



ATHARVA INSTITUTE OF MANAGEMENT STUDIES

Approved by AICTE, DTE, Government of Maharashtra & Affiliated to University of Mumbai

(NAAC Accredited)

A Peer - Reviewed Biannual
Journal of Management Research

ISSN 2231 - 4350



Atharva Educational Trust

Vol.11. No.1 & 2, December 2019

OUR ANNUAL SEMINAR AT GLANCE

Sr. No.	Date	Theme	Venue
First Annual Seminar	12 th Feb 2004	Managing Structural Changes in Financial Sector	Hotel Grand Maratha
Second Annual Seminar	12 th Nov. 2005	Sustaining Growth in An Organisation	Hotel Ra mada Plaza Palmgrove
Third Annual Seminar	4 th Nov. 2006	Developing & Implementing Growth Strategies	Hotel Taj Land End
Fourth Annual Seminar	19 th Dec. 2007	Leading Change in & Innovation	Hotel Grand Hyatt
Fifth Annual Seminar	8 th Nov. 2008	India Inc- Challenges Next	Hotel Taj Lands End
Sixth Annual Seminar	11 th Dec. 2009	Creating Winning Organisations (Pragati)	World class Atharva Auditorium, 3 rd Phase AET Campus,
Annual Conference	16 th Jan. 2010	Competing in the Times of Uncertainty (Aswamedh)	World class Atharva Auditorium, 3 rd Phase AET Campus,
Annual Conference	4 th & 5 th Feb. 2011	Emerging issues in global economy and management-Challenges & Strategies	World class Atharva Auditorium, 3 rd Phase AET Campus,
Seventh Annual Seminar	11 th Feb. 2011	Transforming Organizations: Emerging Trends (Parivartan)	Presentation Hall, 3 rd Phase, AET campus,
Annual Conference	12 th Nov. 2011	"Global Turmoil - Opportunities For India"	World Class Auditorium, 3 rd Phase, AET campus,
Panel Discussion	4 th Feb. 2012.	"Gender Inclusivity In India-Building An Empowered Organization"	Seminar Hall, 3 rd Phase, AET campus, Malad-(W).
Annual conference	12 th Jan. 2013	Panel discussion on "Reassuring Confidence In India"- Road Map To recovery "	Seminar hall, 3 rd phase, AET campus, Malad-(W)
Atharva International Research Conference	19 th July 2014	"Emerging Patterns of Innovation in Business: Challenges & Strategies"	Seminar hall, 3 rd phase, AET campus, Malad-(W)
Annual seminars- 12 th Annual Conclave	17 th Jan. 2015	"Putting India Back On A High Growth Trajectory"	Seminar Hall 3 rd Phase, AET campus, Malad(W)
Annual Conclave	13 th Feb. 2016	"Transforming India"	Seminar Hall 3 rd Phase, AET campus, Malad(W)
Annual Conference	4 th Feb. 2017	"Building world class Indian Companies & Competence: Strateging For The Future "	World Class Auditorium, 3 rd Phase, AET campus,
Atharva International Research Conference	1 st Sept. 2018	Business & Environment : Challenges & Prospects	Seminar Hall 3 rd Phase, AET campus, Malad(W)
Annual Conference	13 th Oct. 2018	Digital Transformation in the Corporate world : Strategies for success	Seminar Hall 3 rd Phase, AET campus, Malad(W)
Annual Conference	19 th Oct. 2019	"India a five trillion economy by 2025: Need for flowless execution by corporates "	Seminar hall, 3 rd phase, AET campus, Malad-(W)

MESSAGE, FROM THE EXECUTIVE PRESIDENT.



Shri Sunil Rane

Executive President, Atharva Group of Institutes
Founder Secretary, Atharva Educational Trust

Atharva Group Of Institutes, since its inception have pioneered new initiatives in the sphere of education. With the state-of- art infrastructure and a culture of excellence we have set benchmarks for performance, providing the most conducive learning environment.

In today's fast-paced business world, industry is not only looking for technical competencies while hiring and promoting candidates, but also for skilled, career-savvy and confident individuals who can make a positive and long-term impact in the organizations. Hence our commitment is towards offering our students rich quality education with strong values and an experience that impacts their future. At Atharva we believe in empowering our students to chalk out their own journey. We encourage them, to develop their professional abilities to the fullest and also foster a sense of responsibility and ethics so that they become not just good professionals, but also good human beings.

Focusing on innovation and creativity, we equip the students with the necessary business skills to make them industry-ready as well as hone their entrepreneurial abilities, thus making 'Education' an empowering experience. Our management programmes have both local and global perspectives.

Atharva Group Of Institutes have achieved several laurels in the field of Engineering, Management, Hotel Management, Fashion , Information Technology, Film And Television, School Of Drama And Performing Arts etc. This issue of our Atharva Journal Of Management Research provides an insight into a wide range of topics of varied interest. We solicit your scholarly contributions of articles, research papers, case-studies in accelerating the process of learning.

My Best Wishes To All !



Atharva Educational Trust

Atharva

A Journal of Management Research

Vol. 11 No. 1 & 2
December 2019

Editor-in-Chief

Mr. Sunil Rane
Executive President,
Atharva Group of Institutes
Founder Secretary, AET

Consulting Editor

Prof. Col. Sudhir Rajee

Editor

Prof. Dr. Sujata Pandey
Prof. Dr. Rekha Shenoy
Prof. Dr. Neeta Bhatt
Prof. Dr. Shubhi Agarwal

Advisory Board

Prof. Abhay Desai
Prof. Tapas Mitra
Prof. Ganesh Apte

EDITORIAL

One of the greatest management challenges in the near future is to comprehend, how to get the best of both the human capital and the technology. The human v/s machine dilemma requires an understanding of the nuances of who manages whom. Research indicates that technology will not render managers obsolete- but they will need re-skilling more than ever before.

Complex links among financial markets and institutions are a hallmark of today's modern global financial system. Digital technologies are diversifying and widening the scope of media, retail, healthcare and all other sectors. It is changing life and businesses radically.

Digitally powered management practices act as catalysts if applied at the right time, in the right amount and the right conditions. Digitally savvy companies which engage both the head and heart of employees are more successful than the ones which treat people like machines. The main aim is to create sustainable growth, ensuring harmonious work environment. Mature organizations develop cultures to promote continuous learning and transformation at all levels.

This issue of "ATHARVA" Journal provides selected articles and research papers with much subjective variety and objective research content.

Hope you enjoy reading the same. Happy Reading!

Best wishes and Regards,

Editorial Team

Articles presented in this issue communicate exclusively the individual view points of respective contributors.



Atharva

A Journal of Management Research

Vol.11 No.1 & 2,

December 2019

CONTENTS

Page No.

1. Impact of Work Life Balance on Employee Motivation
An Empirical Study with Reference to Banking Industry
- *Dr Sanchita Banerji* 4
2. "Artificial intelligence & Machine Learning:
Emerging Challenges in Technology & its applications"
- *Prof. R. K. Sinha* 26
3. Cyber Security attacks and Prevention mechanism
- *Mrs. Priyanka Roshan Brid* 42
4. The Formulation Business in India - The Sales Mechanics
- *Prof. Abahy Desai* 48
5. A Study on Reasons for Social Media Addiction
- *Mrs. Gauri Gaurav Vartak & Dr. Neeta Bhatt* 54
6. Managerial Effectiveness and Security Issues
- *Dr. Neeta Bhatt*..... 59
7. Business Analytics – An Overview
- *Ramanand Singh*..... 69

Impact of Work Life Balance on Employee Motivation An Empirical Study with Reference to Banking Industry

Dr Sanchita Banerji
Associate Professor, DSIMS

Abstract

Work life balance is a concept which helps employees of an organization to balance their personal and professional lives. It is no easy task to fulfill work-life balance in today's unpredictable and fast-paced business world.

The purpose of the study was to understand the impact of Work Life Balance on Employee motivation in Banking Sector. The banking sector is one which is the force of threat of work life imbalance. Work limit are getting warmer and the individuals jobs are not only to achieve the targets but also to give productivity. Due to this work load, it becomes difficult to maintain work life balance and this leads to decrease in employee motivation.

The research was done using primary as well as secondary data. Primary data was collected from 80 employees working in banking sector within Mumbai city from four different banks (KMPL, HDFC, ICICI, AXIS) using questionnaire method. The data collected was analyzed in SPSS software and correlation test was applied based on the objective of the study. The research findings reveal that there was no correlation between work life balance and employee motivation, which means there is no impact of work life balance on employee motivation in the banking sector.

INTRODUCTION

Key Words : WLB, Motivation, Banking, Employee engagement

Work plays a significant part in all our lives. Our earnings ensure that the lights stay on, there's food on the table and the rainy-day pot is full. It is no easy task to achieve work-life balance in today's unpredictable and fast-paced business world. As we grow increasingly more connected through technology and social media, it is becoming more and more difficult to separate work from our personal lives. Work-life balance refers to the level of prioritization between personal and professional activities in an individual's life and the level to which activities related to their job are present in the home. Work life balance is a method which helps employees of an organization to balance their personal and professional live

Work life balance encourages employees to divide their time on the basis on priorities and maintain a balance by devoting time to family, health, vacations etc. along with making a career, business travel etc. It is an important concept in the world of business as it helps to motivate the employees and increases their loyalty towards the company.

Issues of Work Life Balance:

- Work-life balance is increasingly an issue for any country. Jobs, the workplace and the workforce are changing as:
- More women and sole parents go into work.
- More people juggle more than one job.
- The workforce ages and is increasingly diverse.
- Businesses continue to compete globally to hire skilled workers.
- For any country, the two biggest work-life balance problems are:
- People with not enough work or income
- People who have too much work: the low paid who need to work long hours to earn enough and the higher paid who may feel trapped into working more hours than they want to.

EMPLOYEE MOTIVATION

“An employee' motivation is a direct result of the sum of interactions with his or her manager.” –Bob Nelson

Employee motivation is the level of energy, commitment, and creativity that a company's workers bring to their jobs. Whether the economy is growing or shrinking, finding ways to motivate employees is always a management concern. Competing theories stress ether incentives or employee involvement (empowerment). Employee motivation can sometimes be particularly problematic for small businesses.

Motivated employees can lead to increased productivity and allow an organization to achieve higher levels of output. Imagine having an employee who is not motivated at work. They will probably use the time at their desk surfing the internet for personal plasure or even looking for another job. This is a waste of your time and resources.

Work-Life Balance as the Key Motivational Factor

Retaining and engaging key employees are vital for any organization. Human capital is

extremely important for success and growth of any organization. The drive for productivity and performance has increased in recent years due to globalization and its circumstances like the ability to adapt to change. Organizations begin to realize that a company's success directly depends on its employees, and not just on their current knowledge and skills, but their eagerness, motivation and engagement to embrace and develop new skills. That is why in a business context the role of an engaged employee should not be underestimated.

Financial rewards, career development, recognition and management are considered to be the top motivational factors for employee engagement. The stress levels are very high, 24 hours is not enough to deal with work and personal life. Work comes first and many neglect their lives, families and health. These issues are directly connected with employer who does not provide employee with a proper work-life balance choice.

The importance of work-life balance should not be underestimated in this part of the world where 91% of the population are expatriates, whom in most cases are away from their families and friends. Unfortunately, quite often, this motivational factor is neglected. Organizations should implement flexibility programs in terms of work-life balance and build a culture of engagement. It is important to increase focus and motivation at work knowing that family and work commitments are being met. Not only financial factors should be taken into consideration to engage and motivate employees but, most importantly, a proper work-life balance should be provided to employees.

LITERATURE REVIEW

Work-life balance (WLB) is an individual's perception of how well his or her life roles are balanced (Haar, Russo, Sune, & Ollier-Malaterre, 2014). In the twenty-first century, work-life balance research has significantly attracted the concern for individuals, organizations and society. At the individual level, it has the impact on mental and physical health, life satisfaction, marital problems and quality of life (Greenhaus, Ziegert, & Allen, 2012). When employees fail to manage their work-life, organizations face critical issues like increased absenteeism, a rise in stress at a job, inefficient productivity, and higher turnover intention (Baral & Bhargava, 2010).

Work-life balance is one of the most important factors to achieve a satisfying life. Work-family balance can be defined as equal time, satisfaction, and involvement in each of the work and family spheres irrespective of job demands, family demands, family structure, financial pressures, etc. (Reiter, 2007). In the highly competitive global scenario, society and organizations are filled with conflicting commitment and responsibilities. Hence, work-life balance has become an important issue at the workplace. This is further fuelled by the renewed interest in the personal life and family values, and the ageing workforce (Lockwood, 2003).

To examine the influence of working hours on employees' satisfaction, the article uses a large, representative set of panel data from German households (GSOEP). The results show that high working hours and overtime in general do not lead to decreased satisfaction. Rather, increasing working hours and overtime have positive effects on life and job satisfaction, whereas the desire to reduce working hours has a negative impact on satisfaction. In 2009, nearly 60% of employees wanted to reduce their working hours. The overall number of hours by which employees want to reduce their working time is driven mainly by overtime compensation (Berlin & Sarah).

Nowadays, flexible working hours are becoming important to the workplaces. A lot of organizations offer flexible working hours to employees due to the benefits that flexibility gives to both employee and employer. Greater employee productivity and higher organization profitability are the most common benefits. Also, flexible working hours promote and facilitate work-life balance. Reduced stress and increased employee well-being are outcomes of the work-life balance. (Sussanna Shagvaliyeva, 2014)

According to researchers, employees today are looking for: opportunities to learn and improve their skills and to have an open valve for imagination, creativity and ideas; senior management interest in employee well-being and to work for an organization with a reputation as a good employer. Findings of the study were organizations that provide a workplace culture with the psychological conditions of meaningfulness (job enrichment, work-role fit), safety (supportive manager and co-workers) and availability (resources available) are more likely to have engaged employees. Work-life balance is increasingly important for engagement and affects retention. By being aware of the unique needs of diverse groups, as well as by recognizing individual differences within these groups, HR can better understand the challenges of increased diversity in the organization's workforce (e.g., different generations, more females) and work toward designing and implementing work-life balance policies and practices to engage diverse employee groups. (Susi & Jawaharrani, 2011)

According to researchers in its study exploring work-life interface of dual working parents. The analysis identified that the factors related to work-life issues are classified into categories i.e. determinants, consequences, intervening variables. Practitioners may design their policies and practices based on the findings to enhance overall performance of the organization and individual's work-life balance. (Bansal & Agarwal, 2017)

According to authors' research study, work-life balance has not much impact on employee job satisfaction and some factors of work-life balance such as employee intention to leave job, work pressure and long working hours have negative relation with employee job satisfaction and work-life balance programs and flexible working conditions have positive relation with employee job satisfaction. It is found out that the organizations can face multiple problems if their workforce

satisfaction level is lower. (shuja, Cheema, & Bhutto, 2011)

RESEARCH METHODOLOGY

Research Methodology is a body of methods or techniques used in the study. The term method refers to an appropriate way of doing something. There are various methods, but Questionnaire and Interview are widely used in research projects.

OBJECTIVE

- To understand the impact of Work Life Balance on Employee Motivation in Banking Sector

SCOPE OF THE STUDY

- The scope of study was to take survey of employees working in Banking Sector within Mumbai City

POPULATION

- The population comprises of employees working in Banking Sector within Mumbai City.

SAMPLE SIZE

- The sample size refers to the number of items selected from the population to constitute a sample. The sample size used for the study is 80 employees working in four different banks i.e. KMPL, HDFC, ICICI and AXIS Bank.

SAMPLING TECHNIQUE

Convenience Sample is a type of non-probability sampling method where the sample is taken from a group of people easy to contact or to reach. This type of sampling is also known as grab sampling or availability sampling. There are no other criteria to the sampling method except that people be available and willing to participate. In addition, this type of sampling method does not require that a simple random sample is generated, since the only criteria is whether the participants agree to participate

Sampling Technique used in conducting this survey is Convenience Sampling Technique and based on the availability employees were surveyed from four different banks.

VARIABLES OF THE STUDY

- Dependent Variables as Employee Motivation
- Independent Variable as Work Life Balance
- Demographic Variables as Gender, Age, Marital Status, No. of Children',
- Education, Experience and Monthly Income

MEASUREMENT SCALE

Work Life Balance Scale

To study Work Life Balance, WLB scale was adopted, developed by Udai Pareek. Work Life Balance Scale is a 36 items instrument related to 6 aspects (Social Needs, Personal Needs, Time Management, Team Work, Compensation & Benefits, and Work). Work Life Balance Scale is measured on the five-point scale—with scoring as 1, 2, 3, 4 and 5 respectively as "Not True", "Little True", "Somewhat", "Fairly True" and "Definitely True"

Motivation Scale

To study Motivation, MAO-B instrument was adopted, developed by Udai Pareek. Motivation Scale is a 24 items instrument related to 6 motives (Achievement, Influence, Extension, Control, Affiliation and Dependency). Motivation Scale is measured on the five-point scale—with scoring as 1, 2, 3, 4 and 5 respectively as "Never", "Rarely", "Sometimes", "Frequently" and "Always"

DATA COLLECTION

- The data is collected through Primary data as well as secondary data
- Primary data are information collected by a researcher specifically for a research assignment. In other words primary data is first - hand information
- Secondary data means data which is already available. In other words secondary data is second - hand information
- The project includes primary data through questionnaire method by distributing survey questionnaires to bank employees of KMPL, HDFC, ICICI and AXIS, The project also includes secondary data through research papers, Websites

LIMITATION OF THE STUDY

- The perceived work-life balance remains a difficult variable and concept to measure. This is mainly because different researchers use different concepts to measure the balance. Apart from this the domain of life of an individual remains the most difficult variable to measure
- The study is restricted to understand the impact of Work Life Balance on Employee Motivation in Banking Sector units of the Mumbai Region
- The study is also restricted to four banks (KMPL, HDFC, ICICI & AXIS)
- There is a chance of bias in the information given by the respondents

DATA ANALYSIS AND INTERPRETATION

FRAMEWORK OF DATA ANALYSIS

The data analysis is conducted by using SPSS –20 as a software

STATISTICAL TOOL

The data collected is statistically analyzed by applying various tool in SPSS as Correlation and Descriptive Statistics

HYPOTHESIS

1. Impact between work life balance and employee motivation
 H0 There is no impact between work life balance and employee motivation
 H1 There is an impact between work life balance and employee motivation
2. Significant difference between Age Group and Motivational Factors
 H0 There is no significant difference between age group and Motivational Factors
 H1 There is significant difference between age group and Motivational Factors
3. Significant difference between No. of Children and Motivational Factors
 H0 There is no significant difference between No. of Children and Motivational Factors
 H1 There is significant difference between No. of Children and Motivational Factors
4. Significant difference between Experience and Motivational Factors
 H0 There is no significant difference between Experience and Motivational Factors
 H1 There is significant difference between Experience and Motivational Factors
5. Significant difference between Education and Motivational Factors
 H0 There is no significant difference between Education and Motivational Factors
 H1 There is significant difference between Education and Motivational Factors

DESCRIPTIVE FREQUENCIES

Table 1.1

GENDER

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	45	56.3	56.3	56.3
Valid Female	35	43.8	43.8	100.0
Total	80	100.0	100.0	

Table 1.1 shows descriptive frequencies of Gender where, 56% are Males and 44% are Females

Table 2.1

AGE

	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 25	14	17.5	17.5	17.5
25 - 35	49	61.3	61.3	78.8
Valid 35 - 45	14	17.5	17.5	96.3
45 and	3	3.8	3.8	100.0
Above				
Total	80	100.0	100.0	

Table 2.1 shows descriptive frequencies of Age where, 18% of respondents have age less than 25, 61% of respondents have age between 25 – 35, 18% of respondents have age between 35 – 45, 4% of respondents have age 45 and above.

