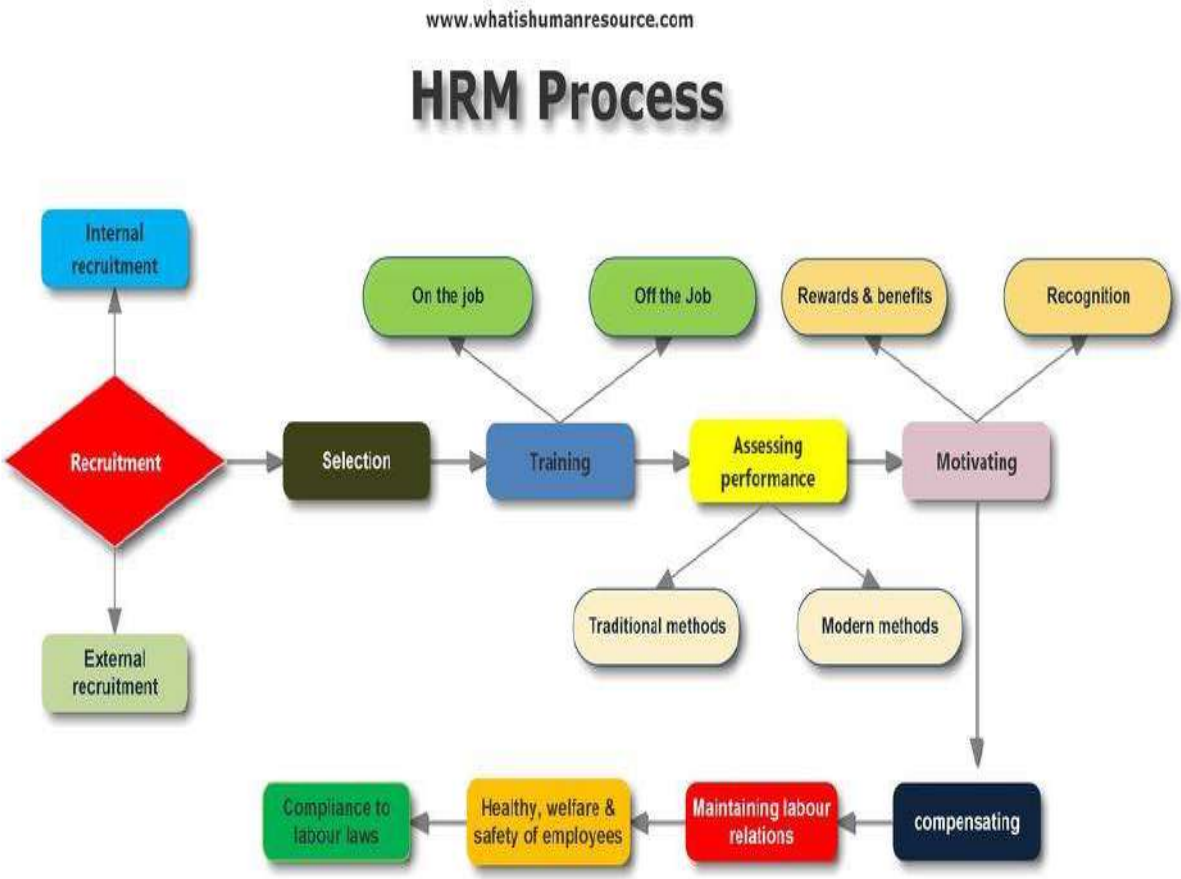
Research is a vital part of human resource management. It is performed to keep a check on employee opinion about wages, promotions, work condition, welfare activities, leadership, employee satisfaction and other key issues.

10. Personal Record

This function involves recording, maintaining and retrieving employee related information including employment history, work hours, earning history etc.

4. HRM Process

Human Resource Management is the process of recruiting, selecting, inducting employees, providing orientation, imparting training and development, appraising the performance of employees, deciding compensation and providing benefits, motivating employees, maintaining proper relations with employees and their trade unions, ensuring employees safety, welfare and health measures in compliance with labour laws of the land.



Purpose of HRM

The purpose of the Human resource management is to make the job and deal with the job holder (employee). So as to perform a job in an organisation, one needs to be identified. In order to identify right person for a particular job, notification should be issued which contains job description (duties and responsibilities) and specifications (academic qualifications and physical qualifications). So as to verify the correctness of the candidates invited, they should be tested by the suitable selection methods for picking-up right person. Subsequently selected candidates should be provided with the proper training for performing his duties & responsibilities mentioned in the notification.

Later, assessment of employees' performance should be done to know whether employees are performing to the desired standards set by the management. Accordingly employees should be rewarded or paid for the job they did in the organisation and their safety in the job is the responsibility of Hr manager or safety officer who should instruct safety measures for the employees and see that they are scrupulously followed. Health and welfare measures are so important to keep employees happy and motivated which has direct impact on their productivity. Doing so all, maintaining proper and healthy relationships between employees and management avoids conflicts which will affect the overall performance of the organisation.

Most important thing is adherence and not to ignore employment and labour laws which govern all the above said activities for a job. Contravenes of employment laws will cost to the organisation and its branding. Hence the Human resource management is like a guardian angel for the organisation to sail smoothly and long-live.

4. Artificial Intelligence (AI)

What Is Artificial Intelligence (AI)?

Artificial intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. The term may also be applied to any machine that exhibits traits associated with a human mind such as learning and problem-solving.

The ideal characteristic of artificial intelligence is its ability to rationalize and take actions that have the best chance of achieving a specific goal.

Understanding Artificial Intelligence

When most people hear the term artificial intelligence, the first thing they usually think of is robots. That's because big-budget films and novels weave stories about human-like machines that wreak havoc on Earth. But nothing could be further from the truth.

Artificial intelligence is based on the principle that human intelligence can be defined in a way that a machine can easily mimic it and execute tasks, from the most simple to those that are even more complex. The goals of artificial intelligence include learning, reasoning, and perception.

As technology advances, previous benchmarks that defined artificial intelligence become outdated. For example, machines that calculate basic functions or recognize text through optimal character recognition are no longer considered to embody artificial intelligence, since this function is now taken for granted as an inherent computer function.

AI is continuously evolving to benefit many different industries. Machines are wired using a cross-disciplinary approach based in mathematics, computer science, linguistics, psychology, and more.

The concept of Artificial Intelligence (AI)

Artificial Intelligence (AI) has been around for a long time and have had a wide area of application throughout the years, but only during the later year has the technology been further developed and implemented within many different organizational settings. To understand the concept of AI, the easiest way is to break down the words by themselves to look at each meaning. However, even though AI have been around for a longer period of time there is not one pre-determined definition of the concept.

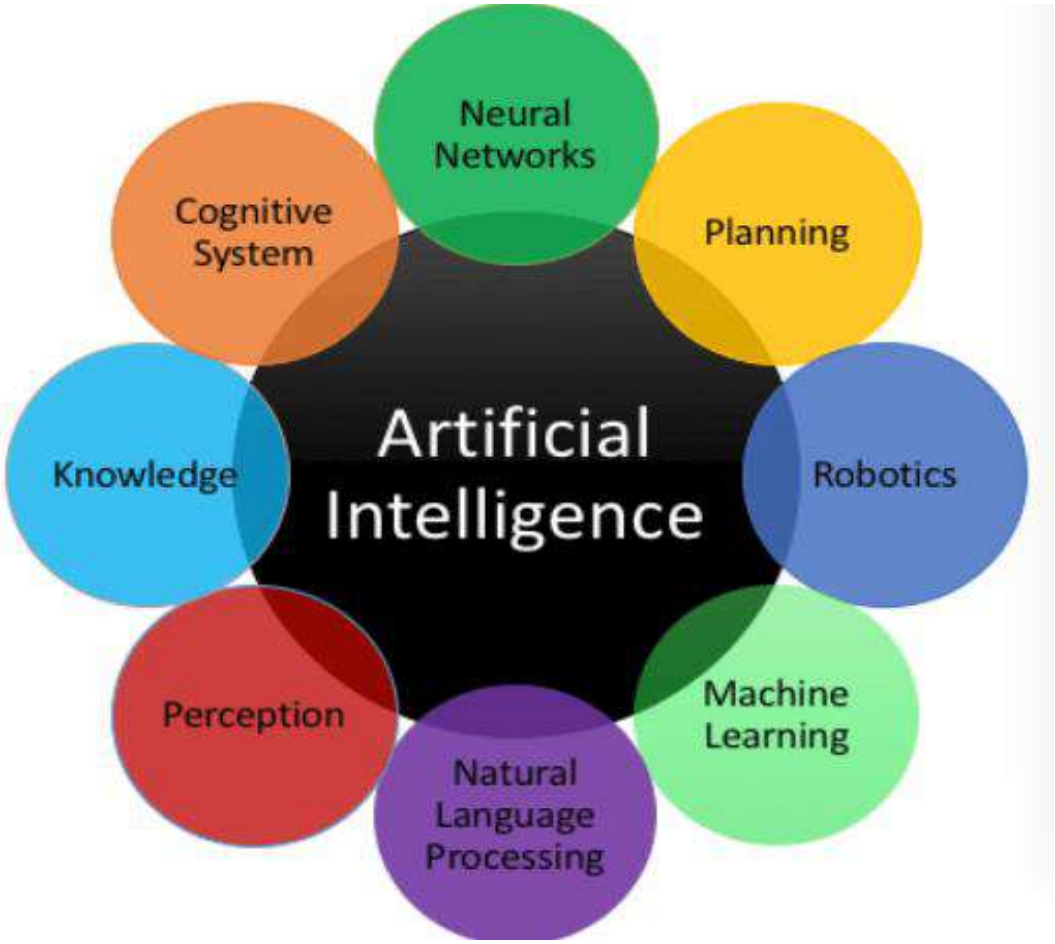
Many researches who bring forward definitions focus to define the 'I' in AI, usually because this is harder to pinpoint. The definition of 'A', that is Artificial, is a

universally agreed on term and therefore does not need as much defining. Artificial, defined according to Oxford Dictionary is something “made or produced by human beings rather than occurring naturally, especially as a copy of something natural”. Therefore, it can be established that artificial is what humans have made to simulate something that usually occurs naturally.

The tricky part then lies within defining intelligence. Some would define the term of AI as the creation of robots, machines or programs which inhabits what could be seen as similar intelligent behaviour as human have. The problem with this definition is having to measure human intelligence to compare it to that of the robots or machines inhabiting it. Kaplan instead states that his own personal interpretation of intelligence would be that it is “the ability to make appropriate generalizations in a timely fashion based on limited data”.

Many other more informal definitions of intelligence include it being when something has the ability to think, plan, have knowledge, adapt to environment or retrieve information . It could also be the ability to understand data and from that make decisions based on the data as well as the situation at hand . As an example, it could be that a program can learn how to play games such as tic-tac-toe, or how to recognize individual faces or compose music - then it is artificial intelligence . For the purpose of this study, AI is defined as the ability of such things as machines to learn, interpret and understand on their own in a similar way to that of humans.

There are many areas where AI can be implemented and it can take place in many different forms. For an example, it can be as a machine, robot, computer program or software. Some of the technological areas in which AI have expanded to is robotics, processing of natural language, expert systems as well as automated reasoning. Furthermore, there are five different main areas of implementation of AI which are firstly interpretation of language, secondly machine perceptions, thirdly problem solving, fourth robotics and lastly games. These implementation areas are also further supported by Tecuci who have knowledge acquisition, natural language and robotics as some key areas for AI.



Types of Artificial Intelligence

The artificial intelligence is classified into three basic types, such as analytical, human-inspired, and humanized artificial intelligence.

- Firstly, the analytical artificial intelligence is performing the cognitive process of intelligence; it will generate a cognitive representation of replying to the results based on experience with data.
- Secondly, the human-inspired artificial intelligence performs both cognitive and emotional results; it will understand the human emotions with results decision making is possible.
- Thirdly, the humanized artificial intelligence is performing the cognitive, emotional, and social intelligence, it will do its own self-conscious and self-aware in every interaction anywhere if the internet network is existed or given to the device

Artificial Intelligence in HR

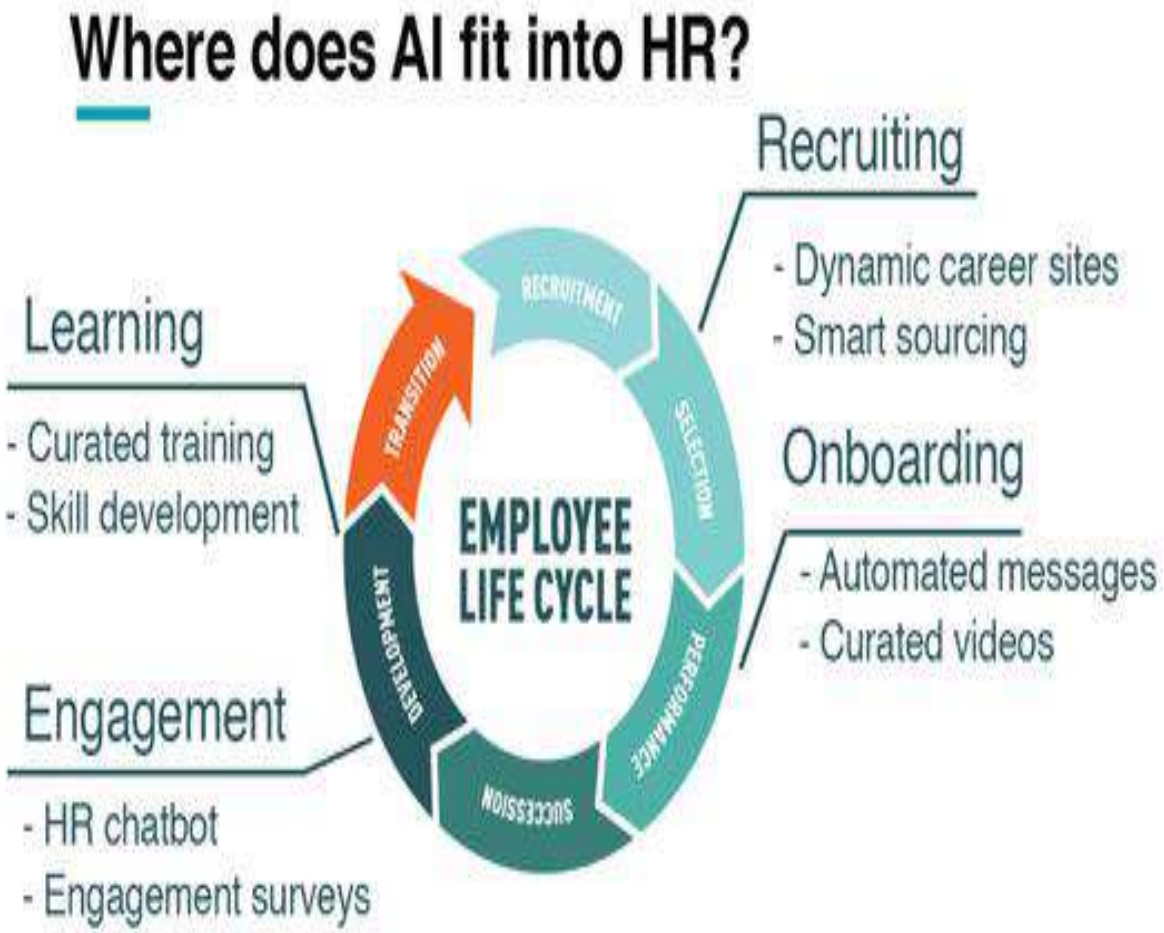
A recent survey conducted by Oracle and Future Workplace found that human resources professionals believe AI can present opportunities for mastering new skills and gaining more free time, allowing HR professionals to expand their current roles in order to be more strategic within their organization.

Among HR leaders who participated in the survey, however, 81 percent said that they find it challenging to keep up with the pace of technological changes at work. As such, it is more important now than ever before for human resources professionals to understand the ways in which AI is reshaping the industry.

Artificial intelligence (AI) is a technology that allows computers to learn from and make or recommend actions based on previously collected data. In terms of human resources management, artificial intelligence can be applied in many different ways to streamline processes and improve efficiency.

UweHohgrawe, lead faculty for North-eastern's Master of Professional Studies in Analytics program explains that "we as humans see the information in front of us and use our intelligence to draw conclusions. Machines are not intelligent, but we can make them appear intelligent by feeding them the right information and technology."

While organizations are adopting AI into their human resources processes at varying rates, it is clear to see that the technology will have a lasting impact on the field as it becomes more widely accepted. For this reason, it is important that HR professionals prepare themselves for these changes by understanding what the technology is and how it is applied across various functions.


Where does AI fit into HR?
Recruiting
- Dynamic career sites
- Smart sourcing
Onboarding
- Automated messages
- Curated videos
Learning
- Curated training
- Skill development
Engagement
- HR chatbot
- Engagement surveys
EMPLOYEE LIFE CYCLE
RECRUITMENT
SELECTION
PERFORMANCE
SUCCESSION
DEVELOPMENT
TRANSITION

Influence of AI on HRM

The influence of AI is expanding to a greater extent in human resource management. It starts from the recruitment process to exit process of an employee that includes training, engagement, perks, records, and so forth. A few of the influences are:

1.Personalized experience

The influence of AI is more felt in the talent acquisition processes like screening of prospective candidates, recording and maintaining the database, automating interview schedules, sending a message, answering job seekers' queries, and more. It helps in preliminary mundane tasks.

The results are significant, measurable, and immediate. It reduces the hiring time and increases productivity for HR professionals. The team is left with time for higher-value work like sourcing, recruitment marketing, employee engagement, and hiring managers.

For instance, The Job Intelligence Maestro (JIM) for DBS Talent Acquisition Team reduced the screening time from 32 minutes to 8 minutes per candidate.

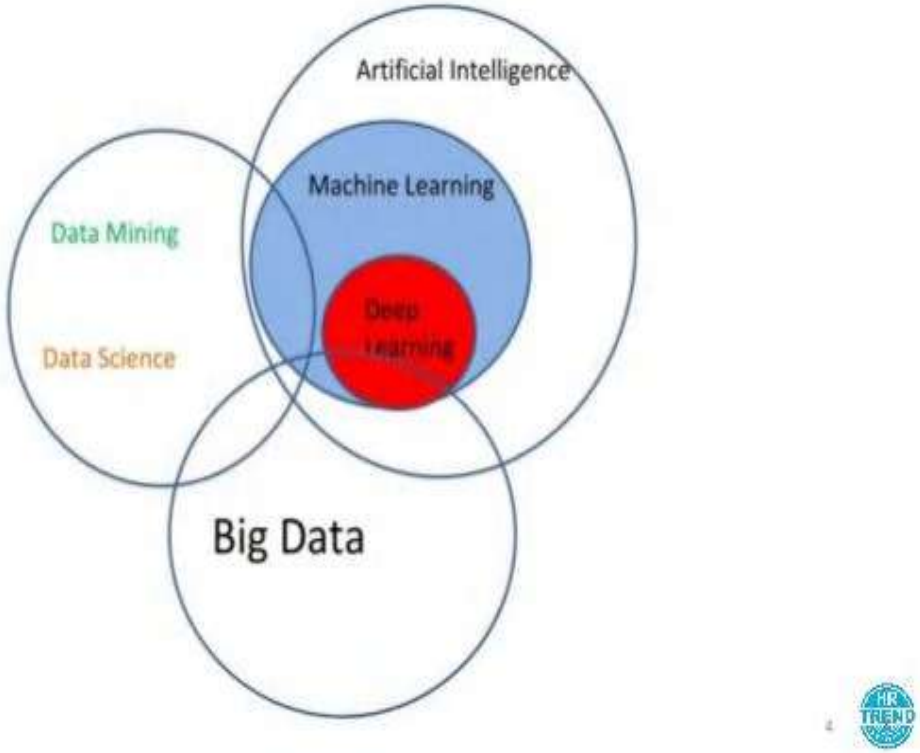
AI-backed programs introduce the new employee to job profile, new hire information like reporting authority, team members, task assignment, administrative tasks, policies, and almost all first-hand information through an app or laptop on his/her first day.

2.Workforce management decisions

Some of the areas (apart from recruitment) where AI is creating an impact include HR strategy and employee management, analyse company policies and practices, manage payrolls, automate workforce, investigate corporate compliance, litigation strategy, analyse success, and other related programs. The technical-minded HR personnel can readily apply technology to HR functions, learning, and development applications.

3.Smart people analytics

Leveraging big data tracks employee's performance and sentiment as well. AI tracks the employees' activities like browsing, emails, projects, and other tasks for a brief period. It can single out heading out employees and report to administration. This helps the organization to improvise engagement and retention strategies.



