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Editorial

Digitalization *is the integration of digital technologies into everyday life by the digitization of everything that can be digitized. The literal meaning of* ***digitalization*** *gives an apparent idea of development and technology dependent world. In this chapter,* ***digitalization*** *means computerization of systems and jobs for better ease and accessibility.*

The proposed ***Digitalization*** *framework comprises three steps:*

- *Create awareness and ownership around digitalization: Help people throughout the organization understand what digitalization is and what advantages it offers, and foster a sense of ownership around digitalization at the highest level.*
- *Design a digitalization roadmap: Putting customers at the center of the roadmap, design a digital business value tree and a digital operating model mapping the technology and skills required to harness the true power of digital assets.*
- *Digitalize business model: Make the right choices about your customer value proposition, resources, profit formula and performance metrics and nurture the capabilities and culture needed to support your business model.*

When Internet ushered into the world, it was already touted as one of the revolutionary inventions of the century. What Internet has done is it has bridged the gap between countries. It has made communication easier and It has brought the world a lot closer. This era is famously known as Digital Era where not only Communication but along with that information has been increasingly passing to different parts of the world. The question arises, how has Digital Era impacted the Economy and how it will change doing business in the coming future.

The biggest takeaway from Digital Era is it has brought the the Buyer and seller closer. The Consumer today have a varied number of options to buy from. When a company surfs on the internet , he not just fulfills his demand but also creates one which he never had in the first place. What Digital Era is doing is creating demand amongst consumers which is increasing the consumption rate which in turn is beneficial for the growth and GDP of our country. We are slightly shifting towards spending approach from savings approach.

Companies like Flipkart Quickr Amazon Uber, Ola are mere facilitators but what they have done is create a platform for buyers and sellers to meet with just a touch on the screen. This has been very instrumental in service oriented industries as well as manufacturing. The consumer now expects a certain quality of service which he is not ready to settle for.

Digital era has also created storages and accessibility easier. Due to Cloud Computing, There is ample of storage on the internet which can be rented out in layman's terms in return all the paperless softcopies of documents can be stored and can be accessed from whichever part of the world you are in. This has increased collaboration on inventions, softwares between engineers from different countries easier and hassle free.

With the ushering of Digital Era, Digital Currency has infused into the economy which lays the foundation of transparency accountability etc. The more cashless economy a country tends to be the more it will generate Tax revenue for Government which in turn would be beneficial for infrastructure etc.

This era is here to stay and we are just getting started. What we need is to find out opportunities for growth for varied businesses and services by combining the Human touch with Screen touch which is Digitalization.

Impact of Technology Required in the Implementation of the Proposed Training Program Using Exercise and Remedies for Natural Injured Athletes in the Tendinitis the Wrist Joint

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Abstract

This research aims to design a program in the use of rehabilitative exercises and means associated For athletes who suffer injury in the tendinitis in the wrist joint and identify the impact of The proposed program to develop muscle strength to the muscles working on a detailed hand-to Besides acquainted with the development of the range of motion for a detailed hands. The researcher used Experimental design with one group pre and post tests were applied to the sample Random consisting of 15 athletes suffering from injury tendinitis in the wrist joint. The training program was applied daily for 30 days by a single meeting of the day was Results were as . The proposed training program based on the therapeutic exercises and means associated with him a positive impact on the flexibility of the athletes who suffer from injury in the tendinitis in the wrist joint. The proposed training program based on the affect therapeutic exercises and means associated with him Positive impact on the development of power energizes muscle boy athletes who suffer from injury in the tendinitis in the wrist joint. The proposed training program based on the affect therapeutic exercises and means associated with him Positive impact on the development of the strength of muscle contraction boy athletes who suffer from injury in the tendinitis in the wrist joint

Introduction

Whatever the age of one, and whatever was done, he always uses his hands. And when there is any defect in your hands, the man is not able to carry out its activities regular. And it includes hands-on problems include: • carpal tunnel syndrome, a compression of the nerve as it passes through the wrist area. This is what often leads to a feeling of numbness in the fingers. • Injuries that lead to fractures and dislocations and torn ligaments. • Osteoarthritis (osteoarthritis), which is an inflammation of the joints leads to damage her guardian, and may lead to distorted too. • Tendinitis and is irritation of the tendons. • Disorders and injuries in the fingers and in the thumb. In each hand, twenty-seven bones and fifteen detailed, as well as about twenty muscles. There are many common hands can infect problems. Hands problems can be caused by certain types of activities. The diseases and injuries lead to problems with your hands as well. And when there is a defect in your hands, you may become unable to perform usual activities. This explains the common problems of the hands of health information. It discusses how to prevent hand injuries and disorders are, and how to address them as well. And knew physical therapy since ancient times been used so that natural resources.

Study Problem

All kinds of physical exercise cause stress to the player may be for the whole body or body part. This in itself but a certain useful player as physical exertion orderly and gradual that leads to raise the efficiency of the various organs of the body to enable it to perform its functions to the fullest while doing effort athlete violent. The athletes injuries differ significantly from other injuries which require special attention in the diagnosis, treatment and

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rehabilitation as you need to assess the situation Rated precise and detailed is the wrist joints that operate in two directions through his connection at the bottom of the hand with the arm, it is the first detailed commentator allows simple movement up and down and, secondly, it allows movements of bending and rotation where there is internal ligament and external respectively and respectively and are considered tendinitis injury in the wrist joint of the most common among the public and athletes in injuries, especially Hence the problem emerged to find a physical therapy program using exercise therapeutic and means associated with one of the important programs and necessary for the athletes because it works and contribute to the recovery of athletes and send them back quickly to the stadiums and the use of exercise does not leave the side effects and damage.

The importance of studying

. It can contribute to research in the treatment of athletes and others with tendinitis in the wrist joint and return to the practice of their activity as soon as possible
- According to avoid the psychological effects of injury for athletes.
- According to the faculties of physical education students as well as researchers in the field of physical therapy.
- This new research in the field of physical therapy adds. It may help raise awareness among workers in the field of training for sports activities

Objectives of the study

1. Identify the impact of the proposed program on the range of motion of the wrist joint.
2. Identify the impact of the proposed program on the strength of contraction of the muscles of the hand and arm.
3. Identify the impact of the proposed program on the strength of the muscles to relax the hand and arm.

Hypotheses

- There are significant differences between the pre-test and post-test in the range of motion in favor of a positive post-test.
- There are significant differences between pre and posttests in the force of contraction of the muscles of the arm and hand in favor of the post test.
- There are statistically significant differences between pre and posttests in force energize the muscles of the arm and hand in favor of the post test.

Areas of study

- Spatial field: Diwaniya, Iraq -
- The human sphere: a sample of injured athlete's tendinitis the wrist joint

_ intertemporal sphere 1 \ 8 \ 2015 - 1 \ 6 \ 2016.

Study Approach

The researcher used the experimental method due to the favorable study by assessing the same group through the pre-test and posttest.

The study sample

It was selected purposively athletes Injured tendinitis in the wrist joint on a sample Random consisting of 15 athletes suffering from injury tendinitis in the wrist joint.

Table (1) Averages, standard deviations, explains the homogeneity of the sample according to height, weight and age

variables / Statistical transactions	length	Weight	Age
SMA	170.3	55.7	20.6
standard deviation	3.6	4.1	1.2

Statistical processors:

Use of statistical software packages SPSS researcher. In statistical data processing: SMA, The standard deviation, The correlation coefficient (r), t-test.

Discuss the results

Table 9 shows the arithmetic mean and standard deviation value
T. value calculated for the study sample in tests under study

test	Pretest		Posttest		T. value
	SMA	standard deviation	SMA	standard deviation	
Test Flexibility	95.80	8.874	104.67	8.813	2.75

Table 10 shows the arithmetic mean and standard deviation value T calculated for the study sample in tests under study

test	Pretest		Posttest		T. value
	SMA	standard deviation	SMA	standard deviation	
Test force Muscle extender	87.47	9.094	92.73	7.759	1.7

Table 11 shows the arithmetic mean and standard deviation value
T calculated for the study sample in tests under study

test	Pretest		Posttest		T. value
	SMA	standard deviation	SMA	standard deviation	
Test strength of contraction Muscle	86.73	9.779	92.87	6.523	2.04

- Conclusions

Based on the data collected, processed and analyzed, and the thing about these results Study, the survey found the following conclusions:

1. There is the impact of the training program proposed using therapeutic exercises and means
   Positively associated with the development of the flexibility of the injured athletes in the tendinitis in the wrist joint.
2. There is the impact of the training program proposed using therapeutic exercises and means

Positively associated with the development of the extensor muscles of athletes injured in the tendinitis in the wrist joint.

3. There is the impact of the training program proposed using therapeutic exercises and means

   Positively associated with the flexors of injured athletes in the development of tendinitis in the wrist joint

Recommendations

In light of what has been deduced from the results of the field study in a sample limits, the researcher recommends the following:

1- attention exercises muscle strength throughout the sports season in order to protect the joints

   From injury in the tendinitis in the wrist joint

2- interest stretching and flexibility exercises for all joints of the body during the warm-up.

3. The researcher recommends the use of natural remedies appropriate to treat the injury, tendinitis in the wrist joint.

4- to conduct a therapeutic exercise for the injury by specialists in this area

   For its important role in the restoration of healing.

5. Further research in the field of physical therapy

Sources

- Faith Ibrahim Ismail, scientific principles and foundations of physical exercises and presentations

  Sports, the first edition, Cairo, Dar Arab Thought 2007.

. Found Abdel Wahab, Sports Massage, the first edition, Cairo, Dar Arab Thought, 1984.

- Kamal Abdel-Hamid Mohammed Subhi Hassanein, fitness and components, The first edition, Alqahrh'dar Arab Thought, 1997.
- Sami Ahmed Fathi, anatomy and physiology, the first edition, Cairo, Scientific Publications And printing presses.
- Mervat Mr. Joseph, the studies on the problems of Sports Medicine, First Edition, Alexandria, A library and art radiation Press, 1998
- Mohamed Talaat Ezzedine, anatomy and sport injuries, the first edition, the book Cairo Center Publishing, 1991
- Lilly Zahran, exercise technical Halaigaih first edition Cairo Dar Arab Thought

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Augmentation of an Algebraic Structure of the Cohomology Space onto the Real Plane.

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Abstract

Algebraic topology is that branch of mathematics which deals with the study of geometrical structures with an algebraic form. Visualization being an important aspect of the study does not suffice the understanding of the concept as it is restricted to a specific mathematical space which defines the theory. The current paper focuses on the projection of one such theory known as the Kunneth theory onto the real plane. An algebraic component termed as a grassmannian playing an important role in this aspect forms the baseline of justifying this augmentation process. This paper also gives scope of any further aspects of development of graphs formed onto the real plane and its applications.

1.1 Introduction:

1.2 Cohomology Spaces: In mathematical context cohomology is a sequential formation of associations among Abelian groups. Further defining the visualization of sequential arrangement of certain groups over a space takes a larger magnitude of understanding cohomology. The scope of study deals with the initially understanding the structural formation and the further deformation of certain algebraic structures, mainly the ones formed due to the arrangement as formed in the Kunneth theory.

1.3 Algebraic structures: The current scenario is to categorize the structure of an algebraic object in a space and characterize its map on to the real space to visualize it further. Let us consider an extension from the property of the inverse of the image mapping of a topological object as used in the ring structure to a more generalized manner. Consider a topological object X and its inverse component as X^{-1}, which can also be considered as another notation as Y. Then the image map of the subset in X given by some A also considered to be homological in nature is a general localization of this kind of a topological object generalized over a space.

1.4 Kunneth Theorem: The Kunneth theorem which is already a product of the association of topological entities in the homological space is a very interesting property as it gives an extensions to the ideology of the cohomology theories as well which deals with the sequential formation of topological objects in any space. Consider any such topological objects $X \, and \, Y$ as given in the Cohomology space and further to categorize the Kunneth association parameter on it to create a relation of these individual spaces to its product space as created by the product space given by $X \times Y$. The further ideology is to extract the association of these topological objects in cohomology space and further to imagine it in the variety form as a graphical structure to be named as the Kunneth Graphs. The general statement for the Kunneth theorem as stated below for A and B to be two topological spaces and the association operator over them as a sign provide accordingly.

$$\underset{p+q=k}{\Longrightarrow} h_p(A, F) \quad X \quad h_q(B, F) \cong h_k(AXB; F)$$

The connectedness property in cohomology spaces for a particular set of topologies.

2.1 Definition: The topologies T_1 and T_2 which are considered are assumed to be induced by the chain cohomology sequence also known as the chain complex as there are a series of topologies in the cohomology group separated by integral coefficients as $n, n-1, n-2, ...$ and further in the similar pattern. We shall further demonstrate the connectedness property in the form of a proposition.

2.2 Proposition: "The map of sub topological spaces $t_1 \rightarrow t_2$ derived by the combined chain cohomology spaces are continuous."