Table 3.1

MARITAL STATUS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Married	40	50.0	50.0	50.0
Valid Single	40	50.0	50.0	100.0
Valid Total	80	100.0	100.0	

Table 3.1 shows descriptive frequencies of Marital Status where, 50% are Married and 50% are Single

Table 4.1

NO. OF CHILDREN

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid One	18	22.5	22.5	22.5
Valid Two	14	17.5	17.5	40.0
Valid More than two	2	2.5	2.5	42.5
Valid None	46	57.5	57.5	100.0
Valid Total	80	100.0	100.0	

Table 4.1 shows descriptive frequencies of No. of Children's where, 23% of respondents have one child, 18% of respondents have two children's, 3% of respondents have more than two and 58% of respondents in this study have no children's

Table 5.1

EDUCATION

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Undergraduate	1	1.3	1.3	1.3
Valid Graduate	46	57.5	57.5	58.8
Valid Professional Courses	28	35.0	35.0	93.8
Valid Any Other	5	6.3	6.3	100.0
Valid Total	80	100.0	100.0	

Table 1.6 shows descriptive frequencies of Designation of the respondents where, majority are from middle level i.e. 65%, 28% from lower level and 8% from upper level.

Table 7.1

EXPERIENCE

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Less than 5 Years	31	38.8	38.8	38.8
Valid 5 - 10 Years	30	37.5	37.5	76.3
Valid 10 - 15 Years	17	21.3	21.3	97.5
Valid 15 Years and Above	2	2.5	2.5	100.0
Valid Total	80	100.0	100.0	

Table 7.1 shows descriptive frequencies of how many years of experience respondents have in the banking sector. Majority of the respondents have less than 5 years of experience i.e. 39%, 38% have 5 – 10 years of experience, 21% have 10 – 15 years of experience and only 3% have above 15 years of experience.

Table 8.1

MONTHLY INCOME

	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 20000	13	16.3	16.3	16.3
20001 - 40000	30	37.5	37.5	53.8
Valid 40001 - 60000	17	21.3	21.3	75.0
60001 and Above	20	25.0	25.0	100.0
Total	80	100.0	100.0	

Table 8.1 shows descriptive frequencies of monthly income of the respondents working in the banking sector where, majority of the respondents monthly earnings are between 20001 – 40000 i.e. 38% and 25% of the respondents monthly earnings are 60001 and above.

Table 9.1

DESCRIPTIVE STATISTICS

	N	Minimum	Maximum	Mean	Std. Deviation
Achievement	80	2.00	4.50	3.4812	.51982
Affiliation	80	1.00	4.50	3.0469	.74108
Influence	80	2.00	4.75	3.2906	.52084
Control	80	1.75	13.25	3.7219	1.21891
Extension	80	1.75	5.00	3.7594	.70312
Dependence	80	2.50	5.00	3.4594	.55610
Valid N (listwise)	80				

The above table 10.1 shows the descriptive statistics of factors (Motives) contributing to Employee Motivation. The mean value of Extension and Control is higher than other factor i.e. 3.7594 and 3.7219 respectively. Hence it can be concluded that Extension and Control are the motives that contribute more to Employee Motivation.

Test Used: Correlation & Regression

Research Problem: To study the impact of Work Life Balance on Employee Motivation

H₀ = There is no impact between work life balance and employee motivation

H₁ = There is an impact between work life balance and employee motivation

Table 11.1

DESCRIPTIVE STATISTICS

	Mean	Std. Deviation	N
MOT	3.4599	.41399	80
WLB	3.2146	.38261	80

The above table 11.1 shows the mean data of both Work Life Balance and Employee Motivation where, Motivation as a variable has higher mean value than work life balance.

Table 11.2

CORRELATION

		MOT	WLB
Pearson Correlation	MOT	1.000	.076
	WLB	.076	1.000
Sig. (1-tailed)	MOT	.	.251
	WLB	.251	.
N	MOT	80	80
	WLB	80	80

The above table 11.2 shows correlation between Work Life Balance and Employee Motivation. The Sig. (2-tailed) value says if there is a no significant correlation between the two variables. Here sig. value is 0.251 which is greater than alpha value i.e. 0.05. Hence we can conclude that there is no significant correlation between Work Life Balance and Employee Motivation.

Since there is no correlation between Work Life Balance and Employee Motivation, further regression analysis part will not be considered.

Test Used: One Way Anova

Research Problem: To check whether there is a significant difference between Age Group and Motivational Factors

H0: There is no significant difference between age group and Motivational Factors
 H1: There is significant difference between age group and Motivational Factors

Table 13.1

		Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
ACH	Less than 25	14	3.5179	.61601	.16463	3.1622	3.8735	2.25	4.50
	25 - 35	49	3.4235	.51842	.07406	3.2746	3.5724	2.00	4.50
	35 - 45	14	3.5893	.46624	.12461	3.3201	3.8585	2.75	4.50
	45 and Above	3	3.7500	.25000	.14434	3.1290	4.3710	3.50	4.00
	Total	80	3.4813	.51982	.05812	3.3656	3.5969	2.00	4.50
AFF	Less than 25	14	2.8929	.77033	.20588	2.4481	3.3376	1.25	4.25
	25 - 35	49	2.9949	.78808	.11258	2.7685	3.2213	1.00	4.50
	35 - 45	14	3.1964	.44048	.11772	2.9421	3.4508	2.50	4.00
	45 and Above	3	3.9167	.38188	.22048	2.9680	4.8653	3.50	4.25
	Total	80	3.0469	.74108	.08286	2.8820	3.2118	1.00	4.50
INF	Less than 25	14	3.2143	.55346	.14792	2.8947	3.5338	2.00	4.00
	25 - 35	49	3.3367	.48560	.06937	3.1973	3.4762	2.50	4.75
	35 - 45	14	3.0536	.49204	.13150	2.7695	3.3377	2.00	3.75
	45 and Above	3	4.0000	.50000	.28868	2.7579	5.2421	3.50	4.50
	Total	80	3.2906	.52084	.05823	3.1747	3.4065	2.00	4.75
CON	Less than 25	14	3.7143	.55346	.14792	3.3947	4.0338	3.00	4.75
	25 - 35	49	3.7347	1.50642	.21520	3.3020	4.1674	1.75	13.25
	35 - 45	14	3.6250	.53484	.14294	3.3162	3.9338	2.50	4.50
	45 and Above	3	4.0000	.43301	.25000	2.9243	5.0757	3.50	4.25
	Total	80	3.7219	1.21891	.13628	3.4506	3.9931	1.75	13.25
EXT	Less than 25	14	3.8393	.78818	.21065	3.3842	4.2944	2.75	5.00
	25 - 35	49	3.7449	.67602	.09657	3.5507	3.9391	1.75	5.00
	35 - 45	14	3.7143	.81369	.21747	3.2445	4.1841	2.50	5.00
	45 and Above	3	3.8333	.38188	.22048	2.8847	4.7820	3.50	4.25
	Total	80	3.7594	.70312	.07861	3.6029	3.9158	1.75	5.00
DEP	Less than 25	14	3.3036	.54753	.14633	2.9874	3.6197	2.50	4.50
	25 - 35	49	3.4643	.53033	.07576	3.3120	3.6166	2.50	5.00
	35 - 45	14	3.4643	.63441	.16955	3.0980	3.8306	2.50	5.00
	45 and Above	3	4.0833	.38188	.22048	3.1347	5.0320	3.75	4.50
	Total	80	3.4594	.55610	.06217	3.3356	3.5831	2.50	5.00

The above table 13.1 shows the mean, Std Deviation and Confidence level mean of Age Groups with respect to Motivational Factors such Achievement, Affiliation, Influence, Control, Extension, Dependence.

Table 13.2

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ACH	Between Groups	.562	3	.187	.686	.564
	Within Groups	20.784	76	.273		
	Total	21.347	79			
AFF	Between Groups	3.047	3	1.016	1.914	.134
	Within Groups	40.339	76	.531		
	Total	43.387	79			
INF	Between Groups	2.482	3	.827	3.319	.024
	Within Groups	18.948	76	.249		
	Total	21.430	79			
CON	Between Groups	.372	3	.124	.081	.970
	Within Groups	117.002	76	1.539		
	Total	117.374	79			
EXT	Between Groups	.145	3	.048	.094	.963
	Within Groups	38.911	76	.512		
	Total	39.055	79			
DEP	Between Groups	1.509	3	.503	1.668	.181
	Within Groups	22.921	76	.302		
	Total	24.430	79			

The above table 13.2 shows the analysis of One way ANOVA.

The P- value of influence as motivational factor i.e. 0.024 is less than 0.05, so Null hypothesis is rejected, Hence there is significant difference between age group and Influence as a motivational factor

The other factors such as Achievement, Affiliation, Control, Extension, Dependence has P – value greater than 0.05, so Null hypothesis is accepted, Hence there no is significant difference between age group and other motivational factors.

Test Used: One Way Anova

Research Problem: To check whether there is a significant difference between No. of Children and Motivational Factors

H0: There is no significant difference between No. of Children and Motivational Factors
 H1: There is significant difference between No. of Children and Motivational Factors

Table 14.1

		Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
ACH	One	18	3.5833	.61835	.14575	3.2758	3.8908	2.25	4.50
	Two	14	3.4464	.41808	.11174	3.2050	3.6878	2.50	4.00
	More than two	2	3.7500	.35355	.25000	.5734	6.9266	3.50	4.00
	None	46	3.4402	.51689	.07621	3.2867	3.5937	2.00	4.50
	Total	80	3.4813	.51982	.05812	3.3656	3.5969	2.00	4.50
AFF	One	18	3.2083	.72381	.17060	2.8484	3.5683	2.00	4.50
	Two	14	3.3929	.48748	.13028	3.1114	3.6743	2.50	4.25
	More than two	2	4.2500	.00000	.00000	4.2500	4.2500	4.25	4.25
	None	46	2.8261	.73195	.10792	2.6087	3.0434	1.00	4.25
	Total	80	3.0469	.74108	.08286	2.8820	3.2118	1.00	4.50
INF	One	18	3.0972	.50102	.11809	2.8481	3.3464	2.00	3.75
	Two	14	3.5536	.52053	.13912	3.2530	3.8541	2.75	4.50
	More than two	2	3.8750	.17676	.12500	2.2867	5.4633	3.75	4.00
	None	46	3.2609	.49988	.07370	3.1124	3.4093	2.00	4.75
	Total	80	3.2906	.52084	.05823	3.1747	3.4065	2.00	4.75
CON	One	18	4.2083	2.29490	.54091	3.0671	5.3496	3.25	13.25
	Two	14	3.5000	.61237	.16366	3.1464	3.8536	2.50	4.50
	More than two	2	3.3750	1.23744	.87500	-7.7429	14.4929	2.50	4.25
	None	46	3.6141	.59092	.08713	3.4386	3.7896	1.75	4.75
	Total	80	3.7219	1.21891	.13628	3.4506	3.9931	1.75	13.25
EXT	One	18	3.7500	.71743	.16910	3.3932	4.1068	2.50	5.00
	Two	14	3.6429	.55222	.14759	3.3240	3.9617	2.75	4.75
	More than two	2	3.7500	1.06066	.75000	-5.7797	13.2797	3.00	4.50
	None	46	3.7989	.74465	.10979	3.5778	4.0200	1.75	5.00
	Total	80	3.7594	.70312	.07861	3.6029	3.9158	1.75	5.00
DEP	One	18	3.6111	.63722	.15019	3.2942	3.9280	2.50	5.00
	Two	14	3.4464	.52053	.13912	3.1459	3.7470	2.50	4.50
	More than two	2	3.2500	.00000	.00000	3.2500	3.2500	3.25	3.25
	None	46	3.4130	.54573	.08046	3.2510	3.5751	2.50	5.00
	Total	80	3.4594	.55610	.06217	3.3356	3.5831	2.50	5.00

The above table 14.1 shows the mean, Std Deviation and Confidence level mean of No. of children with respect to Motivational Factors such Achievement, Affiliation, Influence, Control, Extension, Dependence.

Table 14.2

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
ACH	Between Groups	.426	3	.142	.516	.672
	Within Groups	20.920	76	.275		
	Total	21.347	79			
AFF	Between Groups	7.282	3	2.427	5.110	.003
	Within Groups	36.104	76	.475		
	Total	43.387	79			
INF	Between Groups	2.365	3	.788	3.142	.030
	Within Groups	19.065	76	.251		
	Total	21.430	79			
CON	Between Groups	5.723	3	1.908	1.299	.281
	Within Groups	111.651	76	1.469		
	Total	117.374	79			
EXT	Between Groups	.264	3	.088	.172	.915
	Within Groups	38.792	76	.510		
	Total	39.055	79			
DEP	Between Groups	.603	3	.201	.641	.591
	Within Groups	23.827	76	.314		
	Total	24.430	79			

The above table 14.2 shows the analysis of One way ANOVA.

The P- value of Affiliation (0.003) and Influence (0.030) as motivational factor is less than 0.05, so Null hypothesis is rejected, hence there is significant difference between total No. of Children with two components of motivational factor

The other factors such as Achievement, Control, Extension, Dependence has P- value greater than 0.05, so Null hypothesis is accepted, Hence there no is significant difference between No. of Children with other following components of motivational factors such as Achievement, Control, Extension, Dependence

Test Used: One Way Anova

Research Problem: To check whether there is a significant difference between Experience and Motivational Factors

H0: There is no significant difference between Experience and Motivational Factors

H1: There is significant difference between Experience and Motivational Factors

Table 15.1

		Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
ACH	Less than 5 Years	31	3.5242	.56404	.10131	3.3173	3.7311	2.25	4.50
	5 - 10 Years	30	3.4083	.46648	.08517	3.2341	3.5825	2.00	4.00
	10 - 15 Years	17	3.5588	.55572	.13478	3.2731	3.8445	2.25	4.50
	15 Years and Above	2	3.2500	.35355	.25000	.0734	6.4266	3.00	3.50
	Total	80	3.4813	.51982	.05812	3.3656	3.5969	2.00	4.50
AFF	Less than 5 Years	31	3.0081	.77590	.13936	2.7235	3.2927	1.25	4.25
	5 - 10 Years	30	2.9583	.80698	.14733	2.6570	3.2597	1.00	4.50
	10 - 15 Years	17	3.2941	.54655	.13256	3.0131	3.5751	2.50	4.25
	15 Years and Above	2	2.8750	.53033	.37500	-1.8898	7.6398	2.50	3.25
	Total	80	3.0469	.74108	.08286	2.8820	3.2118	1.00	4.50
INF	Less than 5 Years	31	3.3065	.56535	.10154	3.0991	3.5138	2.00	4.75
	5 - 10 Years	30	3.2250	.49284	.08998	3.0410	3.4090	2.00	4.25
	10 - 15 Years	17	3.4118	.48365	.11730	3.1631	3.6604	2.75	4.50
	15 Years and Above	2	3.0000	.70711	.50000	-3.3531	9.3531	2.50	3.50
	Total	80	3.2906	.52084	.05823	3.1747	3.4065	2.00	4.75
CON	Less than 5 Years	31	3.5565	.54279	.09749	3.3574	3.7555	2.50	4.75
	5 - 10 Years	30	3.4833	.62950	.11493	3.2493	3.7184	1.75	4.75
	10 - 15 Years	17	3.8676	.45171	.10956	3.6354	4.0999	3.00	4.50
	15 Years and Above	2	8.6250	6.54074	4.62500	-50.1412	67.3912	4.00	13.25
	Total	80	3.7219	1.21891	.13628	3.4506	3.9931	1.75	13.25
EXT	Less than 5 Years	31	3.7419	.76508	.13741	3.4613	4.0226	1.75	5.00
	5 - 10 Years	30	3.7417	.59626	.10886	3.5190	3.9643	2.75	5.00
	10 - 15 Years	17	3.7794	.76486	.18551	3.3862	4.1727	2.50	5.00
	15 Years and Above	2	4.1250	1.23744	.87500	-6.9929	15.2429	3.25	5.00
	Total	80	3.7594	.70312	.07861	3.6029	3.9158	1.75	5.00
DEP	Less than 5 Years	31	3.3629	.60841	.10927	3.1397	3.5861	2.50	5.00
	5 - 10 Years	30	3.4167	.43714	.07981	3.2534	3.5799	2.75	4.50
	10 - 15 Years	17	3.7206	.62426	.15141	3.3996	4.0416	2.50	5.00
	15 Years and Above	2	3.3750	.17678	.12500	1.7867	4.9633	3.25	3.50
	Total	80	3.4594	.55610	.06217	3.3356	3.5831	2.50	5.00

The above table 15.1 shows the mean, Std Deviation and Confidence level mean of Experience with respect to Motivational Factors such Achievement, Affiliation, Influence, Control, Extension, Dependence.