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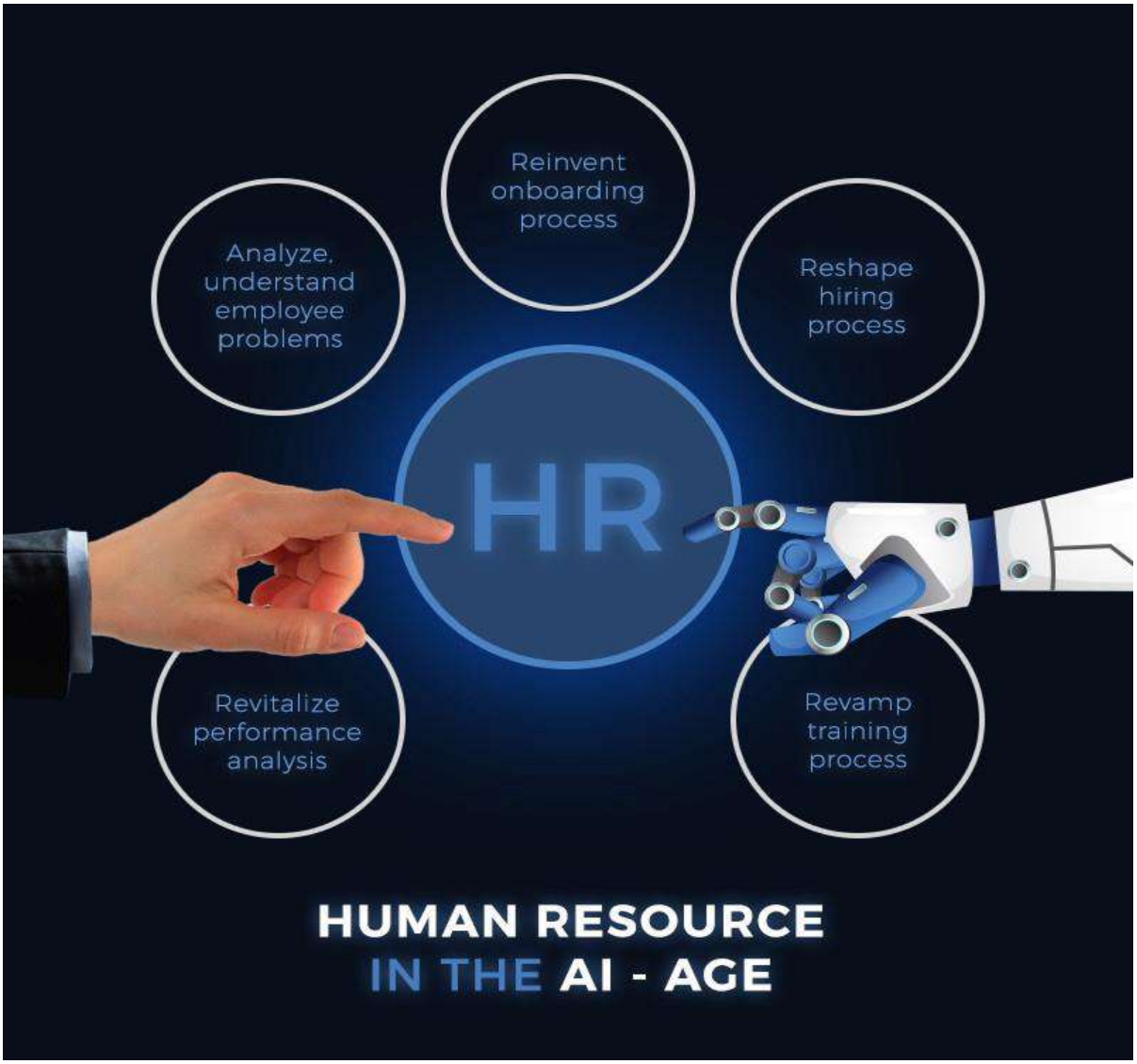
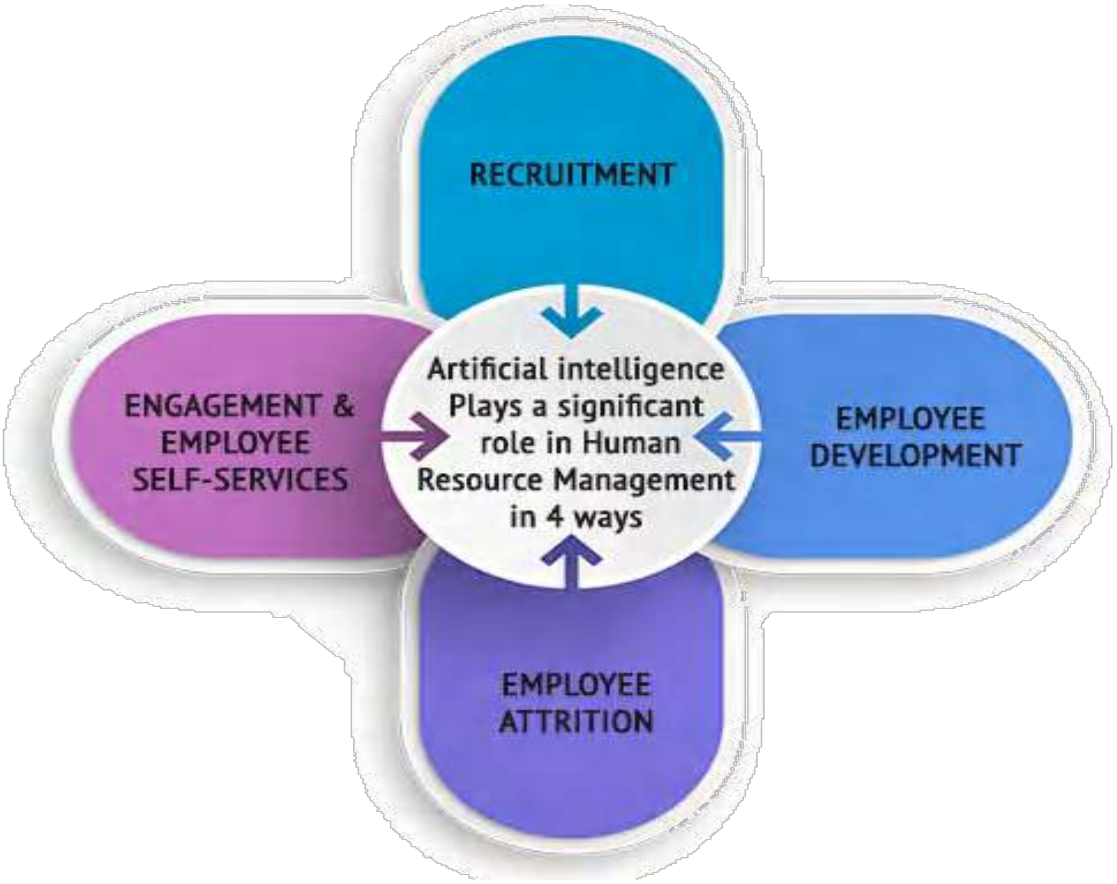


Need of Artificial Intelligence

People now are more inclined towards products and services that are highly responsive. It has been seen that 22% of the younger workforce, millennials, expect to get a response in less than 10 minutes after reaching to a brand.

Responsiveness is the major reason for many consumer brands to build AI into their products. These brands have chatbots that could provide services 365x24x7 and resolve customer queries. At workplace too, employees have similar expectations when it comes to having a positive work experience. HR leaders have started to pilot chatbots to transform their employees experience in the workplace.

Artificial intelligence in HR has grown exponentially in 2017 and it is going to be even bigger in future. It has played a significant role in Human Resource Management in 4 ways.



Recruitment

Most of the hiring decisions are made on gut feeling. The interviewers usually take less than a minute to decide whether an interviewee is an ideal match for the job or not. There's no data that support these decisions. A random decision to hire people, based on candidate's appearance, speech, experience and the way they present themselves is made. That's the major reason behind recruiters and hiring managers complaining about getting 30 to 40 percent of their candidates wrong.

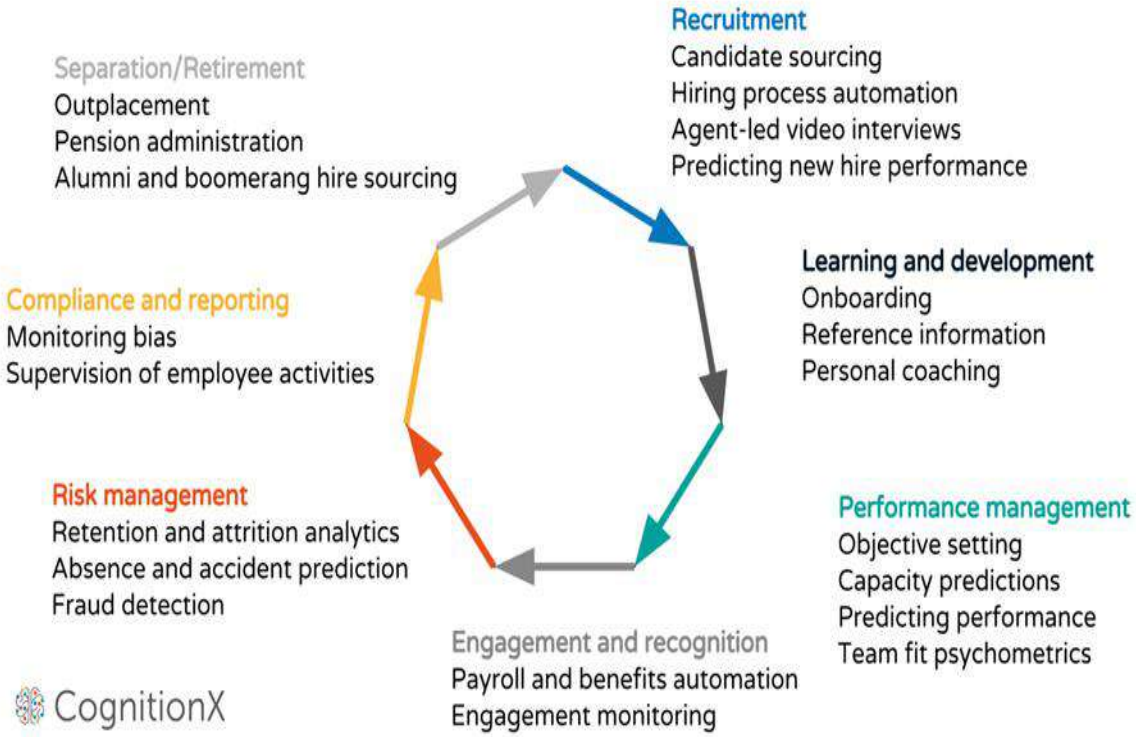
AI algorithms simplify the task by searching resumes, finding eligible internal candidates, identifying top performers and analysing data about shortlisted candidates who are more likely to succeed. This even eliminates interview bias

Attract Top Talent - Attracting top talent is a tough task .LinkedIn,Glassdoor, Indeed, etc. are the popular job searching websites, which employ machine learning algorithms to offer recommendations to job seekers. Data is collected based on users' activities – their posts, search history, page visits, clicks, connections and other criteria is monitored. The data is analysed to offer best recommendations to the job seekers. That's how these algorithms help recruiters to attract potential talent.

Screen and Shortlist Resumes- Recruiters in HR department are always weighed

down with the time-consuming task of screening and shortlisting hundreds or thousands of resumes to fill a single job position. But now the recruitment technology has advanced immensely. Software vendors offer Applicant Tracking Systems (ATS) that quickly parse resumes and filter all candidatures that match with the job requirements. Through AI, recruiters can now automate repetitive, time-consuming screening tasks. Thousands of resumes can be easily auto-screened in just few minutes. Manual resume screening gives 75 to 88% of unqualified resumes, whereas AI supports in shortlisting the desired candidates who are ideal for the job. It simplifies the task of a hiring manager too, as all the candidatures are received in order of priority (starting with the one who is the best match for the job or has maximum skills to meet job requirement).

How is AI being used in HR & Recruitment?



Employee Development

Training people seamlessly requires a lot of effort and time. The global Learning and Development industry is over $200 billion, and most learning professionals tell us that at least half of this investment is wasted.

Most often, managers and HR don't know "what an employee needs to learn" for doing a job better and becoming productive. Experts look up to Artificial Intelligence to solve this problem.
It's great that we have algorithms to quickly pull data and sort it on different parameters like age, culture, previous learning experiences, educational background, work experiences, performance, activities and behaviour of individuals, and analyse data to create custom learning programs for them.

Companies that are already using AI algorithms have made learning as enjoyable as watching a movie on Netflix or playing a game on PlayStation. This has been made possible through gamification.

Employee Attrition

We all know that high employee turnover is a costly and challenging problem, especially for small and midsize businesses. AI is used to accurately predict employee exit based on transactions generated by the employees and machine learning. With the data insights, AI equips the leadership and HR into employee satisfaction levels and predict future sources of turnover. This helps in identifying and addressing individual or departmental issues before the problem becomes bigger.

Engagement & Employee Self- Service

Poor employee performance costs too much to a company. AI finds out patterns and reasons that cause stress to employees and affect their performance adversely. They can be addressed in a timely manner.
Employee experience has become a priority for employers to keep the workforce engaged. Intelligent chatbots are used to make interactions quick and easy. By acting as virtual assistants all HR queries from employees can be addressed to meet needs of employees.

5. Benefits of AI in HRM

For any organization, with an even moderately large workforce, Human Resource Management (HRM) includes numerous time-consuming tasks that are not only repetitive but require insight and attention to the specifics of each individual record. Most importantly, these functions need to be performed with an extremely high degree of accuracy in outcome. Artificial Intelligence (AI) driven automation presents the perfect solution for HRM functionality that is accurate, fast and able to handle high volumes of data on an ongoing basis and – as a departure from previous

generations of technology – delivers actionable insights to enhance talent identification, retention and engagement.

1. Hiring and Onboarding

Cognitive solutions can handle exponentially more resumes to find the perfect set of candidates for an interview. They can assess and shortlist a vast talent pool – across parameters such as experience, values, skills and performance – to perfectly match your organization's requirements. Having selected your perfect candidates, a well-crafted orientation program is a must – studies show that this can increase retention, for a minimum of three years, by as much as 69%.

2. Talent Retention

Almost 60% of companies surveyed in a recent study experience talent retention issues. This is an unacceptable drain on company resources and constitutes a highly costly loss of painstakingly created value. AI can monitor several tangible – and even somewhat intangible – parameters, to alter this scenario. From identifying employees who need to be rewarded through raises and bonuses, to monitoring work-life balance, AI can help address several of the key reasons why talent becomes dissatisfied with their current job and work environment.

3. Training and Performance Analysis

Technological and process changes are a constant ongoing demand that a modern organization needs to address. AI not only helps HR departments create and coordinate training programs for all employee teams, it can also optimize the process by taking individual employee requirements, schedules and preferences into account. In terms of performance analysis, AI helps to identify and elaborate on concrete objectives as well as the individual tasks that can help realize them. Not only does this provide very elaborate oversight, it also helps individual employees track and assess their progress. Apart from positively impacting productivity metrics, this approach has been shown to increase employee engagement tremendously.

4.HRChatbots

One of the most effective solutions, that is helping redefine employee engagement and enhance several key HRM functions, is the use of Chatbots. HR chatbots reinforce relationships across an organization – and that of the employee to the organization itself – while positively impacting workforce engagement. AI and Machine learning chatbotsare a huge asset in customizing data relating to employees on an ongoing basis. They are further characterized by sheer ease of accessibility, a medium that facilitates instant and round-the-clock communication, as well as complete integration across multiple channels.


SEARCH
CANDIDATE
CAREER
HR CHATBOT
SKILLS
APPLICATION
CV
INTERVIEW
EMPLOYEE

Scope of AI in HRM

HR is one of the core functions of any organisation. AI adoption can spell transformation for this function too. A Deloitte survey confirmed that 40 percent of respondent companies were using some form of AI in HR. However, the benefits are not immediate in nature. Keeping that in mind, adoption of AI-based HR technology can yield both short-term and long-term benefits. Some of them are already being witnessed while others are expected with growing investments in AI and its adoption.
A growing number of start-ups are providing AI-based technology and services to HR functions for various activities. Some of the key ways in which AI can play a significant role in HR technology are:

Talent management
Every organisation has human capital needs and talent management refers to the organisational planning done to meet the workforce needs. As part of it, HR undertakes activities such as talent acquisition, employee management, performance management, succession management, etc.

For example, it would observe minute details such as whether an employee submitted their work sample through LinkedIn or Glassdoor. It maintains scorecards for all the employees based on its own analysis with zero human intervention. This helps the interviewers sort through the applications ahead of time and keep the talent funnel ready.

Recruitment
AI helps companies through the process of pre-hire assessments. While assessments are nothing new, in the era of AI, a company can predict which candidate will be a better hire in the future. Sample this, a candidate applies for a role in a company by entering his resume. An AI-powered system analyses the resume and compares it to the successful employees in the same role.

The recruiter then decides whether to move forward to the interview stage or not. Such data cumulatively collected can be used along with employee performance and retention data to evaluate how well a candidate will perform on the job. In this way, AI capabilities minimise the scope of human bias and speed up the recruitment process.

Scheduling
Already, AI personal assistants like Amy Ingram are scheduling meetings, interviews and even ordering food. Amy is a human-like AI assistant who learns from observing employee preferences over time and then manages it in an automated manner for them. Similarly, AI based tools like zoom.ai allow employees to offload and automate regular tasks like look for a file and schedule meetings. By automating the repetitive and low value add tasks, employees can focus on more strategic work. It means the employees do not have to get involved in unproductive tasks that hamper employee productivity and waste organisational time.

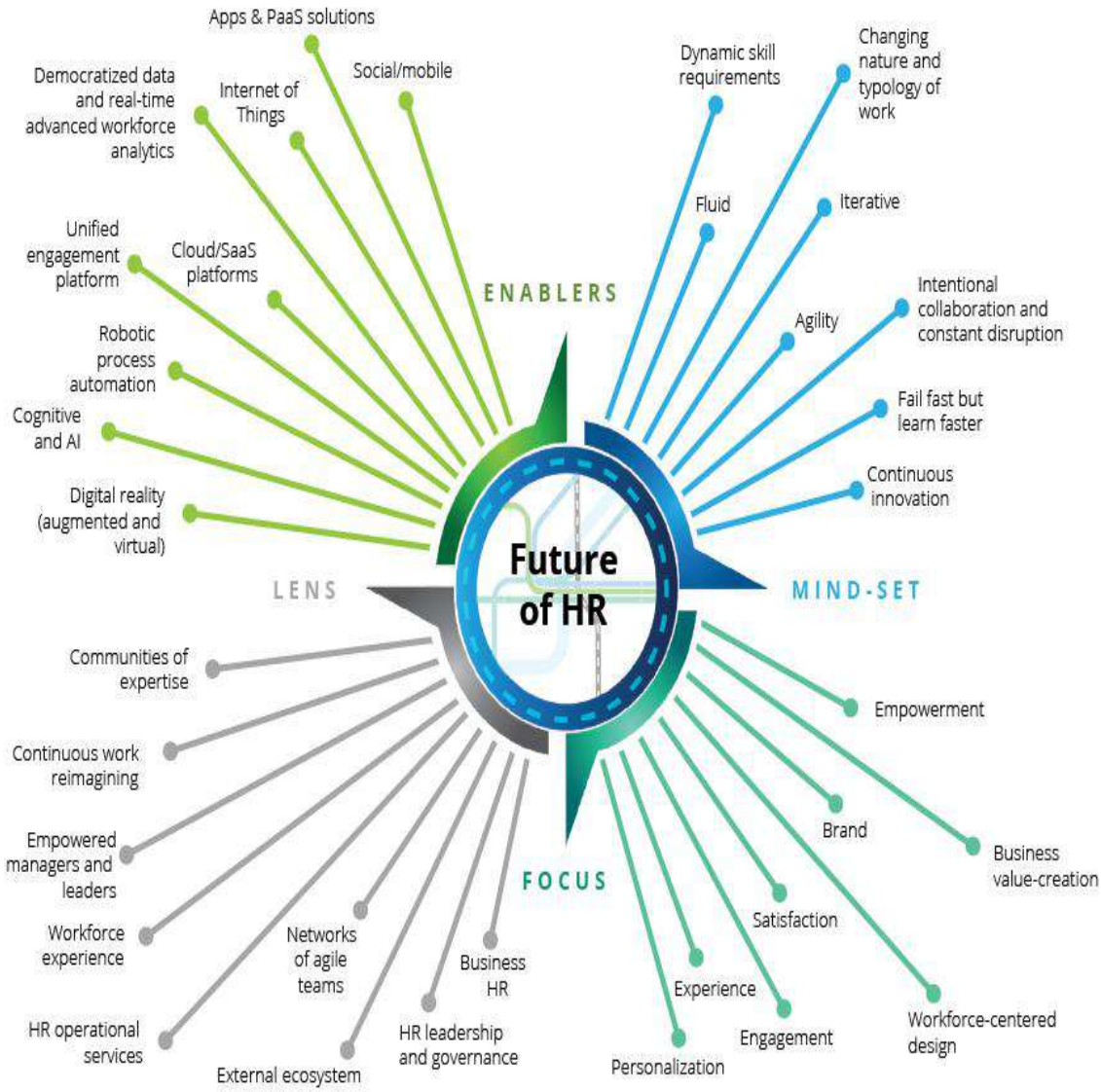
Onboarding Process

Studies suggest that employees who go through structured onboarding are 58 percent more likely to remain with the organisation after 3 years. HR can automate the many tasks of onboarding that would take hours otherwise. AI tools like zoom.ai can collect relevant data from new employees as well as generate their offer, send out the documents and answer the queries. The queries may range from how to fix the printer to setting up passwords, etc. Not only does it save HR's time and energy, but it also makes all the above processes swift for the new employee. Once such issues are taken care of, HR teams can focus on integrating the employee into the mainstream of the organisation.

Sentiment analysis

A company called Ultimate Software has built an AI platform-based sentiment analysis system 'Perception' to gauge employee sentiments and solve workplace issues.

Perception's system uses machine language processing algorithms – a sub-domain of AI. By collecting and analysing the languages accumulated over a period of time, Perception gauges employee feelings through it. The company then uses the learnings in order to iron out any issues related to employee well-being, boosting employee engagement.



How can AI in human resource management improve your workplace efficiency?

Today, almost all organizations, big or small have an internal employee management system in a place accessible through the intranet. All aspects of an employee – from their ratings, pay-slips, feedbacks, project allocations, time-tracking, performance

appraisals, leave management, etc are managed by such systems or a combination of two or more such systems. These systems generate tons of data which are mostly not utilized properly. The data from this management system, when fed to a system of AI in human resource management, can generate intelligent insights which can help to improve the operational efficiency of the organization. The possibilities are endless, ranging from sentimental analysis of employee's feedback to real-time video analytics to learn the employee behaviour.

Gathering data on the level of employee engagement, performance information and a clear understanding of the reasons for employee turnover, AI will be able to come up with indicators of employees who will succeed in the organisation and of those who tend to leave a job position thereby helps the department to take necessary steps based on that.