Proof: The proof of the continuity is supported with the help of many theoretical assumptions as that in the case of complex numbers of the complex space as seen in one of the proofs by Brian Osserman in his paper on Complex varieties and the works dealing with analytical topology. Let there be a regular function defined on $t_1 \rightarrow T_1$ as $f(x)\ for\ all\ x$ belonging to the parent sub topology t_1. We define $f(x)$ to be a series of combinational function as it is defined over the cohomology space for the desired sub topology. Further the mapping of these functions will be induced with the morphisms that are relating the various points to be considered under this sub topology. We further intend to show $f(x)$ as a summation of combined structures over the desired topology as follows. As f is the function taken under consideration it can be viewed as,

$f(x) = c0 + c1 * t + ...+ cn * tn,$

As there exists a specific system of roots for the below polynomial function these roots fall under the criteria of being categorized as to fall in the space with a set of elements as that of the circle and further considering all the elements in this circle to be as that of the radius to be separated by the nonzero value $\varepsilon > 0$ then for each value of ε, there exists a $\delta > 0$,

depending on ε such that for any two consecutive values of ci, which can be considered as c_i and c_{i-1} shows a difference in the peculiar way that satisfies the continuity property as

$|c_i - c_{i-1}| < \delta$ this further gives a clear implication as the

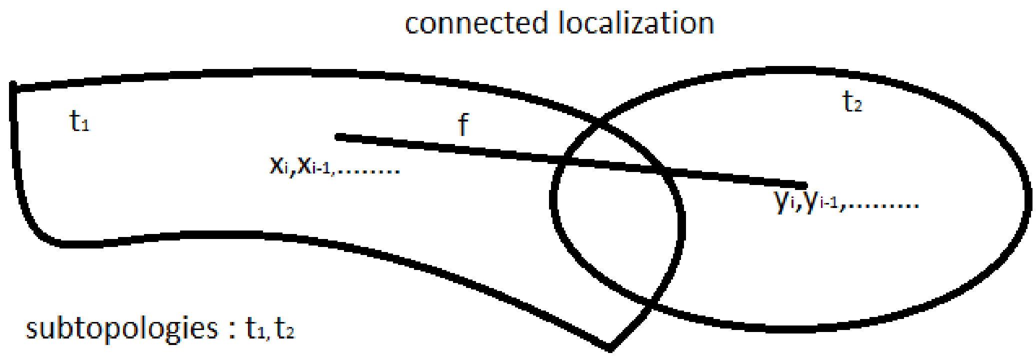
$|f(c_i) - f(c_{i-1})| < \varepsilon$, which is a good understanding of the continuity function.

Since these two points are in two separate sub topologies mapped by a single function $f(x)$

which is also expressing the property of an open variety with the sub covering being existed over the two sub spaces and the distance property of these two points being separated by the ε and δ, where $\varepsilon > 0$ and $\delta > 0$ gives the scenario of the function being continuous and

there also is a need and possibility of every Cauchy sequence in between these points found to be complete over the given cohomology space.

This kind of association will be further viewed in the structural formation of a graph to study its various properties in defining it in real space. Now that we have found the connected aspect of two points in the function mapped within the two sub topologies we will consider the extraction of the map into the localization technique to view the structural formation of the association of the points in cohomology space which satisfy the Kunneth theory. This gives an extension of the theory to support the localization concept of an algebraic structure considered in a cohomology space.



2.3 The structure of the Kunneth theorem in the cohomology space: The investigation of this arrangement is needed to study the structural formation of the algebra of the topologies that are formed due to their individual sub topologies in the given cohomology space. We are more interested in a closed triangular structure that is formed due to this formation as seen in the mapping sets joined at the ends due to the Kunneth property in Cohomology spaces. These mapping sets that form the triangular structure can also be treated to the basis of the Cauchy Schwartz inequality to find the closeness of the curve that is obtained due to the connection.

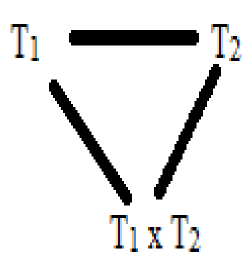
For p and q to be vectors in form of an inner product space as follows.

$$|\langle p,q\rangle|^2 \leq \langle p,p\rangle.\langle q,q\rangle$$

where $\langle , \rangle$ represents the dot product for the given set of vectors in the desired space.

3.1 The Connected arrangement of the Kunneth property: These triangular structural association over the cohomology space is also well expressed using the Schubert varieties over the concerned space. For the same reason there is a need to consider a grassmannian over the sequence of topologies. The objective of studying these kinds of varieties over the space is to get a sequential pattern to gain the clear visibility of the Kunneth formation. We consider a sequence of points in the triangular formation where there are topological spaces to be governed by the vector spaces of some dimension k. we need to show the Schubert variety over the structure to gain the consistency of the triangular formation which can be further investigated over the real space to attain a interference of patterns found in the structures in $\boldsymbol{R}^3$.

3.2 Schubert Variety of the Kunneth arrangement: The Kunneth arrangement in the previous part is seen as below. However, we now consider their parent topologies T_1, T_2 and their product space as $T_1 \times T_2$.



We now consider a set of points in the space underlying the above arrangement. For the same reason to imbibe the set of a well-defined Grassmanian among it there is a need to imagine singularities of these points to projected in the real space. We further consider a set of points in the Kunneth arrangement ($\boldsymbol{Ka}$) to be formed in a sequential arrangement governed by a set. Let the set of points in that set which is a part of the Kunneth arrangement be defined as $p1, p2, p3, \ldots\ldots, pn$.

As considering the set $\boldsymbol{Si}$ is well ordered for any i^{th} Interval in the $\boldsymbol{Ka}$. As $\boldsymbol{Si}$ is a subset of $\boldsymbol{Ka}$ and $\boldsymbol{Si}$ is a construction of points $p1, p2, p3, \ldots\ldots, pn \in \boldsymbol{Si}$ and $\boldsymbol{Si}$ is well ordered gives us the assumption of the subset inside the $\boldsymbol{Ka}$ which is connected among the individual topologies as seen in the most of the previous part of the discussion we declare the existence of the subset to be sharing an intersection to a set of a grassmannian type. Further this intersection of the $\boldsymbol{Gr}$ with the $\boldsymbol{Si}$ may be considered for any such kind of grassmannian intersection.

The set of points over $\boldsymbol{Gr}\square\boldsymbol{Si}$ which shows an intersection of the set of the grassmannian and the sequential set formation. As the set of sequential formation is a local embedding of a well ordered set of points $p1, p2, p3, \ldots\ldots, pn \in \boldsymbol{Si}$. There should not be an ignorance to the fact that it's an embedding in the parent Kunneth Arrangement $\boldsymbol{Ka}$. The grassmannian intersection of the set Si and the element on the **Gr** will be forming a character subset as $\boldsymbol{Gr}\ (\boldsymbol{k}, \boldsymbol{pi})$. The points on the set Si will be further considered as the vector entity over the well ordered set. The explanation of the set $\boldsymbol{Gr}\ (\boldsymbol{k}, \boldsymbol{pi})$ gives a liberal understanding of the dimension of a set under the grassmannian property to be of 'k' for the individual topological spaces intersected with the sets pi. The concept of a projective variety as previously used in the explanation of the grassmannians which are visualized under its formation of the algebraic structure are taken into consideration. We recall the consideration of the sequential arrangement of points $p1, p2, p3, \ldots\ldots, pn \in \boldsymbol{Si}$ where $\boldsymbol{Si}$ is a subspace of the given topological spaces or individual objects as $\boldsymbol{T1}$ and $\boldsymbol{T2}$. Let the concept recall the similar Grassmannians in the complex space as that to be true for any k=1 in the Grassmannian $\boldsymbol{Gr}\ (\boldsymbol{k}, \boldsymbol{pi})$.

We now intend to find a linear character of the selected subspaces to achieve the exclusive property of identifying the property of $\boldsymbol{Gr}$.

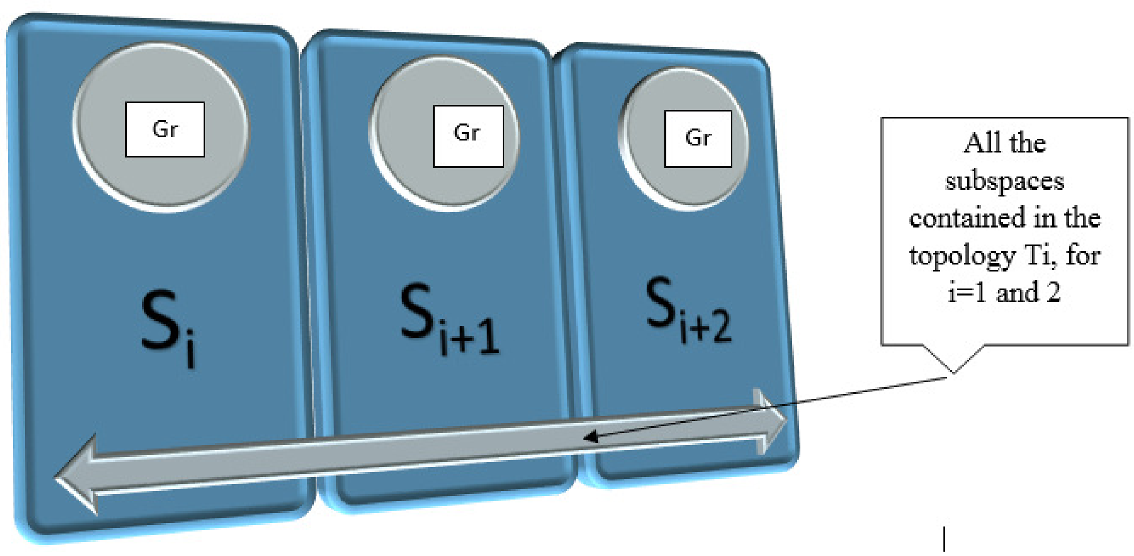
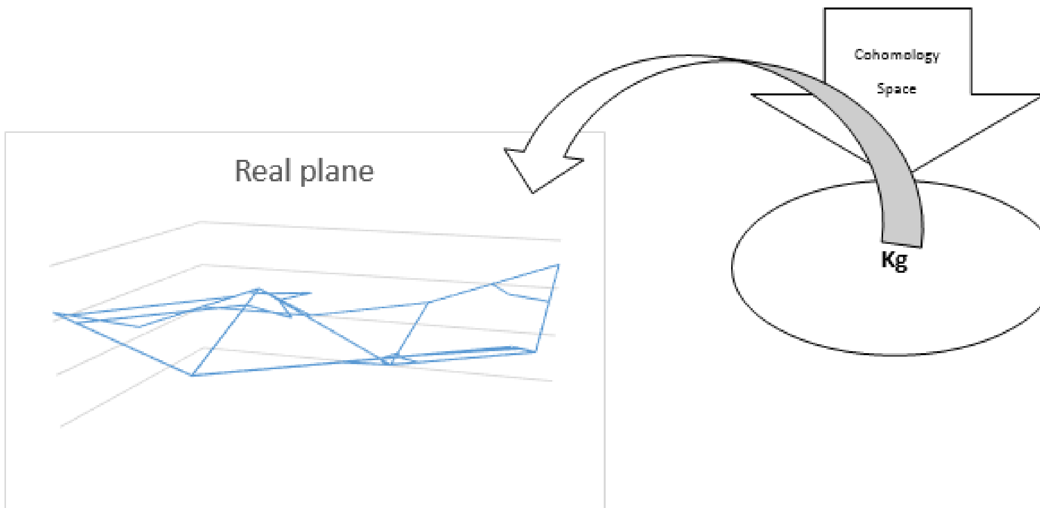


Figure: **Individual topologies on a grassmannian formation of topologies.**

This figure is an attempt to visualize each set of the individual topologies with the identification of each set of a grassmannian included in it. The grassmannian are formed in the provision of the sequential formation of the set of points in each Si where each subset is a provision of points as $p1, p2, p3, \ldots\ldots, pn \in \boldsymbol{Si}.$ These kind of arrangement is further to be considered as in the line of giving a Schubert variety which can be attempted to be viewed as follows. For the same reason the set of sequential formation of the points embedded in the subspaces Si of each topological space is taken into a consideration.

4.1 Projection of the Algebraic structure in the Real plane:



This kind of projection is used to understand the ideology of visualizing the topological objects already described in the cohomology space in the form of the algebraic structure onto the real plane and thereby the real space in a more generalized form.

The adjoining figure shows an attempt to relate the parameterization of the Kunneth graph **Kg** in the cohomology space to be projected in the real plane and thereby to achieve a homological association in between the given set of topologies thus described in the $\boldsymbol{Ka}$**.**

Now to consider the Kunneth graph $\boldsymbol{Kg}$ in the real plane as that of the structural formation achieved in the cohomology space. In order to consider $\boldsymbol{Kg}$ in the real plane we need to primarily focus on the projection of the topologies from the cohomology space to the real plane.

The main focus should be to use the concept of retract in order to prove the axiom of the projection existing in between the topological entities. As previously considering the topologies we now take their subspaces to be bounded and mutually exclusive.

As each separation of points is separated with a local distance of x_i and x_{i-1} we take its finite distance to be exact over the sequence as

$$|x_i - x_{i-1}| < \epsilon,$$

Where $\epsilon > 0$ is any abstract value in $\boldsymbol{R}^3$

This sequential property thus gives the property of the mapping governing the two points in the desired subspace to be continuous for the given set formation in the array form. We now consider the subspace of the topology T_1which is given by the continuous map over the points in the subspace.

Let this mapping be described ahead with a function given as '□'. We give the mapping statement of this relation as to be relating the points achieved in the subspace $S_{1.}$ Let a map between the points x_i and x_{i-1}be given as follows.

$\omega: x_i \rightarrow x_{i-1}$ be continuous as the distance between the points is less than the arbitrary

$$|x_i - x_{i-1}| < \epsilon$$

as they are in a sequential arrangement as assumed earlier in the definition of the subspace S_1 of T_1. As we take the projection from a cohomology space to the real plane the elements retain the properties of the desired domain. For any S_1 in $\mathbf{R}^3$ which is projected from the cohomology space embedded in a topology T_1 will showcase a sequential formation of a set of points which are in a well ordered formation which was also verified with a Schubert type of variety due to the continuity parameter observed in the previous few topics above and the well description of the structures defined as the graphical formation more preferably named as Kunneth graphs given with the abbreviation **Kg**. This structure thereby formed in the cohomology space and later projected in the real space can be further treated or studied under various graphical parameters to understand its efficiency over the structure used in real space.