Table 15.2

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
ACH	Between Groups	.426	3	.142	.516	.673
	Within Groups	20.921	76	.275		
	Total	21.347	79			
AFF	Between Groups	1.380	3	.460	.832	.480
	Within Groups	42.007	76	.553		
	Total	43.387	79			
INF	Between Groups	.555	3	.185	.674	.571
	Within Groups	20.875	76	.275		
	Total	21.430	79			
CON	Between Groups	50.998	3	16.999	19.464	.000
	Within Groups	66.376	76	.873		
	Total	117.374	79			
EXT	Between Groups	.293	3	.098	.192	.902
	Within Groups	38.762	76	.510		
	Total	39.055	79			
DEP	Between Groups	1.517	3	.506	1.678	.179
	Within Groups	22.913	76	.301		
	Total	24.430	79			

The above table 15.2 shows the analysis of One way ANOVA.

The P- value of Control (0.000) as motivational factor is less than 0.05, so Null hypothesis is rejected, hence there is significant difference between Experience and control as motivational factor

The other factors such as Achievement, Affiliation, Influence, Extension, Dependence has P-value greater than 0.05, so Null hypothesis is accepted, Hence there no is significant difference between Experience and other motivational factors

Test Used: One Way Anova

Research Problem: To check whether there is a significant difference between Education and Motivational Factors

- H0: There is no significant difference between Education and Motivational Factors
- H1: There is significant difference between Education and Motivational Factors

Table 16.1

		Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
ACH	Undergraduate	1	4.0000					4.00	4.00
	Graduate	46	3.5163	.42296	.06236	3.3907	3.6419	2.50	4.50
	Professional Courses	28	3.5268	.58270	.11012	3.3008	3.7527	2.25	4.50
	Any Other	5	2.8000	.59687	.26693	2.0589	3.5411	2.00	3.50
	Total	80	3.4813	.51982	.05812	3.3656	3.5969	2.00	4.50
AFF	Undergraduate	1	2.7500					2.75	2.75
	Graduate	46	2.9674	.83268	.12277	2.7201	3.2147	1.00	4.50
	Professional Courses	28	3.2143	.57217	.10813	2.9924	3.4362	2.00	4.25
	Any Other	5	2.9000	.72024	.32210	2.0057	3.7943	1.75	3.50
	Total	80	3.0469	.74108	.08286	2.8820	3.2118	1.00	4.50
INF	Undergraduate	1	3.0000					3.00	3.00
	Graduate	46	3.2391	.54252	.07999	3.0780	3.4002	2.00	4.75
	Professional Courses	28	3.4375	.49826	.09416	3.2443	3.6307	2.50	4.50
	Any Other	5	3.0000	.25000	.11180	2.6896	3.3104	2.75	3.25
	Total	80	3.2906	.52084	.05823	3.1747	3.4065	2.00	4.75
CON	Undergraduate	1	3.0000					3.00	3.00
	Graduate	46	3.6359	.52627	.07759	3.4796	3.7922	2.50	4.75
	Professional Courses	28	3.9643	1.93735	.36612	3.2131	4.7155	1.75	13.25
	Any Other	5	3.3000	.20917	.09354	3.0403	3.5597	3.00	3.50
	Total	80	3.7219	1.21891	.13628	3.4506	3.9931	1.75	13.25
EXT	Undergraduate	1	3.5000					3.50	3.50
	Graduate	46	3.7283	.73376	.10819	3.5104	3.9462	1.75	5.00
	Professional Courses	28	3.9107	.66393	.12547	3.6533	4.1682	2.50	5.00
	Any Other	5	3.2500	.46771	.20917	2.6693	3.8307	2.75	4.00
	Total	80	3.7594	.70312	.07861	3.6029	3.9158	1.75	5.00
DEP	Undergraduate	1	3.7500					3.75	3.75
	Graduate	46	3.4348	.56626	.08349	3.2666	3.6029	2.50	5.00
	Professional Courses	28	3.5179	.54403	.10291	3.3069	3.7288	2.50	5.00
	Any Other	5	3.3000	.64711	.28940	2.4965	4.1035	2.50	4.00
	Total	80	3.4594	.55610	.06217	3.3356	3.5831	2.50	5.00

The above table 16.1 shows the mean, Std Deviation and Confidence level mean of Experience with respect to Motivational Factors such Achievement, Affiliation, Influence, Control, Extension, Dependence.

Table 16.2

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
ACH	Between Groups	2.704	3	.901	3.675	.016
	Within Groups	18.643	76	.245		
	Total	21.347	79			
AFF	Between Groups	1.271	3	.424	.765	.517
	Within Groups	42.115	76	.554		
	Total	43.387	79			
INF	Between Groups	1.233	3	.411	1.546	.209
	Within Groups	20.198	76	.266		
	Total	21.430	79			
CON	Between Groups	3.397	3	1.132	.755	.523
	Within Groups	113.978	76	1.500		
	Total	117.374	79			
EXT	Between Groups	2.050	3	.683	1.404	.248
	Within Groups	37.005	76	.487		
	Total	39.055	79			
DEP	Between Groups	.335	3	.112	.352	.788
	Within Groups	24.095	76	.317		
	Total	24.430	79			

The above table 16.2 shows the analysis of One way ANOVA.

The P- value of Achievement (0.016) as motivational factor is less than 0.05, so Null hypothesis is rejected, hence there is significant difference between Education and Achievement as motivational factor

The other factors such as Affiliation, Influence, Control, Extension, Dependence has P- value greater than 0.05, so Null hypothesis is accepted, Hence there no is significant difference between Education and other motivational factors

FINDINGS

- As per the survey, 61% of respondents lie between the age group of 25 –35 who are currently working in the Banking Sector
- Considering education as an important aspect people who work banking sector, majority of the respondents who are currently working in banks are graduated i.e. 58% also 35% of

respondents have done professional courses

- Out of total respondents, 39% of respondents have less than 5 years of experience and 38% of respondents have 5–10 years of experience in banking sector
- As per the analysis of descriptive statistics, the mean value of Work Life Balance factors it was found that Team Work contributes more to Work Life Balance.
- As per the analysis of descriptive statistics, the mean value of Motivation Factors it was found that Extension and Control which means concern for orderliness, urge to monitor and take corrective action as motives contributes more to Employee Motivation.
- Correlation test conducted in the study shows that there is no correlation between Work Life Balance and Employee Motivation. Hence, there is no impact on Work Life Balance on Employee Motivation
- On the basis of Anova test it was found that there is a significant difference between age group and influence as motivational factor. Hence irrespective of age group influencing people makes difference in employee motivation.
- As per Anova test there is significant difference between No. of Children and two components motivational factor (i.e. Affiliation and Influence)
- Anova test found that there is significant difference between Experience and control as motivational factor. Hence person having greater no. of years of experience can control and take corrective measures as per the organizational situations.
- Anova test found that there is significant difference between Education and Achievement as motivational factor. Hence person who is highly educated will have different level of Achievement i.e. high level of aspiration

RECOMMENDATION

As per the analysis the employees working in banking sector, the organization should focus on Social Needs which means fulfilling the needs to the relationships and associations at workplace, fulfilling Personal Needs by understanding needs of family, house and entertainment, Time Management which mean prioritizing the work of employees, Compensation and Benefits which means fulfilling to the monetary and non- monetary remuneration inclusive of recognitions, rewards, benefits and privileges provided by company and Work which providing right job, job description and job

responsibilities and understanding the problems of the employees which will enhance the work life balance among the employees.

On the basis of Motives, organization should take into consideration the other motives which increases the employee motivation such as Achievement Need which means Concern for excellence, competition, challenges and goals, Influence Needs which includes Concern to make an impact, develop people and to be assertive, Affiliation Needs which means Concern for personal relationships and friendships. Fulfilling this basic motives can increase the employee Motivation among the employees.

CONCLUSION

Work-life balance is an individual' perception of how well his or her life roles are balanced but there are motivational factors which are highly important in Work Life Balance. The study was conducted with the objective of establishing whether there is any impact of Work Life Balance on Employee Motivation. By the means of Correlation and Regression analysis done in the SPSS tool, the analysis explains that there is no Impact of Work Life Balance on Employee Motivation in the banking sector

Analysis also explains that Team Work as a factor in Work Life Balance is considered more important in order to have work life balance in banking Sector. The study also explains the control factor as an important motives which contributes in Employee Motivation of the banking Sector. By the means of Anova analysis done in the SPSS tool, the analysis explains that Motivational factors such Influence, Achievement, Control and Affiliation have significant difference with demographic variables. Hence if there is a work life balance among the employees, employees will be motivated towards work and thus increase in productivity.

BIBLIOGRAPHY

- Bansal, N., & Agarwal, U. (2017). Exploring Work Life Balance among Indians Dual Working Parents - A Qualitative Study. *Journal of Management Research*, 99-111.
- Baral, R., & Bhargava, S. (2010). Work- Family Enrichment as a Mediator between Organisational Intervention for Work life Balance and Job Outcomes. *Journal of Managerial Psychology*, 25(3): 274-300.
- Berlin, M., & Sarah, H. A. (n.d.). Impact of Working hours on Work- life balance. The German Socio- Economic Panel Study at DIW.
- Dr.Aravind .S Kumar, D. S. (2011). A RESEARCH STUDY ON MANAGING WORK-LIFE BALANCE.

Greenhaus, J. H., Ziegert, J. C., & Allen, T. D. (2012). When Family- Supportive Supervision Matters: Relations between Multiple Sources of Support and Work- Family Balance. *Journal of Vocational Behavior*, 80(2): 266-275.

Haar, J., Russo, M., Sune, A., & Ollier-Malaterre, A. (2014). Outcomes of Work-Life Balance on Job satisfaction, Life Satisfaction and Mental Health: A study Across Seven Cultures. *Journal of Vocational Behaviour*, 85(3): 361-373.

Lockwood, N. R. (2003). Work/Balance: Challenges and Solutions. *SHRM Journal*, 48.6, pp.81-90.

Rajni, & D. R. (2015). A Comprehensive Study of Work Life Balance Problem in Indian Banking Sector. *International Journal of Enhanced Research in Management & Computer Application*, pp: (37-41).

Reiter, N. (2007). Work Life Balance: What do You Mean? The Ethical Ideology Underpinning Appropriate Application. *The Journal of Applied Behavioral Science*, 43(2), pp.273-294.

shujat, S., Cheema, F., & Bhutto, F. (2011). Impact of Work Life Balance on Employee Job Satisfaction in Private Banking Sector of Karachi. *Journal of Management and Social Sciences*, Vol. 7, No. 2, (Fall 2011) 08-15.

Susi, S., & Jawaharrani, k. (2011). Work - Life Balance: The key driver of employee engagement. *Asian Journal of Management Research*.

Sussanna Shagvaliyeva, S. S. (2014). Impact of Flexible Working Hours on Work-Life Balance. *American Journal of Industrial and Business Management*, 20-23.

V.Ramadevi, & A.nagini. (n.d.). WORK-LIFE BALANCE AND BURNOUT AS PREDICTORS OF JOB SATISFACTION IN PRIVATE BANKING SECTOR. *Skyline Business Journal*, 9(1),50-53.

<https://carloan.kotak.com/>

<https://www.hdfcbank.com>

<https://www.icicibank.com/>

<https://the-happiness-index.com/importance-of-work-life-balance/>

<https://www.mbaskool.com/business-concepts/human-resources-hr-terms/7045-work-life-balance.html>

<https://www.linkedin.com/pulse/20140810091210-210035293-work-life-balance-as-the-key-motivational-factor-for-employees1>

“Artificial intelligence & Machine Learning: Emerging Challenges in Technology & its applications”

Prof. R. K. Sinha

Department of Human Resources, AIMS Mumbai

ABSTRACT

There has been hardly any sector of the global economy, which is not being touched or affected due to the sheer presence and intervention of Artificial intelligence and applications of Machine learning for its survival and growth and to improve their business performances at greater heights, thereby alluring the customers in a significant manner.

The artificial intelligence emphasizes on the creation of machines and that works and reacts like human being and could follow the activities like, speech recognition, learning, planning, problem solving, knowledge creation, reasoning and other manipulative activities with utmost accuracy and precision.

But the artificial intelligence must have access to the objects, categories, properties and its relations between all of them to implement knowledge Engineering concepts and its various usages in different fields of activities, and in this context machine learning plays a crucial role to handle like within with or without supervisors at the work place itself based on computational theory.

As a matter of fact, machine perception provides the usages of different sensory inputs to visualize the world more logically with the help of visual inputs with a few sub-problems, such as facial objects and gesture recognition and mapping function efficiently.

Keeping in view the Global trends of Artificial intelligence, it is predicted that by 2025, more than 80% of the elderly care would be provided by Robotics only as the functions of AI is versatile in nature involving & accelerating the process of smart agriculture activities across the global boundaries for its applications.

In addition to this, the application of Drone technologies has been extremely helpful in early detection of enemies and their successful surveillance be made with above technologies and also helped in the area of identification of criminals in the cyber security functions by the concerned department.

Further to these interventions, the applications of IOT Devices for the voice enabled services in the consumer electronics segment is being used by the companies like Samsung, and it has helped in reducing the overall response time in the area of edge computing for better customer's delights and well being in the long run.

The companies like Google, Amazon & Microsoft are using Google cloud auto networks for analyzing the customer's needs & aspirations through the data generated by effective algorithms and medical diagnosis is yet another dimension where the applications of machine learning algorithm helps for early diagnosis of the patients and their consequent treatment be made through it.

Further to these interventions, the applications of IOT Devices for the voice enabled services in the consumer electronics segment is being used by the companies like Samsung, and it has helped in reducing the overall response time in the area of edge computing for better customer's delights and well being in the long run.

The companies like Google, Amazon & Microsoft are using Google cloud auto networks for analyzing the customer's needs & aspirations through the data generated by effective algorithms and medical diagnosis is yet another dimension where the applications of machine learning algorithm helps for early diagnosis of the patients and their consequent treatment be made through it.

Very recently, yet another dimension has been added to new wings of Artificial Intelligence for early detection and signaling the seismic waves/ data of incoming earthquakes in the respective zone by utilizing neural networks systems as being used in the creation of driverless cars in the new upcoming market segment.

We need to understand that people across the globe still wishes to have human touch in their all endeavors irrespective of the domain area of functioning and no amount of technology can eliminate this human desire of achievement and fulfilment of their respective dreams.

Key words: Deep learning, neural networks, Technology applications, machine learning etc.

Introduction:

The whole gamut of the Artificial intelligence has played a pivotal role in the industrial growth and developmental initiative for furthering & consolidating the throughput of automation challenges & its solutions in an effective manner and virtually almost every industry and research undertakings are developing new modules of algorithms for catering to their current as

well as future requirements in sectors like manufacturing, Health care, construction, on line retail business, Banking & insurance etc.

In addition to this, the companies like Wipro, Infosys, TCS are working on special course modules in the areas of Data science, machine learning, artificial intelligence, cloud computing & cyber security etc., for up skilling their employees to match the current & future needs in terms of the respective job profiles seamlessly and add value to the organization concerned.

We have observed that the technology of machine learning is being constantly adopted and appreciated to suit the organizational requirements through the data driven system and also the applications of cloud computing successfully without installing & maintaining the machine learning system in the organization itself.

In this context, a number of machine learning tools are available like, Data fly wheels, the algorithm economy & cloud hosted intelligence system and it is true that the data would be abundant after few years and thereby decreasing the cost of storing data would be considerably low as compared with the today's cost of procurement of data from the existing market mechanism.

Since, the data would be abundant, we would be requiring a huge talent pool for creating and developing algorithm to extract the desired information from the data base.

The internet of things has provided ample platform for the manufacturing sector through the Remote Asset monitoring, logistics and supply chain management system for predicting & maintenance etc. and the future of Artificial intelligence would be extensive in the coming years of business.

Further to this, a massive change is also visualized in the production domain of the automobile sector specifically in the assembly lines in the manufacturing cycle of vehicles, the manpower is going to be replaced by the intervention of Artificial intelligence robots to carry out the said functions and in fact some of the automobile companies have already started using these technologies for quite some time and the results are spectacular

Another challenge is also likely to be faced by the professional in the area of legal profession, consultants from various disciplines, Financial Advisers etc., the heat of artificial intelligence interfering in their business domains and gradually may affect their business interest adversely over a period of time, including the challenges faced by the customers due to the launches of new smart phones by the different business houses for establishing new markets amongst the younger generations prominently by providing special features on them.

Yet another dimension is reflected through the relevant intervention of artificial intelligence in the health sector business, where the health parameters of the patients could be monitored from remote locations with help of qualified doctors & Para-medical staff trained in the above discipline for said purpose, for example, deep mind projects has been successfully utilized in the medical diagnostic systems by the experts.

Similarly, in the construction business, the above tools can be applied for scanning the right quality of materials, processes & effective layouts for the buildings & plants, so that due economies could be achieved with utmost perfection in it and also in the E-commerce industry, AI Can be used for facilitating the customers in selecting the desired products & services using chat bots in the retail business and offering personalized shopping experiences and it has been reported by the marketing division of various airlines that they are working on a new set of logarithm to devise a preferential system of airlines fare which would be most convenient to the passenger segment subject to the approval of the Directorate General of Civil Aviation on the subject concerned.

Skills around cyber safety and its analysis of data is the need of the hour and this should be considered as a threat to the consumer's and customers alike, whether it is a Bank, government or any merchants/clients in the respective business under consideration and in this connection leveraging people's skills across the different companies should up skill them for tackling the challenges faced by the industries and also by the general public as such.