6. **Key areas where AI can make the HR department of an organization more efficient**

Machine Learning To Predict Employees' Happiness Levels

Recognition, work culture and leadership are certain attributes that employees hold dear to be happy in their jobs. Studies have shown that a happy employee is 12% more productive. When a valuable employee feels that there is no room for growth for them, they are more likely to quit their job to find something that's more fulfilling. An immediate response and pre-emptive intervention by the management is important to retain the employee. Using the hard data from the human resource management systems in the organization. AI can predict the actions of employees, thereby giving leverage to the management to take action before they start moving towards a different direction.AI tools can integrate with your employee portals and performance management systems to study vital information about your employees. Some of the information includes:

- The number of projects or activities that an employee is currently involved in.
- Current designation, salary, roles, and responsibilities.
- Duration of employment with the company.
- A detailed history of promotions, salary hikes, incentives, feedbacks etc that the employee has received during their tenure.
- Data about office logs, project hours, email and external communication logs (not conversational data).

Once this data is gathered by the AI system, the next step is to match them with their corresponding ideal values prevalent in the market.

With advanced deep learning, AI in human resource management system is able to arrive at patterns in employee behaviour that could suggest that they are likely to put in for resignation. Lesser hours spent at the office or more frequent external email communication, browsing through job portals and so on, would indicate that the employee could be looking for a new job. The system could also engage in anonymous

conversational interactions with employees to understand their grievances and difficulties.

Sentiment Analysis To Understand Employee's mindset

AI-based sentiment analysis can understand the emotions of the employee by analysing their activities within the employee management software. An AI algorithm can analyse the information provided by the employee to match it with the trained data and understand the employee's emotions or feelings at the time. This way a proper model can be built which will give a clear feedback to the organization about the employee's level of satisfaction.

After studying all responses, data from intranet portals and employee management systems, AI in human resource management system informs the HR managers about employees who have higher chances of leaving their company within a short time due to an unhappy environment. It would also suggest remedial measures such as incentives that could be given to the employee or reduction in workload, promotions and designation changes, training and reskilling initiatives, better conversations with managerial or peer level folks etc. Recently many companies like Accenture, Intel, IBM, and Twitter has started using this analysis to understand the sentiments of their own employees.

AI Assisted Talent Acquisition

Talent acquisition is one of the major responsibility of the HR department. But how can we be sure that the person that we have acquired is the right fit? Like all the other departments it is populated by fallible humans, who are not immune to human bias in these proceedings. There will be situations where the wrong person will be hired because of their attitude and smooth talking.

AI makes this process more trustworthy as it relies more on the analytical processing of large amounts of data rather than individual observations. AI is not affected by the applicants' race, gender or ethnicity and will select the candidate purely based on their talent. It can even prepare interview questions focused on their professional competency for a particular job. The questions will be prepared based on the applicant's previous work records and requirement of the job they apply for. This way, best candidates can be filtered out quickly.

AI-assisted online interviews

From now onwards the candidates will not be able to lie during an interview as artificial intelligence will be reading their face and every move and gesture made by

the candidate, assessing the honesty of the answers and emotions. It will also check whether your personality fits the given job. A multinational company like Unilever has already started using this process for entry-level jobs.

Candidates have to go through a video interview with pre-set questions which they can even do on a smartphone. AI measures the candidate's facial expressions to capture their moods and further assess their personality traits. It also evaluates the truthfulness of the answers given by them. The AI then selects the best candidates from the interview and sends them to a human recruiter along with the reasons why the candidates were selected.

Besides the availability of skilled labor is on the decline across industries. The leading job site Jobvite recently published a survey of recruiters in which more than 65% claimed a shortage of talented resources as the number one problem to fill key positions. It would be suicidal to let go of your talented resources in such a volatile market scenario and with AI enabled systems, you can identify their thoughts about leaving way before they actually make the decision to do so.

Factors required for successful AI implementation in HR

While there is no denying that AI can lead to a significant impact on the HR value chain, there needs to be a facilitation of some fundamental factors. These factors should create a value proposition for future HR processes and workforce. The organisations need to begin with the right mindset towards AI adoption with a clear business vision. The responsibility of which does not lie only with the HR heads, but with the overall leadership. The leadership also needs to propagate AI technology adoption at every level.

For HR processes, there has to be a change management strategy in place as well to deal with the workforce's emotional and work-related issues resulting from an organisation's focus in this space. The initial AI pilots in HR technology need to be leveraged as examples of AI success within the HR sphere. This can be done by scaling them into initiatives that can impact the entire workforce.

The purpose of AI adoption in HR tech is to improve the productivity and efficiency of HR so that it can meet its core objectives. Employee engagement and improved employee experience are at the heart of any successful HR operation. This should be borne in mind that the ultimate role of AI in HR technology is to facilitate employee experience at all levels.

7. CONCLUSION

Challenges with implementing AI in HRM

How to create collaborative intelligence then? **First of all, the firm has to understand the anxiety and resistance of the employees to AI technology and help them to overcome it.** For this happen, it is important to clarify company's strategy based on collaborative intelligence. This should not be a beautiful rhetoric but contain strong message consistently. And even more importantly, human experience and ideas have to be incorporated in designing and implementing AI system. It is better to make happen the improved performance through collaboration between human and AI as soon as possible. This 'quick-in success' can strengthen the collaboration more firmly.

Secondly, the firm need to build up digital literacy in the employees. It consists of basic knowledge of statistics, programming language. If fact, it is a basic language for communication between human and AI to understand each other. Selection criteria for hiring must include this skill and knowledge. Or digital awareness program can be offered to stimulate digital literacy for the incumbents. Company can support individually customized learning program. Make a composition of team more diverse including data scientist, functional expert and AI.

Thirdly, it is vital to cultivate and reinforce learning agility to cope with constant reconstruction of work. In fact, AI technology change constantly the content of the work, and the value of experience decrease and the future become more and more unpredictable. According to the constant change and evolution of technology, work need to be modified continuously. It is in this context that learning agility becomes crucial. The management can use learning agility as selection criteria for hiring of new comers. Or it is also used as an important element for development and selection of future leaders.

Fourthly, management need to stimulate insight and creative ideas from employees. In a sense, this is the most important human contribution. Human have to do what AI cannot do. It matters, therefore, to encourage employees to ask "why" always. It could be more important to bring out questions than to solve them. Solution can be found by human and AI through collaborative intelligence or open collaboration with collaborators outside the organization.

Last but not least, management should create open organizational culture. Managers have to take a good attention for that age or experience override over new ideas and competence. It is important to create an open and constructive atmosphere in which everyone speak up one's ideas without hesitation, in particular for the organizations that have a collective and hierarchical culture. It would be a miracle for them to survive in the technological torrents.

8. References

https://www.slideshare.net/TomHaak/artificial-intelligence-threat-or-opportunity-

for-hr
https://blog.accubits.com/ai-in-human-resource-management/
https://blog.accubits.com/how-artificial-intelligence-powers-business-data-analytics/
https://www.slideshare.net/nishatheperfectangel/artificial-intelligence-in-business-11230999
https://empxtrack.com/blog/artificial-intelligence-in-hr/

CORPORATE ACQUISITIONS STUDIES BASED ON ACCOUNTING METHOD - A LITERATURE REVIEW

VISHAL SRIVASTAVA (Corresponding Author)
PhD Scholar, Under the Faculty of Management
Symbiosis Centre for Research & Innovation (SCRI), Symbiosis International University
Gram: Lavale, Tal: Mulshi, Dist: Pune - 412115
E-mail:vishalsr7@gmail.com

Dr. SUNDER RAM KORIVI
Department of Economic Affairs
and
National Institute of Financial Management Research Programme, Faridabad - 121001
E-mail:sundfina9@gmail.com

Abstract

Corporate acquisition can be considered as one of the best processes of corporate restructuring. Researchers have always shown their keen interest on the study of corporate acquisitions and tried to find out its impact on firms performance. This paper presents a review of substantial previous literature available in this field keeping a specific focus on the studies based on accounting method. This paper concludes that previous literature has shown positive, negative and mixed impact of corporate acquisitions on firms' performance.

Key Words: Acquisition, Accounting, Operating performance
JEL Classification: G34, G31

1. Introduction

Growth of a company can be achieved by two ways across all the businesses. First one is called as Organic Growth i.e. growth through internal expansion. Business can be grown gradually over a period time by adopting this way. By adopting the second way which is called inorganic growth i.e. strategy of external expansion has completely changed the business sector across the world. This takes place in the form of mergers and acquisitions. This increases the globalization of businesses many times within a very short span of time. Acquisitions, one of the best processes of corporate restructuring, has gained much importance in the present day corporate world. Substantial amount of research has been done to evaluate the performance of acquiringcompanies and various researchers have used different methods to evaluate the performance of an acquisition. Bruner R. F. (2002) summarized the evidences from 14 informal studies and 100 scientific studies from 1971 to 2001. He found following four approaches used by researchers in order to evaluate the post-acquisition performance.

a) Accounting studies (Returns estimated from reported financial statements)
b) Event Studies (Market based returns to Shareholders)
c) Clinical Studies (Case Studies Method)
d) Survey of Executives (Questionnaire Method)

Many studies in this field have been done by using Mixed Method approach also in which the researcher has used two or more methods to evaluate the post-acquisition performance. Accounting studies have been followed widely by the researchers. Accounting studies focus on the financial parameters (performance indicators) of the acquirer's pre and post- acquisition. Researchers have studied various parameters like Return of Equity (ROE), Return on Assets (ROA), Net Income, Earnings per share (EPS) and Cash flow etc. In these studies, the question is whether the acquirers outperformed their non-acquirer peers (Bruner R. F., 2002). Accounting studies use audited financial statements of companies, hence the credibility of these studies can be very well established and unlike Event studies, these are not very much carried away by external events.

In this paper, previous corporate acquisition studies based on accounting method have been reviewed. In previous literature, the terms merger and acquisition have been interchangeably used by many authors, the same will be followed in this paper also but the basic intent will remain as acquisition only. This paper has been organized as follows: Section 2 of the paper will discuss the corporate acquisitions' studies based on accounting method in detail.Previous literature has been classified in three parts i.e. the corporate acquisition studies which have shown positive, negative or no impact and mixed impact on firm's (mainly acquirer) performance. Section 3 will be the conclusion part.

2. Literature Review

In this section, previous corporate acquisition studies based on accounting method has been discussed and classified in line with their findings:

a) Positive Impact

Kaplan (1989) studied changes in operating results for a sample of 76 large managementbuyouts of public companies completed between 1980 and 1986. Post buyout financial data was available for 48 companies only. He found that in the three years after the buyout, these companies experience increase in operating income (before depreciation) and in net cash flow.Linder and Crane (1992) studied the before and after performance of all bank mergers in the New England states between 1982 and 1987. They distinguished that mergers of previously acquired banks performed significantly better than mergers of newly acquired banks and, measured by operating return on assets (ROA), achieved significant performance improvements relative to the industry.Cornett and Tehranian (1992) examined the post-acquisition performance of large bank mergers between 1982 and 1987. They compared the post- merger performance of 30 large banks acquisitions with the pre-merger performance of merging banks. They found that in comparison to the large banks in the industry, their sample of

merged banks produced superior cash flow returns on assets during the post-merger period. Healy, Palepu, and Ruback (1992) have studied the post-acquisition operating performance of merged firms using a sample of 50 largest acquisitions between U.S. public industrial firms completed in the period 1979 to mid-1983. They found that merged firms have significant improvement in operating cash flow returns after merger, resulting from increases in asset productivity relative to their industries.Switzer (1996) examined the change in operating performance of firms which merge for a sample of 324 acquisitions which occurred between 1967 and 1987. He found that the performance of the merged firms based on cash flow has typically improved following their combination.Parrino and Harris (1999) studied post acquisition operating performance of 197 transactions in which U.S. public companies merged during the period 1982-1987.They found that on an average, merged companies have shown post-acquisition improvement in operating performance based on cash flow returns.Ramaswamy and Waegelein (2003) used a sample of 162 firms and industry-adjusted cash flow returns on market value of assets as performance criteria to examine the financial performance of the combined target and acquiring firms over a 5-year post-merger period in relation to the corresponding pre-merger period. They found that there is improvement in post-merger operating financial performance.

b) <u>Negative or No Impact</u>

Melicher and Rush (1974) found that conglomerate firms have acquired firms characterized by relatively higher levels of operating profitability. They found that firms acquired by conglomerates were no more profitable than firms acquired by non-conglomerates. They have used the financial data available for 61 conglomerate firms and 71 non-conglomerate firms during 1960 – 1969 period. Ravenscraft and Scherer (1987) studied tender offer targets of the 1960s and early 1970s. They found that traget companies entered their acquirers' organizations with a profit record slightly inferior to that of their two-digit industry peers. They opined that there is no evidence of enhancement in post takeover profitability.Dickerson, Gibson and Tsakalotos (1997) studied impact of acquisitions for a large cross-section of UK quoted companies over a period of 1948 to 1977 including 2941 companies. They have compared companies after making an acquisition with their previous performance as well as with non-acquiring firms. They found no evidence that acquisition has a net beneficial effect on company performance as measured by profitability. Healy, Palepu and Ruback (1997) examined acquiring companies' cash flow performance after a merger in the fifty largest U.S. industrial takeovers from 1979 to mid-1984. Their study has shown that the acquiring companies did not generate any additional cash flows beyond those needed to recover the premium paid however friendly takeovers have outperformed hostile takeovers.Kaplan, Mitchell and Wruck (2000) expressed that Performance studies attempt to measure the longer-term implications of mergers and acquisitions. These studies use both accounting and stock return data to measure performance. Independent of the type of data analyzed, these studies fail to find consistent evidence of improved performance or productivity gains.

Ghosh(2001) has studied the post-acquisition operating cash flow performance of large acquisitions in U.S. between 1981 and 1995. He has compared the post and pre-acquisition operating cash flow performance of merging firms relative to matched firms to determine whether operating performance improves following acquisitions. Using this methodology, he did not find any evidence that merging firms are able to increase operating cash flow performance following acquisitions. Bertrand and Betschinger (2012) investigated the long-term impact of domestic and international acquisitions, initiated by Russian firms, on their operating performance. Their sample included more than 600 acquirers and they found that both domestic and international acquisitions tend to reduce the performance of acquirers based on return on assets (ROA)compared to non-acquiring firms.

c) **Mixed Impact**

Pawaskar (2001) has studied the impact of acquisitions on corporate performance. He has taken 36 Indian cases between 1992 to 1995. He has used various variables to study pre and post-acquisition profitability, growth rate, leverage, tax and liquidity. He found that both the merging firms (the acquirer and the acquired) were at the lower end in terms of growth, tax and the liquidity of the industry. He also found that the firms performed better than industry in terms of profitability and financial synergies (increased leverage) were significant.Gugler, Mueller, Yurtoglu and Zulehner (2001) studied the effects of mergers around the world over a period of late 1970s to 1998. They had a merger sample of 14,269 merger years and acquiring firms were present over a period of 15 years in their data base. They defined a merger as a transaction where more than 50 percent of the equity of a target firm is acquired. They examined the effects of the mergers by comparing the performance of the merging firms with control groups of non-merging firms. Their comparisons were made on profitability and sales. They found that mergers on average do result in significant increases in profits, but reduce the sales of the merging firms.Cosh and Guest (2001) examined the long run pre- and post-takeover performance of hostile takeovers in the U.K. from 1985 to mid-1996. Their sample included 64 hostile takeovers and 139 friendly takeovers. They found that prior to takeover, targets in hostile takeovers experience a significant deterioration in profit returns. However, they found that in the post-takeover period hostile takeovers show significant improvements in profit returns, which are associated with significant asset disposals. In contrast, friendly takeovers do not improve profit returns.Linn and Switzer (2001) examined the relation between the changes in operating performance of firms that merge and whether the acquiring firm offered cash or stock as the method of payment. The result for a sample of 413 combinations indicated that the change in performance of the merged firms is significantly smaller for cases in which the acquiring company offered stock as compared to cash offers. Zollo and Singh (2004) have studied a sample of 228 acquisitions in U.S. banking industry between 1986 to 1994. They have measured the post-acquisition performance using ROA and discussed how post-acquisition decisions and capability building processes affect the economic performance of corporate acquisitions. They found that knowledge codification strongly and positively influences acquisition performance while

experience accumulation does not. Mantravadi and Reddy (2008) have studied the impact of acquisitions on the operating performance of acquiring corporates in different industries, by examining some pre and post-acquisition financial ratios in the post reform period. Their sample included 118 acquisitions involving public limited and traded companies in India between 1991 and 2003. They found that there are minor variations in terms of impact on operating performance following acquisitions, in different industries in India.

3. Conclusion

This paper has reviewed the previous literature available on corporate acquisition keeping our focus mainly on accounting method and tried to find out whether acquisitions have positive, negative or no impact on the firms (mainly acquirer) performance. However, based on the above discussion, previous literature have all kinds of findings in their studies i.e. positive , negative or no impact as well as a lot of findings showing the mixed impact i.e. positive and negative both on firms performance. Hence, it is difficult to draw any conclusion on above discussion but one thing can be said with lot of certainty that researchers will always remain keen on corporate acquisition studies and further scope for study will remain forever.

References

Akben-Selcuk, E., & Altiok-Yilmaz, A. (2011). The Impact of Mergers and Acquisitions on Acquirer Performance: Evidence from Turkey. *Business and Economics Journal, BEJ-22*, 1-8.

Bertrand, O., & Betschinger, M.-A. (2012). Performance of domestic and cross-border acquisitions: Empirical evidence from Russian acquirers. *Journal of Comparative Economics, 40*, 413–437.

Bruner, R. F. (2002). Does M&A Pay? A Survey of Evidence for the Decision Maker. *Journal of Applied Finance*, 48-68.

Cornett, M. M., & Tehranian, H. (1992). Changes in corporate performance associated with bank acquisitions. *Journal of Financial Economics, 31*, 211-234.

Cosh, A., & Guest, P. (2001). THE LONG-RUN PERFORMANCE OF HOSTILE TAKEOVERS: U.K. EVIDENCE. *University of Cambridge Working Paper No. 215*, 1-56.

Dickerson, A. P., Gibson, H. D., & Tsakalotos, E. (1997). The Impact of Acquisitions on Company Performance: Evidence from a Large Panel of UK Firms. *Oxford Economic Papers, 49*(3), 344-361.

Ghosh, A. (2001). Does operating performance really improve following corporate acquisitions? *Journal of Corporate Finance, 7*, 151-178.

Gugler, K., Mueller, D. C., Yurtoglu, B. B., & Zulehner, C. (2001). The effects of mergers: an international comparison. *Working Paper*, i-31.

Healy, P. M., Palepu, K. G., & Ruback, R. S. (1992). Does Corporate Performance Improve after Mergers? *Journal of Financial Economics, 31*, 135-175.

Healy, P. M., Palepu, K. G., & Ruback, R. S. (1997). Which Takeovers Are Profitable? Strategic or Financial? *Sloan Management Review, 38*(4), 45-57.

Kaplan, S. (1989). The effect of Management Buyouts on operating performance and Value. *Journal of Financial Economics, 24*, 217-254.

Kaplan, S. N., Mitchell, M., & Wruck, K. (2000). A Clinical Exploration of Value Creation and Destruction in Acquisitions. In S. N. Kaplan, *Mergers and Productivity* (pp. 179-238). University of Chicago Press.

LINDER, J. C., & CRANE, D. B. (1992). Bank Mergers: Integration and Profitability. *Journal of Financial Services Research, 7*, 35-55.

Linn, S. C., & Switzer, J. A. (2001). Are Cash Acquisitions associated with better postcombination operating performance than stock acquistions. *Journal of Banking and Finance, 25*, 1113-1138.

Mantravadi, P., & Reddy, A. V. (2008). Post-Merger Performance of Acquiring Firms from Different Industries in India. *International Research Journal of Finance and Economics, 22*, 192-204.

Parrino, J. D., College, B., & Harris, R. S. (1999). Takeovers, Management Replacement, and Post-Acquisition Operating Performance: Some Evidence From the 1980s. *Journal of Applied Corporate Finance, 11*(4), 88-97.

Pawaskar, V. (2001). Effect of Mergers on Corporate Performance in India. *Vikalpa, 26*(1), 19-32.

RAMASWAMY, K. P., & WAEGELEIN, J. F. (2003). Firm Financial Performance Following Mergers. *Review of Quantitative Finance and Accounting, 20*, 115-126.

RAVENSCRAFT, D. J., & SCHERER, F. M. (1987). LIFE AFTER TAKEOVER. *THE JOURNAL OF INDUSTRIAL ECONOMICS, 46*(2), 147-156.

Switzer, J. A. (1996). Evidence on Real Gains in Corporate Acquisitions. *Journal of Economics and Business, 49*, 443-460.

W.Melicher, R., & Rush, D. F. (1974). Evidence On the Acquisition-Related Performance of conglomerate Firms. *The Journal of Finance, 29*(1), 141-149.

ZOLLO, M., & SINGH, H. (2004). Deliberate Learning in Corporate Acquistions: Post Acquistion Strategies and Integration Capability in U.S. Bank Mergers. *Strategic Management Journal, 25*, 1233 - 1256.