REFERENCES

- A. Postnikov, (2006), Total positivity, Grassmannians and networks, ArXiv Mathematics e-prints [arXiv: 1210.5433]
- AntonieVella, (2005), A Fundamentally Topological Perspective on Graph Theory. University of Waterloo, PhD thesis.
- Greg Friedman, Intersection Homology Kunneth Theorem, (2000), Mathematics Subject Classification: Primary: 55N33, 55U25; Secondary: 57N80
- K. Talaska and L. Williams, (2013).Network parameterizations for the Grassmannian Algebra and Number Theory, 7 (2013), 2275--2311.
- L. Williams, (2014), Cluster Algebra: An introduction. Bulletin of the AMS 51 (2014), 1-26.
- V. S. Goswami and Dr.Prabha S. Rasstogi, (2016) Chomology Localization In Kunneth Graphs, Moment Graphs In Real Space And Hurricanes, PhD thesis.
- Yu Huang and Dan Xie, (2002), The positive orthogonal grassmannian and loop amplitudes of ABJM, QMUL-PH-14-02

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Influence of Series and Parallel Types of Aerobic and Anaerobic Training on Cardiopulmonary Fitness among Hockey Players

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ABSTRACT

The aim of this study is to find out the influence of series and parallel types of aerobic and anaerobic training on cardiopulmonary fitness among hockey players. 45 male hockey players studying different colleges in Chennai were divided into three groups, namely, series (continuous) aerobic and anaerobic training group (STG) and parallel (alternate) aerobic and anaerobic training group (PTG) and control group (CG) . The STG group was given aerobic training continuously for first 8 weeks and anaerobic training for next 8 weeks. The PTG group was experimented with aerobic training and anaerobic training alternately for 16 weeks. Aerobic training for both the groups was running at 50 to 60% of maximum heart rate for 40 minutes. Anaerobic training consisted of short sprint (running at 90 to 100% heart rate duration 3 minutes) and eight weight training exercises. The ANCOVA results showed that STG and PTG significantly improved VO_2 max and vital capacity post hoc analysis proved that PTG was better than STG and the differences were significant at 0.05 level ($P<0.05$). Though STG and PTG improved vital capacity comparing to CG, there was no significant difference between STG and PTG. It was concluded that parallel aerobic and anaerobic training are better than series training in improving cardiopulmonary fitness variables, VO_2 max and vital capacity of hockey players.

Key Words: Series, Parallel, Aerobic and Anerobic Training, VO_2 max, Vital Capacity

INTRODUCTION

Undertaking a focused, structured, individualized training program can increase an athletes VO2max by 15 to 30% over a 3 month period and up to 50% over 2 years. However this benefit is limited to someone new to the sport. A world champion cannot be expected to increase their VO2max by 50%. Focused training also leads to metabolic adaptations, include changes in lactic acid removal, which contribute to the ability to perform at a higher level of VO2max for longer periods of time. Changes are also made to lipid metabolism which enable extra energy Calories to be provided from fat. These Calories supplement those from glycogen and glucose, at specific VO2max levels, supporting longer durations of exercise to fatigue. (Mc Ardle et.al. 1991)

Although the exact optimum for training intensity is unknown, and obviously varies between individuals, it is generally accepted that maximum aerobic improvement occurs at 85% VO2max (approximately 90% of one’s max. heart rate). Lower levels of exercise, 60% maximum heart rate for 45 minutes, will at least maintain general cardiovascular conditioning. The "long slow distance" approach to endurance training where one’s maximum heart rate is always limited to 60 to 80% VO2max will not optimize the personal performance for high level aerobic events. A recent study assigned 15 women to either a low intensity (132 beats per minute) or high intensity (163 bpm) group, exercising for 45 minutes, 4 times a week. There was an increase in VO2max for members of the high intensity group, but not the low intensity one.(Donatelle, Rebecca (2005)

Aerobic training at less than 90% maximum heart rate makes the most sense to look at the duration of the planned event, and to train at the same level of anticipated performance for duration equal to that of the event plus, possibly, an additional 10%. Studies on maintaining the benefits of aerobic training revealed that a 66% reduction in training frequency, going from 6 days a week to 2 days a week but keeping the same intensity for each individual workout, maintained gains previously made. Thus, training needs to be structured for the intensity and duration of the planned sporting event. Anaerobic (oxygen independent) exercise is generally less than 60 seconds in duration and is fueled by the anaerobic, ATP Creatine Phosphate (CP) energy pathways. The classic anaerobic sport is weightlifting. Sprint activities also use anaerobic pathways. If the sprint lasts more than 5 or 10 seconds, lactic acid clearance becomes an issue because of the negative effects of lactic acid on muscle performance. Training focused on anaerobic activities will enhance the ATP and CP energy transfer pathways as well as improving the tolerance for, and clearance of, lactic acid. Aerobic training on the other hand provides its benefits by improving the cardiovascular and oxygen delivery systems to the muscle cell. These include improvements in both cardiac output, the amount of blood pumped by the heart per minute, and at the muscle fiber level there is an increase in the extraction of oxygen from the blood cells in the capillaries. In addition, there is an improvement in the efficiency of the cellular metabolic pathways which convert glucose into ATP. (Janssen P, 2001)

As the level of exertion increases, there is a slow transition towards anaerobic metabolism in the muscle. There are always areas of relatively lesser perfusion within the muscle that are functioning anaerobically. So even at 50 to 60% VO2max some anaerobic conditioning is occurring. At 85% VO2max, the "anaerobic threshold" for most individuals, there is an abrupt increase in anaerobic metabolism throughout the entire muscle. Even though some cross training of the anaerobic systems takes place during exercise at 60 to 80% VO2max, a sprint performance training program needs to include exercise sessions above 85% VO2max. (Perna F et.al. 1999) Thus, there exists a need for further research to determine a training that could be beneficial for cardiopulmonary fitness.

Hence, in this research paper, the investigator studied the influence of series and parallel types of aerobic and anaerobic training on cardiopulmonary fitness among hockey players.

METHODOLOGY

To achieve the purpose of this study, 45 male hockey players studying different colleges in Chennai were selected randomly as the subjects and their age ranged between 21 to 24 years. The selected subjects were divided into three groups, namely, series (continuous) aerobic and anaerobic training group (STG) and parallel (alternate) aerobic and anaerobic training group (PTG) and control group (CG) consisting of 15 hockey players in each group. The experimental period was 16 weeks. The STG group was given aerobic training continuously for first 8 weeks and anaerobic training for next 8 weeks. The PTG group was experimented with aerobic training and anaerobic training alternately for 16 weeks. Aerobic training for both the groups was running at 50 to 60% of maximum heart rate for 40 minutes. Anaerobic training consisted of short sprint (running at 90 to 100% heart rate duration 3 minutes) and eight weight training exercises. The control group was not exposed to any treatments and was strictly under control. The selected cardiopulmonary fitness variables, VO_2 max and vital capacity of the subjects of all the three groups were measured through standard tests prior to the experimental period and after the experimental period. The difference between the initial and final means on selected variables was the influence of series and parallel type of aerobic and anaerobic training on selected cardiopulmonary fitness variables. The obtained data were subjected to statistical treatment using ANCOVA. In all cases 0.05 level was fixed to test the hypothesis of this study.

RESULTS

Tab 1: Results on Calculation of Analysis of Covariance on Selected Cardiopulmonary Fitness Variables Among Experimental and Control Groups

Calculation of Analysis of Covariance on VO_2 max								
	Series Training Group	Parallel Training Group	Control Group	Source of Variance	Sum of Squares	Df	Mean Squares	Obtained F
Pre Test Mean	41.87	40.29	40.94	Between	19.0	2	9.52	0.50
Std Dev	4.73	3.82	4.52	Within	803.3	42	19.13	
Post Test Mean	44.75	46.16	41.16	Between	198.8	2	99.40	6.07*
Std Dev	4.06	4.25	3.82	Within	687.7	42	16.37	
Adjusted Post Test Mean	44.12	46.71	41.23	Between	224.5	2	112.23	18.84*
				Within	244.2	41	5.96	
Mean Diff	2.87	5.87	0.22					
Calculation of Analysis of Covariance on Vital Capacity								
Pre Test Mean	2118.67	2046.00	2126.00	Between	58671.1	2	29335.56	0.62
Std Dev	264.46	218.92	155.37	Within	1988093.3	42	47335.56	
Post Test Mean	2278.00	2296.00	2144.00	Between	206920.0	2	103460.00	2.10
Std Dev	278.16	218.92	149.03	Within	2065160.0	42	49170.48	
Adjusted Post Test Mean	2258.12	2342.45	2117.43	Between	379981.1	2	189990.56	19.06*
				Within	408621.1	41	9966.37	
Mean Diff	159.33	250.00	18.00					

Required $F_{(0.05, 2,42)} = 3.22$ *Significant

Tab 2: Scheffe's Post Hoc Analysis Results

Post Hoc Analysis for VO_2 Max				
Series Training Group	Parallel Training Group	Control Group	Mean Difference	Reqd. C.I
44.12	46.71		2.59*	2.27
44.12		41.23	2.89*	2.27
	46.71	41.23	5.48*	2.27
Post Hoc Analysis for Vital Capacity				
2258.12	2342.45		84.33	92.51
2258.12		2117.43	140.69*	92.51
	2342.45	2117.43	225.03*	92.51

*Significant

The obtained results proved that sixteen weeks series aerobic and anaerobic training (STG) and parallel aerobic and anaerobic training (PTG) have been significantly improved cardiopulmonary fitness, VO_2 max ($P<0.05$) as the obtained values were greater than the required F value of 3.22 required to be significant at 0.05 level. The post hoc analysis proved that the paired differences of means between STG and control group, PTG and control group were significant. It was also found that PTG was significantly better than STG in improving VO_2 max..

The obtained results on cardiopulmonary fitness variable, vital capacity proved that sixteen weeks series aerobic and anaerobic training (STG) and parallel aerobic and anaerobic training (PTG) have been significantly improved cardiopulmonary fitness, vital capacity ($P<0.05$) as the obtained F value 19.05 on adjusted post test mean values were greater than the required F value of 3.22 required to be significant at 0.05 level. The post hoc analysis proved that the paired differences of means between STG and control group, PTG and control group were significant.

DISCUSSIONS

The results indicated that there was a significant increase in VO2max and Vital capacity values after series and parallel aerobic and anaerobic exercise program. Though there was significant difference between the treatment groups, in favour of PTG on VO_2 max, there was no significant difference between the two groups after training in vital capacity . Carsten et al (2004) agreed with this result as they explain the significant increase in VO2max is related to the effect of exercise either aerobic or anaerobic improve the respiratory function as vital capacity, inspiratory reserve volume and expiratory reserve volume of the lungs, also the stroke volume of the heart increase by regular exercise. These respiratory adaptations facilitate oxygen supply to tissues and add further evidence to the improvement of the respiratory fitness. Also Tomohiro et al. (2003) confirmed this results as he reported that moderate intensity exercise have a significant increase in VO2max as well as participating in bouts of high intensity anaerobic exercise

CONCLUSIONS

In conclusion, series and parallel aerobic exercise improves cardiopulmonary fitness in hockey players while anaerobic exercise increases cardiac work. Hence, parallel aerobic and anaerobic training may be used best to improve cardiopulmonary fitness of hockey players.

REFERENCES

- Astrand, P. and Kaaxe R., (1977), **Text Book of Work Physiology,** New York: McGraw Hill Book Company, P. 27.
- Audrey L, et.al. (1998). “Muscle performance and enzymatic adaptations to sprint interval training”. **J Appl Physiol** 84:2138-42.
- Carsten J, et.al. (2004) “Effect of high-intensity intermittent training on lactate and H+ release from human skeletal muscle”. **Am J Physiol Endocrinol Metab**. ;286:245-51
- Donatelle, Rebecca (2005), **Health: The Basics**. 6th ed. San Francisco: Pearson Education, Inc.P. 211.
- Janssen P. (2001) **Training at anaerobic threshold: Lactate threshold training**. Patricia N., Julie A. and Myla S. eds. United States: Human Kinetics. PP: 25-41.
- Mathews, D.K. and Fox E.L. (1985), **The Physiological Basis of Physical Education and Athletics**, Philadelphia: W.B.Saunders Co., P. 28.
- Mc Ardle, William D., Frank I. Katch, Victor L. Katch, (1991), **Exercise Physiology, Energy, Nutrition and Human Performance,** Philadelphia: Lea and Febiger, P.17.
- Perna F, Bryner R, Yeater R (1999). “Effect of diet and exercise on quality of life and fitness parameters among obese individuals”. **J Exercise Physiol** 2:125-31.
- Tomohiro O, et.al. (2003) “Effects of Exercise Intensity on Physical Fitness and Risk Factors for Coronary Heart Disease”. **Obesity Research** 11:1131-9.

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Financial Inclusion of Backward Class Communuties with Referece to Schemes Devised for their Development

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Abstract:

The education department had continued to give special emphasis on the importance of education communities listed in constitution as backward caste and tribe. The removal of disparities and equalization of educational opportunities is specifically emphasized in Updated National Policy on Education (NPE) by attending to specific needs of those who have been denied equality so far. The Policy and its programme of Action (POA) , contains specific directions and measures for their educational upliftment. These are the following special provisions for communities as backward in constitution that have been incorporated in existing schemes of Ministry. Education is important and plays a crucial role in upliftment the standard of living.

The Education has effect of changing person's to live, and status in the society. Education provided an opportunity to do something constructive by allowing utilizing the best of knowledge in varied aspects. There is relationship of growth and personal success .In spite of various financial and Non-Financial device by Government and Non-Government organization, for promoting education of the scheduled Caste and Communities listed as Backward in Constitution community, leading to bringing the backward community in mainstream, the failures of the schemes was the result of my study were, lots of problems associated with awareness of such schemes amongst the backward class community, in effectiveness in its implementation, insufficient amount of the assistance for education resulted in Non development of scheduled Caste and Communities listed as Backward in Constitution.

Keyword: Education, Financial Scheme

Introduction:

Equalization Of Educational Opportunities and Educational Development of Communities listed as Backward in Constitution, Communities listed as Backward in Constitution And Minorities Educational development of communities listed in constitution as backward caste and tribe .The education department had continued to special prominence to the importance of education communities listed in constitution as backward caste and tribe. The inequalities in provision of education. These are the following special provision for communities listed as backward in constitution that have been incorporated in existing schemes of Ministry. All Government of the state made the provision of waiver of tuition fees in schools belonging to government up to fourth standard these applies many states in case of all the other types of the schools such as schools belonging to municipal bodies and private schools. Most of the States provide assistance to students belonging to economically backward, Communities listed as Backward in Constitution communities for meeting other costs of education, such as textbooks, uniforms, schools bags, transport, etc. Secondary education is free for children belonging to Communities listed as Backward in Constitution in all States and Union Territories.