It is true that when it visualizes the impact of human beings in crucial functioning of a department of an organization for the purpose of Talent Management and career progression, the applications of fully automated systems many a times cannot be trusted for its efficacies in terms of its utilization for the overall benefit of individual concerned.

Artificial intelligence is also prone to the human biases and the current researchers have also identified serious concerns especially against women and minority groups of the societies and its applications in machine learning for the purpose of decision making on the subjects and issues related to their respective areas of functioning and decision-making process.

Objective of study:

The following objectives are earmarked for this research work indicated as below:

1. To study the impact of emergence of artificial intelligence & Machine learning system on the employability of our youth at the present juncture.
2. To study the current trends of utilities and applications of artificial intelligence for the growth & development of business domains in the global economy.

3. To visualize the current challenges of artificial intelligence & Machine learning techniques on the student's community & consequent acceptance by them over a period of time.
To study the response pattern of the industries in accepting the new technologies for their prosperity and well-being.

Hypotheses:

Based on the objectives under study, the following hypothesis would be considered for evaluating its relevance in the context of the research work as under:

Ho1: There is no correlation between the emergence of the artificial intelligence & Machine learning system with the employability of youth of the society as such.

Ha1: There is a definite association between the emergence of artificial intelligence & Machine learning system with the employability.

Ho2: There is no association between the utilities & applications of artificial intelligence with that of the growth & development of business domains in the concerned industry.

Ha2: There is a definite association between the utilities & applications of artificial intelligence in the growth & development of business domains of the respective industries under reference.

Ho3: There is no correlation between the current challenges of the artificial intelligence & Machine learning technologies with respect to the future career prospects of the student's community as such.

Ha3: There is a definite association between the current challenges due to the presence of artificial intelligence and machine learning on the future career prospects of the student's community for their employment.

Ho4: There is no association between the response pattern of the concerned industries in accepting the new technologies applications for their prosperity and well being over a period of time.

Ha4: There is a significant correlation between the response pattern of the concerned industries in accepting the new technologies applications for their prosperity and well being as such.

Research Methodology:

The following research methods are being used to develop and project the contents of the

research work in tandem with the academic requirements on the subject:

The entire research is based on the studies of various research applications of artificial intelligence and machine learning and other descriptive research conducted by the respective researchers and scholars on the subject, utilizing secondary data for analysis of the objectives and hypothesis to justify the efficacy on such platform for knowledge sharing and continuous development and applications for said industries as whole.

Literature Review:

With the advent of AI technology and greater automation creates opportunity for work to become more meaningful as it takes both simple complex tasks and creates capacity to for higher work values for the organization concerned and for example AI can reduce the amount of administrative work that is being done so that a nurse can focus on better bedside care instead of inputting data from the computer and even augmenting workforce with robotics and drones for that matter.

The future of work force and the changing culture that millennials represent, the globalization of the work force in the area of digital transformation is most exciting opportunities in business today and according to Mckinsey, only 25% of them succeed and as such the consequent challenge of implementing is a billion-dollar issue before the Management experts in this field.

It is important to consider that humans can create the best machines, but the best tools cannot create great humans and as such, the instinct hold the same significance as data in the decision making process and can make the difference between success & failures in all organizations for all practical purposes.

The following references literatures have been reviewed while developing the content and its relevance to the topic chosen for the purpose.

According to Yudong Zhang et al, " Artificial intelligence (AI) has revolutionized information technology and the new economy of information technology has shaped the way we are living. Recently, AI algorithms have attracted close attention of researchers and have also been applied successfully to solve problems in engineering. Nevertheless, for large and complex problems, AI algorithms consume considerable computation time due to stochastic feature of the search approaches.

Therefore, there is a potential requirement to develop efficient algorithm to find solutions under the limited resources, time, and money in real-world applications.

According to Edward Wakelam, Amanda Jefferies, there has been significant progress in the development of techniques to deliver more effective e Learning systems in both education and commerce but our research has identified very few examples of comprehensive learning systems that exploit contemporary artificial intelligence (AI) techniques.

We have surveyed existing intelligent learning/training systems and explored the contemporary AI techniques which appear to offer the most promising contributions to e-Learning.

We have considered the non-technological challenges to be addressed and considered those factors which will allow step change progress. With the convergence of several of the required components for success increasingly at the work place.

According to Ivan contrease & Joseph Vehi, " Artificial intelligence methods in combination with the latest technologies, including medical devices, mobile computing, and sensor technologies, have the potential to enable the creation and delivery of better management services to deal with chronic diseases.

One of the most lethal and prevalent chronic diseases is diabetes mellitus, which is characterized by dysfunction of glucose homeostasis.

According to Duke Dormehi, " Machine learning is an approach to artificial intelligence that's focused on making machines which can learn without being explicitly programmed. Learning is a profoundly important part of what makes us human.

If we're going to build AI that can carry out tasks with human-like intelligence, we therefore need to make machines that can learn for themselves, based on their past experiences.

This is different to the classical symbolic approach to AI, in which programmers create step-by-step rules for machines to follow, rather than allowing them to discover insights for themselves. While machine learning still involves this classical style of programming, it *combines* those basic rules with knowledge that computers are able to gather on their own to grow smarter.

According to Thomas nowotney, " Current machine learning (ML) algorithms identify statistical regularities in complex data sets and are regularly used across a range of application domains, but they lack the robustness and generalizability associated with human learning.

If ML techniques could enable computers to learn from fewer examples, transfer knowledge between tasks, and adapt to changing contexts and environments, the results would have very broad scientific and societal impacts.

Increased processing and memory resources have enabled larger, more capable learning models, but there is growing recognition that even greater computing resources would not be sufficient to yield algorithms capable of learning from a few examples and generalizing beyond initial training sets.

A report from Health Advocacy indicates, "As AI systems become better at sorting data, finding patterns, and making predictions, these technologies will take on an expanded role in health and care, from research, to medical diagnostics, and even in treatment. This increasing use of AI in health is forcing nurses, doctors and researchers to ask: "How do longstanding principles of medical ethics apply in this new world of technological innovation?"

We have categorized the current and potential use cases of AI in healthcare into 5 key areas:

- a. Process optimization e.g. procurement, logistics, and staff scheduling
- b. Preclinical research e.g. drug discovery and genomic science
- c. Clinical pathways e.g.
- d. diagnostics and prognostication
- e. Patient-facing applications e.g. delivery of therapies or the provision of information

Population-level applications e.g. identifying epidemics & non communicable diseases.

According to Denis Kessler, " Since the 1950s, the field of AI has evolved to cover an extensive range of concepts, including cognitive computing, natural language processing, robotics, image analytics, sensors and numerous areas of research.

Machine learning, which can be defined as the science and engineering of making machines "learn", is at the heart of AI. These processes have already become ubiquitous in daily life, from search engines to virtual assistants and rob advisors, and leave many to wonder where this burgeoning field of research could lead.

The AI revolution is a priority topic for decision makers, governments and private industries given the economic, geopolitical, social and business consequences it may have in the years to come.

As per the latest discussion paper of NITI Agog on artificial intelligence, " Artificial Intelligence (AI) is poised to disrupt our world. With intelligent machines enabling high-level cognitive processes like thinking, perceiving, learning, problem solving and decision making, coupled with advances in data collection and aggregation, analytics and computer processing power, AI presents opportunities to complement and supplement human intelligence and enrich the way people live and work.

India, being the fastest growing economy with the second largest population in the world, has a significant stake in the AI revolution.

Recognizing AI's potential to transform economies and the need for India to strategies its approach, Hon'ble Finance Minister, in his budget speech for 2018 – 2019, mandated NITI Aayog to establish the National Program on AI, with a view to guiding the research and development in new and emerging technologies.

NITI Aayog has adopted a three-pronged approach – undertaking exploratory proof-of-concept AI projects in various areas, crafting a national strategy for building a vibrant AI ecosystem in India and collaborating with various experts and stakeholders. Since the start of this year, NITI Aayog has partnered with several leading AI technology players to implement AI projects in critical areas such as agriculture and health.

Learning's from these projects, under various stages of implementation, as well as our engagement with some of the leading institutions and experts have given a better perspective to our task of crafting the national strategy on artificial intelligence.

With emerging technologies and also advanced People's Analytics is essential for improving the consequent work force effectiveness on the actual job performances on a continual basis in an organization and which is followed by data based decision for achieving organizational goals & objectives in a seamless way.

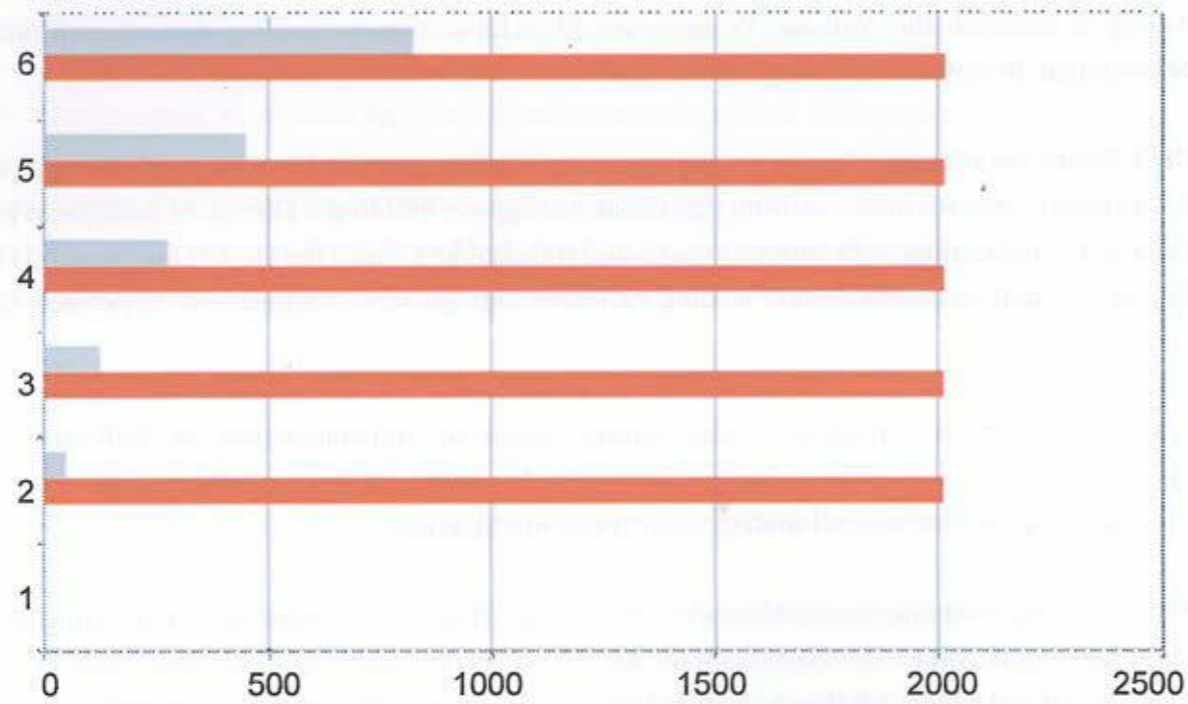
In this connection, Automated systems like workday, Google Analytics and R Facilitates Core functions like Attendance tracking, demographic details of job applicants, Employee churn analysis, predictive analysis, Capacity Analysis, Corporate Culture analysis and many other applications in the industrial parlance.

Recently reported that Artificial Intelligence can help Doctors to do a better job of finding breast cancer on mammograms, researchers from Google and medical center's in the US and UK are reporting the Journal " Nature". Computers can be trained to recognize patterns and interpret images and the company has already created algorithm to help detect lung cancer on CT Scan, diagnose eye disease in people with diabetes and find cancer on microscope slides.

Data Analysis:

In order to establish the objectives and the consequent hypothesis for the purpose of the research work, collection of certain empirical data has been with their respective graphs and charts to substantiate the findings as such on the subject.

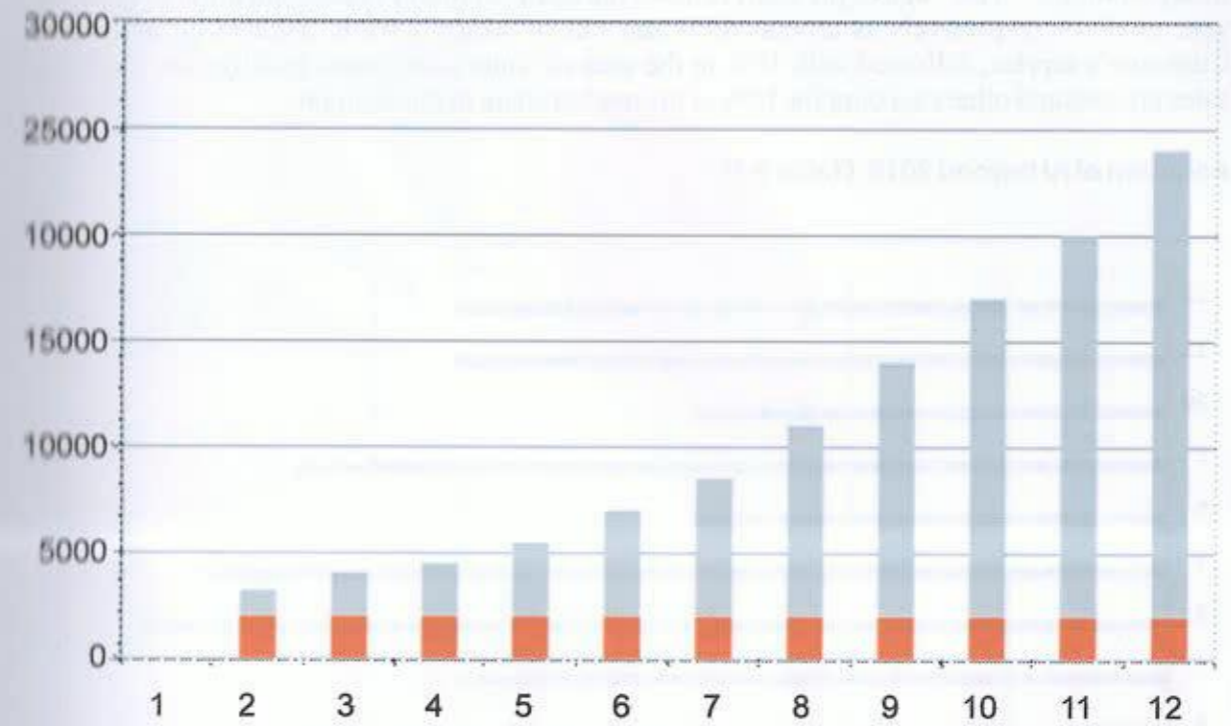
AI start up corporate funding in 2013-19(Table #1)



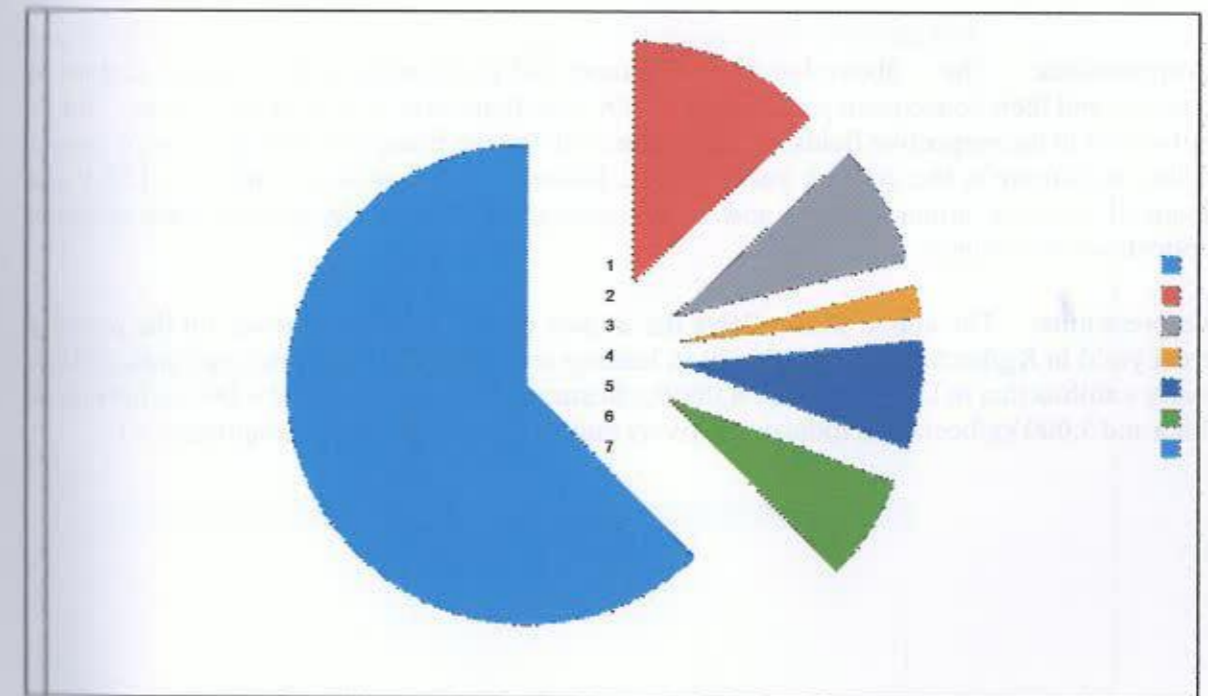
Interpretations:

The money invested in the starts up globally is approximately 15.2 billion dollars from 2.7 billion dollars in the previous years under reference, which indicated that the growth pattern in investment in these sectors are very positive and in the coming years of business it is going to be more strengthened

Projected revenue in 2019-25(USD) (Table #2)

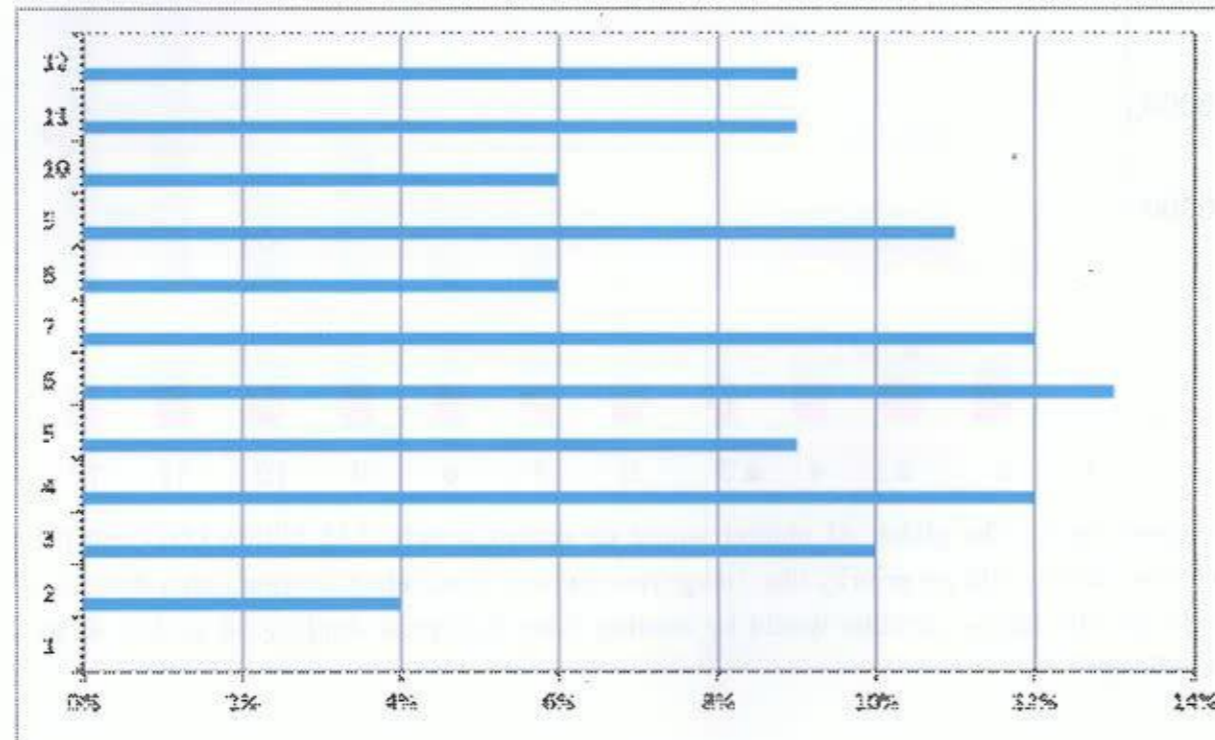


Interpretations: The global AI market would be approximately 7,35 billion USD and the following area would get priority like, Image recognition, object identification, other detection mode and the largest revenue would be coming from Enterprise application system & its classification.