Commerce Conference Participation Details

Sl.No	Name	Organisation
1	Alka Sharma	Department of Commerce &Management,University of Kota, Kota Rajasthan
2	Prof. (Dr.) Deependra Sharm	Amity Business School, Faculty of Management & Behavioural Sciences, Amity University, Manesar,
3	Satish Kumar, Research sch	Amity University, Manesar, Gurugram, Haryana,
4	Shivmurti K Gupta	Viva Jr.college of commerce,Nallasopara (East),Palghar
5	Dr.Anant Pandurang Jadha	N.W. Mahavidyalaya,Nallasopara (East),Palghar
6	Tangudu Neelakantha,	National Institute of Securities Markets, Navi Mumbai
7	Shivam Ashish	National Institute of Securities Markets, Navi Mumbai
8	Akhilesh V Krishnan,	National Institute of Securities Markets, Navi Mumbai
9	VISHAL SRIVASTAVA	Symbiosis Centre for Research & Innovation (SCRI), Symbiosis
10	Dr. SUNDER RAM KORIVI	National Institute of Financial Management Research Programme
11	Manoj Kumar Dash	PhD Scholar, Department of Commerce, Berhampur University, Berhampur
12	Dr. Gouri Sankar Lall	Associate professor, PG Department of commerce Berhampur University,
13	Santosh Kumar singh	Assistant Professor, Trinity Institute of Professional Studies, New Delhi
14	Ms. Geetanjali B. Chiplunka	Assistant Prof. Sheth NKTT College, Thane
15	VARSHA RAHUL SINGH	NAVNEET EDUCATION SOCIETY NIGHT DEGREE COLLEGE
16	Prof. Sangeeta J. Jagia	R.K.Talreja College of Arts, Science and Commerce,
17	Jyoti A Chilka	College: SIES college of Commerce &Economics
18	Amruta S Pol	College: SIES college of Commerce &Economics
19	Minal sarode	SIS(Nerul)College Of Arts, Science & Commerce
20	Sana Ansari	Lecturer , Patuck Gala College of commerce & management
21	Shivam Ashish	National Institute of Securities Markets, Navi Mumbai
22	Pradiptarathi Panda	National Institute of Securities Markets, Navi Mumbai
23	Latha Chari	National Institute of Securities Markets, Navi Mumbai
24	Rashmi Chand	Indira Gandhi University, Meerpur, Rewari, Haryana
25	Vishal Uttam Mhaske	Kavayitri Bahinabai Chaudhari North,Maharashtra University, Jalgaon
26	Ms.Rewati Soman	Pillai HOC College of Arts, Science and Commerce, Rasayani

27	Mr. Sumeet Mhatre	Pillai HOC College of Arts, Science and Commerce, Rasayani
28	Ms. Sweta Roy Choudhury	Pillai HOC College of Arts, Science and Commerce, Rasayani
29	Mr. Vineet Murli	Pillai HOC College of Arts, Science and Commerce, Rasayani
30	Ms. Harshita Singh	Pillai HOC College of Arts, Science and Commerce, Rasayani
31	Ms. Amreen Khan	Pillai HOC College of Arts, Science and Commerce, Rasayani
32	Ms. Remya Madan Gopal	Pillai HOC College of Arts, Science and Commerce, Rasayani
33	Ms. Arushi Dube	Pillai HOC College of Arts, Science and Commerce, Rasayani
34	Ms. Hardik Dave	Pillai HOC College of Arts, Science and Commerce, Rasayani
35	Ms. Sheetal Patariya	Pillai HOC College of Arts, Science and Commerce, Rasayani
36	Ms. Babita Panda	Pillai HOC College of Arts, Science and Commerce, Rasayani
37	Mr. Rohan Yadav	Pillai HOC College of Arts, Science and Commerce, Rasayani

REPORT

Name of the event :-	One week International Online Faculty Development Program on **INNOVATION, IPR & ENTREPRENEURSHIP**
Conducted by:-	**Internal Quality Assurance Cell (IQAC)** **Pillai HOC College of Arts, Science and Commerce , Rasayani**
Date & Time	**04th May,2020** **DAY 1**
Venue:-	**Zoom Link**
Report:-	**Mahatma Education Society's** **Pillai HOC College of Arts, Science and Commerce , Rasayani** **Report on One week International Online Faculty Development Programme on 'INNOVATION, IPR & ENTREPRENEURSHIP** The following is a report on the first day of One week International Online Faculty Development Program on **INNOVATION, IPR & ENTREPRENEURSHIP** which commenced from 4th May,2020. The session was opened up at 10 am by Mrs. Rewati, the convenor for this FDP by welcoming all the delegates who were the witness to this great event. She even expressed her gratitude to the foreign delegates who all hailed from Canada, US, France and Japan. After this brief introduction, it was Ms. Ashwini Satve who introduced Ms. Priti Pachpande, the first speaker for the day. Ms. Pachpande highlited her own personal experiences and the world of Innovation with beautiful examples. By 10:30 pm, the next speaker Mr. Vijay Shivpuje entered the scenario. He explained three **INTELLECTUAL PROPERTY RIGHTS: Geographical Indicators, Trademarks and Copy rights**. His session was so delightful with lively examples that the audience interacted very enthusiastically. Once the session was over he talk to the question and answer session where he clarified the doubts pertaining to the world of IPR. The day ended with the vote of thanks by Mr Keekan Priyesh Raghavan, where both the speakers ere appreciated for their time and efforts as well as the delegates were encouraged too for their massive support.
Photos:-	May 4, 2020 Day -1 https://www.youtube.com/watch?v=D6jZ8yYwMwA&list=PLJXyAQkETfdT_0gK_6hTeAXKm5SroqZxx

REPORT

Name of the event :-	**One week International Online Faculty Development Program on 'INNOVATION, IPR & ENTREPRENEURSHIP**
Conducted by:-	**INTERNAL QUALITY ASSURANCE CELL (IQAC)** **Pillai HOC College of Arts, Science and Commerce , Rasayani**
Date & Time	**05th May,2020** **DAY 2**
Venue:-	**Zoom Link**
Report:-	**Mahatma Education Society's** **Pillai HOC College of Arts, Science and Commerce , Rasayani** **Report on One week International Online Faculty Development Programme on 'INNOVATION, IPR & ENTREPRENEURSHIP** This is a Report on the second day of One week International Online Faculty Development Program on **'INNOVATION, IPR & ENTRENEURSHIP** which commenced from **4th May, 2020.** The session was opened up at 10 am by Mrs. Rewati, the convenor for this FDP by welcoming all the delegates who were the witness to this great event. After this brief introduction, it was Ms. Ashwini Satve who reintroduced the speaker, Mr. Vijay Shivpuje, who continued from where he left yesterday. This time he concentrated on very important **INTELLECTUAL PROPERTY RIGHTS**: **Patents**. The area that he touched this time was Patent Rights, its registration, Documentation process, which aspects to be considered right for Patenting plus he deeply penetrated into the meaning of Patent. His later part dealt with the things that can and cannot be patented in India. The session saw curtains with systematic question and answer round. The day ended with the vote of thanks by Ms Ashwini Satve, where she appreciated the speaker for his positive approach and great deliverance of the subject matter. The event for second day ended.
Photos:-	May 5, 2020 Day -2 https://www.youtube.com/watch?v=Bzq43crzF30

REPORT

Name of the event :-	**One week International Online Faculty Development Program on INNOVATION, IPR & ENTREPRENEURSHIP**
Conducted by:-	**INTERNAL QUALITY ASSURANCE CELL (IQAC)** **Pillai HOC College of Arts, Science and Commerce , Rasayani**
Date & Time	**06th May,2020** **DAY 3**
Venue:-	**Zoom Link**
Report:-	**Mahatma Education Society's** **Pillai HOC College of Arts, Science and Commerce , Rasayani** **Report on One week International Online Faculty Development Programme on 'INNOVATION, IPR & ENTREPRENEURSHIP** The following Report is based on the Proceedings of third day of One week International Online Faculty Development Program on **'INNOVATION, IPR & ENTRENEURSHIP** commenced from **4th May, 2020.** The session was opened up at 10 am by Ms. Ashwini, by welcoming all the delegates who were the witness to this great event. After this brief introduction, it was Ms. Ashwini Satve who reintroduced the guest speaker, Dr. Sandeep Kumar, who is a post-doctoral fellow at Institute of Space Earth Environment Research. He related his studies with the Patent and its essence. The half an hour talk was indeed a great sight to watch. He was appreciated by Ms. Ashwini for sparing his valuable time from his busy schedule to host the enthusiastic crowd. After his departure, it was the time for the re-introduction of our regular speaker Mr. Vijay Shivpuje. This time he concentrated on very important aspects of **ENTREPRENEURSHIP**. The area that he touched this time was **the Service Sector**. The speaker beautifully described its meaning, role and its importance. He later on compared Product with Services. He even talked about his firm and connected it with the topic to bring clear picture of the same. He also patiently took the questions and answered them. The day ended with the vote of thanks by Mrs. Rewati Soman, where she appreciated the speaker for his positive approach and great deliverance of the subject matter. The event for Third day ended.
Photos:-	May 6,2020 Day -3 https://youtu.be/tZwmXzhc21Q

REPORT

Name of the event :-	**One week International Online Faculty Development Program on 'INNOVATION, IPR & ENTREPRENEURSHIP**
Conducted by:-	**INTERNAL QUALITY ASSURANCE CELL (IQAC)** **Pillai HOC College of Arts, Science and Commerce , Rasayani**
Date & Time	**07th May,2020** **DAY 4**
Venue:-	**Zoom Link**
Report:-	**Mahatma Education Society's** **Pillai HOC College of Arts, Science and Commerce , Rasayani** **Report on One week International Online Faculty Development Programme on 'INNOVATION, IPR & ENTRENEURSHIP** The following Report is based on the fourth day Proceedings of One week International Online Faculty Development Program on **'INNOVATION, IPR & ENTREPRENEURSHIP** commenced from **4th May, 2020.** The session was opened up at 10 am by Mrs. Rewati, the convenor for this FDP by welcoming all the delegates who were the witness to this great event. After this brief introduction, it was Ms. Ashwini Satve who reintroduced the speaker, Mr. Vijay Shivpuje, who continued from where he left on day three. This time he concentrated on Entrepreneurship: The Start-up business. The area that he touched this time was Business start-ups, its importance, registration, process, how it is different for other ventures and which aspects to be considered for business start-ups as well as he explained his own set up too. The session saw curtains with systematic question and answer round. The day ended with the vote of thanks by Ms Ashwini Satve, where she appreciated the speaker for his positive approach and great deliverance of the subject matter. The event for fourth day ended.
Photos:-	May 7,2020 Day-4 https://www.youtube.com/watch?v=gATN3uDXfPE

REPORT

Name of the event :-	**One week International Online Faculty Development Program on 'INNOVATION, IPR & ENTREPRENEURSHIP**
Conducted by:-	**INTERNAL QUALITY ASSURANCE CELL** **Pillai HOC College of Arts, Science and Commerce , Rasayani**
Date & Time	**08th May,2020** **DAY 5**
Venue:-	**Zoom Link**
Report:-	**Mahatma Education Society's** **Pillai HOC College of Arts, Science and Commerce , Rasayani** **Report on One week International Online Faculty Development Programme on INNOVATION, IPR & ENTREPRENEURSHIP** This is the report on the fifth day of One week International Online Faculty Development Program on **'INNOVATION, IPR & ENTREPRENEURSHIP** which started on **4th May, 2020.** The session was opened up at 10 am by Mrs. Rewati, the convenor for this FDP by welcoming all the delegates who were the witness to this great event. After this brief introduction, the speaker, Mr. Vijay Shivpuje, continued from where he left on day four. This time he concentrated on Incubation centres. The area that he touched was the role of incubation centre in setting up start up businesses, its importance, process, how to venture in certain business for first time and which aspects to be considered for gaining the help. . The session saw curtains with systematic question and answer round. The day ended with the vote of thanks by Ms Rewati Soman, where she appreciated the speaker for his positive approach and great deliverance of the subject matter. The event for fifth day ended.
Photos:-	May 8, 2020 Day-5 https://www.youtube.com/watch?v=JoZHmlKD_10

REPORT

Name of the event :	**One week International Online Faculty Development Program on 'INNOVATION, IPR & ENTRENEURSHIP**
Conducted by:-	**INTERNAL QUALITY ASSURANCE CELL (IQAC)** **Pillai HOC College of Arts, Science and Commerce , Rasayani**
Date & Time	**09th May,2020 DAY 6**
Venue:-	**Zoom Link**
Report:-	**Mahatma Education Society's** **Pillai HOC College of Arts, Science and Commerce , Rasayani** **Report on One week International Online Faculty Development Programme on 'INNOVATION, IPR & ENTRENEURSHIP** The following report is based on the sixth day of One week International Online Faculty Development Program on **'INNOVATION, IPR & ENTRENEURSHIP** which commenced on **4th May, 2020.** The session was opened up at 10 am by Mrs. Rewati, the convenor for this FDP by welcoming all the delegates who were the witness to this great event. After this brief introduction, Mr. Vijay Shivpuje, continued from where he left yesterday. This time he concentrated on The best practices in innovation IPR and patenting. The area that he touched this time was Promotion of Innovation, the steps involved in it and focus on aspects such as Brain storming, Reverse thinking, Accidental Innovation, Collaboration, 7 Thinking Hats, Attribute listings, Role Playing, Story boarding, Mind Mapping and SCAMPER. The session saw curtains with systematic question and answer round. The day ended with the vote of thanks by Mrs Rewati Soman, where she appreciated the speaker for his positive approach and great deliverance of the subject matter. The event for sixth day ended.
Photos:-	May 9, 2020 Day -6 https://youtu.be/EYNL30uGX7c

REPORT

Name of the event :-	**One week International Online Faculty Development Program on 'INNOVATION, IPR & ENTREPRENEURSHIP**
Conducted by:-	**INTERNAL QUALITY ASSURANCE CELL (IQAC)** **Pillai HOC College of Arts, Science and Commerce , Rasayani**
Date & Time	**10th May,2020** **DAY 7**
Venue:-	**Zoom Link**
Report:-	**Mahatma Education Society's** **Pillai HOC College of Arts, Science and Commerce , Rasayani** **Report on One week International Online Faculty Development Programme on 'INNOVATION, IPR & ENTREPRENEURSHIP** This is a Report on the seventh day of One week International Online Faculty Development Program on **'INNOVATION, IPR & ENTREPRENEURSHIP** which commenced on **4th May, 2020.** The session was opened up at 10 am by Mrs. Rewati, the convenor for this FDP by welcoming all the delegates who were the witness to this great event. It was Ms Ashwini Satve who set tone to the final day of the one week long successful international programme. She praised the efforts of the Chairman Dr.Vasudevan Pillai and his wife Mrs. Daphne Pillai, the two pillars instrumental in setting the Mahatma Education Society on the pacy track. She also appreciated the efforts of the Principal Dr.Lata Menon. She never held her back even in praising the FDP team and their efforts. After this brief introduction, Mr. Vijay Shivpuje, came up for one last session which he had been continuing since past six days. This time he concentrated on INNOVATION: Use of Technology in Teaching and Learning Process. He focussed on You tube, Google Classroom, Zoom and many other platforms which always facilitated the online teaching. It was a session where the questions were satisfied keeping in mind the teacher's hardship in tackling with the technology. But Vijay sir was at his best in coming up with useful suggestions. The session saw curtains with systematic question and answer

	round. The session ended with the valediction by Mrs Rewati Soman, where she appreciated the speaker for his positive approach and great deliverance of the subject matter. She also showered here praises on both Indian and Foreign delegates for expressing their opinions on the webinar. Even she thanked her team for their selfless dedication towards making this event very successful. The event for seventh day ended successfully.
Photos:-	May 10,2020 Day -7 https://youtu.be/1SrG0NIJVaE

REPORT

Name of the event :-	**One week International Online Faculty Development Program on 'INNOVATION, IPR & ENTREPRENEURSHIP**
	INTERNAL QUALITY ASSURANCE CELL (IQAC) **Pillai HOC College of Arts, Science and Commerce , Rasayani**
Date & Time	**4th May to 10th May,2020** **One Week**
Venue:-	**Zoom Link**
Report:-	**Report on One week International Online Faculty Development Programme on 'INNOVATION, IPR & ENTRENEURSHIP** This is a Report on the proceedings of One week International Online Faculty Development Program on **'INNOVATION, IPR & ENTREPRENEURSHIP** which was held from **4th May, 2020 to 10th May, 2020.** **Day 1:** The session was opened up at 10 am by the convenor for this FDP by welcoming all the delegates who were the witness to this great event. She even expressed her gratitude to the foreign delegates who all hailed from Canada, US, France and Japan. The Key-note speaker was Ms Priti Pachpande & the speaker for session one was Mr Vijaykumar Shivpuje Shivpuje. Both the speakers shared their expertise as well as their personal experiences. Mr Vijaykumar Shivpuje skilfully introduced the topics that stretched from Geographical Indicators, Trademark to Copy rights, He took efforts in building rapport with the audience by answering to their questions. **Day 2:** Mr Vijaykumar Shivpuje took it forward from where he left on Day 1. After his warm welcoming for day 2 session, he poured his entire thoughts on Patents. He covered the area which included: Patent Rights, documentation process and the things that fall under the ambit of Patent law. **Day 3:** The third day saw the advent of Guest of honour ,Dr. Sandeep Kumar,who is a post-doctoral fellow at Institute of Space Earth Environment Research. He added his valuable inputs regarding Patent and Space Technology. Mr. Vijay on day three spoke on the Service Sector. His comparison of Service with Goods and the working of Patlex firm further added valuable inputs for the learners.

	Day 4: In this session Mr Vijaykumar Shivpuje particularized on the Start-ups. He dealt with its importance; registration process, how different it is from established ventures and which ventures fall under this category. **Day 5:** The Incubation Centre was the topic for day five. Mr. Vijaykumar Shivpuje brought in all of his experiences and focused on its need, how to approach certain business, the role of such centres etc, his lively examples captured the attention of his audience. **Day 6:** The area that was focused upon on day 6 by Mr, Vijaykumar Shivpuje was The Best Practices in innovation, IPR and patenting. He presented the need of Innovation and the steps involved in it. He also emphasised more on Brain Storming, Accidental Innovation, Collaboration, Thinking Hats, Role playing etc. **Day 7:** Since it was the last day of FDP , it opened with recognition of MES 's two pillars CEO Dr Vasudevan PIllai and Dr Daphne Pillai. Their dedication & passion in building different educational institutions under this banner. Delegates were made aware of the institutional profile & structure. After this brief introduction, Mr. Vijaykumar Shivpuje, came up for one last session which he had been continuing since past six days. This time he focused on Use of Technology in Teaching and Learning Process. He elucidated on You tube, Google Classroom, Zoom and many other platforms which always facilitate online teaching. It was a session where the questions were satisfied keeping in mind the teachers' hardship in tackling with the technology and Vijaykumar sir was at his best in coming up with useful suggestions. The session saw curtains with systematic question and answer round. The session ended with the valediction and formal vote of thanks. Thus the one week international Online faculty Development Programme concluded successfully.
Links	May 4, 2020 Day -1 https://www.youtube.com/watch?v=D6jZ8yYwMwA&list=PLJXyAQkETfdT_0gK_6hTeAXKm5SroqZxx May 5, 2020 Day -2 https://www.youtube.com/watch?v=Bzq43crzF30 May 6,2020 Day -3 https://youtu.be/tZwmXzhc21Q May 7,2020 Day-4 https://www.youtube.com/watch?v=gATN3uDXfPE May 8, 2020 Day-5 https://www.youtube.com/watch?v=JoZHmlKD_10

	May 9, 2020 Day -6 https://youtu.be/EYNL30uGX7c May 10,2020 Day -7 https://youtu.be/1SrG0NIJVaE

Certificate ID: PHCASCFDPIIE-477

Mahatma Education Society's

Pillai HOC College of Arts, Science and Commerce, Rasayani

(Accredited by NAAC)

Certificate of Completion

THIS ACKNOWLEDGES THAT

Dr Jayanta K Behera

of Pillai HOC College of Arts,Science & Commerce, Rasayani

has successfully completed One Week International Online Faculty Development Programme organised by **Internal Quality Assurance Cell (IQAC)** in association with **Patlex Business Solutions** on

"INNOVATION, IPR & ENTREPRENEURSHIP"

from **May 04, 2020 to May 10, 2020**.

Mr. Vijaykumar Shivpuje	Mr. Swapnil Patil	Ms. Rewati Soman	Dr. Lata Menon
DIRECTOR, PATLEX BUSINESS SOLUTIONS	CO-CONVENOR	CONVENOR	PRINCIPAL

This is a system generated certificate.The information given on certificate are as per the details provided by the participant at the time of registration.