Problem on Hand

Communities listed as Backward in Constitution have for ages remain backward and unique problem of their backwardness was identified with backwardness in education. In spite of the fact that Indian constitution had guaranteed the objective of development of the backward classes, including Listed as Backward in Constitution, the status of the backward community remains the same.

1. There is huge gap between the requirements of funds for the educational developments such as tuition and term fees, other fees for laboratory etc, library fees, cost of the uniforms, and cost of the travelling, stationery etc.many of the items are Not covered under the financial schemes
2. The insufficiency of the finance available and the actual requirements is a big threats to the backward community to depend upon the external borrowed funds, which need to be repaid poses a threats to the economic development of the community

Research Methodology

Region of Research

The Geographical location for the study was Mumbai, Thane, and Kalyan District in the state of Maharashtra.

Research Design

The Research conducted was of Descriptive and Analytical in Nature

The research design and the steps adopted in research methodology kept in focus the objectives set for the study and the general hypothesis of the study. The Numbers of Null hypothesis numbering 67 were formed for the study was also subjected to statistics method of testing. I have used various Tests of significance such as Z test ,Chi-Square test & t-test.I have used various statistical techniques for analysis and interpretation of my research data such as tables, graphs, mean, standard deviation , various averages.

The different respondents of different communities and executives of various Government and Non-Government agencies consisting of 4998 in numbers.

Population and Sampling

The population of study consists of the different respondents of different communities and executives of various Government and Non-Government agencies consisting of 4998 in number, selected by sampling method kNown as Convenient Sampling Method.

Collection of Data

The collection of data consist of both primary and secondary data. The primary data was collected by floating a structured questionnaire.

The secondary data collected from the various website, books, and journals, published and published reports.

Statistical Methods

I have collected the data by asking the respondents to give their responses with reference to the various question structured for the purposes of testing the various Hypothesis designed for getting the results. The respondents were selected from the backward class community both from scheduled caste and scheduled tribes community the data collection was by personal interview, circulating the questionnaire through electronic media etc.

The various statistical methods were systematically done using tools such as mean, standard deviation and for testing various hypothesis, Chi-Square and other statistical test was adopted using various statistical packages and computerized data processing was adopted Analysis and Interpretation of Data.

I have analysed the data received from 4998 respondents, analysis was made on the basis of ,

a) Gender
b) Caste
c) Age Group
d) Marital Status
e) Occupation
f) Nature of the course
g) Working and Non-working
h) Employer type
i) Annual Income
j) Family Members

Review of Literature

The Research Problem of my project was to evaluate the effectiveness and sufficiency of the various financial schemes floated by various Government and Non-Government agencies. The Indian constitution has accorded preferential status, amongst other backward communities, scheduled Caste and Communities listed as Backward in Constitution in particular. In spite of the constitutional preferences, various researchers have found that the effectiveness of such schemes have not resulted in the desired Economic upliftment as was thought of while devising such schemes. In view of the same various research papers reviewed, the opinion of the authors centered around the wide disparity amongst the various classes of the society. The researchers found that such schemes for the development of

Communities listed in Constitution as Backward Caste and Tribe have resulted in atrocities by Non-backward classes on scheduled Caste and Communities listed

as Backward in Constitution.

Analysis of Result

Objective:

To study the economic conditions of Communities listed as Backward in Constitution / Communities listed as Backward in Constitution.

Hypothesis:

Benefits of Various schemes for the upliftment of communities listed as Backward in Constitution / Communities listed as Backward in constitution listed as Backward in Constitution as designed by various Government and Non-Government agencies are equal in all sectors of such community with respect to gender.

To Study the Impact of National Overseas Scholarship schemes on upliftment of communities listed as backward in constitution community

1. H0: $P = 0.80$ (P_0) Vs H1: $P < 0.80$

Scheme : National Overseas Scholarship

Number of Respondents : 1986

$Z_{0.05}$:1.64

$Z_{0.01}$: 2.33

P : 0.397359

P0 : 0.8

Q0 : 0.2

Standard Error : 0.005658

Z : 71.16332

DECISION : REJECT H0 ,ACCEPT H1
Government Schemes National Overseas Schemes Decision –Reject Null Hypothesis
Conclusion- Majority of the communities listed as backward in constitution respondendts are not benefitted by the schemes.
To study the Impact of rajiv Gandhi national Research fellowship schemes on upliftment of the communities listed as backward in constitution community
2. H0: P = 0.80 (P_0) Vs H1: P < 0.80
Scheme: Rajiv Gandhi National Fellowship
Number of Respondents: 480
$Z_{0.05}$:1.64
$Z_{0.01}$: 2.33
P : 0.096038
P0 : 0.8
Q0 : 0.2
Standard Error: 0.005658
Z : 124.4191
DECISION: REJECT H0, ACCEPT H1

Government schemes Rajiv Gandhi national fellowship Decision-Reject Null Hypothesis

Conclusion-majority of the communities listed as backward in constitution respondendts are not benefitted by the schemes.

To Study the Impact of Special educational development programme for communities listed as backward in constitution girls belonging to low literacy upliftment of communities listed as backward in constitution community
3. H0: P = 0.80 (P_0) Vs H1: P < 0.80

Scheme: Special Educational Development Programme for Communities listed as Backward in Constitution Girls Belonging to Low Literacy Levels
Number of Respondents : 2083
$Z_{0.05}$:1.64
$Z_{0.01}$:2.33
P : 0.416767
P0 :0.8
Q0 : 0.2
Standard Error : 0.005658
Z : 67.73316
DECISION :REJECT H0 ,ACCEPT H1

Government schemes Special educational development programme for communities listed as backward in constitution girls belonging to low literacy levels

Decision-Reject Null Hypothesis

Conclusion-majority of the communities listed as backward in constitution resondendts are not benefitted by the schemes.

Conclusion:

1. Considering the huge gap between the requirements of finance for education leading to Economic development of the community, the various measures undertaken shall lead to community being aware about various schemes so that they can go ahead with the schemes.

2. The further involvement of Non-Government agencies, shall reach the scheme to the wider Scheduled Caste and Communities listed as Backward in Constitution community for the Economic upliftment.
3. The overall development of India depends upon the overall Economic development of all the sections of the community in India, including scheduled Caste and Communities listed as Backward in Constitution community, the government's objective of overall growth shall be achieved.

References:

1. Ashok Kumar, Y., (2005), 'Struggle for Economic Freedom and Social Justice of Communities listed as Backward in Constitution in South India', Kalpaz Publications, Delhi.
2. Aman Das (2015), "Changing Socio-ecoNomic and Political Profile of Communities listed as Backward in Constitution in Uttar Pradesh", Journal of Indian School of Political Economy, Vol.12, No.3 & 4, July-December, pp.405-422.
3. Asmitaben Chandrakantbhai Patel (2012), "Reservation in Employment, Education and Legislature-Status and Emerging Issues", Working Paper Series, Volume II No. 5, 2007, Indian Institute of Dalit Studies, New Delhi.
4. Bhagwan Das (2009), "Thus Spoke Ambedkar", Vol. II, Jullundur, Bheem Patrika Prakashan, p.110.
5. Bikramjit Saha (2012) , "Prejudice without Pollution? Communities listed as Backward in Constitution in Contemporary Punjab", Journal of Indian School of Political EcoNomy, Vol.12, No.3 & 4, July-December, pp.381-403.
6. Biradar, R.R., Jayasheela (2007), "Effects of Educational Inequality among Social Groups in Rural India", Journal of Rural Development, Vol.26, No.3, July-September, pp.379-401.

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A Study on Brand Loyalty for Cosmetic Products among youth in Thane City

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ABSTRACT

Apparently**,** Y- generation is style and fashion dominated and would like to be referred as style icon. In fact, their needs no longer remain latent due to availability of various cosmetic products. The presence of cosmetic industry has completely redefine the fashion &revitalized the of even growing age people with innovation anti-aging cream & colorant solution. Building a strong brand loyalty is be lived to be a challenging task for a marketer involved in flourishing cosmetic industry because of the presence of well know & good domestic and international quality brands. This study tries to find out a particular cosmetic brand which is popular and regular stuff of youth's basket irrespective of any purpose.

KEYWORDS: Y- Generation, Cosmetic product, Brand loyalty.

INTRODUCTION:

It is well said that branding means naming a new born baby. Let's think this in the context of business, before any primarily launched into a market, it is to be named or in most of the cases mark or symbol is to be fixed so that it can easily be differentiated from the competitor's product. Brand simplifies customers purchase decisions and makes them confident about their Purchases. "A brand is a name, symbol, design or mark that enhances the value of product beyond its functional purpose." Another aspect which is closely related to brand is building a brand loyalty for a product which requires a careful planning, distinct skill and investment. Making a product known in market and getting it registered in customer's mind is not overnight journey. It takes a time for a brand to be popular among definite group of customers and It has been found in most of surveys that major share of customer products is consisted of cosmetic or beauty products, no single individual is deprived of consuming such products.

Cosmetic products-

Generally cosmetic products are referred as substances which can be made of chemical compounds or natural substances to enhance appearances and odor of human body. These cosmetic products beautify human appearance; today cosmetic products are in great demand because of self-consciousness and self-personality aspects which are closely linked with human life.

Celebrity marketing-

Celebrity marketing is a tacking featuring a famous person to offer an endorsement of a product. This famous person might be an actor, musician, athlete, ex-politician or a cartoon character. They do not need be an international superstar; they only need to be a familiar to the target audience for instance, Aishwarya Rai Bacchan and Sonam kapoor for L'Oréal hair color Virat kohli for cinthol deodorant.

Price-

It is a key factor that affects buying behavior as price matters a lot for the average consumers. Price sometimes compels a consumer to switch over to other brands it is out of his/her pocket. Consumers with high brands loyalty are willing to pay a premium price for their favored brand. So their purchase intention is not easily affected by price. Consumers have a strong belief in the price and value of their favorite brands so that they would compare and evaluate prices with alternatives brands.

1. **OBJECTIVE:**

   To study the brand loyalty among youth for cosmetics products

2. **HYPOTHESIS**

   H0:-There is No brand loyalty among youth for cosmetics product**.**

   H1:- There is brand loyalty among youth for cosmetics product**.**

3. **REVIEW OF LITERATURE**

The review of related literature has greatly helped the researcher in plotting the entire research designed and establishing research objectives. The researcher has intensively gone through all those related scholarly published articles and research papers**.**

- **ElifA.Ergin et al (2005)** carried on a research study with view to determining brand loyalty among Turkish women with respect to skin care products and enabling cosmetics players to penetrate to the Turkish market and to shape marketing strategies. The result showed that there is a brand loyalty among Turkish women for cosmetics products.
- **Hamza Salim khraim (2011)** analyzed how factors of brand loyalty towards cosmetics brands influence the consumer buying behavior. The finding of this study disclose that there is positive and significant relationship between factors of brand loyalty namely brand name product ,product quality, price, design, promotion, service quality and store environment with cosmetic brand loyalty.
- **Sondoh Jr., Stephen Let al (2007)** Result revealed that brand image benefits viz. functional social experiential and appearance enhances are positively related to overall satisfaction and loyalty intention is significantly influence by functional and appearance enhance**.**

4. **Research methodology:**

   Sample size: -sample size for this study was 30 people of thane city.

   Data collection method: - data was collected from both primary and secondary sources

   Primary data was collected through questionnaire method: - detail questionnaire was prepaid for the people who are using brand loyalty of cosmetic product.

   Secondary data was collected through the following sources:-

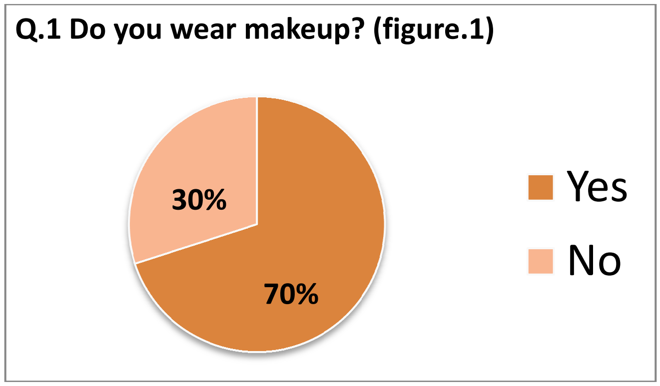
   1. **Use of internet -** internet was extensively used to seek data from the various websites.
   2. From various shop

6. **DATA ANALYSIS AND INTERPRETATION:**

Customer's opinion on buying cosmetics product:

Total customers	30	100%
Yes	17	70%
No	13	30%

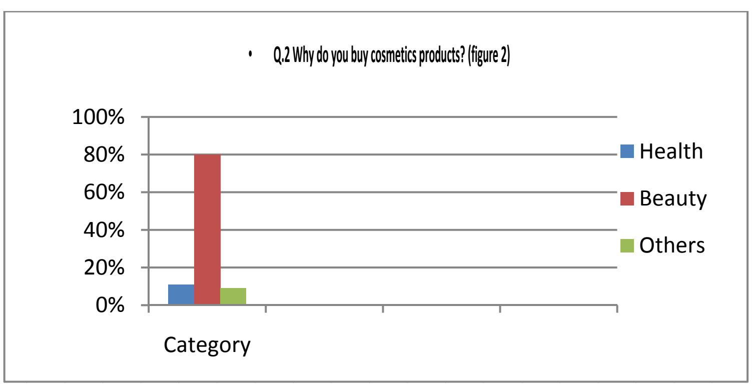
70% people said that they are using cosmetics product and 30% people said that they are not using cosmetics product. (figure.1)