Interpretations: The above pie chart reflects the status of market share valuation of AI in the year 2018-19 respectively is around 60% and out of which 15% is focused on automated Customer's service, followed with 10% in the area of Automated threat intelligence 5% in the sales process and others account for 10% of the market share in this domain.

Adoption of AI beyond 2019: (Table # 4)



Interpretations: The above bar chart evaluates the positioning of the various sectors of economy and their consequent participation in the core domain of Artificial intelligence and its application in the respective fields, and it is observed that the Energy sectors application would be the maximum in the coming years (13%), followed by professional service (12%) and Financial services around (11%) and other sectors would also be getting their research applications accordingly.

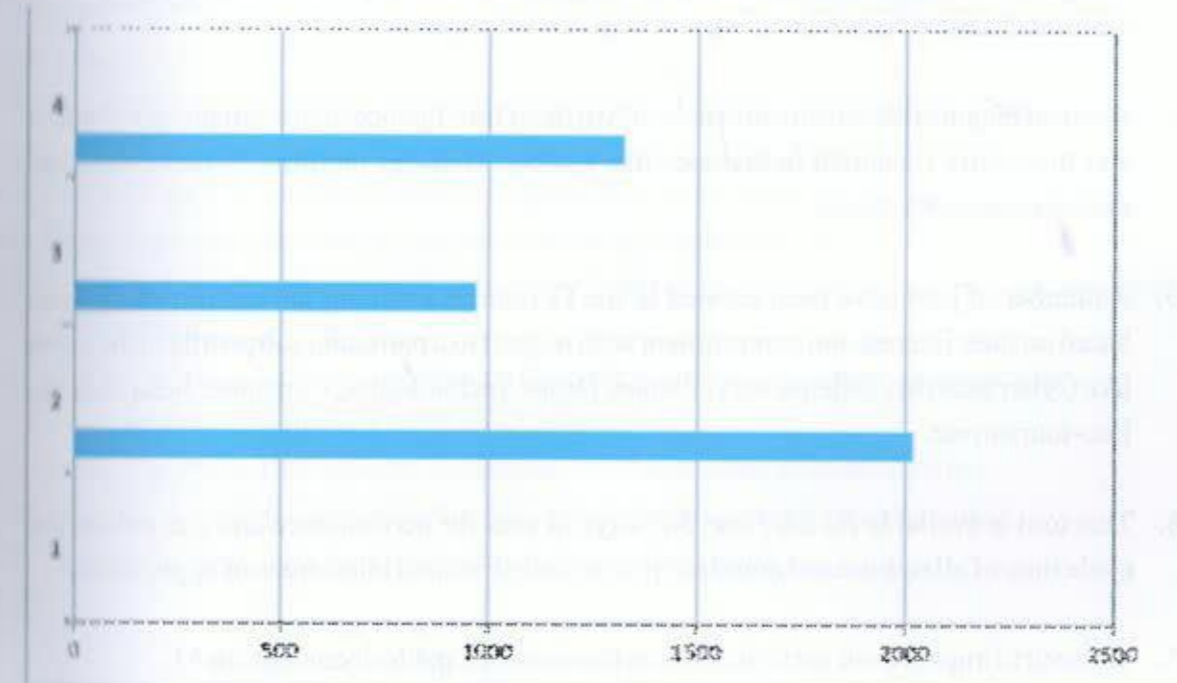
Interpretations: The above data reflects the impact of Artificial intelligence on the average cereal yield in Kg/hectare in the 2018-19 in leading countries like US, china and India, which clearly exhibits that in US it is around 8,000/kg/hectare, followed by around 6,000kg/hectare in China and 3,000 kg/hectare in India respectively during the same period of adoption of AI.

Citable documents in AI (2018-19) (Table # 5)



Interpretations: The above Pie chart indicates the current status of Citable documents in the domain area of research conducted in the year 2018-19 at global basis, wherein it is observed that maximum citable documents are being created by China around (35%), US around (30%), Japan (15%), UK (15%) and (10%0 represents other third world countries. As regards India the percentage of Citable documents is a minimum ebb.

Comparative water print for rice in cub/metric tonnes in 2018-19 (Table # 6)



Interpretations: This is a comparative analysis of water print required for rice production in Cubic metric/metric tonnes in 2018-19 for three countries under reference and in which it is observed that India is utilizing the maximum water print for rice cultivation and it stands for around 2,000 cubic meters per tonnes of rice production and it is followed by US at 1200 cubic meters per tons and is least of china at 800 cubic meters per tons respectively, justifying the applications of Massive utilization of Artificial intelligence in the field of Agriculture.

Findings:

The following are the specific findings of the research conducted on the emerging trends of Artificial intelligence & Machine learning in our day to industrial applications and also for the growing organizations to consider its implications for their greater benefit on the subject:

1. The tool of Artificial intelligence & Machine learning can be instrumental for providing better employability status to the student's community in the emerging market of Digital transformation and also streamlining the business processes for its effective and more Customer's centric approaches in almost every field of economies.
2. This technology can provide special assistance in the hazardous exploration of Mining & Fuel minerals across the global frontiers with precision and accuracy of data on the subject in least possible time frame.
3. The block chain technologies can help in the financial sectors and HR- Domain for ensuring flawless services either in the subtle financial transactions and also for the verification of antecedents of the right candidate for the right jobs in the organization on seamless basis without human interventions and disruptions.
4. Medical diagnostics is using the tools of Artificial Intelligence in the Patient care domain and their early treatment in diseases like Cancer, Diabetes mellitus, hypertension and other diseases effectively.
5. A number of jobs have been created in the IT domain enabling the aspirants to pursue based on their interest and commitment with respect to a particular job profile in the areas like Cyber security, Defense surveillance, Drone Technologies, Consumer behaviorism, Eco-tourism etc.
6. This tool is available for 24/7 and 365 days in year for performance and can reduce the cycle time of all routine and mundane jobs in industries and other areas of applications.
7. We need to improve our performances in the areas of Citable documents in AI.

Suggestions:

The following suggestions are worth considering in the field of applications of AI and Machine learning in various fields of activities:

1. This technology can create 2.3 million jobs for our unemployed youth in both in the domestic as well as global markets offering job opportunities either as Data scientist, Programmers, Cyber expert and other related support services assignments.
2. Core competencies in the area of C++, JAVA, PYTHON and other programming skills is essential to survive in this business including Deep learning and algorithms.
3. It can generate worth business of 16.7 trillion USD in the global economies.

Conclusions:

India, being the fastest growing economy with the second largest population in the world, has a significant stake in the AI revolution.

Recognizing AI's potential to transform economies and the need for India to strategize its approach, Hon'ble Finance Minister, in his budget speech for 2018 – 2019, mandated NITI Aayog to establish the National Program on AI, with a view to guiding the research and development in new and emerging technologies.

Learning's from these projects, under various stages of implementation, as well as our engagement with some of the leading institutions and experts have given a better perspective to our task of crafting the national strategy on artificial intelligence

References:

1. <https://cis-india.org/internet-governance/files/artificial-intelligence-literature-review>.
2. https://www.ijert.org/research/a-literature-survey-on-artificial-intelligence-IJERTCONV_5IS19015.pdf
3. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.471.814&rep=rep1&type=pdf>.
4. <https://www.journals.elsevier.com/artificial-intelligence/review-articles>.
5. https://www.researchgate.net/publication/228618921_A_literature_review_on_artificial_intelligence.
6. ARTIFICIAL INTELLIGENCE ASSISTED LITERATURE REVIEWS: KEY CONSIDERATIONS FOR IMPLEMENTATION IN HEALTH CARE RESEARCH
7. People Matters, BIG review, November, 2019 and other relevant articles.
8. Articles from The Times of India, MUMBAI & Economic Times, Mumbai.
9. Human Capital, volume 23 issue no.06 November, 2019.

Cyber Security attacks and Prevention Mechanism

Mrs. Priyanka Roshan Brid

Research scholar, Computer Science, JJT University, Rajasthan, India,
priyankapatil0912@gmail.com

Abstract

With rapid technological developments, our lives are becoming more digitalized. In the current era of online processing, maximum of the information is online and prone to cyber threats. Everything is in cyber space, whether it's business, education, shopping or banking transactions. There are certain challenges raised by this enormous increase in digitization that creates a new range of global issues called cybercrime. Cyber-attacks may have some motivation behind it or may be processed unknowingly. Cybercrime has serious impacts on society in a variety of ways. This paper focuses on various cyber security attacks as well as provides the solution on how to prevent the system from the various types of attacks.

Keywords: cyber-attacks, cyber-crimes, Information Security, Cyber threats, hacking, Cyber Safety

Introduction:

Cyber Security is a state or mechanism for the defense and recovery of networks, devices and programs from cyber-attacks of any kind; Cyber-attacks are AN evolving danger to organizations, staff and shoppers. They will be designed to access or destroy sensitive information or extort cash. They can, in effect, destroy businesses and harm your monetary and private lives — particularly if you're the victim of fraud. When we see the effective defense; a robust cyber security system has multiple layers of protection unfold across computers, devices, networks and programs. However a robust cyber security system doesn't bank exclusively on cyber defense technology; it conjointly depends on individuals creating sensible cyber defense selections.

Today man is ready to send and receive any kind of data is also AN e-mail or AN audio or video just by clicking a button but has he ever thought his knowledge Id was transmitted or sent safely to the other person with no information leakage?? The solution lies with cyber security. These days net are the fastest growing infrastructure in daily life. Many latest technologies are complex on the person's face in today's technological climate. Because of these growing innovations, however, we are unable to safeguard our personal information in a very effective way, and so

cyber crimes are - day by day.

Cyber security has thus become a contemporary issue. The scope of cyber security is not simply to secure information in the IT business, but in conjunction with numerous other fields such as cyber house etc. Combating cyber crime needs a more systematic and reliable strategy. Because technological measures alone cannot stop any crime, it is important that the square measure of enforcement agencies allow the successful investigation and prosecution of cyber crime. Today, many nations and square governments are imposing strict cyber securities laws in order to halt the loss of some data needed. Everyone should be educated in this cyber security and save themselves from these rising cyber crimes.

Cyber Crimes:

Cybercrime is described as a criminal offence wherever a computer is the victim of a crime or is used as an instrument to commit a related offence. A cybercriminal may use a tool to access personal data of a consumer, company confidential data, government data, or to disable a device. In addition, selling or eliciting higher than on-line data is a breach of the law. The growing list of cyber crimes encompasses computer crimes, such as network attacker, computer virus spread, and computer based modification of existing crimes as identity fraud, stalking, intimidation and terror, which are becoming the most important problem for people and nations. The list also includes crimes that are made possible by computers. Criminal acts committed using a computer and the web to steal an identity or to sell smuggling or harassing victims and interrupting operations using bad programs may typically be defined as cyber crime by the common man's language.

Types of Cyber Attacks

2.1 Phishing Attacks

This sort of attack involves hackers that allow users to access their accounts or their laptop to malicious email attachments or URLs. Less seasoned cyber criminals and many e-mails are not flagged as spam. Users have been fooled into emails that say that they have to change their watchword or update their charge details to provide offenders with access.

2.2 DDoS Attacks

These measurements usually create a web service not available and reduce the network by overwhelming the traffic location from a variety of sources. Giant networks of infected devices called the square measure of botnets created through malware depositing on user machines. After the network has fallen, the hacker will hack into the system.

2.3 Botnets

Botnets square assess networks from infected machines, which are evaluated externally by remote hackers.

2.4 Identity Theft

A cyber crime happens when a criminal gains access to personal user data for the theft of money, access to confidential information or participation in tax or health-care fraud. You may also open your phone / internet account, use your name to arrange a crime and demand government benefits on your behalf. You can do so by discovering the passwords of the users by hacking, collecting social media personal information or sending phishing mails.

2.5 Online Scams

Usually in the form of an ad or spam email containing reward promises or offers of unrealistic money.

2.6 Exploit Kits

Operating kits need a loophole in order to gain control of your computer (a flaw in the software code). They are ready-made tools that criminals can buy and use online with a computer against anybody. Compared to ordinary applications, the exploit kits are frequently modified and are available on dark Web hacking forums.

Cyber security

3. Cyber Security

Cyber security refers to a setting of systems, processes and practices designed to prevent attack, harm and unauthorized access by networks, computers, programs and data. Cyber security may also be defined as IT security.

CHALLENGES OF CYBER SECURITY

- Network security: Securing a computer network with targeted or sporadic intruders is the norm.
- Application security: A compromised application may offer access to data intended to protect it. Successful security starts at the design stage well before a system or computer is deployed.
- Information security: ensures all storage as well as transit data integrity and privacy.

- Operational security: Requires data management and safety procedures and decisions. Users' permissions and procedures that determine how and where data can be stored or exchanged are all protected by this article when accessing a network.
- Disaster recovery and business continuity: Define how an entity reacts or other occurrence that results in loss of operations or data to the cyber-security incident. Disaster recovery strategy stipulates how the organization restores processes and information to the same operational capacity as before. Corporate continuity is the plan that the organization rejects while trying to operate on its own.
- End-user education: Addresses of cyber security the most unforeseeable aspect: guys. Unwillingly, everyone can transport a virus to a normally secure system by failure to follow good safety standards. Teaching users to delete suspicious e-mail connections, not to plug in unaccounted USB drives and other important lessons is necessary for the safety of all businesses.

CYBER SECURITY TECHNIQUES

4.1 Access control and password security:

Access control systems perform user and entity identification and authorization by evaluating required login credentials that may include passwords, personal identification numbers (PINs), biometric scans, security tokens, or other authentication factors.

4.2 Authentication of data:

The documents we obtain should always be authentically checked before uploading, whether they come from a trustworthy and reliable source and not updated. The antivirus software present on the devices usually authentically authenticates these documents. Good anti-virus software is therefore also important for the defense of devices against viruses.

4.3 Malware scanners:

This software usually searches for malicious code or harmful viruses all files and documents contained in the network. Viruses, worms and Trojan horses are examples of malicious software often packaged and called malware.

4.4 Firewalls:

A firewall is a software or hardware tool that can screen hackers, viruses and worms to access your computer via the internet. All messages that enter or leave the internet pass through the current firewall, examining each message and blocking those that do not meet the security criteria specified. Firewalls therefore play a major role in malware detection.

4.5 Anti-virus software:

Antivirus software is a computer program that identifies, avoids and tests malicious software such as viruses and worms to disable or kill them. Most antivirus programs include an auto-update function to allow the program to download new virus profiles to check for the new viruses as soon as they are found. Anti-virus software is a fundamental need.

Cyber Security Measures

Businesses should use numerous cybersecurity measures to safeguard their business data, cash flow and customers. Such acts should be designed to prevent risks from different sources.

5.1 Use strong passwords

For good online protection, strong passwords are important.

- use a combination of capital and lower case letter, numerals and symbols, make it easy for you to guess
- prevent the use of your personal data
- change it regularly
- Never use it for multiple accounts
- Use two factors authentication
- change it regularly

5.2 Control access

- Make sure people only have access to data and services authorized for them.
- Physical access to premises and the computer network
 - restrict access to unauthorized users
 - restrict access by the application controls to data or services
 - restrict what can be copied from the system and saved to storage devices
 - limit the transmission and the receipt of certain types of data.

5.3 Put up a firewall

Firewalls are powerful portals to prevent the spread of cyber threats, including viruses and malware between your computer and internet. Make sure your firewall devices are configured correctly or are not entirely efficient. Learn more on server security firewalls.