Patrons

Dr. K.M. Vasudevan Pillai
(Chairman and CEO, MES)

Dr. Daphne Pillai
(Secretary, MES)

Dr. Priam Pillai
(COO, MES)

Mr. Franav Pillai
(Deputy CEO, MES)

Dr. Lata Menon
(Principal)

DEADLINES & IMPORTANT DATES

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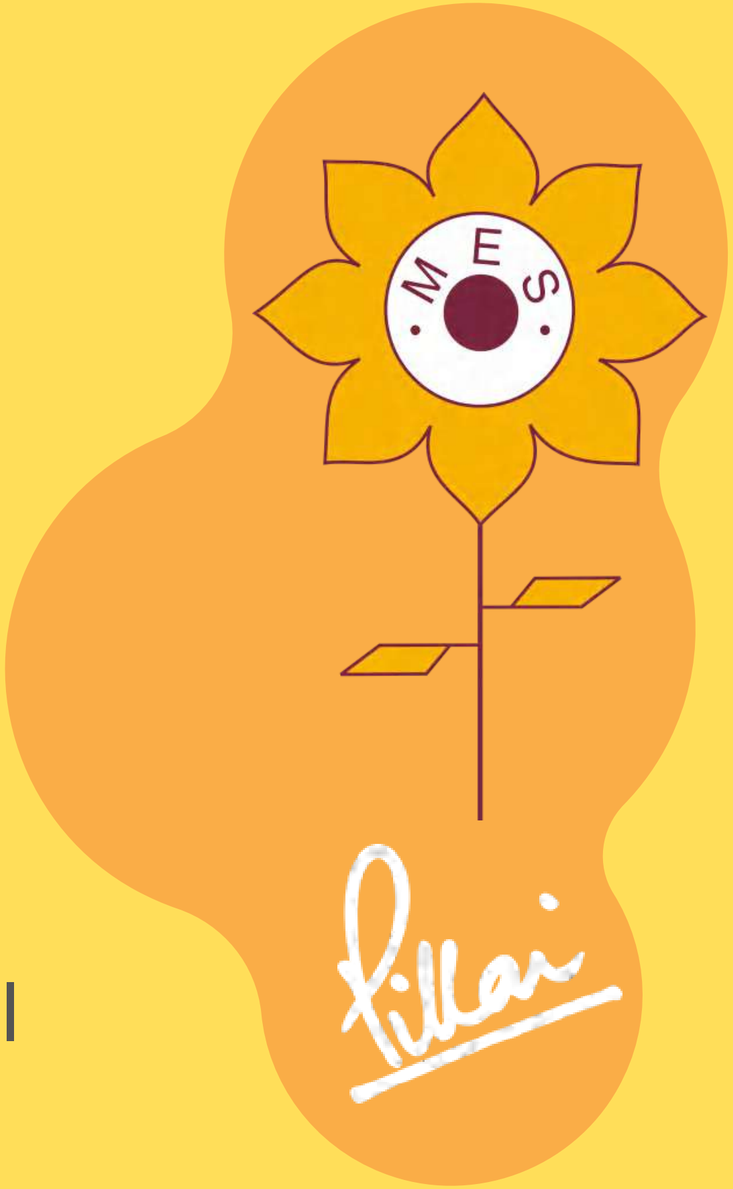

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MR.VIJAYKUMAR SHIVPUJE

M.Farm, LLB,Patent Agent

Patlex Business Solutions

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Email– vijay@patlex.in

Organising Team

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Principal, PHCASC
Dy. CEO, Pillai HOCL Educational Campus

Prof. Binit Kumar
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Ms.Priti Pachpade
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Prof.Priyesh Keekan
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Prof. Ashwini Satve
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PHCASC

Prof. Arushi Dube
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Salutation	Participant's full name	Participant's Email ID	Participant's Institute Name
Dr.	Dr Mamta Rajani	mamta.rajani06@gmail.com	Clara's college of Commerce
Mr.	Vinayak Parshuram Karand	vinayakkarande9@gmail.com	ICLES' MOTILAL JHUNJHUNWALA COLLEGE VASHI
Mr.	Swapnil H Patil	swapnilp@mes.ac.in	Pillai HOC College of Arts,Science & Commerce, Rasayani
Ms.	Harshita Singh	hsingh@mes.ac.in	Pillai HOC College of Arts, Science & Commerce, Rasayani
Mrs.	Shruti Swapnil Patil	swale@mes.ac.in	Pillai HOC Polytechnic
Mr.	MR. YADAV NILESH INDE	nilesh09yadav@gmail.com	M. S.College of Arts, Science, Commerce and BMS, Mumbra
Mr.	VINEET MURLI	vinit85@mes.ac.in	PILLAI HOC COLLEGE OF ARTS,SCIENCE & COMMERCE, RASAYANI
Dr.	Dr. PURSWANI KHUSHBU	purswanikhushbu@yahoo.com	S.S.T COLLEGE OF ARTS AND COMMERCE
Mrs.	Sunayana Jotiram Jadhav	sunayanajotiramjadhav@gmail.com	S. P. K. Mahavidyalaya, Sawantwadi, Dist-Sindhudurg, Maharashtra-416510
Mrs.	Sunita Sherifani	sunitas2766@gmail.com	V E S College of Arts Science and Commerce
Mrs.	Pallavi Shantanu Patil	pallavipatil@mes.ac.in	Pillai HOC College of Arts Science and Commerce
Dr.	Leena Namdeorao Meshram	reply.leena@gmail.com	Mahatma Phule A. S. C. College, Panvel
Mr.	Khalil Mujawar	khalil.mujawar@universal.edu.in	MSG SGKM College of Arts, Science and Commerce
Ms.	Rohini Shinde	rohini.shinde1344@gmail.com	VIVA College
Ms.	Arushi Dube	arushidube@mes.ac.in	Pillai HOC College of Arts, Science and Commerce, Rasayani
Ms.	Momin Zarmin Nisar	momin.zarmin@gmail.com	Bnn College
Mr.	Ravindra Gajanan Mhatre	ravim@mes.ac.in	Pillai HOC College of Arts,Science & Commerce,Rasayani
Mrs.	Harshavardhini Arvind Borwa	harshavardhini.borwankar@gmail.com	Viva College, Virar
Mr.	Chetan Bhalchandra Meher	cmeher472@gmail.com	Viva College Of Arts,Commerce and Science
Mr.	Wale Shubham Virbhadra	shubhamwale1@gmail.com	BKIT's Bhalki Karnataka.
Mrs.	NEETU. AKHIL. SHARMA	neetusharma@vivacollege.org	VIVA College of Arts, Commerce and Science Virar (West) Maharashtra
Ms.	Nanda Bhupal Jagtap	jnsshinde80@gmail.com	Dapoli urban bank senior science college Dapoli District Ratnagiri
Mrs.	Remya Madan Gopal	remyagopal@mes.ac.in	Pillai HOC College of Arts, Science & Commerce, Rasayani
Ms.	Sujata Rizal Kotian	rizal.sujata25@gmail.com	S. M. Shetty College
Ms.	Prof Roma P Bhagtiani	r.bhagtiani1@gmail.com	Vpm's Joshi Bedekar College Thane
Ms.	ASHVINI SATVE	ashwinisatve@mes.ac.in	Pillai HOC College of Arts, Science and Commerce, Rasayani
Mr.	Rajendra Palve	adv.rajendrapalve@gmail.com	Model College, Dombivli
Dr.	Ahire Suresh Chintaman	ahiresuresh9@gmail.com	Uttamrao Patil Arts and Science College Dahivel Dist. Dhule
Mrs.	Rupali Mangesh Sathe	rupalisathe@mes.ac.in	Pillai HOC College of Engineering and Technology Rasayani
Mr.	Vinodkumar Didwana	vinsdid2@gmail.com	Bhaskar Waman Thakur College of Science, Yashvant Keshav Patil College
Mrs.	Maria Achary	mariatis23@gmail.com	Jayshree sharatchandra kothari business school
Mr.	SATISH PANDIT RODHE	sprodhe1983@gmail.com	SHANKAR NARAYAN COLLEGE,BHAYANDER
Ms.	Nikhita Almeida	nikhita.almeida8@gmail.com	SVKM'S INSTITUTE OF INTERNATIONAL STUDIES
Mr.	SACHIN ASHOK DESHMU	sachindmkh@gmail.com	SHRI PANCHAM KHEMRAJ MAHAVIDYALAYA,SAWANTWADI.
Ms.	Sweta Roy Choudhury	rcsweta@mes.ac.in	PHCASC
Mr.	VIRAJ DESHPANDE	dviraj2006@gmail.com	Bunts Sangha's Anna Leela College
Dr.	Dr Manvendra Vashistha	manvendrav@mes.ac.in	Pillai HOC College of Engineering and Technology Rasayani
Dr.	Bina Sarkar	sbina2188@gmail.com	Sree Narayana Guru College of Commerce
Ms.	Reba Ann Varghese	rebavarghese2992@gmail.com	S.I.W.S College of Commerce and Economics
Dr.	Dr. Sumathi Gopal	drsumathigopal@gmail.com	NCRD'S STERLING COLLEGE OF ARTS, COMMERCE AND SCIENCE
Ms.	Manisha Bhupal Sutar	manishasutar4288@gmail.com	Shivaji University
Mr.	Milind M Paradkar	paradkar.milind@gmail.com	Vikas College of Arts Science and Commerce
Dr.	Sapana Chilate	sapana@mes.ac.in	Pillai HOC college of Arts, Science and Commerce Rasayani Raigad
Ms.	Anagha Ajay Kotekar	anaghakotekar94@gmail.com	J.W.Sadhubella Girls College
Dr.	NIKHIL CHANDRAKANT TE	nikhilteli86@gmail.com	VIVA College of Arts, Science and Commerce
Dr.	VINAY PANDIT	drvnpandit@gmail.com	LALA LAJPATRAI COLLEGE OF COMMERCE AND ECONOMICS

Dr.	Avinash J. Kamble	avinashkamble@mes.ac.in	Pillai HOC College of Engineering & Technology, Rasayani
Mrs.	Jagruti Sanjay Naukudkar	jagruti.sn1982@gmail.com	Viva College of Arts, Commerce & Science
Dr.	Poonam Kakkad	poonamkakkad0803@gmail.com	Nirmala Memorial Foundation College of Commerce and Science
Mrs.	MANISHA PARAG DATAR	datar.m74@gmail.com	Konkan Gyanpeeth, Karjat College of Arts, Science and Commerce
Mr.	Ajay Mukundrao Acharya	ariena7077@gmail.com	Shailendra College, Dahisar, Mumbai-68
Ms.	Neyha Malik	neyha@iul.ac.in	Integral University Lucknow
Mr.	Vikas Lalji Gupta	vikasgupta8976@gmail.com	VIVA College of Arts Science and Commerce
Dr.	DEEPA VERMA	dverma4180@gmail.com	VIVA College of Arts, Commerce and Science, Virar
Mrs.	RUPALI PRASHANT YEV	rupaliyevale05@gmail.com	K.G.RAHUL DHARKAR COLLEGE OF PHARMACY AND RESEARCH
Mrs.	Anushri Ashish kini	anushrikini@gmail.com	Viva college Virar
Dr.	VIJAY P. NARKHEDE	narkhedevijay.2007@rediffmail.com	Ismail Yusuf College of Arts, Science & Commerce, Mumbai
Mrs.	Trupti Vasant Patil	truptipatil@vivacollege.org	VIVA College
Ms.	Alina Alex Dcosta	alinadcosta11@gmail.com	VIVA College of Arts, Commerce and Science
Mrs.	Deepali Tone	deepalitone12@gmail.com	Royal College of science and Commerce
Ms.	Prof.Sandhya Baburam Yad	sandhyayadav62@gmail.com	ASM'S Institute of Management and Computer studies Thane
Mr.	MAHESH MADHAV DESHM	mahesh_m_deshmukh@yahoo.com	Sonopant Dandekar Arts, V. S. Apte Commerce and M. H. Mehta Science C
Mr.	SHABAB AHMED RIZVI	shabab.rizvi@mes.ac.in	Pillai college of Arts commerce & Science Autonomous
Dr.	FIROZ HUSAIN	firoz1785@gmail.com	INTEGRAL UNIVERSITY, LUCKNOW
Ms.	PREETI SHUKLA	Shuklapreeti1991@gmail.com	INTEGRAL UNIVERSITY
Mr.	Ganesh Yashwant Palkar	ganeshypalkar@gmail.com	Vande Mataram Degree College
Ms.	DARSHANA KASHINATH W	dwajekar@mes.ac.in	PHCASC,RASAYANI
Ms.	Amisha Bhupendra Dawda	amishadawda@gmail.com	Jamnalal Bajaj Institute of Management Studies
Ms.	Priyanka Sonavane	spriyanka@mes.ac.in	Pillai HOC college of arts science and commerce

Mrs.	Delcy Justin Lopes	lopes.delcy@gmail.com	VIVA College of Arts, Commerce & Science
Mrs.	Sipra routaray	sipra.routaray@gmail.com	Kg joshi ng bedekar college of arts and commerce
Mrs.	Suchita Revankar	revankarsuchi@gmail.com	Siws college
Ms.	Manisha Kulkarni	kulkarni.iicmr@gmail.com	IICMR
Dr.	Rachana Acharya	rachanaacharya@rjcollege.edu.in	Ramniranjan Jhunjhunwala College
Dr.	Dr Sharad kadam	sskadam@mitacsc.ac.in	MIT PUNE
Ms.	Mahtab Khan	kmahtab.93@gmail.com	Sree Narayana Guru College of Commerce
Ms.	Sonam A Pinjani	pinjanisonam@gmail.com	KSD's Model College
Mr.	NARESH G SUKHANI	nareshsukhani@gmail.com	Usha Pravin Gandhi College of Arts Science and Commerce
Ms.	Hanisha Jaiwant Bathija	hanishajb2018@gmail.com	Swami Hansmuni Maharaj Degree College of Commerce
Mr.	Mohsin shaikh	mohsin.shaikh12345@gmail.com	VIVA college
Mr.	SIDDHESH BABAJI MANGA	sidm955@gmail.com	VIVA College of Arts, Commerce & Science
Dr.	Dr. Kalyan Shidram Kokane	kalyankokane@gmail.com	Karmaveer Bhausaheb Hiray Arts, Sci & Comm College Nimgaon
Mrs.	Bhumika Parelkar	bparelkar@gmail.com	K.G. Joshi College of Arts & N.G. Bedekar College of Commerce College
Ms.	ASHWINI HANUMANT KHIL	kashwini@mes.ac.in	Pillai HOC college of Arts, Science and Commerce
Mrs.	Smita Chaudhari Kankee	chaudhari.smita37@gmail.com	St. John College of Humanities and Sciences
Mrs.	Urvi Pillai	pillaiurvi1979@gmail.com	Ghanshyamdas Saraf College
Dr.	Dr. Willy J.Shah	drwillyshah@gmail.com	Annasaheb Vartak College of Arts, Commerce, Science
Ms.	Rachana Chawda	rachanakgc@mail.com	D.G.Rparel college
Dr.	Nazar Abbas Jafry	prof.jafry@gmail.com	Rizvi College of Arts, Science & Commerce

Dr.	ABDUL TAYYAB KHAN	tayyabkhan03@gmail.com	Integral University, Lucknow.
Dr.	Dr. Jayshree A. Suryavansh	jayshreesuryavanshi@nhitm.ac.in	New Horizon Institute of Technology & Management
Dr.	Sangita Girlsh Naik	naik.g.sangita@gmail.com	Achievers college of Commerce and Management ,Kalyan
Ms.	Chandrima Ghosh	ghoshchandrima30@gmail.com	Wilson College
Ms.	Suvitha Sukumaran	suvitha.sukumaran04@gmail.com	Saket College Of Arts Science And Commerce
Dr.	KARUNA SINHA	karunahs2014@gmail.com	Hansraj Jivandas College of Education (Autonomous)
Mrs.	KAVITA YOGESH PATIL	patilkavita008@gmail.com	VIVA COLLEGE,VIRAR(W)
Dr.	Kakade Chandrakant Sitara	cskboss08@gmail.com	ARACSC College Vaibhavwadi
Mr.	Bordikar Chetan P.	bordikarchetan@gmail.com	N.B.Mehta Science College, Bordi
Ms.	Benazir H Shaikh	bhshaikh123@gmail.com	N.B.Mehta Science College,Bordi
Mr.	Tushar u shah	tusu.shah20@gmail.com	Chandrabhan sharma college
Mrs.	Sony Yadav	sony.ryadav16@gmail.com	Smt.Sushiladevi Deshmukh College of science and commerce, Airoli
Ms.	AKANKSHA SAMPAT SHIN	akankshashinde1202@gmail.com	VPM's B N Bandodkar College of Science, Thane
Mrs.	Kiran Mishra	dkmishrakini03@gmail.com	Shankar Narayan College
Mrs.	Manju Sasikumar	manjusasi14@gmail.com	The S.I.A College Of Higher Education
Ms.	Babitha Kurup	babitha@mes.ac.in	PHCASC
Mr.	Ganeshkumar R Narayanka	ganesh.narayankar335@gmail.com	Shankar Narayan College, Bhayander East
Dr.	Shivaji Bansilal Patil	drshivajipatil1973@gmail.com	Annasaheb R.D.Deore Arts and Science College Mhasadi Tal Sakri Dist Dhu
Ms.	Neethumol K G	neethumol@mes.ac.in	Pillai HOC Colleg of Arts, Science & Commerce
Mrs.	Vandana Chandrakant Kaka	vckakade@gmail.com	Anandibai Raorane Arts Commerce and Science College Vaibhavwadi Dist S

Ms.	Dhanashri Ravikant Pawar	dhanashripawar77@gmail.com	Viva college of Arts, Commerce and Science
Mrs.	NAVANITHA WARRIER	navanithawarrier@gmail.com	JITENDRA CHAUHAN COLLEGE OF LAW
Mr.	Ravi Jeswani	ravi3jeswani@gmail.com	VESIM Business School
Mr.	Prabhakar Appaso Gaikwad	prabhakargaikwad2016@gmail.com	Mahatma Phule ASC College,Panvel
Ms.	Sneha Anil kumar	sneha.cie@gmail.com	Jitendra Chauhan College of law
Dr.	Madhu Joshi	madhu.mj@somaiya.edu	KJ Somaiya College of Science & Commerce,Vidyavihar,Mumbai
Dr.	Nanabhau Baban Karanjule	nanabhau@somaiya.edu	K.J.Somaiya College of Science and Commerce, Vidyavihar, Mumbai
Ms.	Mohini Prashant Kulkarni	kulkarnimohiniprashant@gmail.com	Joshi Bedekar college of Arts and Commerce, Thane
Mr.	GADGE KISAN KAMAJI	gadgekisan@gmail.com	KONKAN GYANPEETH, KARJAT COLLEGE Of ARTS, SCIENCE AND COM
Dr.	FARIDA KHOPOLIWALA	khopoliwala.farida69@gmail.com	BHARAT COLLEGE OF ARTS AND COMMERCE
Mr.	Hardik Dave	hardikdave@mes.ac.in	Pillai HOC College of Arts, Science and Commerce, Rasayani
Dr.	VIJAY NAGESH GUMMA	drvngumma@yahoo.com	PES's Bhausaheb Nene College, Pen-Ragad 402107
Mrs.	Madhuri Prashant Narkhede	madhurikolhe.nmu@gmail.com	Smt. Devkiba Mohansinhji Chauhan College of Commerce & Science, Silvas
Mr.	Nitin Dwivedi	profnitindwivedi@gmail.com	Bunts Sangha Anna Leela College Kurla
Mrs.	Gauri Gaurav Vartak	gaurivartak83@gmail.com	VIVA college
Mrs.	Usha Anilkumar	ushas1464@yahoo.in	ICLE'S MJ College
Mrs.	Claretta lopes	clarettalopes55@gmail.com	VIVA College
Mrs.	Swati Patil	swatipatil@vivacollege.org	VIVA College of Arts, Commerce & Science
Mr.	Pravin Kharat	pdkharat@mitacsc.ac.in	MIT ACSC , Alandi, Pune
Mrs.	Supriya sudhir	supriyabhat83@gmail.com	S N College

Mrs.	SNEHAL SANKET JADHAV	snehalshirke2001@gmail.com	VIVA COLLEGE
Dr.	Vishakha Telgote	vishakha@mes.ac.in	Pillai HOC college of Arts Science and Commerce Rasayani
Mrs.	Glorita Pereira	glorita.pereira@vivacollege.org	Viva College of Science, Commerce and Arts
Mr.	KISHOR MANIKRAO WAGH	kmwmbp@gmail.com	ANANDIBAI RAORANE ARTS, COMMERCE AND SCIENCE COLLEGE, TA
Mrs.	RUPALI PRASHIL PATIL	rupalippatil752@gmail.com	Viva College of Arts, Commerce & Science, Virar
Mrs.	Vijayalaxmi M K	vijayalaxmi.k@mitacsc.ac.in	MIT Arts Commerce and Science College
Ms.	Mamta Meghnani	meghnanimamta22@gmail.com	Sree Narayana Guru College of Commerce
Dr.	ARCHANA ASHOK BHAGV	archanabhagwat@mes.ac.in	Pillai HOC College of Arts, Science and Commerce, Rasayani
Mrs.	Vandana Arun Dubey	vandanadube18@gmail.com	St. John college of Humanities and Sciences
Mr.	Pravin Prakash Rathod	rathodpp11.phy@gmail.com	Goverment of Maharashtra's Ismail Yusuf College of Arts, Commerce and Sc
Mrs.	Divya Naresh Lalwani	dlwani123@gmail.com	R A Podar college of Commerce and Economics
Dr.	Arjun Atmaram Lakhe	arjun.lakhe@mccmulund.ac.in	Mulund College of Commerce
Ms.	Aradhana M. Joshi	aradhanajoshi@vivacollege.org	Viva College of Arts, Science and Commerce
Mrs.	Agnes Antony	agnes.alvina@gmail.com	Asmita College of Arts and Commerce for women,Vikhroli
Mrs.	Sunita Sidhani	sunitasidhani34@gmail.com	The S.I.A. College of Higher Education
Mr.	SHRIRAM NARAYANRAO K	snkargaonkar@mitacsc.ac.in	MIT ARTS COMMERCE AND SCIENCE COLLEGE ALANDI (D) PUNE -412
Mrs.	Archana S. Aher	asaher@mitacsc.ac.in	MIT Arts commerce and science college
Dr.	Jyotiraj Pathak	jpathak888@gmail.com	Bodoland University
Mrs.	Shaikh Saima Mohammed S	saimaalim1412@hotmail.com	Maharashtra College of Arts Science and Commerce
Mrs.	Priyanka Roshan Brid	priyankabrid09@gmail.com	VIVA COLLEGE, VIRAR (W)

Dr.	Dr. Sunil Ganpat Baviskar	baviskarsunil1967@gmail.com	Smt. N. N. C. Arts, Commerce and Science College Kusumba Dist Dhule M
Dr.	Ulka Prabhu Aade	ulkaaade1987@gmail.com	Government of Maharashtra's Ismail Yusuf College Jogeshwari East Mumbai
Dr.	Rajashree S. Maranoor	maranoorrs@gmail.com	Government First Grade College, INDI, Dist: Vijayapur
Mrs.	Jyoti Babar	jyotibabar.95@gmail.com	Jyoti Vivek Babar
Dr.	Dr.CarollineDavid	josimcaroline@yahoo.com	DTSS college of Com.
Mrs.	Sampada Deshmukh	sampada.deshmukh@vivacollege.org	VIVA college, Virar
Mr.	Masurkar Prakash Balkrishn	pbmasurkar@gmail.com	Sant Rawool Maharaj Mahavidyalaya, Kudal
Dr.	Gurumeet wadhawa	wadhava.gurumeet@gmail.com	Karmaveer Bhaurao Patil College Vashi,Navimumbai
Mr.	NITIN KACHRU KADAM	nitinkkadam@yahoo.co.in	V K KRISHNA MENON COLLEGE
Dr.	Harshad Laxman Jadhav	harshad.jadhav9921@gmail.com	Karmaveer Bhaurao Patil College Vashi Navi Mumbai
Dr.	Dr. Sunil Ganpat Baviskar	baviskarsunil1967@gmail.com	Smt. N. N. C. Arts, Commerce & Science College Kusumba Dist Dhule 424
Dr.	Dr. Firoz Khan	firoz.khan@aiktc.ac.in	Anjuman-I-Islam's Kalsekar Technical Campus, School of Pharmacy, New
Dr.	Manjeet Kaur Sahmbey	manjeet.sahmbey@gmail.com	Hansraj jivandas college of education
Ms.	Ruksarbano Shalam Shaikh	ruksar.shaikh21@gmail.com	VIVA College of Arts, Commerce and Science
Mrs.	Satya Kishan	imsatyakishan@gmail.com	MATS University
Ms.	Shabdashri Tukaram Bhang	s28bhange@gmail.com	Rajarshi Shahu Mahavidyalay (Autonomous)Latur
Ms.	Parekh Nisha Kiritbhai	nishaparekh8@gmail.com	Smt. Devkiba Mohansinhji Chauhan College of Law
Ms.	Madhulika Sinha	madhulikas@mes.ac.in	PHCET
Mrs.	Shital Ghotekar	svghotekar@mitacsc.ac.in	MIT Art's, Commerce and Science College, Alandi (D), Pune
Ms.	Mohini Khandelwal	kh001mohini@gmail.com	SSR COLLEGE OF ARTS COMMERCE AND SCIENCE