Consumer's opinion on why they are buying cosmetics:

Total customers	30 Consumers opinion on why they are buying cosmetics	100%
Health	7	11%
Beauty	20	80%
other	3	9%

Out of total respondent 11% said that it is useful for health and 80% said that for looking good purpose and 9% said that for other reason. (Figure 2)

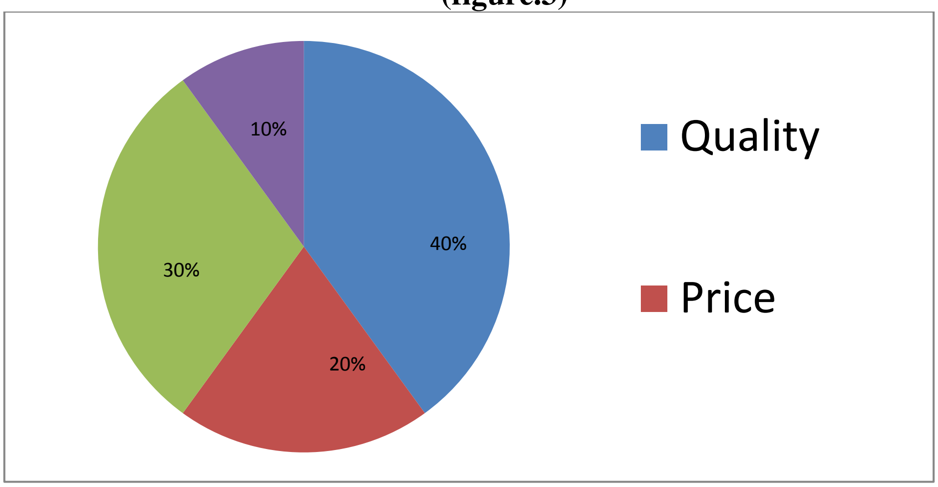


Consumer's opinion on which factors they decide while purchasing cosmetics product:-

Total customers	30	100%
Quality	10	40%
price	7	20%
Brand	9	30%
Recommendation from friend	4	10%

40% customers believe on quality of product, 20% customers comparing price product, 30% customers purchasing as per brand and 10% customers purchase on recommendation from friend. (figure.3)

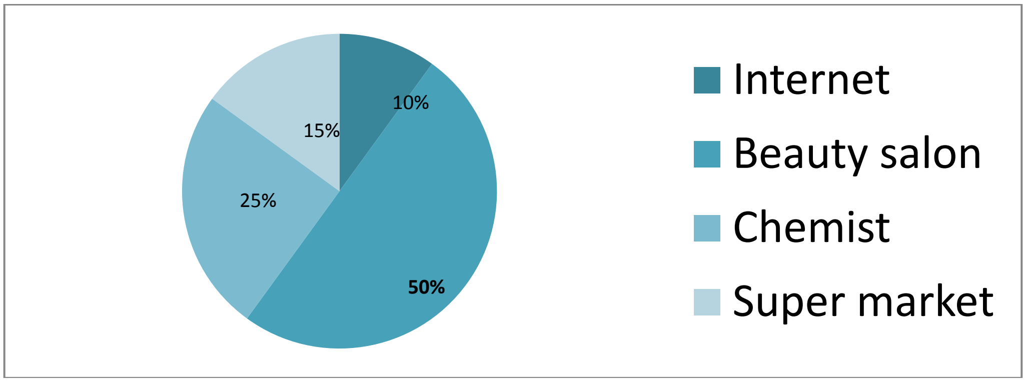
- **Q.7 which are the factors when you decide to purchase cosmetics products? (figure.3)**



Consumer's opinion on where they are purchasing makeup:-

Total customers	30	100%
Internet	6	20%
Beauty salon's	12	60%
chemist	8	30%
Super market	4	10%

- **Q.8 where do you tend to buy your makeup? (figure.4)**



Most of the customers purchasing cosmetics product from beauty salon's i.e.60 % (figure.4)

7. FINDING

- Most of the people purchase cosmetics product comes in age of 15-30 years.
- Almost 60% people get to know cosmetics products through television.
- Most of the people spend around 1000-2000 Rs per month on cosmetics products and they purchase it from shopping mall or super market store.
- Most of the people remain loyal to their cosmetics products; they don't change their cosmetics brand.
- Most of the people take quality as a most important factor to purchase cosmetics products and packaging as a least important factor for purchasing cosmetics product.
- Most of the student purchasing cosmetics products.
- Most of the people purchasing cosmetics product for their beauty.

8. CONCLUSION

The analysis of data reveals that young consumers are well aware about different cosmetics brand and products category available in market. Majority of consumers 'buying behavior is influence by friends followed by parents. The result also indicates that excellent quality plays a vital role in building brand loyalty, on contrary, quality, allergic, reaction and recommendation cause to switch over to other brand . Amazingly, creative advertisement and celebrity marketing do not greatly affect buying behavior of youth. Therefore, marketer as well as productor should place more emphasis on quality factor.

9. REFERENCE:-

1. Ergin, Elif Akaglin et al (2005). Brand loyalty in the cosmetic industry. A field study on Turkish women brand loyalty among cosmetics products, Journals of business and economics research.
2. Khraim, Hamaza Salim (2011). The influence of Brand Loyalty on cosmetics buying behavior of UAE female Consumers, International Journals marketing Study.

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A Study on a Public Opinion of Indian Produicts and Say no to China Products with Respect to Thane Region

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ABSTRACT:

This paper comprehensively reviews themain motto is not to avoid all foreign goods. The aim is try to use the Indian owned brands if it meets the quality of a foreign counter product. Here we are showcasing good Indian products which meet good quality and compatible to the multinational counter parts. Here, researchers have tried to find out impact by collecting data of 30 respondents. Data is collected through questionnaire method &analyzed by percentage, graphs & table.

KEYWORDS: Indian products, foreign products, awareness.

INTRODUCTION:

INDIAN PRODUCT: Goods and services which are produced in India are termed as Indian product.

FOREIGN PRODUCT: Goods and Services which are produced in foreign countries are termed as foreign product.

Patanjali products are very popular as they come from Baba Ramdev who makes this herbal hair care, skin care and personal hygiene products. Patanjali started its operations with Patanjali yogpeeth in Hardiwar, Uttarakhand. Patanjali yogpeeth is one of the largest yoga institutes in the country. Swami Ramdevji Maharaj and Acharya Balkrishanaji Maharaj set up Patanjali Ayurveda Pvt Ltd for treatment, research and development and for the manufacturing of ayurvedic medicines in Yoga and Ayurveda. Sunsilk was launched in the ÂUKÂ in 1954, and by 1959 it was available in 18 different countries worldwide. In 2003, Sunsilk launched a new range of shampoos and conditioners

India is a developing economy wherein the population is over-crowded. Indian products are used by the people but not much as the market is extended globally. Foreign products are used by individuals because of the quality and our outlook towards that foreign country and also due to their standard of living.

Indian brand like P&G help in development of the country.

Here we are listing Reliable Indian Brands which can be compared against the Foreign counter products. Please try to use those products on our daily use. Surely it can do lot of change in our economy.

There you proceed with the global brands but where ever possible without losing quality try to use the Indian brands. Here is the reason why we should use **I**ndian **/** **S**wadeshi

Products and complete list of Swadeshi Products & companies in India

Give priority to Indian products because our little effort will make a big difference. There are several **Indian or swadeshi products for daily use** which I have listed below. Why So? Because I was reading an article online today and found that in 1970 $1 was equal to Rs.4.

($1 =Rs.4 and today it's around Rs. 65 ($1= Rs.65).

So you can see yourself that in1970 $1 = Rs.4 and 2016 $1 = Rs. 67. In future it may be grow more.

Above mentioned graph of $ doesn't mean that dollar is getting stronger instead of this our rupee is getting feeble and only we Indian can make our Rupee stronger. How we can make our economy or Rupee stronger? The answer is quite simple via using **Swadeshi products** or gives preference to our Indian products it will help lot to make our rupee stronger.

Figure: 1

Source:pantanjaliayurveda.net

OBJECTIVES:

- To understand the awareness of respondents towards Indian and Foreign Products.

HYPOTHESIS:

Impact of Indian products and foreign products by various individuals

H0: There is no preference of people to Indian products over foreign products.

H1: There is preference of people to Indian products over foreign products.

REVIEW OF LITERATURE:

The all available number of foreign products should be reviewed to know about the details of the product.

As each and every single person list out the products and buy that products according to that available in Indian brands. The people should have knowledge about the product that they are going to buy which is of foreign product should see that it has a substitute of Indian products available to them.

RESEARCH METHODOLOGY:

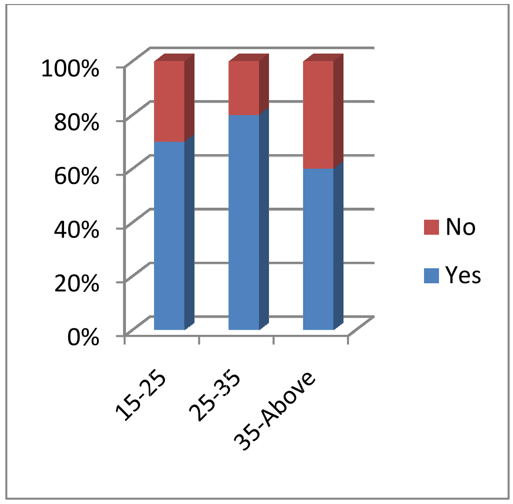
- **Universe:** Thane region.
- **Sampling size:** 30 individuals from thane region.
- **Sampling methods:** Simple random andConvenience sampling.
- **Method of data used:** Primary and Secondary data.
- **Method of data collection:** Re-structure questionnaire.
- **Tools to analysis data :** Table, Graph

ANALYSIS AND INTERPRETATION:

- Do you buy Branded products from the stores?

Table: 1

AGES	YES	NO
15-25	7	3
25-35	8	2
35- Above	6	4



Source: Primary data

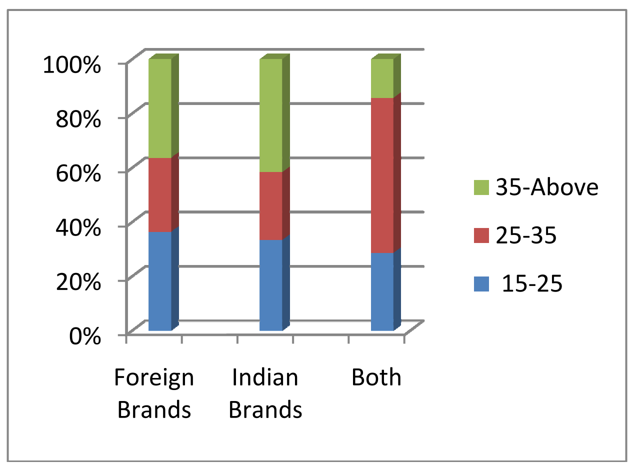
Here we can observe that from age structure 15-25 70% of people buy branded products while the remaining 30% do not buy the branded products. Similarly, we can see the preferences given by other age structure groups.

- **Kind of branded products preferred by people**

Here we considered 30 individuals and were asked to give their preferences regarding to the brands of their choice. The preferences were as:

Table: 2

AGES	Foreign brands	Indian brands	Both brands
15-25	4	4	2
25-35	3	3	4
35- Above	4	5	1



Source: Primary Data

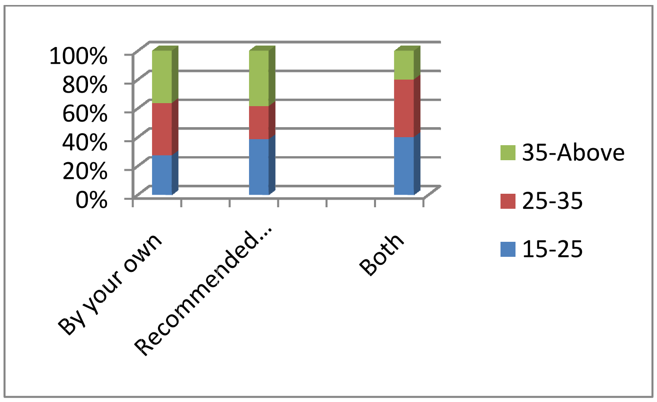
So accordingly, from age structure 15-25 the 4 individuals gave their preference to Foreign brand while other 4 preferred Indian brand. Remaining 2 preferred both brands.

Similar preference was given by other age structure.

- **Sometimes it is observed that people's preference for the product depend upon recommendation given by other people. So accordingly the observations were as:**

Table: 3

AGES	By your own	Recommended by others	Both
15-25	3	5	2
25-35	4	3	2
35-Above	4	5	1



Source: Primary Data

We can say that most of the people buy products recommended by others. So, accordingly in the age group from 15-25 30% of people buy product of their own choice while other 40% buy product recommended by others and the remaining 30% buy both products.

CONCLUSION:

Here form the above data analysis we observe that Indian products are more preferred by the individuals form thane regions because of prime ministry's smart step towards demonetizations and the public want to develop the India. The null hypothesis is rejected which indicates people prefer more of Indian branded products such as Patanjali / Dabur over china made products. In fact this Diwali India said 'NO' to Chinese lamps though available cheaper at Indian market.

REFERENCES:

- Patanjali ayurved.net
- Economytimes.indiantimes.com
- Information also collected from various books.

QUESTIONS

1. Do you buy Indian products from the store?
   - Yes ☐ No ☐
2. Do you observe which kinds of branded products do you buy?
   - Yes ☐ No ☐
3. How do you buy yours product?
   - By your own ☐ Recommended by others ☐ Both ☐
4. While buying products do you see that the products are qualitative and expensive?
   - Yes ☐ No ☐ Sometimes ☐
5. Do you think that expensive products are qualitative?
   - Yes ☐ No ☐
6. Do you think that you should give first preference to Indian product?
   - Yes ☐ No ☐ Sometimes ☐
7. Will you help us to increase the sale of Indian products And Boycott China products?
   - Definitely ☐ For some reason ☐ Never ☐
8. Are you happy with Indian Brands over Foreign Brands? If Yes why?
   ____

* * *

A Study on Celebrity Countenance in Sports Management

Mr. Ajinkya Ashok Dudhare: Research Scholar, J J T University, Rajasthan

Abstract –

Celebrity branding or celebrity countenance is a form of advertising compaign or marketing strategy used by brands, companies, or a non-profit organization which involves or a well known person using their social status or their fame to help promote a product, service or even raise awareness on environmental or social matters.