5.4 Update programs and systems regularly

Updates provide important improvements to security that protect users from known bugs and vulnerabilities. Make sure that your apps and equipment are up-to-date to prevent criminals from falling prey.

5.5 Monitor for intrusion

To monitor the system and unusual network activity, one can use intrusion detectors. If a detection system suspects a possible security violation, an alarm, such as an e-mail alert, can be generated based on the type of activity it identifies. See more about the prevention of data breaches.

Conclusion:

Relating to the increasingly dynamic number of cyber security risks, organizations are under pressure to react quickly. Since the aggressors used a life cycle of the attack, organizations were also obliged to develop a life cycle of vulnerability management. The life cycle of vulnerability management is structured to combat attackers' attempts as quickly and efficiently as possible. The paper addresses the various cybercrimes that occur every day. We also address system related security threats. The research paper presents an information protection mechanism to avoid cyber-attacks for resolving these kinds of situations.

References

- 1] <https://www.bitdegree.org/tutorials/what-is-cyber-security/>
- 2] Jitendra Jain and Dr. Parashu Ram Pal, "A Recent Study over Cyber Security and its Elements", International Journal of Advanced Research in Computer science, Volume 8, No. 3, March – April 2017
- 3] Duić et al, "International cyber security challenges" MIPRO 2017/ISS
- 4] <https://www.nibusinessinfo.co.uk/content/common-cyber-security-measures>
- 5] Santosh Kumar Maurya and NagendraPratapBharati, "Cyber Security; Issue and Challenges in E-Commerce" Indian journal of Research, Volume: 5 | Issue: 1 | January 2016 ISSN - 2250-1991

The Formulation Business in India - The Sales Mechanics

Prof. Abahy Desai

Assistant Professor, Atharva Institute of Management Studies

Overview of Indian Pharmaceutical market

The domestic pharmaceutical industry in India has been growing at a compounded annual growth rate (CAGR) of over 14.5 per cent for the past five years while pharma exports have grown at CAGR of 17 per cent during last 3 years with exports reaching \$25 bn during the year 2018-19.

Market Size

The domestic pharmaceutical market is likely to see high revenue growth and profit margins. Pharmaceutical sales in India are expected to grow by 14.4 per cent to US\$ 35 billion in 2020 from US\$ 25 billion in 2015. The United States (US) is the country's biggest market for pharma exports accounting for about 25 percent followed by the United Kingdom (UK). "India has been able to make its name as a quality supplier of affordable medicines across the globe.

Pharma exports from India will be more than the size of the domestic sales by FY 2025. The country provides generic medicines to 194 countries. It is responsible for about 40 per cent of the generic and over-the-counter drugs consumed in the US. Indian generics market is expected to grow to US\$ 35 billion by 2025.

With 70 per cent of India's population residing in rural areas, pharmaceutical companies have immense opportunities to tap this market. Demand for generic medicines in rural markets has seen a sharp growth.

Current challenges faced by Indian pharmaceutical companies

- Intense competition and unethical practices adopted by some of the pharmaceutical companies.
- Inadequate customer knowledge (Doctors, Retailers, Wholesalers).
- Different customer perceptions about the usage of the same drug
- Inferior Quality of selling skills of the sales force.
- Faulty recruitment process of sales force.
- Huge training and re-training costs of sales force.
- Sales force getting only 3-4 minutes with busy practitioners.
- Too many me-too brands in every therapeutic segment.
- Companies unable to build strong USP in the brand.
- Retailers going after the products which are sold on schemes
- Top-down process of sales forecasting. Bottom-up process is ignored.

Pharmaceutical sales & distribution structure in India

CFAs: These organizations are primarily responsible for maintaining storage (stock) of the company's products and forwarding SKUs to the stockist on request. Most companies keep 1-3 CFAs in each Indian state. On an average, a company may work with a total of 25-35 CFAs. The CFAs are paid by the company yearly, once or twice, on a basis of the percentage of total turnover of products. It can vary between 0.75% to 3%.

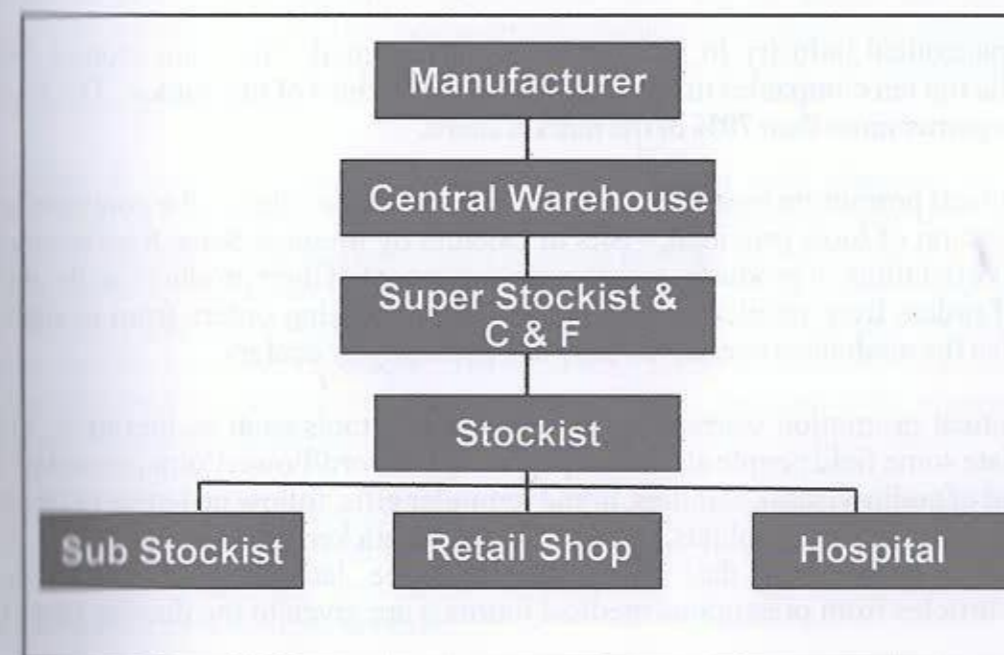
Super Stockist: Small Pharma companies have super stockist who buys the goods in bulk. However this arrangement is not sustainable at a high level of sales. The company converts super stockist to C & F.

Stockist: is the distributor, who can simultaneously handle more than one company (usually, 5-15 depending on the city area), and may go up to even 30-50 different manufacturers. They pay for the products directly in the name of the pharmaceutical company after 30 to 45 days. The retail pharmacy obtains products from the stockist or substockist through whom it finally reaches the consumers (patients).

Typical Supply chain Structure in Pharmaceuticals



Typical Distribution Structure in Pharmaceuticals



Sales force structure in Indian pharmaceutical companies



Sales Promotion in India

The pharmaceutical industry in India is highly fragmented. There are around 24000 players. The top ten companies make up for more than a third of the market. The first 30 companies garner more than 70% of the market share.

Pharmaceutical promotion means "initiating the methods for sale i.e. the combination of steps, utilization of tools provided, visits to Doctors by Medical Sales Representatives and effective detailing of products, monitoring movement of their products in the market, booking of orders from retailers, visiting dealers and booking orders from dealers and ensuring that the medicines needed are supplied promptly by dealers.

Pharmaceutical promotion warrants several marketing tools such as literature, audio-visual (of late some field people also use laptops to give word/PowerPoint presentation to Drs. instead of audio-visual), samples, brand reminder gifts, follow up letters to Drs from Head office, price lists, pamphlets, prescription pads, stickers & brand reminder cards. Doctors also need up to date information on the latest drugs hence lots of references/articles from prestigious medical journals are given to the doctors from time to time.

In addition, many pharmaceutical companies come out with product reference book in which there is detailed description of composition, mechanics of mode of action of the drug, indications, dosage, side effects, contraindications price & packing of all the companies' products is mentioned. Although for many brands pharmaceutical advertising is controlled & guided by code of ethics, Some companies which market antacids, anti-pyretic, analgesic tablets/gel are also permitted to advertise their products in the media viz News papers, TV, cinema houses. Normally the Drs will not prescribe a drug which is advertised to the general public. Secondly many drugs are dangerous when the Patients are given liberty for self medication. Therefore the Indian Government has evolved the rules & regulations for pharmaceutical advertising. (Drugs & Magic remedies act). The international Federation of pharmaceutical manufacturers association (IFPMA), Zurich, Switzerland has evolved a code of ethics for good marketing practices in the pharmaceutical industry.

Some pharmaceutical companies also use promotional strategies such as giving major gifts to DRs for their prestigious or premium brands.

Some companies sponsor medical conferences/seminars & also reimburse the travelling expenses, lodging/boarding expenses of Drs who attend regional, national or international conferences. They request Drs to read papers, host lunch/dinner, give souvenir advertisements & distribute writing pads, pen & gift articles.

Some pharmaceutical companies also participate in the pharmaceutical exhibitions. Exhibitions are not very frequent and yet are more powerful sales promotion points. Pharmaceutical companies have stalls in the exhibitions where a public relation campaign either towards the medical profession or towards chemists & general public is attempted.

In addition, some pharmaceutical companies also try to fulfill the personal & professional requirements of Drs. Some donate medicines or money for organizing free medical camps. They also get in touch with the end users & give the additional services like free check-up facilities.

For dealers & retailers almost all companies come out with seasonal promotional schemes such as free goods offer (10+1, 10+2 etc). This augments their stock pile at the distribution channels. Besides, intelligent medical sales representatives also educate the chemists about the common uses of the products (tonics, expectorants, anti-cold tabs, analgesic tabs) and how to push the sales of these products themselves. To establish the products rapidly, intensive (repeated calls to leading DRs) & extensive (covering all the potential interior & ex-station markets) promotion is done by most of the pharmaceutical companies. Pharmaceutical promotion in India is ethical & non-ethical as well.

Ethical promotion means to introduce & promote the products only to registered medical practitioners & advertise only in medical journals. As a result, Drs would prescribe the brands, demand would get created & retailers will buy the medicines so that the prescriptions of Drs would get honored.

Non ethical promotion means trying to create demand of products by advertising in lay press (daily press, TV, Radio, weekly & monthly issues of different magazines, journals) & booking orders from retailers. Many a times Drs are bypassed in the chain of selling. Normally Drs do not prescribe a product if it is advertised on TV or Radio or press. They like to maintain secrecy of their prescriptions. In non-ethical promotion, retailers play an important role whereas in ethical promotion, Drs play a vital role. Products promoted by advertisement in non-medical news papers & journals are also called home or OTC (over the counter) products. Promotion is the basis for sales. The more intensive & extensive promotion, the more is the SALES.

The most important ingredient in the pharmaceutical promotion is the Medical Sales Representative who plays decisive role in all the promotional activities.

Pharmaceutical companies either hire fresher (they feel, there is everything to create & nothing to repair) or some companies prefer experience medical sales representatives (they feel they are more ready for the job hence expenditure on training is little). The pharmaceutical companies who are successful in sales invariably have many sales representatives (almost 85-90 %) who are hard working, have a strong relationship with customers & who work relentlessly with lasting enthusiasm & dedication. Often a sales representative works for 10-12 hours a day, calling on 250-300 Drs per month, 125-150 retailers per month & also covers all the dealers of his territory at least once a month. In upcountry markets of India, the medical sales representative takes long & difficult tours, visits Drs & retailers in odd hours of the day & night and puts extra hard labor to secure business and fulfill the targets assigned to him. In pharmaceutical promotion "time is money" and employment of more time and energy in the field job is definitely more productive. Pharmaceutical promotion in India is quite complex. In this selling, the seller has no direct contact with the end-user or consumer. In consumer selling, the consumer is influenced by media. The sales representative in consumer selling uses his skills in making his products available through the distribution chain so that the consumer who is influenced by the media can easily buy his products. However in pharmaceutical selling, the medical sales representative has to play his role at the level of Decision makers (DRs) & distribution channels while he influences the Drs, he also makes his products available easily at the retail level. This multiple selling role makes the medical sales representative unique in the profession of selling.

Strategy in pharmaceutical promotion in India

Strategy is not what sells the brand but what the consumer buys it for. In today's professional marketing environment of India, strategy is a buying approach to selling problems. Prescription from a Dr is a buying approach to a selling problem. This phenomenon is result oriented & long lasting.

Any product strategy in a pharmaceutical company in India is evolved after a thorough analysis of the product merits, the customer profile (types of Drs & retailers), sales forecast, marketing budget, Advertising & sales promotion research, logistics, inputs, training, bonus offers etc.

The marketing strategy is the action plan of the company to sell the existing products profitably or to launch new products successfully to withdraw the products which are not doing well in the market place or to modify the existing products and sell them aggressively in relation to the competition. It's a strategy that decides the fate of Pharma promotion.

References:

- 1) Consolidated FDI Policy, Department of Industrial Policy & Promotion (DIPP), Press Information Bureau (PIB), Media Reports, Pharmaceuticals Export Promotion Council
- 2) "A Review Of Marketing Strategies Work By Different Pharmaceutical Companies" by Saurabh Kumar Saxena, www.iitk.ac.in.
- 3) Drugs and Pharmaceuticals: International Pharmaceutical Industry-A Snapshot, Jan 2004, ICRA
- 4) "International Marketing Strategies in India" by Prathap and Micheal, Vikalpa, (IIMA), Oct-Dec 2005
- 5) Kotler, Keller, Koshi, Jha, Marketing Management
- 6) Pharmaceuticals: The Indian Pharmaceutical Industry, Feb 2005, ICRA
- 7) 'Pharma Marketing – The business of Paradigms' by Ramakrishnan Iyer, Pharma Plus, dt. 31 st March 2005.

A Study on Reasons for Social Media Addiction

Mrs. Gauri Gaurav Vartak

Research scholar, Computer Science, JJT University, Rajasthan, gaurivartak83@gmail.com

Abstract

The aim of this study was to work out the explanations of social media addiction of persons, who describe themselves as social media followers. To realize this aim, participants are tested with an addiction test, and VIVA college students who perceive themselves as social media addicts were selected for the study. The findings of the research showed that members' reasons for using social media were lack of friends, social need of social media, fear of missing out, linking of social media and lifestyle. The study also acknowledged that social media addiction features a beginning and a continuity phase. It's been shown that the individuals who were within the beginning phase attended start using social media for reasons like not having the ability to seek out friends, lack of socialization, and monotony of life. Within the continuity stage of individual addiction, they stated that they use social media for reasons like, fulfilling a requirement, and protecting social relations that they had. One among the explanations for addiction was the necessity to socialize, while male participants were more curious about acquiring new friends, female participants were more curious about communicating with their real world friends.

Keywords- Social media, addiction, reasons for social media addiction.

INTRODUCTION

The increased use rate of technologies resulted in behavioral addiction and technology dependency. Previous studies focused on behavioral addiction and investigated the possible experiences of the addiction. For example, a recent study suggested that locus of control and self-expressive and practical benefits were experiences of the smartphone addiction. However, it had been found that perceived enjoyment, mood regulation, pastime, and conformity were experiences of the smartphone addiction. It was found that online social interaction ties and online social supports were experiences of the mobile social networking sites addiction. The previous studies suggested that there have been various consequences and pasts of the behavioral addiction. Social media are often defined as an environment during which a gaggle of individuals came together to share data, relationships and content, using internet communication channels. Social media applications appear as forums, microblogs, social networks, and wikis and web applications. the foremost common social media tools are Facebook, Twitter,

Instagram, Snapchat, WhatsApp, Google+, Wikipedia, LinkedIn and Reddit. On the other hand, behavioral addiction can be defined as "a disorder characterized by behavior that functions to produce pleasure and to relieve feelings of pain and stress, and failure to control or limit the behavior despite significant harmful consequences"⁷¹. Study says that 67% of the people between the ages of 18 and 29 actively use social media. Additionally, 22% of all people use social media for a selected reason. Individuals use social media to remember of what their friends were doing, stay awake so far with news and events, evaluate leisure, find entertaining and funny content, share ideas, share videos and pictures, share information with people, meet new people.

It compared the students' reasons for using Facebook consistent with the continent they lived in. the foremost important reason for using the Facebook decided as catching up with the present developments. Other reasons within the importance order were to be interesting, to precise what they think, and to possess useful connections. Internet addiction consists of varied addiction types like game addiction, social media addiction. Social media dependence is perceived as a more specific form or subdivision of Internet addiction. The aim of the study was to work out the social media usage characteristics and reasons of the individuals who perceived themselves as problematic social media users.

METHOD

50 students studying at VIVA College, were selected for the study, because previously, they took Social Media Usage Questionnaire, and determined themselves as addicted persons in using social media. Twenty two of the scholars were male and Twenty eight were female. The study was conducted as a qualitative research. Qualitative research requires data analysis of knowledge gathered using information gathering methods like interviews, document analysis, and participation observation. During this study, students' experience, knowledge and habits associated with social media usage were analyzed. As a document study, e-mails sent by students and social media activities were examined. The interview form consisted of 5 questions. 50 students who participated voluntarily within the research answered these forms via e-mail. Students skilled the subsequent questions.

1. Sort your social media usage by importance?
2. What was the aim of using social media once you started using the primary social media?
3. Is there a difference in your current social media use needs compared to once you first started using it?
4. Is social media indispensable for you? If yes, why?

During the info analysis, the researcher brought together all the interview forms and students' social media related issues. These data were later structured and coded into different groups.

During these processes, learning experiences, advantages and drawbacks, time are used as categories.

FINDINGS

The majority of the students (45 out of 50) expressed lack of friends within the first place among reasons of using social media. After a shortage of friends, the overwhelming majority of the students (42 out of 50) stated that social media was a group action requirement. One more reason (40 out of 50) was the feeling of fulfilling a task. One more reason (40 out of 50) is that the present events wasn't missed. One more reason was social media (38 out of 50) was intermixed with social life.

When students listed the explanations for using the social media, initially most of the scholars (29 out of 50) indicated that the necessity to form friends. The second most expressed reason for using social media after friendship was that they are doing not have anything to try to (20 out of 50).