Ms.	Sreelakshmi Nair	sreelakshmi@mes.ac.in	Pillai HOC college
Ms.	Poonam Madhukar Patil	pmpatil@mes.ac.in	Pillai HOC College of Engineering and Technology
Ms.	Nilam Chandrakant Patade	nilam90.patade@gmail.com	Ramniranjan jhunjhunwala college ghatkopar
Mr.	SARTAPE ASHISH KONDIE	sartapeab@gmail.com	Modern College of Arts Science and Commerce (Autonomous) Pune
Mr.	Fawad Ali Khan	khan.fawad786@gmail.com	IILM Academy
Dr.	Jyoti Arvind Pote	jyotipote@gmail.com	P. D. KARKHANIS COLLEGE OF ARTS & COMMERCE, AMBERNATH (EA
Mrs.	Shital V Ghotekar	svghotekar@mitacsc.ac.in	MIT Arts Commerce Science College Alandi
Mr.	Rohan Louis D'Souza	sozyron@gmail.com	VIVA College of Arts,Science and Commerce
Ms.	Priyanka Sorte	psorte@mes.ac.in	Pilllai HOC College of Arts, Science and Commerce, Rasayani
Ms.	Himani Agarwal	himani23884@gmail.com	KLE Society's of Science and Commerce College
Dr.	Dr. Chandrashekhar D.Wani	cdwani23@gmail.com	DES's M.D.Palesha Commerce College, Dhule
Ms.	Prof. Pradnya Atmaram Mha	pradnyamhatre@vivamca.org	VIVA School of MCA, Shirgaon campus, Virar (East)
Mr.	Ravi Bari	ravibari@gmail.com	Pillai HOC College of Arts, Science and Commerce
Mr.	Mukesh Devram Pawar	mukeshpawar@mes.ac.in	Mahatma Education Society's Pillai HOC College of Arts, Science & Comme
Mrs.	Reshmi Mukul Das	rsmi0869@gmail.com	SIES COLLEGE OF ARTS, SCIENCE AND COMMERCE
Mrs.	Seema Pankaj Barhate	seemabarhate1@gmail.com	New horizon Institute of technology and management Thane West
Mrs.	Shreya Harshal Bhamare	shreyabhamare@vivamca.org	VIVA SCHOOL OF MCA, Shirgaon Campus, Virar
Dr.	Jyotindra Jani	jyotindra1319@gmail.com	Sadguru Mahila home science and late m j kundalia English Medium Mahila
Mr.	Nikhil Raje	nraje@mes.ac.in	PHCET
Mr.	MR. JIVRAJ K. MAHIDA	jkmahida31@yahoo.com	ICLES' MOTILAL JHUNJHUNWALA COLLEGE OF ARTS SCIENCE AND CC

Dr.	Dr.Pravin Pandurang Ghodvi	pravingm31@rediffmail.com	Utkarsh College Of Arts ,Com.& Sci. College , Vashind , Shahapur
Dr.	HEMA S.DHAWARE -FDP	hemadhaware@gmail.com	ICLES MOTILAL JHUNJHUNWALA COLLEGE OF ARTS, SCIENCE AND CC
Mr.	Ravindra Singh	ravisinghsiws@gmail.com	SIWS College
Ms.	HELEN SELVARAJ	ahelenmary@gmail.com	SIWS COLLEGE
Mrs.	Mrs.Jagruti S. Raut	jagrutichuri@vivacollege.org	Viva college of Arts, Commerce and Science, Virar(W)
Ms.	Binita Thakkar	binitathakkar20@gmail.com	Viva College of Arts, Commerce and Science, Virar West
Mr.	Sunil Waghmare	w.sunil77@gmail.com	K.M.C. College, Khopoli
Ms.	ANUJA Narottam Patil	patilanuja30@gmail.com	Viva college
Ms.	Poorva Dighe	poorva.dighe@gmail.com	Jitendra Chauhan College of Law
Ms.	Shweta Yande	yande.shweta9786@gmail.com	Viva College
Ms.	Sheetal Patariya	sheetalpatariya@mes.ac.in	Pillai HOC College of Arts Science and Commerce
Ms.	REKHA S. DHAWARE - FD	hemakokate@gmail.com	Mumbai University
Mrs.	Rewati Soman	rsoman@mes.ac.in	Pillai HOC College of Arts, Science & Commerce, Rasayani
Mrs.	BHUSHANA SURYAKANT T	thakurbhushana@gmail.com	SHANKAR NARAYAN COLLEGE
Mrs.	Kavita Pande dhoble	kavi.dhoble@gmail.com	Samyak sankalpa college
Mrs.	Nisha. Deodhar	nisharavi05@gmail.com	K. S. Manjunatha College of Commerce. Thakurli
Dr.	Radharani Rit	librarian.bkgc2015@gmail.com	Bijoy Krishna Girls' College, HowrahHowrah-711101
Ms.	Sulabha Dildar Nandeshwar	nandeshwardildar@mes.ac.in	PHCASC RASAYANI
Ms.	Mala Mishra	malamishra1996@gmail.com	Ramniranjan jhunjhunwala college
Mr.	Prathamesh Gokhale	prathmeshgokhale@mes.ac.in	Pillai HOC College of Arts, Science and Commerce

Dr.	Dr. Kamlakar Eknath Kambl	kamlakar19752@gmail.com	KES's Dr. C. D. Deshmukh Commerce & Sau. K. G. Tamhane Atrs, College
Mr.	Kailas Waman Shinde	kailas.shinde@wilsoncollege.edu	Wilson College
Mr.	Amol Mane	asmane84@gmail.com	MIT ACSC ALANDI, PUNE
Dr.	Biswajit Das	bdas103@gmail.com	Sundarban Mahavidyalaya
Mr.	RADE SANTOSH CHANDR	santoshcrade@gmail.com	A. R. A. C. S. College, Vaibhavwadi
Mr.	Nilesh Atmaram Patil	nlshpatil.6@Gmail.com	R.P. Gogate College of Arts & Science and R.V.Jogalekar College of Comm
Dr.	Raghunath Gopinath Vidhat	rgvidhate@rediffmail.com	Anandrao Dhonde College, Kada Dist.Beed
Mr.	Dinesh Sitaram Betkar	dineshbetkar@gmail.com	ARACS College,Vaibhavwadi, Sindhudurg.
Ms.	KSHITIJA PRAKASH MANE	manek6@gmail.com	VIVA college of Arts, Commerce and Science.Virar(W)
Ms.	Sunita Sadashiv Amrutsaga	sunita8216@gmail.com	Dr.Babasaheb Ambedkar Mahavidyalaya, peth vadgaon,kolhapur
Mr.	Jagzap Vaibhav Bharat	vaibhavjagzap358@gmail.com	Mahatma Phule Arts, Science and Commerce college Panvel
Mrs.	Jasmeet Kaur Ghai	jasmeet.ghai@gnkhalsa.edu.in	Guru Nanak Khalsa College Matunga Mumbai
Mrs.	Shraddha Nitesh Desai	shraddha.desai91@gmail.com	SIWS College, Wadala
Dr.	Dr Snehal Patil- Birje	drsnehalpatil.2206@gmail.com	SIES (Nerul) College of Arts, Science and Commerce
Mr.	John Angel Menezes	johnmenezes@ymail.com	Bunts Sangha's S.M.Shetty College of Science Commerce and Managemen
Dr.	RAMDAS BHANUDAS KAV	kavade.ramdas@gmail.com	Bhagwan Mahavidyalaya, Ashti Dist.Beed.
Ms.	Vijayshila Sawant Tambe	vshourya@gmail.com	Vedanta College, vithalwadi
Mrs.	Nara Hema Prakash	narahema1982@gmail.com	Samyak sankalpa college
Ms.	Kamini Satish Patil	patilkamini10@gmail.com	Guru Nanak Khalsa College, Matunga-19
Dr.	Shankar maruti patil	shankar.patil1964@gmail.com	J s m shantarambhauGholap arts science Hoti rambhau pawar commerce c

Mrs.	Maitreyee Koranne	maitreyee.koranne@welingkar.org	S. P. Mandali's Prin. L. N. Welingkar Institute of Management Development
Ms.	Namita Bagwe	bnamita1993@gmail.com	Saket College of arts science and commerce
Dr.	Vijay Ashruba Paithane	tiliaceae20384@gmal.com	Anandibai Raorane Arts, Commerce and Science College, Vaibhavwadi, Sin
Ms.	CHAWAN SAMRUDDHI VIL	samruddhi.ch@gmail.com	ICLES' MOTILAL JHUNJHUNWALA COLLEGE OF ARTS, SCIENCE AND C
Dr.	Asha Menon	ashamaheshmenon@gmail.com	S P N DOSHI WOMEN'S COLLEGE
Mr.	Avinash Dilip Sonawane	avinashsonawane91@gmail.com	Viva
Mr.	Darshan Anant Patil	darshanpatil1436@gmail.com	Pillai HOC College of Arts,Science and Commerce,Rasayani
Dr.	Sulabha Sambhaji Lalsare	sulabhalalsare@gmail.com	MVP Samaj Arts, Science and Commerce College,Saikheda
Dr.	Mansi Subhedar	msubhedar@mes.ac.in	Pillai HOC College of Engineering and Technology Rasayani
Mrs.	Joyce Kurian	kurianjoycxe@yahoo.com	Wilson College
Dr.	Dr. Rahul Gopichand Saner	sanerrahulg@gmail.com	Smt. H. R. Patel Arts Mahila College Shirpur Dist Dhule
Mr.	Ajay Arun Kharche	ajayakharche@gmail.com	Konkan Gyanpeeth Rahul Dharkar College of Pharmacy and Research Instit
Mr.	Nilesh Keshavrao Gorde	nileshgorde83@gmail.com	Konkan Gyanpeeth Rahul Dharkar College of Pharmacy & Research Institut
Mrs.	Swati Ankit Suchak	swatisuchak0702@gmail.com	Smt. P. N. Doshi Women's College
Ms.	Tejasvi Vishnu Pawar	tejupawer@gmail.com	ICLES MOTILAL JHUNJHUNWALA COLLEGE
Dr.	Pathare Goraksha Mohan	gorakshapathare14@gmail.com	Anandarao Dhonde Alias Babaji Mahavidyalay Kada
Mrs.	Shahin Mahida	shahinmahida@vivacollege.org	Viva college
Ms.	Harshada Kaluram Sonkam	sonkambleharshada16@gmail.com	Vishwatmak Om gurudev College of Enginering, Aghai, shahapur
Ms.	Madhura Mokashi	madhuramokashi.ss@gmail.com	RGIT
Mrs.	Meghana Gore	meghanargore@gmail.com	Wilson College

Mrs.	Gunjan Dinesh Ghadigaonka	gunjanghadigaonka@gmail.com	KBP degree college of commerce and science, thane west
Mrs.	Suchita Amey Bhovar	suchitabhovarict@gmail.com	Smt. P. N. Doshi Women's College
Mrs.	E. Juliet Esther	julietesther@mes.ac.in	Pillai College Arts, Commerce & Science(Autonomous)
Mrs.	MINAL JAYWANT SAWANT	minalsawant90@gmail.com	Shankar Narayan College,Bhayandar
Dr.	Moiz Akhtar	makhtar@iul.ac.in	Integral University
Dr.	Asawari Madhukar Fartade	alankar.fartade@gmail.com	Shri Shivaji Mahavidyalaya Barshi
Ms.	ASHWINI SUDHAKAR SHIF	asvinetu39@gmail.com	ICLES' MOTILAL JHUNJHUNWALA COLLEGE
Mr.	Venkatesh Taduvai	venky.taduvai@gmail.com	Maharshi Parshuram College of Engineering
Mr.	Gorkhnath Tanaji Uttekar	gaurav.uttekar7@gmail.com	SVKM's Mithibai College Vile Parle West Mumbai
Dr.	Vinay p Raut	vinaypraut@yahoo.com	Vikas College of Arts, Science & Commerce, Vikhroli, Mumbai
Dr.	**Balasaheb Manikrao Dho**	**balasahebdhonde79@gmail.com**	**Anandrao Dhonde Alias Babaji Mahavidyalaya, Kada Dist. Beed**
Mr.	Umesh Prajapati	prajapatiumesh0371990@gmail.com	Viva college, Virar (w)
Dr.	Dr waghule Bhagwan Maruti	bwaghule1@gmail.com	Anandrao dhonde collage kada tal.ashti .Dist. beed
Mr.	Balkrishna Aeer	balkrishna.aeer@gmail.com	VIVA COLLEGE VIRAR
Mrs.	Trupti Kautikwar	truptikautikwar@gmail.com	VPM'S Joshi and Bedekar college
Ms.	Radhika Assija	radhika.assija@gmail.com	Royal College Of Science and Commerce
Mr.	ANIL N	anil.gfgc@gmail.com	Government First Grade College, Bagepalli, Karnataka
Mr.	Arul Anthony Rozario M	rozarioara@gmail.com	Don Bosco College, Maram
Dr.	Dr. Arti Dubey	dr.artidubey74@gmail.com	Viva college Virar
Mr.	K.R.GANESHA	kudiganesha@gmail.com	Governament First Grade Collge Malur.

Mr.	Prof.Sandeep Vijay Raut	sandeep.raut@abmspcoerpune.org	A.P.C.O.E.&R.
Mr.	SHASHIDHARA D	shashidhar.jmm@gmail.com	Davangere University, PG Centre, Jnanagangotri, Chitradurga
Ms.	Supriya V	supriyareddy2594@gmail.com	SDC Degree College Bangarapet
Mr.	Tejasvi Khatry	tejas.stu@gmail.com	Wilson College, Mumbai
Dr.	Shantaram Gambhir Baviska	drbaviskarsg@gmail.com	Maratha Vidyaprasarak Samaj Nasik
Dr.	Prakash Raghunath Ah	prakash.ahire11@gmail.com	P.E.S's College Of Education, Farmagudi, Ponda-Goa
Mrs.	Nutan Gajanan Lokhande	lokhandedamini11@gmail.com	NES Ratnam College of Arts, Science and Commerce
Mrs.	BHAVANA RAJKUMAR MU	mulanibhavana@gmail.com	J.K.COLLEGE OF SCIENCE AND COMMERCE, NAVIMUMBAI
Mr.	Ganesh Eknath Kondhalkar	ganeshkondhalkar@gmail.com	ABMSP's Anantrao Pawar College of Engineering and Research, Pune
Mr.	RAJKUMAR MULANI	rajkumarmulani@gmail.com	KISHINCHAND CHELLARAM COLLEGE , MUMBAI
Mr.	Rahul Anil Bhosale	bhosalerahul2020@gmail.com	Anandibai raorane arts commerce and science college, vaibhavwadi
Mr.	Sunilsing Chandramohan Ra	srajput@mes.ac.in	Pillai HOC College of Engineering & Technology, Rasayani
Dr.	Girdhari Lal Sharma	girdhari1976@gmail.com	Jain Vishva Bharati Institute, Ladnun(Rajasthan)- 341306
Ms.	Bhagya G B	Nittebhagya@gmail.com	SDC,Degree College,Bangarpet, Kolar
Dr.	Avhad Bhagwan Bhanudas	bhagwanavhad9@gmail.com	Anandrao Dhonde Alias Babaji Mahavidyalaya, Kada. Tal-Ashti, Dist-Beed
Ms.	Smruti Vasavada	vasavadasmruti@gmail.com	Smt. MMK College of Commerce and Economics
Dr.	NAGAMANI K N	nagamanikn2017@gmail.com	GOVERNMENT FIRST GRADE COLLEGE, KGF
Ms.	USHA	ushapoojary123@gmail.com	Davangere University, P.G Centre Jnanagangotri, Chitradurga
Mr.	Sumit Kumar	Kumarsumit2k15@gmail.com	Vishwatmak Om Gurudev college of engineering Aghai Shahapur Thane
Mr.	Komal Laxman Patil	komal.patil@vivacollege.org	VIVA COLLEGE, VIRAR(W.)

Ms.	Rita Chandarana	rita.radiya@gmail.com	Maniben Nanavati Women's College
Mr.	Ashish Raju Pawar	a.pawar5391@gmail.com	Anantrao Pawar College of Engineering and Research, Pune
Mrs.	Kinjal Sanghavi	prof.kinjal@gmail.com	Tolani College, MKS Sanghavi College, Saraf College
Mr.	GANESHA B	ganu.gani2010@gmail.com	Government First Grade College K R Puram Bengaluru-560036
Mr.	Chandrashekhar D. Bhosale	cd_bhosale@rediffmail.com	Karmaveer Bhaurao Patil College, Vashi, Navi Mumbai
Ms.	Babita Panda	babitapanda@mes.ac.in	Pillai HOC college of Arts science and commerce
Mr.	SUMEET A MHATRE	smhatre@mes.ac.in	PILLAI HOC COLLEGE OF ARTS, SCIENCE & COMMERCE
Mr.	Shankar Pandurang Khobar	shankarkhobare32@gmail.com	S. K. Patil Sindhudurg Mahavidyalaya, Malvan, Dist. Sindhudurg
Mrs.	Mavy Miranda	mavylobo@gmail.com	Government First Grade College and Centre for P.G Studies, Thenkanidiyur,
Mr.	Rohan Sudhakar Yadav	rohannhps@gmail.com	Pillai HOC college of Arts Science and Commerce
Mr.	SNEHAL SITARAM PATIL	snehalpatilwada@gmail.com	VIVA College of Arts, Commerce and Science, Virar (W)
Dr.	AUDRIN ANTHONY COLAC	audrin.colaco@vivacollege.org	VIVA COLLEGE OF ARTS, SCIENCE AND COMMERCE
Ms.	Poonam Sahebrao Patil	poonampatil5789@gmail.com	Konkan Gyanpeeth Rahul Dharkar college of Pharmacy and Research Institu
Mr.	NAIMESH RAMAKANT TUN	nrtungare@yahoo.com	INDIRA INSTITUTE OF BUSINESS MAANGEMENT
Ms.	Surbhi shah	surbhishah029@gmail.com	Viva college
Mrs.	SHRUTI VILAS DESHMUKH	shrutideshmukh30@gmail.com	ASHOKA COLLEGE OF EDUCATION NASIK
Dr.	Shilpa Pankaj Kewate	shilpakewate@mes.ac.in	PHCET,Rasayni
Ms.	Kalavati upadhyay	kalavati@mes.ac.in	Phcasc
Mrs.	Samruddhi Sachin Chepe	samruddhichepe@gmail.com	Ashoka International Center for Educational Studies and Research
Ms.	PRACHI AGARWAL	agarwalprachi2811@gmail.com	BUNTS SANGHA'S S. M. SHETTY COLLEGE, POWAI

Mrs.	PRAJNA SHETTY	praj_angel01@yahoo.co.in	Ghanshyamdas Saraf College
Dr.	RICHA SINGH	richasngh316@gmail.com	SIES College of Arts, Science and Commerce (Autonomous), Sion
Mrs.	Remya O	remyao@mes.ac.in	Pillai HOC College of Arts, Science and Commerce, Rasayani
Mr.	SOMANAGOUDA PATIL	patilmuttu09@gmail.com	GOVT. FIRST GRADE COLLEGE KR PURAM, BENGALURU-560036
Dr.	Dr. Archana Uttamrao Chava	chavanarchana65@gmail.com	Karmaveer Bhaurao Patil College Vashi, Navi Mumbai
Mrs.	APARNA KAUSTUBH KULK	aparnakulkarni@nhitm.ac.in	New Horizon Institute Of Technology and Management Thane
Dr.	Mahadev Bhagwan Kadam	kmahadeo2003@gmail.com	PCCOE, Pune
Mrs.	Suma Lalit Podnolanna	slalit@mes.ac.in	PHCET
Ms.	Sayali Sitaram Gosavi	sayali90gosavi@gmail.com	Rayat Shikshan Sanstha's Dr. Babasaheb Ambedkar College, Aundh-Pune 6
Mrs.	PRIYA PRAKASH	priyaprakash@mes.ac.in	Pillai HOC College of Arts , Science and Commerce
Ms.	Amreen Khalil Khan	amreenkhan@mes.ac.in	Pillai HOC College of Arts Science & Commerce Rasayani
Mr.	Prasad Vijay Anaredy	prasadanaredy1985@gmail.com	Ghanshyamdas Saraf college of Commerce
Dr.	Seema Naik- Gosavi	seemanaik69@gmail.com	Anekant Educatio Society's Tuljaram Chaturchand College,Baramati-413102
Mrs.	Nirali Verma	niraliverma@mes.ac.in	PHCASC
Ms.	Patel Mital DevendraKumar	mittundev@gmail.com	Smt.Devkiba Mohansinhji Chauhan college of Commerce & Science
Dr.	Madhav M. Bhosale	madhavbhosale007@gmail.com	T. K. Kolekar Arts & Commerce College Nesari
Mrs.	Neha Vinod Lodhe	nehalodhe@vivamca.org	VIVA School of MCA,University of Mumbai
Mrs.	Jyoti Vijaykumar Gupta	guptajyoti882@gmail.com	VIVA College, Vlrar (west)
Dr.	BHAKTI ARVIND GADGIL	bhaktigadgil@nhitm.ac.in	New Horizon Institute of Technology and Management, GB Road, Thane
Dr.	ASRAR AHMED SIDDIQUE	asrar22@gmail.com	ICLES MOTILAL JHUNJHUNWALA COLLEGE VASHI