Keywords – Countenance, Non-profit organizations, Promotions.

Introduction –

Marketers use celebrity endorsers in hopes that the positive images of the celebrity endorser of the brand will also be passed on to the products or the brand image associated with the celebrities. Celebrity countenance is usually commonly used by fashion or beauty brands, but a non-profit organization relies on celebrities as well, as celebrities have mass communication skills which can attract people's attention and is helpful in reaching a wider audience to raise their awareness towards a certain organization or an issue. Thus, making celebrities, effective fundraisers Celebrity branding is also known as celebrity endorsement, and is a form of publication by portraying a well recognized sports or entertainment celebrity to be a brand ambassador for a company or firm, and by using their social status to promote a service or product. The **celebrity countenance** we have with Chris Evans for our new line of men's athletic underwear is by far the best decision the company has made all year. You should try to get a **celebrity countenance** that may get your product marketed to many new people over time. It was important for the new Prada shoes to receive the **celebrity countenance** of Kim Kardashian before going on sale in the store.

Through the 1760s, royal countenances were used as a type of celebrity branding to promote products. The first product that used celebrity countenance was in 1760's, where a company called "Wedgwood" who produced pottery and chinaware, used royal countenance as a marketing devise to show value in the company and promote others their product ("Celebrity Countenance – Throughout the Ages,"2004). In 1875-1900's trade cards were introduced, this is where there would be a picture of a celebrity with a photo of the product. Typically, these trade cards would be given to consumers with the product or would be inserted on the packaging of the product itself, which would feature celebrities such as actors or sport stars.

Cigarette brands became hugely involved in celebrity branding, 'Kodas' cigarettes introduced baseball player cards into the packets of cigarettes as part of a customer loyalty scheme. This created a demand for consumers to buy more cigarettes so they could gain all the cards of all baseball players due to celebrity endorsement of the cards.

In the early 1930s the major trending celebrity endorsers were athletes, then by 1945 the trend changed and movie stars were the next big celebrity endorsers. In 1965, colour television was introduced to the marketing and there was a popular rising demand which was occurring, this in when television personalities and entertainers became a celebrity endorsement for communicating services and products.

Companies and firms in 1980's then decided to start making products around celebrities ("Celebrity Endorsement – Throughout the Ages,"2004). An example of this is in 1984 when the company 'Nike' noticed a talented and young basketball player called Michael Jordan. Michael Jordan, then became 'Nike's' celebrity brand ambassador for their sports industry. Nike extremely relied on Michael Jordan's social status to make the brand internationally well known.

Review of Literature:

Pradeep Agrawal Research Scholar, Faculty of Management Studies, Banaras Hindu University, Varanasi. 221005

Dr. S. K. Dubey Associate Professor, Faculty of Management Studies, Banaras Hindu University, Varanasi. 221005

The modern world of marketing communication has become colorful and flooded with advertisements, and it is hard to get noticed. It is an uphill task for the designer of an advertising campaign to differentiate itself from others and attract viewers' attention. In this jet age, people tend to ignore all commercials and advertisements while flipping the magazines and newspapers or viewing TV. But even then, the glamour of celebrity goes unnoticed. Thus, celebrity endorsement in advertisement and its impact on the overall brand is of great significance. This Paper gives an insight of the effect of celebrity endorsement on the buying behavior of the consumers.

Friedman and Friedman (1979) stated that, in the promotion of prod- ucts high in psychological and/or social risk, use of celebrity endorser would lead to greater believability, a more favourable evaluation of the product and advertisement, and a significantly more positive purchase intension.

Mc Craken's (1989) defined celebrity endorsement as – "any individual who enjoys public recognition and who uses this recognition on behalf of a consumer good by appearing with it in an advertisement.

Objectives:

The purpose of this study was to analyze the customer's perception regarding celebrity countenance. The paper focuses on under mentioned points:

- To analyse whether gender of the celebrity endorsing a product affects the consumer buying behaviour.
- To identify how is celebrity endorsed advertisement perceived.
- To compare the effectiveness of bollywood stars and cricket stars.

Findings:

- One very interesting finding extracted is that the male endorsers are more popular and effective than their female counterparts
- The results that the celebrity countenance is an effective tool to affect positively the consumer's decision towards a product.
- Bollywood stars are still the rulers of the advertisement domain in India.

Many businesses believe that an advertisement delivered by a celebrity provides a higher degree of appeal, attention, recall and possibly purchase compared to those without celebrities. Celebrity countenance decisively gives more visibility to the product endorsed. What-so ever the Ground realities may be, but the masses still try to imbibe a style imitating the celebrities. The Brands, taking into consideration all the related factors, can make best use of either the 'Bollywood stars' or 'Sports star' to endorse their product. Yet not many studies are conducted to test if the celebrity advertisement appeal carries on towards both male and female, or only towards a particular gender. Companies must understand that the fees for celebrity talent can be substantial, cost of national advertising, especially on television, is extremely high, and the type of spokesperson affects the levels of awareness and recall Studies with regards to celebrity endorsers, researchers have included the issue of demographics. Nevertheless, many of these studies on celebrity endorser have looked at the issue of gender, but from the perspective of the celebrity themselves and not of the respondents gender specifically. The increase of celebrity endorser based advertising over the recent years begs the question as to the impact on the different respondent gender towards the use of celebrity endorsers. All the related factors have to be taken care of; otherwise the celebrity countenance may prove to be a landmine having a devastating impact on the profitability, product's future prospects and brand image.

References:

- Pradeep Agrawal Research Scholar, Faculty of Management Studies, Banaras Hindu University, Varanasi. 221005
- Dr. S. K. Dubey Associate Professor, Faculty of Management Studies, Banaras Hindu University, Varanasi. 221005
- Friedman and Friedman (1979)
- **Mc Craken's (1989)**

* * *

Enhancing the Development of Speaking Skill with Different Methods

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Mr. N. Santha Kumar: Assistant of Professor, Aadhi College of Engineering and Technology, Wallajabad, kanchipuram
Dr. Kanagamani Balasubramanian: Retd. Head of the Department of English, AMET University, Chennai,

Abstract

In this paper, the author tends to present the importance of the English language across the Globe. By the way, Students! Would you like to communicate with global people? If yes, necessarily you have to know the world language called English. In this paper the author tells about the ways to improve English speaking skill, and what are the Methods and important Tools to be followed to improve speaking skill.

Keywords: Vocabulary, Inferiority, Confidence, Motivation, Learner

Introduction

In this article, the author has planned to give you a few steps to enhance your communication skills, which will certainly make you, talk in English if you follow the points which have given in the following passages without having any break. It is used in all government communications, compulsory subject in the educational system, hence taught from standard one to university and a language for instruction from standard four to university (Ongondo, 2009; Sewe, 2009). Spoken language production is often considered one of the most difficult aspects of language learning (Brown & Yule, 1983).

Would you like to enhance your communication skills flawless? If yes, first and foremost, The experienced from different fields like Commerce, Arts, Science, Engineering those who had been ostentatious with inferiority complex, used to say, "First, everyone has inferiority complex on Learning any New Language but you have to come out of that. We must believe in us to overcome the inferiority complex. Either you have studied English medium or vernacular, which will not play a vital role except an intention to get a success on yourself, which would play a vital role in your life.

Speaking seems to be the most important skill of all the four skills (listening, speaking, reading and writing) .Because, people who know a language are usually referred to as speakers of that language (Ur, 1996).

As a Language teacher, we have seen the students who have studied different types of syllabus & curriculum in their pre-college level, where they would have scored more than seventy to eighty percentage of marks .Though, when they get into a new course in college or university where they are getting struggled to communicate in front of the others in the classroom. It might happen due to the inferiority or ROTE-learning

To improve confidence:

1. Value yourself and your opinions.

Value- the word which tells us how importance you are in this world and you must have a faith in you, which would give you optimistic thoughts to make yourselves like others. In the human- race, we are more in numbers at the same time everyone does their work with or without having any inferiority, if you have an inferiority it makes you to get trouble. Thus, you should not do any comparison on anybody, have faith in you .you are the one and only person who can do anything in the globe. For an example, the moments he or she cannot express them into the public speech or in front of the crowd clearly or correctly then they themselves decide that they are not capable like people who are capable in speaking English. So, they are into the complex which makes the problems in their life. Because of that you should not loose your confidence.

Hence, what actions to be taken first and primarily you must analyze yourself on these points-**Why, Where, When, How** it happens & now in what way you can overcome the problems.

When you started to analyze yourself like above said points. You are making your life into correct line what the globe expects you to be in the world. Therefore, find out the points and take corrective actions against the points you have collected on yourself. For an example, if you start to play cricket the first few minutes your heartbeat will be increased due to the pressure put more on yourself, at the same time if you started to hit few runs or fours, your confidence level will increase naturally because you have got a confident on yourself. Like, whatever points you have collected, analyze why I am different than others and get an idea to overcome those problems. Ex. (Inferiority, No confidence and Struggling)

KNOW YOUR NEEDS AND WANTS: Learn to express without infringing on the rights of others.

Learning a language is an important thing. While conversing, you must be careful in speaking a language to others .The word which you use must be apt of a particular sentence otherwise it would make some sort of difference amongst the others.

So, you must know **what are all your needs and what are your wants** in a language. What are the needs-you need 1.confidence, 2.practice, 3.do regularly what you have aimed to get (communication).

1. Confidence:

Confidence is the quality of being certain of your abilities or of having trust in people, plans, or the future .Either right or wrong while speaking to others you have to communicate. No problem if you make mistakes, from the mistakes only you can improve anything (Which would give you as knowledge and Experience) and you do your communication work regularly at least an hour a day. Definitely, within three months you may see the difference how you were and how you are now. When it is possible, a person who has confidence in himself it is possible. Hence, avoid your inferiority and come out with confidence, which will help you to get success.

2. Practice

The word practice would give you everything in your life if you do practice regularly as well as correctly to achieve your goal whatever it might be one day or other you would get success in your life. Why you have so far been struggling in English communication? Might be these reasons, you would not try correctly. The first one is **not fully confident** in yourself and **not practicing regularly**. These two would play a vital role in everyone’s life to get succeeded the goal. So, try to practice on a regular basis, which makes you to be perfect in your life.

2. To Express negative thoughts into a positive way. ...

Every human being has negative thoughts but how those negative thoughts will you make into positive thoughts that is the most important thing in your life, for instance , if you do an exercise that always I am an intelligent person ,I can do anything without any inferiority, one day or the other day you would become a successful person. Hence, express your negative thoughts into a positive way and have a hope on your work which will help you to get success in your living days. How he or she can express the negative thoughts into a positive thoughts? First and foremost, you ought to believe yourself which makes anything can possible .An example, if you attend an interview the first few minutes would make you to have nervousness, but having such type of nervousness it is normal only. As human being, everyone has the nervousness while starting a new things such as playing cricket or giving speech on the dais in front of hundreds of people seated in a particular place, surely the nervousness will come , but it should not exceed more than a few minutes. Even it exceeds more than few minutes do deep breath and think positively & confidently.

3. Receive feedback positively. ...

Feedback -the word tells us how a person or group is in their field or an area of specialization conducted or analyzed by the organization or management. But here receiving a feedback positively means your friends or relatives must be given a good feedback on yourself about your communication .if your friend or relatives those who will boost up you, you can have a communication with them, whereas somebody will always make you to feel in a pessimistic way, with them you never talk with them and don't consider what they are telling about your communication, because if you consider their talk, certainly your future will be affected. Or else you can do one thing, take their feedback into a compliment forum where in you will be showing them that I can do anything with my positive attitude.

4. **Learn to say "no."**

It is not a good thing to say no to somebody for their questions but we have to be careful while talking or listening to others .Because you are the person who wants to improve your English communication and that you learn to answer the questions in a positive way at the same time you must know a person who makes you into an pessimistic way, be careful on them, where you ought to know to say NO. Because, in no way they will be helpful to you to make your communication better than what you are now. So you can without hesitating to tell them **no** for their questions which will make you into inferior .

RELATED LITERATURE

Park & Lee (2005) examine the relationships between second language learners' anxiety, self-confidence and speaking performance. The participants of their study were one hundred and thirty two Korean college students who enrolled the English conversation classes. The results of their study indicated that the learners' anxiety level was negatively related to their oral performance. Tanveer (2007) investigates the factors that cause language anxiety for twenty language learners in learning speaking skills and the influence of anxiety on communication in the target language and his result is similar to what Park & Lee (2005) figure out. The findings suggested that students' feeling of stress, anxiety or nervousness may impede their language learning and performance abilities. He cites that "the higher the anxiety, the lower the performance"

Nguyen Hoang Tuan & Tran Ngoc Mai (2015) Investigated a research on "Factors Affecting Students Speaking Performance at Le Thanj Hien High School" In reality, many language learners find it difficult to express themselves in spoken language in the target language. Each student has their own problems. The purpose of this study was to investigate the speaking problems of the students at Le Thanh Hien High School and the factors affecting their speaking performance. The subjects of the study were two hundred and three grade 11 students and ten teachers of English. The research instruments used in this study were questionnaires and class observation. Based on the research findings some recommendations were made. The study was expected to help students improve their performance in speaking classes.

THE METHODS TO BE ADOPTED

Role of Verbal Intelligence "Beware, word can bring about the gain or ruin, carefully guard against any fault therein" is a famous quote from Thiruvalluvar is a celebrated Tamil poet and philosopher. Since every word conveys a different meaning, the user's word choice should be accurately relevant to the context. A person's verbal intelligence is determined by the sufficient stock of vocabulary he/ she possesses when required situations arise. When and if such a situation arises, the person who is able to produce more words can easily construct a systematic linguistic architecture to convey his/ her ideas more meaningfully.