The overwhelming majority of scholars stated that the necessity to use social media use varied over time (27 out of 50). On the opposite hand, a little a part of them (8 out of 50) stated that their purpose to use didn't change over time, and it fulfills the requirements they felt once they first started using it.

A large majority of scholars (45 out of 50) stated that they might definitely not hand over using social media. A little percentage of scholars (5 out of 50) stated that they might not hand over but would consider giving it up if they see a legitimate reason to offer up.

Social media has become a sharing platform that we use and difficult to offer up in today's life. However, this example also results in social media addiction. Social media addiction may be a subdivision of internet addiction. The current research has identified and examined social media not from average users 'perspective but from the eyes of people who define themselves as social media addicts. It's been determined that an outsized a part of the participants that too the survey was within the continuity phase and these people have used social media for a minimum of a year. Research outcomes indicate that social media addiction had a start and a continuity phase. it's been determined that the initial stage of dependence was the start of the dependency during the primary six months of use, after the primary six months of social media use individuals undergo the continuation phase.

RESULT

In this study social-media addiction reasons listed as, first lack of friends, second social media use being perceived as an activity, third fulfilling a mission, fourth following the present events

and eventually to be intermingled with real world. The rankings that emerged within the study didn't differ between the males and therefore the females. However, the necessity for socialization occurs in the form of communication with real world friends for females. Within the case of males, this example has been observed as making more new friends. In addition, it's been determined that social media addiction features a beginning and a continuity phase. It's been found that the individuals who were within the initial stage of addiction (social media have a usage history of 6 months or less) tend to use social media for reasons like not having the ability to seek out friends, lack of socialization, and monotony of life. Individual at the continuity phase of addiction (social media usage history is longer than 6 months) uses social media for reasons like maintaining with the events, feeling of fulfillment of duty, protection of social relationships, etc.

RECOMMENDATIONS

Mindful use of people within the use of social media is important. Work should be done to work out the effect of social media on health and social life. It should be ensured that the work is informed to the individuals and therefore the knowledge levels are increased.

REFERENCES

1. Arpaci, I. (2013). Organizational adoption of mobile communication technologies (Doctoral dissertation). Department of Information System, School of Informatics, Middle East Technical University.
2. Baker, S. (2016). Why Do People Use Online Social Networking? , http://socialnetworking.love toknow.com/Why_Do_People_Use_Online_Social_Networking the address 07.22. 2016 was accessed on.
3. Chen, C., Zhang, K. Z., Gong, X., Zhao, S. J., Lee, M. K., & Liang, L. (2017). Examining the effects of motives and gender differences on smartphone addiction. *Computers in Human Behavior*, 75, 891-902.
4. Esgi, N. (2016) Development of Social Media Addiction Test (SMAT17). *Journal of Education and Training Studies*, 4(10), October 2016, 174-181.
5. Kim, B., & Kang, M. (2016). Effect of MMS Addiction on Users Health and Academic Performance in an Era of Convergence. *Journal of Digital Convergence*, 14(1), 131-139.
6. Lee, Y. K., Chang, C. T., Lin, Y., & Cheng, Z. H. (2017). Heads-down tribes across four Asian countries: antecedents of smartphone addiction. *International Journal of Mobile Communications*, 15(4), 414-436.
7. Shaffer, H. J., LaPlante, D. A., LaBrie, R. A., Kidman, R. C., Donato, A. N., & Stanton, M. V. (2004). Toward a syndrome model of addiction: Multiple expressions, common

etiology. *Harvard review of psychiatry*, 12(6), 367-374.

8. Werste, K. (2016). *An introduction Social Networking*, 4th ed. London: Moment. Stavropoulos,

9. V., Kuss, D. J., Griffiths, M. D., Wilson, P., & Motti-Stefanidi, F. (2017). MMORPG gaming and hostility predict Internet addiction symptoms in adolescents: An empirical multilevel longitudinal study. *Addictive behaviors*, 64, pp: 294-300.

Managerial Effectiveness and Security Issues

Dr. Neeta Bhatt, Assistant Professor,
Atharva Institute of Management Studies

ABSTRACT

The information revolution is gaining momentum through our economy. No organization can grow unaffected of this swap. For organizations to compete globally, it needs to incorporate the recent trends in information technology. Here comes the role of managers to understand the need of information technology for the growth of their organizations.

With this, the concept of securing organizational data comes into picture. An effective security system has to be maintained by all the organizations to prevent and thwart attempts by hostile elements.

This paper helps the managers to identify new trends in security systems for organizational growth and effectiveness. It will also aid the organizations of all the types to understand the fundamentals, principles and concepts to improve protection of their information assets. Finally, it discusses a variety of highly insightful, practical and implementable approaches of information technology security systems to assist organizations to effectively and efficiently manage information security in today's ever-changing business and technology environments.

Key Words: Information Technology, security systems, managerial effectiveness, threats, Biometrics

Introduction

With an increasing 'cut throat' competition and dynamic business environment around the globe organizations require a team of managers to run the day to day operations. Managers play a significant role in the development, formulation, and execution of the organization's long term as well as short term strategies that determine corporate success. Indeed, managers are dynamic and the life giving elements in every business and without them the resources cannot be converted into high production. Aggregation of employees' performance represents the Organizational performance which places stress on the efficient use of resources and accomplishment of desirable outcomes. With increased dependency of business on information technology, managers are required to sort out new ways to facilitate Organizational production and sustainable self growth. What differentiates surviving Organizations from others, that have not been able to tackle 'tough times', is the performance and effectiveness of its executive.

Indeed, there has been the debate over how to assess executive managerial effectiveness, which provides a pathway for utilizing resources efficiently. Consequently, management may be viewed as a special kind of leadership in which the achievement of the Organizational goal is vital and managers strive to operate in a situation with optimum performance outcomes. The performance of a manager and how effectively he/she would operate a situation is related to many variables from an individual to an Organizational.

The fate of any Organization largely depends on the managerial actions. A key function of managers is to determine what has to be done and how it is to be done. But the managerial role is continuously changing with Organizational complexity, globalization, the accelerated product life cycle, growing complexity of relationship with stakeholders, scarcity of the resources, and intense competition. Consequently, the managerial job has changed from merely supervision of subordinates and middleman between workers and top management to helping in strategy formulation, managing change, making and developing cross functional teams and improving the stakeholder relationships. As the role of the manager changes and becomes more demanding so has the interest in investigating the factors that impact efficiency and effectiveness of the manager. And different researchers suggest that mapping of the degree of effectiveness of any individual is not only based on skills, knowledge and personal competencies, but also on interpersonal interactions as well as the way teams are managed.

Regardless of its increasing importance, the field of managerial effectiveness has been neglected as compared to other issues of management. India being a rapidly growing economy largely depends upon its human capital and increasing attention is being directed in Indian Organizations towards improving managerial effectiveness.

Managerial Effectiveness

Concept

Effectiveness of executives is very important for the success of an Organization in the contemporary business arena. Organizations need effective and competent managers to be able to reach their objectives efficiently and effectively. In fact, executives employ their competencies and enhance the economic value of raw resources to play a crucial role in the development and the execution of Organizational operations and effectiveness of the implemented strategies/policies. Organizations need effective and skilled executives to facilitate corporate success in the long run. Moreover, managerial effectiveness is a key component, which enables effectual operation and delivery of complex initiatives. An executive is expected to get the right things done and this is simply saying that he is expected to be effective.

Researchers have described managerial effectiveness in various ways, though there is yet no conformity on concept and method of mapping managerial effectiveness. Managerial Effectiveness can be defined as results and consequences, bringing about effects, in relation to purpose, and giving validity to particular activities. It can also be explained as the degree to which managers achieve the output requirements corresponding to their respective positions. In other words, it is the act of fulfilling multiple expectations rather than optimizing one objective. Managerial effectiveness can improvise on qualities, intrinsic abilities or personality strengths of an individual. An effective manager is the one who identifies the need to understand the functions and uses the available resources to carry out these managerial functions.

Approaches to Effectiveness

There are basically three important perspectives of managerial effectiveness, 1) conventional perspective, 2) Organizational level proficiency based perspective, and 3) individual level competency based perspective. The conventional approach stresses the ability to set and achieve goals and explains that it is the managerial effectiveness which is responsible for Organizational effectiveness. The Organizational level proficiency based theory explains that internal and external factors have a strong influence on the long term future orientation of the Organization. For instance, an Organization's mission, vision, and strategic plan formulation play a vital role in achieving future goals. This approach further divulges that any Organization incorporates the internal resources (i.e., people, material, money, machinery, knowhow and the external surroundings as a system to accomplish the tactical intent). The individual competency approach focuses upon the individuals rather than the association of external actors, and puts stress on the enhancement of convenient management skills and tactics (behavior). These skills and tactics can be learned, attained, practiced, and nourished. The individual competency based approach advocates to develop management skills and tactics that can be used across different contexts and situations.

One stream identified objectivity and order within the functional limitations, while another line of the literature tried to explain managerial effectiveness from a managerial point of view. The later stream stressed a need to understand and consider the manager's level of awareness of their effectiveness, demand and motives behind actions, constraints and choices available at the work place.

Another important issue of managerial effectiveness is a need for multitasking. The importance of being able to devote small amounts of time to a variety of tasks is very crucial for a manager. It is also observed that effective executives need to be able to simultaneously manage a multitude of relationships with individual and groups directly/ indirectly affected by their actions. It is contended that a manager who can tackle a broad range of everyday Organizational problems will function more effectively. Effectiveness can be increased by tuning self perception and

expectations of interested groups and people. There are many attributes, which are the necessities of time and critical to delivering improved results, effective operations, and programmes.

Information Security – A critical issue

Information security is a critical issue facing organizations worldwide. In order to mitigate risk and protect valuable information, organizations need to operate and manage effective information security programs. Broadly defined, security represents safety from danger and is especially important in threatening environments. Information security is a more recent phenomena corresponding to the rise of computers, networks, and the Internet. Regardless of the enormous business benefits derived from information technology (IT), increased reliance on IT leads to increased vulnerability and danger. Since IT can encompass virtually the entire operation of the organization it serves, probably no single element has a greater potential to wipe out an entire company so quickly than a computer-related disaster. For decades, security authorities have understood this danger and recognized that solving organizational IS security problems require managerial attention. Even with the recognition of increased danger, managers often did not regard security as important and many permitted their information systems to be either lightly protected or wholly unprotected. Even though IT executives rank security as a high priority issue, managerial support for organizational security programs remains critical and may need improvement.

Top Ten Information Security Issues

Rank	Information Security Issue
1	Top Management Support
2	User Awareness Training & Education
3	Malware
4	Patch Management
5	Vulnerability & Risk Management
6	Policy Related Issues
7	Organization Culture
8	Access Control & Identity Management
9	Internal Threats
10	Business Continuity & Disaster Preparation

Security of the various assets has emerged as a critical issue for any organization. The lapse in security like unauthorized personnel gaining access to critical asset can be very much harmful to the management of any organizations.

So, to avoid such kind of IT related problems and to allow only the authentic people to access the

information in the system, so that it does not reach in wrong hands. The organizations are required to have an absolute trust in the identity of their employees, customers, contractors and partners; that is, that they are really who they say they are. Here we need to understand the concept of "Authentication".

Now, what is authentication?

Authentication is the mechanism whereby systems may securely identify their users. Authentication systems provide an answer to the questions:

- Who is the user?
- Is the user really who he/she represents himself to be?

An authentication system may be as simple (and insecure) as a plain-text password challenging system (as found in some older PC-based FTP servers) or as complicated as the use of Smart cards. In all cases, however, authentication systems depend on some unique bit of information known (or available) only to the individual being authenticated and the authentication system -- a shared secret. Such information may be

- A classical password, some physical property of the individual (fingerprint, retinal vascularisation pattern, etc.),
- Or some derived data (as in the case of so-called smartcard systems). In order to verify the identity of a user, the authenticating system typically challenges the user to provide his unique information (his password, fingerprint, etc.)

If the authenticating system can verify that the shared secret was presented correctly, the user is considered authenticated.

We identify our friends by face, color of eyes, skin color, some special feature, voice or smell. All these things about a person are previously stores in our brain. When we see or feel or listen to any of them, we try and match it with the pre-stored detail and then identify the person or in other words "authenticate" him/her as a particular person.

Now in case of friends, this approach is perfectly correct as we will have a limited number of friends and we will be in regular touch with them. When this concept is stretched to the organizational level, where there are thousands of employees who are not in touch on a regular basis, then the above described approach is not possible.

To solve this problem on the organizational level, identification of people was done using

identification cards (Id-Cards). I-card was provided to every individual who was working with the organization which contained the recent photograph of the card holder, his name, employee-id and designation. Looking at which we could authenticate that person in the organization.

There are basically three ways to authenticate a person.

- 1) **Providing the person with the unique user name and his own defined password.** This password would be associated with the username and would not be disclosed to anyone by the system.

But there are many disadvantages associated with this method:

- a) This method is weak and susceptible to many numerous attacks.
- b) The security depends upon the user's ability to maintain the user ID and password secret.
- c) The password can be easily hacked and security can be breached easily.

Because of these major disadvantages, this method of security is not very much used by the organizations.

- 2) **Using Security Token which may be Hardware tokens i.e. Smart Cards or Software Tokens or Out-of-Band Authentication.**

Security Token can be a physical device than an authorized user of computer services may be given to ease the authentication. They are used to prove one's identity electronically.

They can be smart cards which can store cryptographic keys like digital signatures or special designs which may include USB connector, RFID functions or Bluetooth wireless interface to enable transfer of a generated key number sequence to a client system. But even these methods have a number of flaws and security breach is easily possible. For example:

a) Hardware Tokens :

- Involves additional costs (Token etc.)
- User always need to carry the token with them
- Different tokens are needed for different devices
- It does not protect fully from Man-In-Middle attack.

*Man-In-Middle Attack – is the attack where the intruder intercepts a user's session and steals the user's credentials by acting as a proxy between the user and the authentication device without user's knowledge.

b) Software Tokens

- Requires user training
- Deployment needs controlled environment
- Reinstallation and configuration will be required if any problem occurs
- Needs a proper protected environment

c) Out of band Authentication

- Increases the expenses of SMS or Telephone Calls
- Risk of unauthorized access and interception of messages
- Susceptible to Man-In-Middle attack.

3) Using Biometrics

- Can be used for accessing high-security systems and sites
- Takes care of non-repudiation because biometric factors are specific to the users
- Different options are available, such as fingerprint, iris or retina scanner authentication
- Difficult to compromise

Now, once a person is authenticated and allowed to enter into the organization, he also can access the records of the organization. When the records were maintained on the manual basis, there was a security guard outside the data storage space/ room, which first authenticated the user and then allowed to enter the room and this person, had some authority to view some documents and not to view some others. So, here comes the concept of authorization.

Now, what is Authorization?

Authorization is the mechanism by which a system determines what level of access a particular authenticated user should have to the secured resources controlled by the system. For example, a database management system might be designed so as to provide certain specified individuals with the ability to retrieve information from a database but not the ability to change data stored in the database, while giving other individuals the ability to change data. Authorization systems provide answers to the questions:

- Is user X authorized to access resource R?
- Is user X authorized to perform operation P?
- Is user X authorized to perform operation P on resource R?

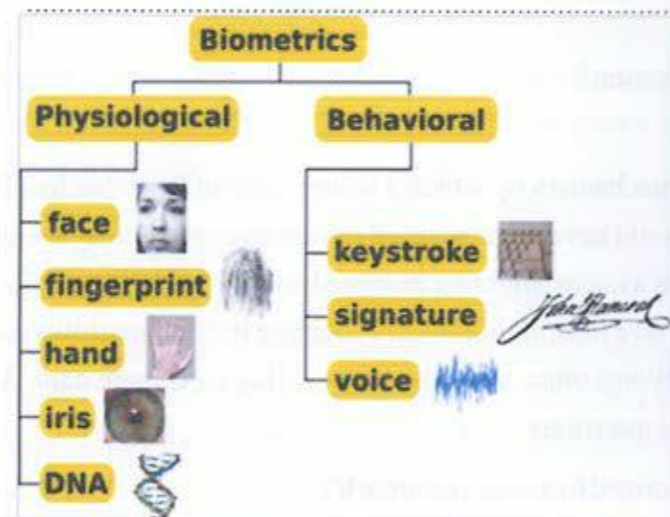
Authentication and authorization are somewhat tightly-coupled mechanisms -- authorization systems depend on secure authentication systems to ensure that users are who they claim to be and thus prevent unauthorized users from gaining access to secured resources.

For proper management of organizational processes, the role of manager becomes important as to which method of authentication is adopted so as to streamline the process. For this process a proper authentication and authorization of a person is required. Every human possesses more than one virtually infallible form of identification, known as biometrics. Biometrics is measurable, physical characteristic or personal behavioral trait used to recognize the identity, or verify the claimed identity, of a person. Some of the most common forms include fingerprints, iris and retinal scans, hand geometry, and other measures of physical characteristics and personal traits. Advances in computers and related technologies have made this a highly automated process through which recognition occurs almost instantaneously.

Biometric characteristics can be divided in two main classes:

Physiological are related to the shape of the body. The oldest traits that have been used for more than 100 years are fingerprints. Other examples are face recognition, hand geometry and iris recognition.

Behavioral are related to the behavior of a person. The first characteristic to be used is the signature. More modern approaches are the study of keystroke dynamics and of voice.



In addition to its extensive use in forensic sciences, biometrics technology is rapidly being adopted in a wide variety of security applications such as electronic and physical access control, electronic commerce, digital rights management, background checking, homeland security, and defense. Security systems demand high accuracy, high throughput, and low cost from their biometric sub-systems. When it comes to organizations, biometrics provides a sound, reliable foundation for effective work force Management (WFM). Time card, badge, and PIN-based systems verify time only -- not the identity of the individual employee entering the labor data. Biometrics eliminates more intentional and unintentional human error than time clock alternatives that cannot verify identity. Biometrics also improves employee morale and satisfaction by increasing confidence in the payroll function through the consistent application of confidential and impartial timekeeping. Finally, biometrics ensures regulatory compliance and avoidance of legal actions and fees by providing a non-repudiated audit trail for all labor data.