Mr.	Sujith Baau S.	sbabu@mes.ac.in	Pillai HOC College of Arts, Science & Commerce, Rasayani
Ms.	Swati Mishra	swatimishra@mes.ac.in	Pillai HOC College of Arts, Science and Commerce
Mr.	Vishal Apparao Koli	kolivishal13@gmail.com	Solapur university
Mr.	Melroy Mervyn D'Sa	melroyd@sjipr.edu.in	St. John Institute of Pharmacy and Research, Palghar.
Mrs.	Annmol Chacko	annmolchacko@gmail.com	G J Advani Law College
Dr.	Pushpa Sinkar	pushpa.sinkar@xaviers.edu	St. Xavier's College (Autonomous) Mumbai
Dr.	Prachi Rohit Rajarapollu	prrajarapollu@entc.maepune.ac.in	MIT AOE Pune
Dr.	Joana Tuscano	joana10wills@gmail.com	St Joseph College
Mr.	Harshal Padwal	harshalpadwal84@gmail.com	M. P. A. S. C. College, Panvel
Mrs.	Manisha Patil	mmpatil@mitacsc.ac.in	MIT ACSC Alandi(D) Pune
Ms.	Tejashree Rankhambe	tejashree@soft.ac.in	MKSSS'S School of Fashion Technology
Mrs.	Kalaiselvi nadar	snadar_bms@yahoo.com	Ramniranjan jhunjhunwala college, ghatkopar
Mrs.	Mrs. Smita Khaire	smitan.jadhav318@gmail.com	VIVA College of Arts, Science and Commerce, Virar
Mrs.	Sushma Deepak Mhaske	mhaskesushma@gmail.com	Jitendra Chauhan College of Law vile parle w Mumbai
Mrs.	Shilpa Advani Rohra	shilpaadvani09@gmail.com	R.K.Talreja College
Mrs.	Vishakha rohan Sane	vishakha.sane27@gmail.com	VIVA college of arts commerce and science
Mr.	VIJAYAKUMAR	vijaykumark47805@gmail.com	GOVERNMENT FIRST GRADE COLLEGE, KUDUR.
Mr.	SACHIN SHAMRAO BHASI	sachinbhaskar558@gmail.com	Anandibai raorane Arts Commerce & science college vaibhavwadi
Dr.	JYOTSNA GANESH SANG	jyotsna.sangore@gmail.com	Aishabai College of Education Byculla
Ms.	Vaikhari Patil	vaikharipatil.97@gmail.com	Viva college

Mr.	Lalit Bhalchandra Patil	lalitpatil@mes.ac.in	PHCASC Rasayani ,Dist. Raigad
Mr.	Yogesh Laxmanrao Maske	ylmaske@mitaoe.ac.in	MIT Academy of Engineering Alandi Pune
Ms.	Tanvi Bore	tanvi.bore@vivacollege.org	VIVA College of Arts, Commerce and Science
Ms.	MANISHA JAMGADE	mjamgade@mes.ac.in	Pillai HOC College of Engineering and Technology
Mr.	Nityanand Sampath Mudalia	nitya.m2011@gmail.com	Model College of Science and Commerce, Kalyan E
Dr.	Kavikant Mahapatra	kmahapatra@mitaoe.ac.in	MITAOE, Alandi, Pune
Mr.	Sunil Chandrabhan Khatri	khatrisunilc@gmail.com	R. K. Talreja College, Ulhasnagar
Dr.	Sakina. Z. Bootwala	szbootwala@gmail.com	Wilson College
Mr.	Sanjay Kalekar	sankalekar83@gmail.com	Drt's. A. E. Kalsekar Degree College, Kauas. Thane, Mumbai.
Ms.	Pradnya Pramod Chavarkar	chavarkar.pradnya46@gmail.com	Abdul Razak kalsekar, Panvel
Dr.	Rukhsana Sultana	rukdec13@gmail.com	Sundarban Mahavidyalaya
Mrs.	Geetanjali Bharat Gone	gitu.k33@gmail.com	Karmaveer Bhaurao Patil College Vashi
Ms.	SONAL RAUT	sonalraut0712@gmail.com	VIVA College of Arts, Commerce and Science
Dr.	SIDDHESH RAMESH PAT	drsiddheshpatil@hotmail.com	Lala Lajpatrai College of Commerce and Economics
Mrs.	Maninder Kaur Walia	mrwalia29@gmail.com	RD & SH National College and SWA Science College, Bandra (W)
Dr.	Dr. Arun Karansing Valvi	arunvalvi99@gmail.com	Karmaveer Bhaurao Patil College Vashi
Ms.	YOGITA CHANDRAKANT M	yogimore5@gmail.com	K.M.C. COLLEGE, KHOPOLI
Mr.	VAIDHEESWARAN S	vaidhee234@gmail.com	Manakula Vinayagar Institute of Technology
Mrs.	Swapnali Bawiskar Jadhav	swapnali.bawiskar@gmail.com	Dr D Y Patil ACS college, Pimpri, Pune-18
Ms.	Monika Dasharath Gorkhe	monika.gorkhe@gmail.com	Dr DY Patil Institute of Management Studies (DYPIMS)

Ms.	Ms. Kawaljeet Kaur Sygal	kawaljeetsehgal.kjsac@gmail.com	K.J Somaiya College of Arts and Commerce
Mr.	KARTHIGAYAN K	karthigayankc@gmail.com	Manakula Vinayagar Institute of Technology
Dr.	Satyavijay Sahadeorao Dha	satyavijaydhande@gmail.com	Shri. Dr. R. G. Rathod Art's And Science college Murtizapur Dist- Akola
Dr.	Jitendra Satam	jitendrasatam@somaiya.edu	K. J. Somaiya college of engineering
Dr.	Vandana Jitendra Satam	vandanam@somaiya.edu	K.J.Somaiya College Of Engineering
Mrs.	Ruma Dhanawate	rumadhanawate2013@gmail.com	Arihant College of Arts, Commerce and Science, Pune
Mr.	THIRUNAVUKARASU M	moorthythirunavukarasu@gmail.com	MANAKULA VINAYAGAR INSTITUTE OF TECHNOLOGY
Mr.	Roger D'Mello	rogerdmello683@gmail.com	Thakur College of Science and Commerce
Ms.	Ankita Pandurang Katte	pandurangkatte50@gmail.com	KBP College Vashi New Mumbai
Dr.	Mohammed Salim Khan	khansahaab2012@gmail.com	KLE College of Law, Kalamboli, Navi Mumbai.
Mrs.	Ashwina Patel	ashwinapatel189@gmail.com	Smt. Devkiba Mohansinhji Chauhan College of Commerce and Science
Mr.	Kishor Kadu Wankhede	cakishore7@gmail.com	Satish Pradhan Dnyanasadhana College,Thane
Mrs.	Sneha Shashikant Lokhand	lokhande.sneha999@gmail.com	Shri D.D. Vispute College of Science Commerce and Management New pan
Mr.	DEEPAKKUMAR GUPTA	guptadeepak521@gmail.com	VIVA COLLEGE OF ARTS COMMERCE AND SCIENCE
Mrs.	VISHAKHA HITESH MITHA	vishks13@gmail.com	Viva institute of pharmacy, Mumbai
Mr.	Chandramani Kashinath Bh	chandubhowate@gmail.com	Late Nirdhan Patil Waghaye College Ekodi Di.Bhandara
Ms.	Mrs. Mansi Gawand.	mansi.gawand@vivacollege.org	Viva college ,Arts, commerce & science, virar (W)
Ms.	Shakibaa Merchant	shakibaa0521@gmail.com	Thakur College of Science & Commerce
Mrs.	Chahat Hargunani	phdchahat2019@gmail.com	SES Swami Hansmuni Maharaj Degree Maharaj college of commerce
Mr.	R.MANIKANDAN	rrlmanimech@gmail.com	Sri Manakula Vinayagar Engineering College

Dr.	Bapu Sitaram Khaire	bapukhaire11@gmail.com	Anandrao Dhonde Alias Babaji Mahavidyalaya Kada
Dr.	Kishori J Bhagat	kishoribhagat@rediffmail.com	Pragati College
Mrs.	Kshama Chandrakant Karek	priya.karekar6@gmail.com	KMC College, Khopoli
Mrs.	R Amruthamma	amrutha.r99@gmail.com	GFGC MALUR, Kolar District
Dr.	Dr.Geeta Shinde	drgeetashinde5577@gmail.com	Department of Education & Extension,Savitribai Phule Pune University
Dr.	Nikhila Bhat	nikhila.bhat@xaviers.edu	St. Xavier's College (Autonomous), Mumbai
Mr.	Navanitha Krishnan K	navanik1510@gmail.com	Sri Manakula Vinayagar Engineering College
Dr.	Gaytri Sadashiv Jagtap	gaytribk94@gmail.com	Anandrao Dhonde Alias Babaji Mahavidyalaya Kada
Mr.	Viren Chandanshive	viren.chandanshive@vcet.edu.in	Vidyavardhini's College of Engineering and Technology
Ms.	Suju Gujar	sujusanjay@rediffmail.com	R. K. Talreja College of Arts, Science & Commerce
Mr.	Arbaz Mubarak Kazi	arbaz.kazi@vcet.edu.in	Vidyavardhini's College of Engineering and Technology
Mrs.	Kalyani Virendra Patil	miss03shree@gmail.com	Karmaveer Bhaurao Patil College, Vashi
Mr.	VIKRANT PRAKASH KOTH	vikrant.kothari@vcet.edu.in	Vidyavardhini's College of Engineering and Technology, Vasai
Dr.	Kirti Jayant Mhatre	kjmhatre2@gmail.com	Mahatma phule M.P.A.S.C. college, Panvel
Mrs.	Anu Murali	anu.murali@vcet.edu.in	Vidyavardhini college of engineering and technology
Mrs.	Puja Kadam	puja.kadam@vcet.edu.in	Vidyavardhinis College of Engineering and Technology
Mr.	Prakash Panda	prakash.panda@vcet.edu.in	Vidyavardhini College of Engineering and Technology
Mrs.	Shalu Purswani	shalu.purswani@gmail.com	Bunts Sangha's Uma Krishna Shetty Institute of Management studies and R
Mr.	Deepesh Jagdale	djagdale@mes.ac.in	Pillai HOC College of Arts, Science & Commerce
Mr.	Sumit Suresh Kokane	sumitkokane@mes.ac.in	Pillai HOC college of Arts Science and Commerce

Mr.	Binit Kumar	bkumar@mes.ac.in	Pillai HOC College of Arts, Science and Commerce, Rasayani
Dr.	Dr. Sonali Santosh Kadam	sonalikadam0807@gmail.com	R. P. Gogate And R.V. Jogalekar College Ratnagiri
Dr.	Tekade Mangal Shantinath	tekademangal@gmail.com	Anandrao Dhonde Alias Babaji Mahavidyalaya kada Dist Beed.
Dr.	Vidhate Haridas Gopinath	dr.vidhate@yahoo.com	Anandrao Dhonde Alias Babaji Mahavidyalaya kada Dist Beed
Ms.	N Niveditha	nivedithapharma145@gmail.com	Anuraag group of institutions
Dr.	VITHAL PUJARI	dr.vbpkbp@gmail.com	KBP COLLEGE, VASHI
Ms.	Nagilla Swetha	swethapharmacy@cvsr.ac.in	Anurag group of institutions
Mrs.	Geeta Sahu	geetasahu2@gmail.com	H.R College of Commerce & Economics
Mr.	Rahul Govardhan Mahure	rmahure@gmail.com	Dr H N Sinha Arts & Commerce College, Patur Dist Akola
Mr.	Chandrakant Babanrao Dhu	cdhumale9@gmail.com	Shri shivaji college of arts commerce & science Akola.
Dr.	Rani Tyagi	ranityagi@gmail.com	H R College of Commerce and Economics
Mr.	Amol Narayan Karande	ankarande@gmail.com	Pillai Hoc college of engineering and technology Rasayani
Mr.	ANKUSH CHINTAMAN KH	ankush.pck369@gmail.com	RFNS Senior Science College Akkalkuwa
Dr.	Dr sandeep Ambadas Anars	sandeepanarse23@gmail.com	Anandrao Dhonde College kada
Mrs.	Roopam Raut	roopam4pharma@gmail.com	Principal K. M. Kundnani College of Pharmacy
Mrs.	Archana Pradip Gaikwad	archana.memane2711@gmail.com	R.M.Dhariwal Sinhgad Management School,Kondhapuri
Dr.	Priya Sundarrajan	priya.s@xaviers.edu	St. Xavier's College (Autonomous), Mumbai
Mrs.	Vinita Hanumantrao Chede	vinitachede@gmail.com	FDP PHCASC
Mrs.	Mamta Anil Patil	mamtaanil@mes.ac.in	PILLAI HOC COLLEGE OF EDUCATION AND RESEARCH, RASAYANI
Dr.	Santosh S. Chobe	chobesantoshs@gmail.com	L.V.H.College,Nashik

Dr.	Dr. Jirekar Dattatraya Babas	dattajirekar1@gmail.com	Anandrao Dhonde Alias Babaji Mahavidyalaya, Kada.
Mr.	Mali Nilesh Jivan	mnils1685@gmail.com	MSG College, Malegaon Camp Tal-Malegaon Dist-Nashik
Dr.	Girish Sambhaji Gund	grsh.gund@gmail.com	M.P.A.S.C. College, Panvel
Ms.	Bijoya Sarma	joyamath90@gmail.com	Viva College
Dr.	Saranya Thaloor	saranya.t@somaiya.edu	K J Somaiya College of Arts and Commerce
Dr.	Dr Mrunal Bhardwaj	drmabhardwaj@gmail.com	LVH Arts Science and Commerce college Nasik
Dr.	Dr. Bharat Arvind Tupere	milind.tupere9999@gmail.com	Sant Rawool Maharaj College, Kudal, Dist. Sindhudurg
Dr.	Suman Ambadas khedkar	sumankhedkar77@gmail.com	Anandrao Dhonde Alias Babaji collage Kada
Ms.	Monisha Mohan	monisha@mes.ac.in	Phcet
Dr.	Dr. Ganjure Ravindra Sonaji	rsganjuRe@gmail.com	Anandrao dhonde kada tal. Ashti dist Beed
Dr.	Dr. Sainath Shivaji Lokhand	sainathlokhande12@gmail.com	Sant Rawool Maharaj Mahavidyalaya
Dr.	Dileep Babanrao Borade	drdileepborade@gmail.com	Anandrao Dhonde Alias Babaji College, Kada.
Mr.	Ramajan Fakir Varunkar	ramjanv87@gmail.com	Arihant College of Arts, Commerce and Science, Camp, Pune -01
Mrs.	Deshmukh Pranali Nitin	deshmukh.pranali@gmail.com	Arihant college of Arts, Commerce and Science
Mrs.	RAJINI. T. V.	rajini2125@gmail.com	GFGC, Devanahalli
Mrs.	Khan Farah Tahzib Tabish	farahtabish@gmail.com	Drts A.E.Kalsekar Degree Collage
Mr.	Siddhesh Suresh Khanvilka	skhanvilkar@mes.ac.in	PHCET
Mr.	Vijayaprasath R	vijayaprasathphysics@gmail.com	Manakuka Vinayagar Institute of Technology
Mrs.	Shraddha Vijay Ovale	shraddha.kalbhor000@gmail.com	Pimpri Chinchwad College of Engineering, Akurdi
Dr.	Vishwas Babaji Chavan	vishwas1964@yahoo.com	Vasantrao Naik College, Murud Janjira

Mrs.	Shakuntala Shashikant Pati	shakupatil2303@gmail.com	Karmaveer Bhaurao Patil College, Vashi
Ms.	Disha Pradeep. Chotaliya	dishachotaliya@mes.ac.in	Pillai HOC College of Arts, Science and Commerce
Ms.	Janhavi Prafull Naik	janhavinaik1089@gmail.com	Viva college of Arts,Commerce And Science
Mr.	KARTHIKEYAN R	karthikeyanmech@mvit.edu.in	MANAKULA VINAYAGAR INSTITUTUE OF TECHNOLOGY
Mr.	MahammadAyub A Gulbarg	ayubgulbarga@gmail.com	Theem college of engineering Boisar
Dr.	Pandit Namdeo Aute	panditaute93@rediffmail.com	Anandrao Dhonde Alias Babaji College, Kada Tal. Ashti Dist. Beed
Ms.	Angel Sunder	angelsunder@mes.ac.in	Pillai HOC College of Education and Reasearch
Mr.	VITHOBA CHANDRAKANT	vithobasawant@mes.ac.in	Pillai HOC College of Education & Research, Rasayani
Mr.	HANUMANTRAO KRISHNA	jagtapkds@gmail.com	Konkan Gyanpeeth uran college of commerce and Arts uran navimumbai
Mrs.	Dipti Bajpai	diptibajpai.iicmrmba@gmail.com	IICMR
Mrs.	Prajakta Shrirang Shirke	prajakta.shirke06@gmail.com	JJTU university
Mr.	Nawa Bhavik Amrut	nawabhavik@outlook.com	Ghanshyamdas Jalan College of Science, Commerce and Art's
Dr.	Debjani Mitra	mitrdebjani@gmail.com	Bijoy Krishna Girls' College, Howrah,
Ms.	Divyaa chaudhary	chaudharydivya028@gmail.com	KES Shroff college of arts and commerce
Mr.	Kiran Harishchandra Katke	katkekiran@gmail.com	414202 (Maharashtra)
Mr.	Rakesh Jacob	rjacob@mes.ac.in	Mahatma Education Society's Pillai HOC College of Arts Science and Comm
Dr.	Gaikwad Sajjan Dnyandeo	sajjangaikwad68@gmail.com	Anandrao Dhonde Alia Babaji Mahavidyalaya, kada
Ms.	Anushita A. Moger		Viva College of Arts, Commerce and Science
Dr.	Elizabeth Rosen	elizabeth.rosen@gnkhalsa.edu.in	G. N. Khalsa College
Dr.	Amar Vilasrao Mange	amarmange@mes.ac.in	Pillai HOC Polytechnic, Rasayani

	Archana . A. Bhople	archanabhople1@gmail.com	GCE&R , Kalyan
Ms	Jayasari Murli Iyengar	jayasri.iicmr@gmail.com	IICMR, Nigdi
Ms	Niyanta Dave	niyantadave@vivacollege.org	Viva college
Dr	Karbhari Bhalchandra	bk5682@gmail.com	Akbar Peerbhoy college of commerce and Economics , Grant Road , Mumba
Ms	Vaishali Bankar	vaishalibankar358@gmail.com	Akbar Peerbhoy college of commerce and Economics , Grant Road , Mumba
Mrs	Sandra Shamir Almeida	sandra.lopes@vivacollege.org	viva college
Mr	Keekan Priyesh Raghavan	priyesh.mercy@gmail.com	Pillai HOC College of Arts,Science & Commerce, Rasayani
Dr	Jayanta K Behera	jayanta@mes.ac.in	Pillai HOC College of Arts,Science & Commerce, Rasayani
Dr	Reshma Bhalla	reshamrb@rediffmail.com	LHV Arts , Science & Commerce college Panchavati , Nashik
Dr	Arvind Martiao Patil	patilamp@gmail.com	SNJB,s KKHA Arts SMGL Commerce & SPHJ Science College , Chandwad
Dr	Elvina Nevil Pereira	pereiraelvina@gmail.com	St. Xavier's Institue of Education
Dr.	Supriya Kore	supriyakore@gmail.com	
Dr.	Anuradaha Pendse	du	Wilson College, Mumbai
Dr	Ashok Kanthe	ashokkanthe@mes.ac.in	Pillai HOC College of Engineering and Technology, Rasayani
Mr.	Ramesh Mahadevrao Gulde	rameshgulde@gmail.com	ARACS College, Vaibhavwadi, Sindhudurg
Ms.	Dipthi Nobin	dnobin@mes.ac.in	Pillai HOC College of Arts, Science and commerce
Mr.	Mukesh Devram Pawar	mukeshpawar@mes.ac.in	Pillai HOC College of Arts, Science and Commerce
Ms.	Anju Damodaran	anju@mes.ac.in	Pillai HOC College of Arts, Science and Commerce
Mr	Amrut Shivaji Patil	amrut7963@gmail.com	Pillai HOC College of Arts, Science and Commerce
Ms	Anumol S.	anuabhilash@mes.ac.in	Pillai HOC College of Arts, Science and Commerce
Mr.	Kunal Ramesh Patil	kunalp@mes.ac.in	Pillai HOC College of Arts, Science and Commerce
Ms.	Pritika Bhoir	pritikabhoir@mes.ac.in	Pillai HOC College of Arts, Science and Commerce
Ms.	Pallavi Narayan Ghodvinde	pallavighodvinde123@gmail.com	Pillai HOC College of Arts, Science and Commerce

Mahatma Education Society's

Pillai HOC College of Arts,Science and Commerce

(Accredited By NAAC)

Rasayani,Maharashtra,India

INTERNAL QUALITY ASSURANCE CELL(IQAC)

Organizes

ONE WEEK INTERNATIONAL ONLINE FACULTY DEVELOPMENT PROGRAMME ON 'INNOVATION,IPR & ENTREPRENEURSHIP'

Duration: May 4 to May 10, 2020 Time :10.00 a.m. to 11.30 a.m. IST

Guest of Honour

Dr.Sandeep Kumar

Postdoc Scientist ,Institute for Space Earth Environmental Research, Nagoya University,Japan

Keynote Speaker:

Ms.Priti Pachpande

Product Integration Engineer at GlobalFoundries , Malta, NY,USA

Resource Person:

Mr.Vijaykumar Shivpuje

Director, Patlex Business Solutions, KPO

Honorary Advisor,National IPR Council, ASSOCHAM,New Delhi

Mentor of Change,Atal Innovation Mission,NITI AYOG ,Govt.of India

Mentor,Startup India,Ministry of Commerce and Industry,Govt.of India

Registration Link

https://forms.gle/74EYbA6KsSAzvPj87

For further queries get in touch with:-

Prof.Ashwini Satve (+91 9702787284)	Prof.Priyesh Keekan (+91 9769429867)	Prof.Sreelakshmi Nair (+91 8169119781)	Prof.Ashwini Khillari (+91 9860809283)

Convener : Prof.Rewati Soman **Co-Convener :** Prof.Swapnil Patil

Mahatma Education Society's

Pillai HOC College of Arts, Science and Commerce, Rasayani

Title of the workshop: One week International Online Faculty Development Program on 'INNOVATION, IPR & ENTREPRENEURSHIP'

Venue: Online Platform (Zoom)

Date/days: May 04, 2020 to May 10, 2020 (7 Days)

Brief Report on the Online Faculty Development Programme Day - 1

On Monday May 4, 2020 the session was opened up at 10 am by the convenor for this FDP by welcoming all the delegates who were the witness to this great event. She even expressed her gratitude to the foreign delegates who all hailed from Canada, US, France and Japan.