Available Tools for Vocabulary Building

There are innumerable sources those deliver more information to the learners about the transition of a particular word in different parts of speech and provide learners the ability of locating the word in a suitable place in the formation of a sentence. The following are widely acknowledged as the two important sources that learners use to build their vocabulary.

Dictionary

It is a source that gradually enables the learners to intake the meanings and information of Lexis on the basis of such linguistic architectural factors as the prefix, suffix; the obtained sequence of alphabets (spellings); or the phonetic transcription (speech sounds) – the configuration of phonetic symbols in the formation of pronunciation. In other words, a dictionary tells the learner what a word means. It gives a "definition" for each word. Learners refer to the dictionary to learn the meaning of a particular word as it lists out the definitions of every word in the alphabetical sequence.

Thesaurus

A thesaurus is a reference book which lists synonyms and similar words where every word is enlisted as a group by arranging a number of words associated with it. Adding more to this point, it is also defined as the source that lists out the words that mean the same as, or nearly the same as, another word. If Leaner is in need to find the exact word to be sensible to use in a suitable situation, reference to thesaurus can be helpful. Despite the previously discussed referring tools and increased availability of other sources for vocabulary, there prevails an insufficiency to effectively comprehend the specific idea of a given word and its applicable usage in relevant communicative situations. Though dictionary and thesaurus act as valuable referral tools, they have nothing to do with the learner's memory. It is certainly true that learners often forget whatever they have learnt. This may be due to the following reasons:

1. They show more concentration on learning the word where less importance is attached to comprehension.
2. They memorize more words without identifying the purpose of them in communicative situations.
3. The learners still require some better tool that can facilitate them to convey their ideas naturally, clearly, concisely, and appropriately - in a way how relevant word choices are

made. The following paragraphs make an attempt to describe the scientific understandings of human cognition level in the language process.

Conclusion

Every human being has their own positive and negative side. The only thing is that which one you will choose out of two side. Now, you have to analyze that how it can be utilized in a right way to get a success in your life. Whatever points discussed in the above paragraphs follow it regularly, Success will certainly come to your hand.

References:

- Brown, G., & Yule, G. (1983). Teaching the Spoken Language. Cambridge: Cambridge University Press
- Jai Dinesh J (2015) "Vocabulary Teaching: Improving The Efficacy Of The Learners At The Tertiary Level" International Journal of Advanced Research in Management (IJARM) Volume 6, Issue 3, Sep-Dec (2015), pp. 68-71.
- Nguyen Hoang Tuan & Tran Ngoc Mai (2015) "Factors Affecting Students Speaking Performance at Le Thanj Hien High School" Multidisciplinary Journals, Asian Journal of Educational Research, Vol: 3, No.2, ISSN 2311-6080. Pp-08-23
- Ong,ondo, O. Charles, (2009). Pedagogical Practice and Support of English Language
- Park, H., & Lee, A.R. (2005). L2 Learners' Anxiety, Self-confidence and Oral Performance. Proceedings of the 10th Conference of Pan-Pacific Association of Applied Linguistics (pp. 107-208). Edinburgh University, August 2005
- Tanveer, M. (2007). Investigation of The Factors That Cause Language Anxiety for ESL/EFL Learners in Learning Speaking Skills and The Influence It Casts on Communication in The Target Language. Dissertation, University of Glasgow.
- Ur, P. (1996). A course in Language Teaching. Practice and Theory. Cambridge: Cambridge University Press.

* * *

Analysis on the Performances of Ethiopian and Kenyan Athletes in Summer Olympics

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Abstract

The purpose of the study was to analyse the performances of Ethiopian and Kenyan athletes in Summer Olympics. There may be significant differences in performances of Kenyan male athletes than Ethiopian male athletes in Olympics. There may not significant differences in performances of Ethiopian female athletes than Kenyan female athletes in the summer Olympics. The data collected for this study were through secondary sources and the census sampling was considered for collecting data. In order to find the differences in performances of these two countries, descriptive statistics and t-test were employed by Excel 2016 statistical tool packages. The results of the study showed that Kenyan male athletes performances were higher than Ethiopian male athletes performances in Summer Olympics whereas the Ethiopian female athlete's performance were similar in line with Kenyan female athletes performances in this major event. Finally, the overall performances of Kenyan athletics team showed the dominant performances than Ethiopian athletic team in Summer Olympics.

Keywords: Ethiopia, Kenya, Performances, Olympics

Introduction

It's a well-known fact that Ethiopians and Kenyans fixed the foot path strongly in distance races especially middle and Long in International arena. The countries have its own unique nature to produce the best runners in Olympics, World Championships, World Cross country races and other International events too. The training environment have its own demographic and biological merits viz. an elevation of 2000 meters above from sea level, obviously which favours for endurance athletes and the morphology of athletes are gifted by birth itself. Since 1990s, the globe observes the rise of North and East African runners in long distance events which witnessed the birth of a new rising star in the field of long distance running (**Jayaraman, 2016**). Kenyan and Ethiopian athletes, in particular, have since remained dominant in these events. Many factors have been proposed to explain the extraordinary success of the Kenyan and Ethiopian distance runners are predetermined physiology, genetics, nutritional aspects, strong morphological factors, well balanced psychological set up, scattered talents and most importantly an urge to boost their economic background. (**Wilber RL, and Pitsiladis YP, 2012)**

Ethiopia and Kenya competed in the Olympic Games for the first time at the 1956 Summer Olympics in Melbourne, Australia. Ethiopia had sent athletes to compete in every Summer Olympic Games since then, except for the 1976, 1984 and 1988 Games and Kenya boycotted 1976 and 1980 Olympics (Wikipedia). These two countries have shown their tremendous performances in middle and long distance events viz. 800m, 1500m, 3000m steeplechase, 5000m,10000m and Marathon (**Wikipedia, 2016**). The two countries appearances at the Olympics are 12 and 13 for Ethiopia and Kenya since 1956, Melbourne Olympics to 2016, Rio Olympics.

Ethiopia showed better performances than Kenya in 1960 and 1964 Olympics. However, in 1968 and 1972 summer Olympic games Kenya was ahead of Ethiopia in the summer Olympics medal tally. In 1980, Ethiopia finished ahead of Kenya on the medals table. The next three editions of summer Olympics (1984,88 and 92) Kenya were ahead of Ethiopia on the medals table. In the Olympic games of 1996, 2000 and 2004 Ethiopia returned to the top by finishing ahead of Kenya. In 2008 Beijing Olympics Kenya shown better performances than Ethiopia (**Donatus, A. Aniodo, 2010**). In 2012, London Olympics, Ethiopia was ahead of Kenya in the overall medal table whereas in 2016, Rio Olympics, Kenya again proved their best performances than Ethiopia. This sort of in varied show of performances of two East African countries such as Ethiopia and Kenya at the Olympics are predominant.

Objectives

1. The first objective of the study was to analyse the performances of Ethiopian and Kenyan male athletes at Summer Olympics.
2. The second objective of the study was to analyse the performances of Ethiopian and Kenyan female athletes at Summer Olympics.
3. The third objective of the study was to analyse the performances of Ethiopian and Kenyan athletic teams at Summer Olympics.

Methodology

The source of data for this study was exclusively secondary data. It means all the data collected and used for this study were the e- sources. The census sampling method was used to collect data. The data were collected based on ten categories such as Ethiopian and Kenyan male performances at Olympics, Ethiopian and Kenyan females Performances at Olympics and Combined Ethiopian and Kenyan athletic team performances at Olympics.

Statistical Analysis

The descriptive statistics and t-test were used as statistical tools to find out the significant differences between Ethiopia and Kenya. The Level of significance was set at 0.05 for testing the significance differences if any. The Excel 2016 statistical tool packages were used to find the differences in performances of these two East African countries.

Analysis of the study

Table 1. The Performances of Ethiopian and Kenyan male athletes at the Summer Olympics Since 1956 till 2016

Country	Gold	Silver	Bronze	Total	X	SD	Computed T-Value	Table t-Value
Ethiopia	12	6	12	30	10	3.46	-8.06	2.78
Kenya	26	26	27	79	26	0.58		

Significant at 0.05 level

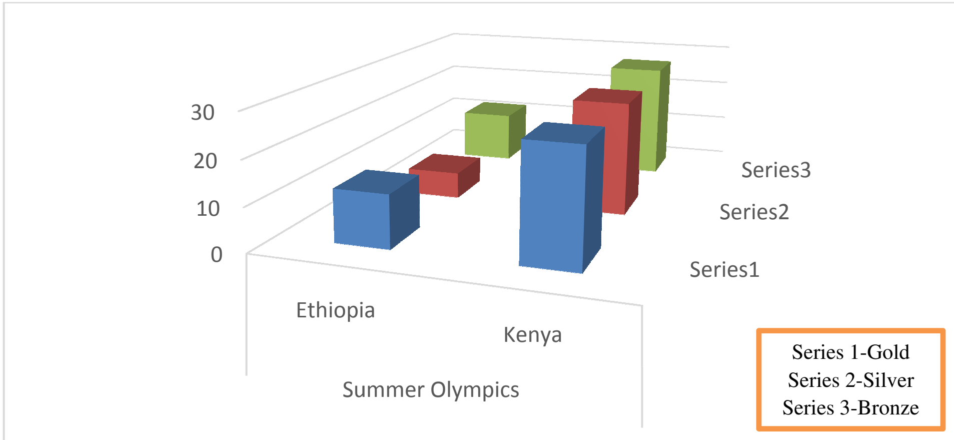

Figure 1. The performances of Ethiopian and Kenyan Male athletes at Summer Olympics

Table 1 shows that the total no. of medals achieved by Ethiopian male athletes are 30 whereas 79 for Kenyan male athletes. Thus, the mean and standard deviation of two countries are 10 and 3.46 and 26 and 0.58. Since, the computed T-value is greater than the table t-value, it is clearly indicated that there was a significant difference in the male performances of Kenya and Ethiopia. Finally, the results showed that Kenyan male athletes performances were higher than the Ethiopian male athletes at summer Olympics.

Table 2. The Performances of Ethiopian and Kenyan female athletes at the Summer Olympics

Country	Gold	Silver	Bronze	Total	X	SD	Computed T-Value	Table t-Value
Ethiopia	10	4	9	23	7.67	3.21	0.21	2.78
Kenya	5	12	4	21	7.00	4.36		

Significant at 0.05 level

Table 2 shows that the total no. of medals obtained by Ethiopian female athletes are 23 whereas 21 for Kenyan female athletes. Thus, the mean and standard deviation of two countries are 7.67 and 3.21 and 7.00 and 4.36. Since, the computed T-value lies in the range of the table t-value, there was no significant difference in the female performances of Kenya and Ethiopia.

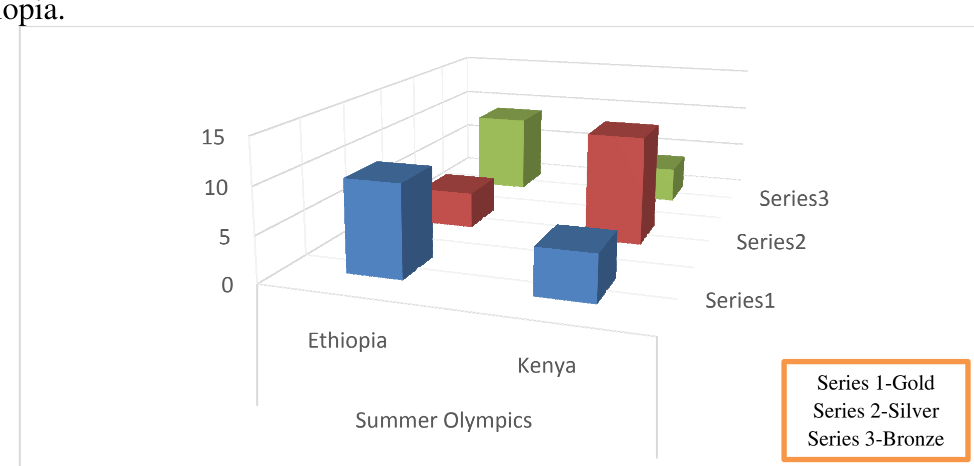

Figure 2. The performances of Ethiopian and Kenyan Female athletes at Summer Olympics

Table 3. The Performances of Ethiopian and Kenyan athletic teams at the Summer Olympics Since 1956 till 2016

Country	Gold	Silver	Bronze	Total	X	SD	Computed T-Value	Table t-Value
Ethiopia	22	10	21	53	17.67	6.66	-3.48	2.78
Kenya	31	38	31	100	33.33	4.04		

Significant at 0.05 level

Table 3 shows that the total no. of medals obtained by Ethiopian team are 53 whereas 100 for Kenyan team. Thus, the mean and standard deviation of two countries are 17.67 and 6.66 and 33.33 and 4.04. Since, the computed T-value is greater than the table t-value, it is clearly evident that there was a significant difference in the performances of Kenya and Ethiopia. The results showed that Kenyan athletic team performances were higher than the Ethiopian athletic team performances at summer Olympics.