The use of biometrics is widespread and growing rapidly. Biometrics is not a futuristic, high-risk business proposition, but proven real-world technology that helps enterprises, large and small, to control labor costs and better address the competitive challenges of twenty first century business operations. Biometrics are a billion dollar business with a projected 34.2% Compound Annual Growth Rate (CAGR) over the next five years.

Tens of millions of biometric devices have been successfully deployed worldwide in government, healthcare, financial services, manufacturing, retail, and other critical environments with large hourly workforces. Applications range from time and attendance to border security, federal employee IDs to ATM and mobile phone access, home door locks and garage door openers to network logons and nuclear power plant access.

Market estimates indicate nearly 400,000 thousand biometric devices have been deployed to date worldwide for time and attendance applications.

Conclusion

No organization or information system can have perfect security. Despite this, there are specific practices that management can do to maximize the protection of their critical information resources. Organizations today face a myriad of internal and external threats to the security of information. Inadequate security is a situation that should not be tolerated because the business risks associated with poor security are high. Since many computer and information security problems today require managerial rather than technical solutions, so it is crucial for the managers to be effective.

Further Studies

Although biometric systems have made great strides especially over recent years, there is continued need for vigorous research to solve many outstanding challenging problems.

Bibliography

1. Bamel, U. K., Rangnekar, S. & Rastogi, R. (2011). Managerial Effectiveness in Indian Organisations: Reexamining an Instrument in an Indian Context, *Research and Practice in Human Resource Management*, 19(1), 69-78.
2. Kenneth Joseph Knapp, "A MODEL OF MANAGERIAL EFFECTIVENESS IN INFORMATION SECURITY"
3. Les Worrall, Dan Remenyi and Arthur Money, *Measuring the Effectiveness of Information Technology Management: a comparative study of six UK local authorities*
4. Phillip G. Clampitt *Communicating for managerial effectiveness*
5. REMENYI, D., Sherwood Smith, M., and White, T., (1997). *Achieving Maximum Value from Information Systems, A Process Approach*, John Wiley, Chichester.
6. SILK, D. J., (1990). *Managing IS benefits for the 1990s*, *Journal of Information Technology*, Vol. 5.

BUSINESS ANALYTICS – An Overview

Ramanand Singh

Student, Atharva Institute of Management Studies

Abstract

Business analytics is being discussed everywhere right now as it plays a vital role for the development of the firms irrespective of its size. The objective of this paper is to provide an overview of Business analytics. It begins by providing a summary of the three types of analytics. Then it includes a brief description of its Characteristics, Business Analytics process, Applications of Business Analytics followed by its advantages.

It has become a challenge for every organization to deal with huge volume of data and with the help of Business Analytic techniques and technologies modern organizations are making good use of it.

Business Analytics delivers benefits that will drive a good return on investment. It eliminates the complexity of converting raw data into meaningful information thus helping the business users to make more intelligent decisions, which will be the ultimate goal.

Several Business analytic tools are available and various techniques are implemented which will help businesses grow in the current marketplace.

I. Introduction to Business Analytics

Business analytics is a custom of transforming the data into business understandings enabling the end users for better decision-making. By using the modern tools and techniques, business analytics can help assess complex situations, consider all the available options, and predict outcomes and showcase critical risks for the decision makers.

Business Analytics can simply be described as a practice that includes the use of various techniques such as Data warehousing, Data mining, Programming in order to visualize and discover several patterns or trends in data. In simple, Analytics help convert the data into useful information, which can be used for decision-making. As a means of sorting through data to find useful information, the application of analytics has found new purpose

A typical example of the use of Analytics will be in Sports where player's data collected is

represented in the form of stats.

Business analytics is a combination of various strategies and tool technologies in order to improve the performance of an Enterprise and Business Analytics plays a major role for the growth of the companies that enlightens decision-making improving its process irrespective of its size

Business Analytics refers to the skills, technologies, applications and practices for Iterative exploration of data to increase insight and drive business planning. Business Analytics can answer questions Such as

- Why is this happening?
- What if these trends continue?
- What will happen next? (Prediction)
- What is the best that can happen?

Business Analytics collects and analyses data that can be used for predictive analytics, which in turn creates, visualized reports, helping organization in identifying its pain points. Business analytics software can be used in analysing historical and current data and utilizes data mining techniques to identify past business trend in order to use this to future business climates.

II. Types of Business Analytics

According to Institute of Operations and Research Management Sciences organization, Analytics are categorized into three types.

- Descriptive Analytics
- Predictive Analytics.
- Prescriptive Analytics.

Various organizations use these Analytics as per their need and can be viewed independently such as few firms use only one type of Analytics and few others may use the combination of two or more and it varies accordingly.

Descriptive Analytics: This is an application of simple statistical techniques that defines what is contained in a database. These Analytics are used to identify potential trends in large data sets or databases and its purpose is to get a rough picture of what usually the data looks like and what criteria does it have and its potential for finding trends or future business behavior, its main

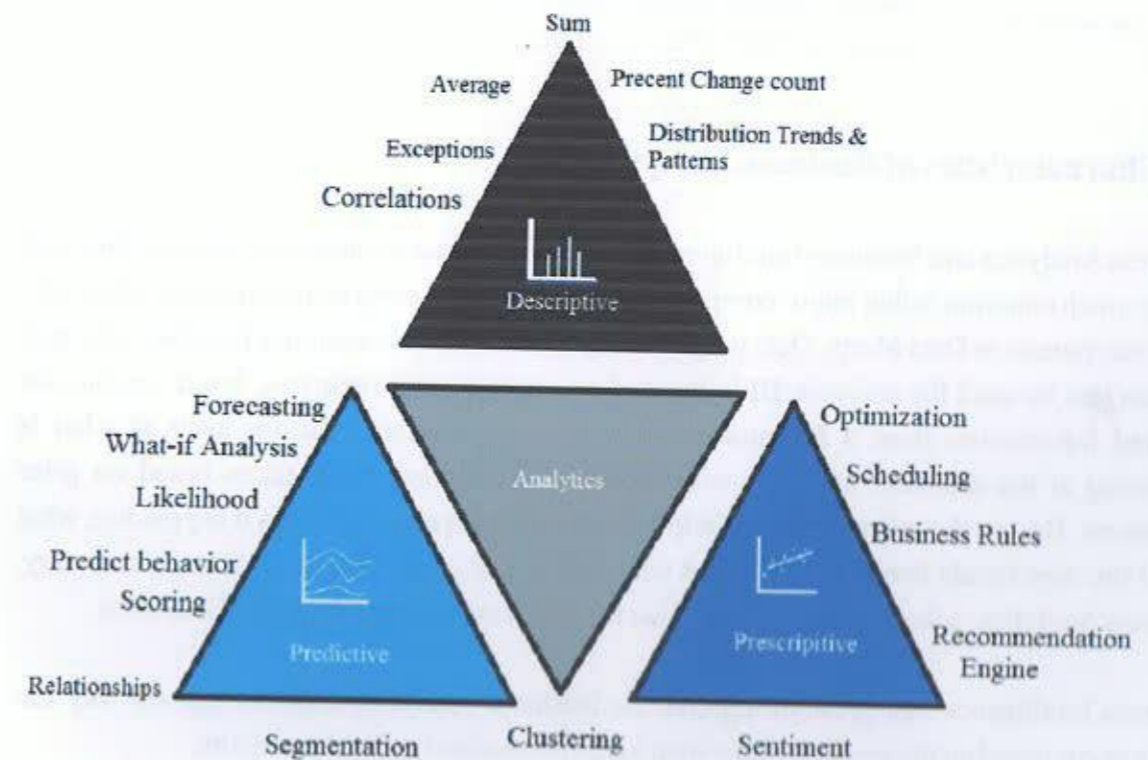
purpose is to summarize what happened.

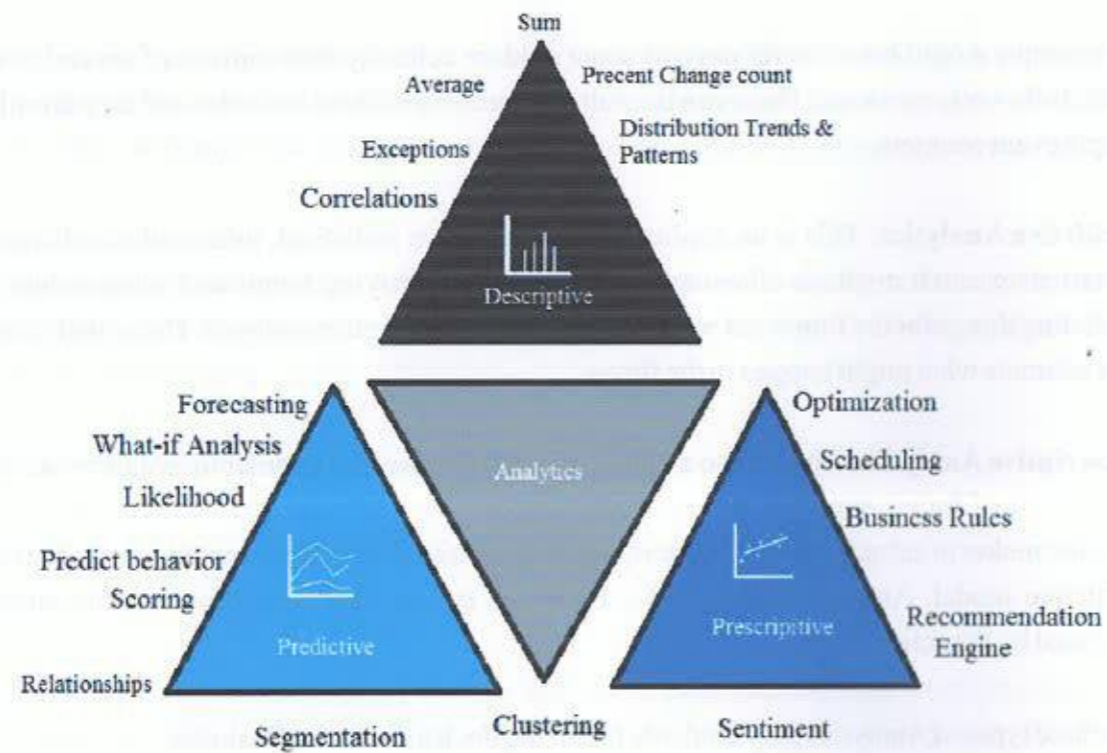
An example would be a Twitter page of some random celebrity that consists of several tweets, posts, followers, views etc. There can be multiple numbers of these activities and they are all just simple event counters.

Predictive Analytics: This is an application of innovative statistical, information software, or operationsresearch methods allowing the analysts in identifying trends and relationships and predicting things for the future not readily observed in a descriptive analysis. These analytics can only estimate what might happen in the future.

Prescriptive Analytics: This is also a kind of predictive analytics in order to assign resources to takebenefit of future opportunities and this helps us when to propose an action allowing the decision maker to act accordingly. Prescriptive analytics adds two additional factors on top of the predictive model: Actionable data and a Feedback system that can help track the outcome produced by the action taken.

The three types of Analytics play vital role in driving decisions for the Business.





Types of Business Analytics

III. Characteristics of Business Analytics

Business Analytics and Business Intelligence are closely related to each other but one thing that is very much common is that major component of BI involves storing an organization's data into Data warehouses or Data Marts. Data warehousing is not a business analytics function, although the data can be used for analysis. BI is focused on querying and reporting, but it can include reported information from a BA analysis. BI can help answer questions such as what is happening at the moment, and also what business actions are to be taken based on prior experience. BA, on the other hand, can help answer questions such as why is it happening, what are all the new trends that may exist, and what is the best course for the future. In summary, Business Analytics makes a measurable impact in improving the performance of Business.

Business Intelligence can generate reports but Business Analytics seeks to explain why the results occur based on the analysis rather than just reporting and storing the results.

Below table can differentiate the types of Analytics in detail

Characteristics	Business Analytics	Business Intelligence
Business Performance Planning Role	What is happening now and in the future, what would be the strategy to deal with it?	What is happening now and what has been done to deal with it in past?
Descriptive Analytics Role	Yes	Yes
Predictive Analytics Role	Yes	No
Prescriptive Analytics Role	Yes	No
Business Focus	Yes	Yes
Focus of Improving Business Value and Performance	Yes	No

IV Business Analytics Process for Decision Making

The Entire business analytic process involves the above-discussed three analytic components applied successively to a source of data. The outcome of this entire process must ensure to improve business performance.

Source Data	1. Observe and become alert of potential problem.
	2. Trying to understand the current situation
Descriptive Analytics	3. Identify and state the problems and solution strategies with respect to organization goals and objectives
Predictive Analytics	4. Selection of a solution strategy
Prescriptive Analytics	5. Implementing the Strategy

Outcome of this process increases the Business performance and increase in Value.

The above process can help organizations to solve problems but could also be applied to finding opportunities in data and decide what is the best course of action to be taken. This five-step process can help any organization to make an in-depth analysis in decision-making and act accordingly resulting in improvement of Business performance.

V. Advantages of Business Analytics

The Current organizations are using highly developed analytics techniques and technologies in order to deal with huge volumes of data. CEO's, CIO's and entrepreneurs must attempt to become analytical. Understand their customers and make the proper decisions. Business goals should be more expansive and strategic.

Top Benefits of Business Analytics include

- Refining and speeding up the decision making process
- Increasing returns
- Preserving governing compliance
- Realizing cost efficiencies
- Responding to user needs for availability of data on a timely basis
- Improving organization's effectiveness
- Producing a integrated view of enterprise wide information
- Coordinating financial and operational strategies
- Sharing information with a broad range of audience (e.g., casual users)

VI. What Business Analytics Can Do?

By making use of high-level data and quantitative analysis, Business analytics has made decision-making processes much easier and achieve better results and good output across the organizations irrespective of the size of the firm from small, mid and Enterprise level.

Harnessing the power of mathematical models, business analytics uses advanced tools and technologies in making use of its data to help each organization. The methods and models of analytics draw from disciplines that include statistics, operations research, information systems, and others.

Organizations continue to be challenged and have realized the need for stronger analytics, faster delivery, flexible change management and intelligence around their business metrics and reporting. Identifying the key business activities as per the market environment can impact the results that can be significant for making more informed strategic and operational decisions.

Business analytics allows professionals to take business intelligence and leverage it to the competitive advantage of the organization and plays a vital role in doing Risk analysis, operation decisions and Strategic decisions.

VII. Applications of Business Analytics

In one of the surveys conducted by Bloomberg, three out of four organizations believe that Business Analytics has been very effective in decision-making. Few of the key improvements include increased productivity, reduced cost, and Quick decision-making.

In the past few years, the percentage of respondents profiting from business analytics has risen at a decent rate evidently highlighting business's increasing hunger to make sense of its data.

Key Applications of Business Analytics for Businesses to optimize:

- Critical analysis of Products: Helps in assisting the study in trends and make changes accordingly.
- Enhanced customer service: Can keep track of regular customer queries preventing organizations from repeating errors and enabling customer satisfaction.
- Up-selling opportunities: It helps identify the business needs
- Streamlined inventory management: This can help predict which are getting obsolete reducing the losses
- Competitive price insights: This can help Businesses make their prices competitive by tracking the customer trends.

VIII. Conclusion

Organizations that have implemented Business Analytics have seen good amount of success that has helped them to cut costs, know their Target Audience, Increase in returns. Various organizations that include Banks, Pharmaceutical companies, Retailers, Insurance companies, Auto manufacturers use Analytics in their own ways.

These firms have invested across several areas that include Resources, technologies and business processes to make decisions that will help them predict and answer complex business problems. With this analytical approach, companies identify their most beneficial customers, accelerate product innovation and optimize pricing.

Business analytics is a fast growing field and Investing in business analytics is already proved that it would benefit organizations in several ways and there are many tools available in the market to serve the needs of organizations. The range of analytical software goes from relatively simple statistical tools to sophisticated business intelligence suites (ex-SAS, Oracle, SAP, IBM among the big players) helping organizations in increasing productivity, Improve decision-making and profitability management.

IX. References:

<https://www.passionned.com/the-importance-of-business-analytics/>

<http://visual.ly/business-analytics-%E2%80%93-transforming-data-competitive-advantages>

<http://business.gwu.edu/programs/specialized-masters/m-s-in-business-analytics/what-is-business-analytics/>

http://www.umsl.edu/~sauterv/DSS4BI/links/sas_defining_business_analytics_wp.pdf

<http://business.gwu.edu/programs/specialized-masters/m-s-in-business-analytics/what-is-business-analytics/>

<https://selecthub.com/>

<http://ptgmedia.pearsoncmg.com/images/9780133552188/samplepages/0133552187.pdf>

<http://business.gwu.edu/programs/specialized-masters/m-s-in-business-analytics/what-is-business-analytics/>

<http://analyticstraining.com/>

<http://www.kaviglobal.com/>

<http://business.gwu.edu/programs/specialized-masters/m-s-in-business-analytics/what-is-business-analytics/>

ATHARVA
A JOURNAL OF MANAGEMENT RESEARCH
ISSN 2231-4350

The main objective of this journal of management research is, dissemination of knowledge, encompassing emerging management concepts and to widen professional horizons, in the dynamic socio-cultural, economic, political and technological environment.

The following guidelines are to be adhered to while submitting the manuscript.

1. Research articles with original findings are welcome.
Researcher should state his name in full, Present designation, address, phone numbers, e-mail-id etc. on the cover page. Kindly note that these details, should not be mentioned on any other page.
2. Minimum number of words-3000.
3. Abstract one paragraph consisting of not more than 150 words.
4. References pertaining to journals ,books, internet etc. should be provided at the end of the paper in alphabetical order as per the norms to be followed for stating references.
5. For online submission of articles/ research papers, case-studies ,files can be attached in the email addressed to -

The Editor, Atharva Journal and sent to atharva.journal@gmail.com.

In the subject column, indicate "Article For Journal".