The Key-note speaker was Ms Priti Pachpande & the speaker for session was Mr Vijaykumar Shivpuje. Both the speakers shared their expertise as well as their personal experiences. Mr Vijaykumar Shivpuje skilfully introduced the topics that stretched from Geographical Indicators, Trademark to Copy rights, He took efforts in building rapport with the audience by answering to their questions.

The session ended with formal vote of thanks.

Reference - May 4, 2020 Day -1

https://www.youtube.com/watch?v=D6jZ8yYwMwA&list=PLJXyAQkETfdT_0gK_6hTeAXKm5SroqZxx

Mahatma Education Society's

Pillai HOC College of Arts, Science and Commerce, Rasayani

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Venue: Online Platform (Zoom)

Date/days: May 04, 2020 to May 10, 2020 (7 Days)

Brief Report on the Online Faculty Development Programme Day – 2

On Tuesday May 5, 2020 Mr Vijaykumar Shivpuje took it forward from where he left on Day 1. After his warm welcoming for day 2 sessions, he poured his entire thoughts on Patents. He covered the area which included: Patent Rights, documentation process and the things that fall under the ambit of Patent law.

The session ended with formal vote of thanks.

Reference - May 5, 2020 Day -2

https://www.youtube.com/watch?v=Bzq43crzF30

Mahatma Education Society's

Pillai HOC College of Arts, Science and Commerce, Rasayani

Title of the workshop: One week International Online Faculty Development Program on 'INNOVATION, IPR & ENTREPRENEURSHIP'

Venue: Online Platform (Zoom)

Date/days: May 04, 2020 to May 10, 2020 (7 Days)

Brief Report on the Online Faculty Development Programme Day – 3

On Wednesday May 6, 2020 that is on the third day all saw the advent of Guest of honour ,Dr. Sandeep Kumar,who is a post-doctoral fellow at Institute of Space Earth Environment Research. He added his valuable inputs regarding Patent and Space Technology. Mr. Vijaykumar Shivpuje on day three spoke on the Service Sector. His comparison of Service with Goods and the working of Patlex firm further added valuable inputs for the learners.

The session ended with formal vote of thanks.

Reference - May 6,2020 Day -3

https://youtu.be/tZwmXzhc21Q

Mahatma Education Society's

Pillai HOC College of Arts, Science and Commerce, Rasayani

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Venue: Online Platform (Zoom)

Date/days: May 04, 2020 to May 10, 2020 (7 Days)

Brief Report on the Online Faculty Development Programme Day - 4

On Thursday May 7, 2020 the fourth session was scheduled. In this session Mr Vijaykumar Shivpuje particularized on the Start-ups. He dealt with the following:-

- The stat-ups and its importance
- Registration process
- How start-ups are different from established ventures and
- The ventures fall under the category of Startups.

The session ended with formal vote of thanks.

Reference - May 7,2020 Day-4

https://www.youtube.com/watch?v=gATN3uDXfPE

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Pillai HOC College of Arts, Science and Commerce, Rasayani

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Venue: Online Platform (Zoom)

Date/days: May 04, 2020 to May 10, 2020 (7 Days)

Brief Report on the Online Faculty Development Programme Day - 5

On Friday May 8, 2020 The Incubation Centre was the topic. Mr. Vijaykumar Shivpuje brought in all of his experiences and focused on its need, how to approach certain business, the role of such centres etc, his lively examples captured the attention of his audience.

The session ended with formal vote of thanks

Reference - May 8, 2020 Day-5

https://www.youtube.com/watch?v=JoZHmlKD_10

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Venue: Online Platform (Zoom)

Date/days: May 04, 2020 to May 10, 2020 (7 Days)

Brief Report on the Online Faculty Development Programme Day - 6

On Saturday May 9, 2020 the area that was focused upon on day 6 by Mr, Vijaykumar Shivpuje was 'The Best Practices in innovation, IPR and patenting'. He presented the need of Innovation and the steps involved in it. He also emphasised more on Brain Storming, Accidental Innovation, Collaboration, Thinking Hats, Role playing etc.

The session ended with formal vote of thanks.

Reference - May 9, 2020 Day -6

https://youtu.be/EYNL30uGX7c

Mahatma Education Society's

Pillai HOC College of Arts, Science and Commerce, Rasayani

Title of the workshop: One week International Online Faculty Development Program on 'INNOVATION, IPR & ENTREPRENEURSHIP'

Venue: Online Platform (Zoom)

Date/days: May 04, 2020 to May 10, 2020 (7 Days)

Brief Report on the Online Faculty Development Programme Day - 7

Since Sunday May 10, 2020 was the last day of FDP , it opened with recognition of MES 's two pillars CEO Dr Vasudevan PIllai and Dr Daphne Pillai. Their dedication & passion in building different educational institutions under this banner. Delegates were made aware of the institutional profile & structure.

After this brief introduction, Mr. Vijaykumar Shivpuje, came up for one last session which he had been continuing since past six days. This time he focused on Use of Technology in Teaching and Learning Process. He elucidated on You tube, Google Classroom, Zoom and many other platforms which always facilitate online teaching.

It was a session where the questions were satisfied keeping in mind the teachers' hardship in tackling with the technology and Vijaykumar sir was at his best in coming up with useful suggestions.

The session saw curtains with systematic question and answer round.

The session ended with the valediction and formal vote of thanks.

Reference - May 10,2020 Day -7

https://youtu.be/1SrG0NIJVaE

Mahatma Education Society's

Pillai HOC College of Arts, Science and Commerce, Rasayani

Title of the workshop:

One week International Online Faculty Development Program on 'INNOVATION, IPR & ENTREPRENEURSHIP

Venue: Online Platform (Zoom)

Date/days: May 04, 2020 to May 10, 2020 (7 Days)

Brief Report on the Online Faculty Development Programme

This is a Report on the proceedings of One week International Online Faculty Development Program on 'INNOVATION, IPR & ENTREPRENEURSHIP which was held from 4th May, 2020 to 10th May, 2020.

Day 1: **May 04,2020**

URL
https://www.youtube.com/watch?v=D6jZ8yYwMwA&list=PLJXyAQkETfdT_0gK_6hTeAXKm5SroqZxx

The session was opened up at 10 am by the convenor for this FDP by welcoming all the delegates who were the witness to this great event. She even expressed her gratitude to the foreign delegates who all hailed from Canada, US, France and Japan.

The Key-note speaker was Ms Priti Pachpande & the speaker for session one was Mr Vijaykumar Shivpuje Shivpuje. Both the speakers shared their expertise as well as their personal experiences. Mr Vijaykumar Shivpuje skilfully introduced the topics that stretched from Geographical Indicators, Trademark to Copy rights, He took efforts in building rapport with the audience by answering to their questions.

Day 2: May 05,2020

URL https://www.youtube.com/watch?v=Bzq43crzF30

Mr Vijaykumar Shivpuje took it forward from where he left on Day 1. After his warm welcoming for day 2 session, he poured his entire thoughts on Patents. He covered the area which included: Patent Rights, documentation process and the things that fall under the ambit of Patent law.

Day 3: May 06,2020

URL https://youtu.be/tZwmXzhc21Q

The third day saw the advent of Guest of honour ,Dr. Sandeep Kumar,who is a post-doctoral fellow at Institute of Space Earth Environment Research. He added his valuable inputs regarding Patent and Space Technology. Mr. Vijay on day three spoke on the Service Sector. His comparison of Service with Goods and the working of Patlex firm further added valuable inputs for the learners.

Day 4: May 07,2020

URL https://www.youtube.com/watch?v=gATN3uDXfPE

In this session Mr Vijaykumar Shivpuje particularized on the Start-ups. He dealt with its importance; registration process, how different it is from established ventures and which ventures fall under this category.

Day 5: May 08,2020

URL https://www.youtube.com/watch?v=JoZHmlKD_10

The Incubation Centre was the topic for day five. Mr. Vijaykumar Shivpuje brought in all of his experiences and focused on its need, how to approach certain business, the role of such centres etc, his lively examples captured the attention of his audience.

Day 6: May 09,2020

URL: https://youtu.be/EYNL30uGX7c

The area that was focused upon on day 6 by Mr, Vijay was The Best Practices in innovation, IPR and patenting. He presented the need of Innovation and the steps involved in it. He also emphasised more on Brain Storming, Accidental Innovation, Collaboration, Thinking Hats, Role playing etc.

Day 7: May 10,2020

URL : https://youtu.be/1SrG0NIJVaE

Since it was the last day of FDP , it opened with recognition of MES 's two pillars CEO Dr Vasudevan PIllai and Dr Daphne Pillai. Their dedication & passion in building different educational institutions under this banner. Delegates were made aware of the institutional profile & structure.

After this brief introduction, Mr. Vijaykumar Shivpuje, came up for one last session which he had been continuing since past six days. This time he focused on Use of Technology in Teaching and Learning Process. He elucidated on You tube, Google Classroom, Zoom and many other platforms which always facilitate online teaching.

It was a session where the questions were satisfied keeping in mind the teachers' hardship in tackling with the technology and Vijaykumar sir was at his best in coming up with useful suggestions.

The session saw curtains with systematic question and answer round.

The session ended with the valediction and formal vote of thanks.

Submitted to: IQAC -PHCASC

Submitted by: Ms. Rewati Soman

(Principal)

Mahatma Education Society's

Pillai HOC College of Arts, Science & Commerce, Rasayani

Report on Faculty Development Programme on IPR – 20 - 26 April, 2020

Internal Quality Assurance Cell (IQAC) of Pillai HOC College of Arts, Science & Commerce organized a **one-week online National Level Faculty Development Programme on Intellectual Property Rights from 20 – 26 April, 2020.** The event was organized in an online platform, Google Hangout Meet, given the pandemic times of COVID 19. The event received an overwhelming response during registration by faculty members from all over Maharashtra. The schedule of the event included most relevant topics segregated into six separate sessions day-wise. The resource person for the event was **Adv. Pranit Dhanavade**, from Lawgical Legal Solutions, Mumbai. The organizing team comprised **our Principal, Dr. Lata Menon, Vice Principal Prof. Binit Kumar, Converner, Dr. Jayant Behera,** Techical Coordinators, Prof. Deepesh Jagdale and Prof. Priyanka Sorte, IQAC Members, Prof. Remya Madan Gopal, Prof. Swati Mishra, Prof. Babitha Kurup and Prof. Sujith Babu. The day-wise report on various topics presented and discussed is as follows:

Day 01- April 20, 2020 - 'Introduction to Intellectual Property Rights'

The inaugural day of National Level Faculty Development Programme started as per schedule at 10.00 am on 20 April, 2020 in google hangout meet online platform. The links were provided to participants who registered for the same. The technical team had clearly planned out session without any breaks or interruptions. Day one was **'Introduction to Intellectual Property**

Rights'. There were **264 participants who attended the presentation** of the day. Prof. Swati Mishra warmly welcomed the delegates and introduced the resource person for the event, Adv. Pranit Dhanavade. He started out with introduction of intellectual property and benefits of IPR. The speaker implied on two different categories of IP - Industrial Property & Copyrights. Two important IPR conventions were also presented as **Paris and Berne Convention and principles** of the same. The speaker also addressed on Universal Declaration of Human Rights (UDHR) and establishment of **World Intellectual Property Organization (WIPO) and World Intellectual Property Day**. The resource person explained various IPR Acts and IPR governance in India. The presentation was followed by open discussion. The delegates put forth their doubts in through microphones or expressed their queries in chat. The session was successfully completed with a vote of thanks to resource person and all delegates participated for the day.

Day 02- April 21, 2020 – Trademark

Day two of the event generated tremendous interest among the participants due to the content relevance and application. 'Trademark' was the topic of presentation and discussion for the day. **There were a total of 236 participants** who attended the same conducted online. In line with the subject, our resource person covered numerous topics from the very introduction. The session opened with a welcome note to our speaker and all the delegates participating for the same. At the outset concept and types of trademark was presented along with **Trademark Act of 1999**. The speaker discussed about appointment of **Registrar of Trademark by Central Government** and Trademark registry in line with **Trade & Merchandise Marks Act in 1958**. Territorial jurisdictions of TMR offices in Mumbai, Kolkata, Chennai, New Delhi & Ahmadabad were also mentioned. The speaker also directed our attention on absolute grounds for refusal of trademark

in depth. The step wise procedure for application for registration and its effects were clearly described. The real pointers of the session were **penalties for false trademarks and trade descriptions**. The subsequent conviction, charges of offences and court trial which were further proceeding and consequences to fake registration process were analysed in detail with possible live examples to clarify the concept. The session vividly covered all realms of trademark and its applications in life. The presentation was followed by Q & A session where delegates were given a platform to discuss and clarify the doubts and facts. Adv. Pranit Dhanavade addressed each of the questions put forth by the delegates and provided satisfactory explanations for the same. The queries were put on chat box along with overwhelmingly positive feedback for the session. The second day ended with a vote of thanks and to meet on the same platform for day three.

Day 03- April 22, 2020 – Copyright

The third day of the event centered on the very interdisciplinary topic under Intellectual Property Rights – **Copyright**. The day started off with the formal welcome for our resource person Adv. Pranit Dhanavade and other delegates. The presentation comprised all the vital points for discussion from the basic to the most recent information ie., **from concept definition to Copyright Act and Copyright Societies**. The session started with elementary details of copyright concept **and Copyright Act, 1957**. The different aspects of copyrights in case of literary, dramatic and musical work, computer programmes, artistic work, cinematograph film and sound recording were explained in detail. Organisation structure in the form of copyright Office, copyright services and registration process were relevantly presented by the speaker. The speaker also focused on using **Right to Information** Act for accessing information of copyrights. The resource person discussed **Term of Copyright** government works, public

undertakings, in arts and literature and performer's right. The licensed by owners of copyrights and methods to obtain the same was highlighted. **Registered Copyright societies and remedial measures for infringement copyrights** were vividly enumerated in the conclusion of the session. **The day witnessed 260 delegates** who were participating evidently in the Q & A session that followed the presentation. Our speaker enthusiastically interacted with our delegates during doubt solving session. The session concluded with vote of thanks and positive feedback from delegates**.**

Day 04- April 23, 2020 – Patents

Day four of the event was centered on the most popular and significant topic under IPR, Patents. The session started with a usual welcome note to our resource person Adv. Pranit Dhanawade and delegates. The presentation began with basic information on the topic such as cocept, terms used and **Patent Act, 1970**. The focus of the session was on **criteria of patentability** and non inventions as per Patent Act. The speaker listed out non inventions in the field of health, Environment, Science, Technology, Agriculture, Medicine, Industry, Algorithms, Biological process, Arts and the likes. The speaker also discussed Patent Cooperation Treaty and explained the **patent filing procedure** nationally and internationally. **Provisional and complete specification** and their merits and demerits were also enumerated. Term period for patents, restoration of lapsed patents and surrender of patents, which are of great application potential were also presented. The speaker also provided information about authorities by Central Government in the likes of **Controller General of Patents** and territorial jurisdiction of patent offices. The information on database of Indian patents was also provided as a final statement of conclusion. **264 delegates attended the presentation** which was followed by Q & A session.

The clarification was given by our resource person to the delegates on the basis of questions shared through microphone or chatbox. The session concluded with a vote of thanks to meet again for next session. The session received positive feedbacks from delegates.

Day 05- April 24, 2020 – Industrial Designs

The focus of the day was the most interesting and challenging topic that comes under Intellectual Property Rights, **'Industrial Designs'.** The day witnessed an overwhelming participation with **265 delegates attending the event for fifth day** of Faculty Development Programme. Initial instructions were provided to make sure of smooth conduction of the session as a routine. The session opened with the event organizing team member, Prof. Remya Madan Gopal and Ms. Swati Mishra placing on records a big thanks to all the delegates for their support and encouragement. After welcoming the delegates, our resource person started with the presentation on Industrial Designs. The presentation started **with introduction of industrial designs and The Design Act, 2020.** The concept was clarified with proper examples. Design Controllers and other official authorities and their appointment by central government were stated in the presentation. The steps of **substantive Examination** on originality, content nature and authenticity were explained. The procedure for publication of particulars of registered design, its copyrights and certificate for registration were elaborated in the session. The challenges of piracy, restoration of a lapsed design, hurdles of inspection of registered design and possibilities of cancellation of registration were summarized by the speaker. **The flow chart of design application to registration** was also meticulously presented. Methods to safe guard include appeals to high court and protection of security by not disclosing the details under **Designs Act. The protocol for application for registration** of designs, certificates, duplicates and certified

copies of documents such affidavits or declaration were presented in a well organized method to conclude the same. Interactive session started out with some of the delegates providing positive feedbacks and thanking the resource person for proper content delivery. The session concluded with clarifications given to doubts put forth by delegates and great feedbacks from the delegates.

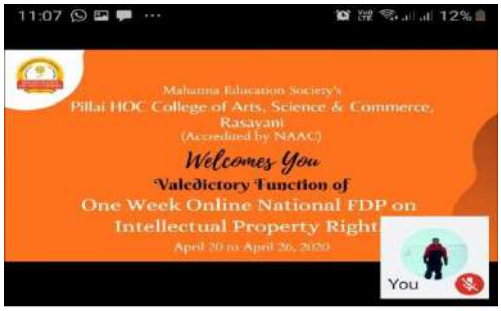
Day 06- April 25, 2020 – Case Studies on IPR

The sixth day of the event focused on **Case Studies related to IPR** which generated immense interest among participants. The day started off with a few instructions on final **day online test conducted for completion of national level FDP** on the same. The instruction was followed by date, time and mode of conduction of examination. The day proceeded with welcoming the resource person and the delegates. The speaker started off with **Case Laws, on trademark, copyright, patent and industrial designs.** The trademark related case studies discussed included high profile cases such as Yahoo! Inc. Vs Akash Arora Anr case and **Coca Cola Company Vs. Bisleri International Pvt. Ltd case**. The copyright case studies are Sanjeev Pillai Vs. Venu Kunnapalli and Anr case and Tips Industries Vs. Wynk Music Case. The case studies explained under patent are **Bajaj Auto Limited Vs. TVS Motor Company Limited Case** and Novartis Vs. Union of India case. Case studies discussed for industrial designs are **Mattel Inc. Vs Jayant Agarwalla Case** and Sree Vishnu Bottles Vs. The State of Tamil Nadu. The cases were all very relevant and delegates were keen to get more during Q& A session. After the same the schedule of final day of online exam details were discussed and feedback forms were shared. The day witnessed another **overwhelming number of delegates of 265**. The online feedbacks were collected using google forms shared with the delegates. In addition to an amazingly positive feedback after each session in the chatbox during 6 days, a final feedback in google

forms were also taken for records and suggestions for improvement. 261 **delegates recorded their feedback** on the one-week national level FDP. The session ended with Vote of Thanks.

Day 07- April 26, 2020 – Online examination & e- certificate distribution

The last day commenced with welcoming the resource person and the delegates. Our College shared the **history of our parent organization Mahatma Education Society and the patrons**. **Our Principal addressed the delegates** welcomed them and wished them a very **happy World Intellectual Property Day**, **the culmination of our National Level FDP on Intellectual Property Rights**. She also thanked them for their encouragement and support. Our resource person for our FDP, **Adv. Pranit Dhanawade** also addressed the delegates. After the same, an **online test of 50 marks for the duration of 50 minutes** was organized. The instructions were provided by our event Convener, Dr. Jayant Behera. The mode of conduction was online google forms, the link for the same was shared in the group and google meet chat box. After the submission for the same by the delegates, the organizing team took feedbacks from a few of them. All the delegates were provided with e-certificates for the FDP, provided their attendance records were good, they appeared foe exam and submitted the feedback forms. A **total of 270 delegates appeared for the online exam and received e-certificate** for the same. The event concluded with a vote of thanks proposed to resource person, management, delegates and entire team of faculty members of the college.



(130)

Thank you for an informative session conducted by u all.. congratulations

Esmita Gupta 3 mins
Well planned and organized. Thank you entire team

Avdhoot Shikhare 2 mins
It was great Experience and will miss this online lectures as since last Monday we always used to meet over con call and days pass too fast.plz keep such programme and congratulations to all members of organizing committee and Pranit Sir for sharing his knowledge.

Send a message to everyone here

(126)

Very nice session

Anita Yadav [LUC] Now
Thank you Sir

dd D'Souza Now
thanks for this session

Manisha Shah Now
Nicely organized session .thank you. Enjoyed.

Ansari Afreen Now
Thank you for this session

Send a message to everyone here

(139)

bussiness.

kausar shaikh 1 min
Thanks sir for your explanation, for the doubt

vanashree pathak 1 min
Hello sir,
Can u brief on Passing off the trade mark?

sheetal mathew 1 min
Thank you sir for the informative session..

Binit Kumar 1 min
sir suppose one company is using a trademark (not

Send a message to everyone here

(146)

Shweta Gupta 6 mins
Thanks a lot for this Informative session

Ansari Afreen 6 mins
sir, is registration is mandatory for all types of business

Sunita Khansole 6 mins
OK, Thank you sir

Suresh Sutar 5 mins
Dr. Suresh Sutar from Chiplun. Thanks a lot sir

Arpita Singh 3 mins

Send a message to everyone here