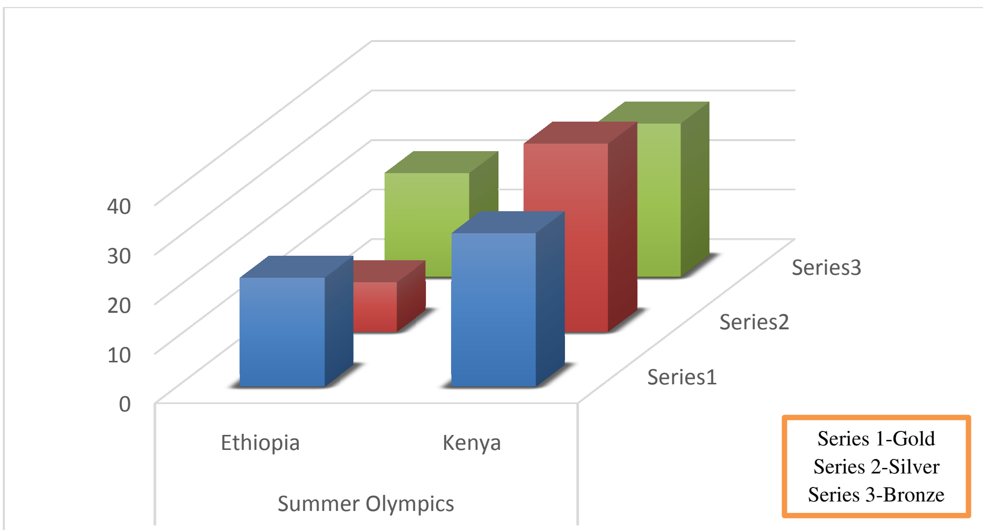

Figure 1. The performances of Ethiopian and Kenyan athletic teams at Summer Olympics

Conclusions

The following conclusion were drawn from the results of the study.

1. The Performances of Kenyan male athletes were ahead of Ethiopian male athletes at the summer Olympics from 1956 to 2016.
2. The performances of Ethiopian female athletes were in line with Kenyan females performance at the Summer Olympics till 2016.
3. Kenyan Athletic Team (Men& Women) Performances were advanced than Ethiopian athletic team (Men& Women) Performances at Summer Olympics.

References

1. Costill D.L., Fink, W.J., & Pollock, M.L. (1976). Muscle fiber com- position and enzyme activities of elite distance runners. Medical Science Sports, 8, 96-100.
2. Donatus A. Aniodo, Comparison of the performances of Kenyan and Ethiopian athletes at the summer Olympics games, Journal of Applied Information Sciences and Technology, Vol. 3, 2010.
3. Jayaraman.S., Ethiopia in World Athletics, International *Journal of Recent Research and Applied Studies, Volume 3, Issue 6 (1) June 2016.*
4. Wikipedia (2016), "Ethiopia at the 1956 Melbourne Summer Games". Sports reference.com. Retrieved 23 July, 2014. Last modifies on 27 August 2016.
5. Wikipedia (2016), Kenya at the Summer Olympics, https://en.wikipedia.org/wiki/Kenya at the Olympics, Retrieved on October 2016.
6. Wikipedia (2016)*"Kenyan athletics manager recalled after doping bribe report". OmRiyadat English.*
7. Wikipedia (2016), Track events results Athletics at the 1960 Summer Olympics Games, https://en.wikipedia.org/wiki/Athletics at the 1960 Summer Olympics, last modified on 20 October, 2016.
8. Wikipedia (2016), Track events results Athletics at the 1964 Summer Olympics Games, https://en.wikipedia.org/wiki/Athletics at the 1964 Summer Olympics, Retrieved on 20 October, 2016.
9. Wikipedia (2016), Track events results Athletics at the 1968 Summer Olympics Games, https://en.wikipedia.org/wiki/Athletics at the 1968 Summer Olympics, Retrieved on 20 October, 2016.
10. Wikipedia (2016), Track events results Athletics at the 1972 Summer Olympics Games, https://en.wikipedia.org/wiki/Athletics at the 1972 Summer Olympics, Retrieved on 20 October, 2016.
11. Wikipedia (2016), Track events results Athletics at the 1976 Summer Olympics Games, https://en.wikipedia.org/wiki/Athletics at the 1976 Summer Olympics, Retrieved on 20 October, 2016.
12. Wikipedia (2016), Track events results Athletics at the 1980 Summer Olympics Games, https://en.wikipedia.org/wiki/Athletics at the 1980 Summer Olympics, last modified on 18 April 2016.
13. Wikipedia (2016), Track events results Athletics at the 1984 Summer Olympics Games, https://en.wikipedia.org/wiki/Athletics at the 1984 Summer Olympics. Retrieved on 20 October 2016.
14. Athletics at the 1988 Seoul Summer Games. Sports Reference. Retrieved on 2011-12-04.https://en.wikipedia.org/wiki/Athletics at the 1988 Summer Olympics
15. Wikipedia (2016), Track events results Athletics at the 1992 Summer Olympics Games, https://en.wikipedia.org/wiki/Athletics at the 1992 Summer Olympics, Retrieved on 20 October, 2016.
16. Wikipedia (2016), Track events results Athletics at the 1996 Summer Olympics Games, https://en.wikipedia.org/wiki/Athletics at the 1996 Summer Olympics, Retrieved on 20 October, 2016.

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Application of Decision Tree analysis in Business Intelligence.

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Abstract:

The Digital Era is characterized by technology which increases the speed and breadth of knowledge turnover within the economy and society The Digital Era can be seen as the development of an evolutionary system in which knowledge turnover is not only very high, but also increasingly out of the control of humans, making it a time in which our lives become more difficult to manage. Business **i**ntelligence (BI) represents the tools and systems that play a key role in the strategic planning process within a corporation. These BI systems allow a company to gather, store, access and analyze corporate data to aid in decision-making.Decision tree analysis involves construction of a diagram showing all the possible courses of action, states of nature and the probabilities associated with the states of nature. The decision diagram looks very much like a drawing of a tree, therefore also called decision tree.

Keywords: Digital Era, Business Intelligence (BI) , DSS, Decision Tree

Introduction:

"Sharing is good, and with digital technology, sharing is easy" said Richard Stallman. Evolutionary theory, as an explanation of the system we live in, states that sustainability relies on knowledge turnover. In parts of the system which are relatively stable, knowledge turnover is low, and new variation, when produced, is rarely retained. In other, less stable parts of the system, faster knowledge turnover is advantageous as new knowledge is produced more frequently allowing for adaptation to the changing surrounding environment.

Business **i**ntelligence (BI) represents the tools and systems that play a key role in the strategic planning process within a corporation. These BI systems allow a company to gather, store, access and analyze corporate data to aid in decision-making.Generally these systems will illustrate business intelligence in the areas of customer profiling, customer support, market research, market segmentation, product profitability, statistical analysis, and inventory and distribution analysis.

However, situation may arise when a decision-maker needs to revise his previous decisions on getting new information and make sequence of other decisions. Thus, the problem becomes a multi-stages decision problem because the consequence of one decision affect future decisions. For examples, in the process of marketing a new product, the first decision is often test marketing and the alternative courses of action might be either intensive testing or gradual testing. Given various possible consequences- good, fair, or poor, the decision- maker may be required to decide between redesigning the product, an aggressive advertising campaign or complete withdrawal of product, etc. Given that decision, there will be an outcome which leads to another decision and so on.

Decision tree analysis involves construction of a diagram showing all the possible courses of action, states of nature and the probabilities associated with the states of nature. The decision diagram looks very much like a drawing of a tree, therefore also called decision tree.

The Digital Era is characterized by technology which increases the speed and breadth of knowledge turnover within the economy and society. Understanding the Digital Era in terms of evolution will help ensure we build sustainable socio-economic relationships both with technology and with the advanced knowledge that technology helps us create.

Most companies collect a large amount of data from their business operations. To keep track of that information, a business and would need to use a wide range of software programs, such as Excel, Access and different database applications for various departments throughout their organization. Using multiple software programs makes it difficult to retrieve information in a timely manner and to perform analysis of the data.

BI as a discipline is made up of several related activities, including data mining, online analytical processing, querying and reporting.Business intelligence software is designed with the primary goal of extracting important data from an organization's raw data to reveal insights to help a business make faster and more accurate decisions. The software typically integrates data from across the enterprise and provides end-users with self-service reporting and analysis. BI software uses a number of analytics features including statistics, data and text mining and predictive analytics to reveal patterns and turn information into insights.

Business Intelligence (BI) are the set of strategies, processes, applications, data products, technologies and technical architectures which are used to support the collection, analysis, presentation and dissemination of business information. Business intelligence can be used to support a wide range of business decisions ranging from operational to strategic. Basic operating decisions include product positioning or pricing. Strategic business decisions include priorities, goals and directions at the broadest level. In all cases, BI is most effective when it combines data derived from the market in which a company operates (external data) with data from company sources internal to the business such as financial and operations data (internal data).

History: The earliest known use of the term "Business Intelligence" is in Richard Millar Devens' in the 'Cyclopædia of Commercial and Business Anecdotes' from 1865. Devens used the term to describe how the banker, Sir Henry Furnese, gained profit by receiving and acting upon information about his environment, prior to his competitors. "Throughout Holland, Flanders, France, and Germany, he maintained a complete and perfect train of business intelligence. The news of the many battles fought was thus received first by him, and the fall of Namur added to his profits, owing to his early receipt of the news." (Devens, (1865), p. 210). The ability to collect and react accordingly based on the information retrieved, an ability that Furnese excelled in, is today still at the very heart of BI. In a 1958 article, Hans Peter Luhn an IBM researcher used the term business intelligence. He employed the Webster's dictionary definition of intelligence: "the ability to apprehend the interrelationships of presented facts in such a way as to guide action towards a desired goal."

Business intelligence as it is understood today is said to have evolved from the decision support system (DSS) that began in the 1960s and developed throughout the mid-1980s. DSS originated in the computer-aided models created to assist with decision making and planning. From DSS, data warehouses, Executive Information Systmes, OLAP and business intelligence came into focus beginning in the late 80s.

In 1989, Howard Dresner (later a Gartner analyst) proposed "business intelligence" as an umbrella term to describe "concepts and methods to improve business decision making by using fact-based support systems." It was not until the late 1990s that this usage was widespread.

Often BI applications use data gathered from a data warehouse (DW) or from a data mart and the concepts of BI and DW sometimes combine as "**BI/DW**" or as "**BIDW**". A data warehouse contains a copy of analytical data that facilitates decision support. However, not all data warehouses serve for business intelligence, nor do all business intelligence applications require a data warehouse.

Though the term business intelligence is sometimes a synonym for competitive intelligence (because they both support decision making), BI uses technologies, processes, and applications to analyze mostly internal, structured data and business processes while competitive intelligence gathers, analyzes and disseminates information with a topical focus on company competitors. If understood broadly, business intelligence can include the subset of competitive intelligence.

Comparison with business analytics

Business intelligence and business analytics are sometimes used interchangeably, but there are alternate definitions. One definition contrasts the two, stating that the term business intelligence refers to collecting business data to find information primarily through asking questions, reporting, and online analytical processes. Business analytics, on the other hand, uses statistical and quantitative tools for explanatory and predictive modelling.

Thomas Davenport, professor of information technology and management argues that business intelligence should be divided into Querying, reporting, Online analytical processing

(OLAP), an "alerts" tool, and business analytics. In this definition, business analytics is the subset of BI focusing on statistics, prediction, and optimization, rather than the reporting functionality.

Applications in an enterprise

Business intelligence can be applied to the following business purposes, in order to drive business value.

Measurement: program that creates a hierarchy of performance metrics and benchmarking that informs business leaders about progress towards business goals

Analytics: program that builds quantitative processes for a business to arrive at optimal decisions and to perform business knowledge discovery.

Reporting/enterprise reporting: program that builds infrastructure for strategic reporting to serve the strategic management of a business, not operational reporting

Collaboration/collaboration platform: program that gets different areas (both inside and outside the business) to work together through data sharing and electronic data interchange.

Knowledge management: program to make the company data-driven through strategies and practices to identify, create, represent, distribute, and enable adoption of insights and experiences that are true business knowledge. Knowledge management leads to learning management and regulatory compliance.

In addition to the above, business intelligence can provide a pro-active approach, such as alert functionality that immediately notifies the end-user if certain conditions are met. For example, if some business metric exceeds a pre-defined threshold, the metric will be highlighted in standard reports, and the business analyst may be alerted via e-mail or another monitoring service. This end-to-end process requires data governance, which should be handled by the expert

According to Kimball et al., there are three critical areas that organizations should assess before getting ready to do a BI project:

The level of commitment and sponsorship of the project from senior management.

1. The level of business need for creating a BI implementation.
2. The amount and quality of business data available.

Business Sponsorship

The commitment and sponsorship of senior management is according to Kimball *et al.*, the most important criteria for assessment. This is because having strong management backing helps overcome shortcomings elsewhere in the project. However, as Kimball *et al.* state: "even the most elegantly designed DW/BI system cannot overcome a lack of business [management] sponsorship". It is important that personnel who participate in the project have a vision and an idea of the benefits and drawbacks of implementing a BI system. The best business sponsor should have organizational clout and should be well connected within the organization. It is ideal that the business sponsor is demanding but also able to be realistic and supportive if the implementation runs into delays or drawbacks. The management sponsor also needs to be able to assume accountability and to take responsibility for failures and setbacks on the project. Support from multiple members of the management ensures the project does not fail if one person leaves the steering group. However, having many managers work together on the project can also mean that there are several different interests that attempt to pull the project in different directions, such as if different departments want to put more emphasis on their usage. This issue can be countered by an early and specific analysis of the business areas that benefit the most from the implementation. All stakeholders in the project should participate in this analysis in order for them to feel invested in the project and to find common ground.

Business needs:

Because of the close relationship with senior management, another critical thing that must be assessed before the project begins is whether or not there is a business need and whether there is a clear business benefit by doing the implementation. The needs and benefits of the implementation are sometimes driven by competition and the need to gain an advantage in the market. Another reason for a business-driven approach to implementation of BI is the acquisition of other organizations that enlarge the original organization it can sometimes be beneficial to implement DW or BI in order to create more oversight.

Companies that implement BI are often large, multinational organizations with diverse subsidiaries.[1] A well-designed BI solution provides a consolidated view of key business data not available anywhere else in the organization, giving management visibility and control over measures that otherwise would not exist.

Amount of quality data:

Without proper data, or with too little quality data, any BI implementation fails; it does not matter how good the management sponsorship or business-driven motivation is. Before implementation it is a good idea to do data profiling.This analysis identifies the "content, consistency and structure " of the data. This should be done as early as possible in the process and if the analysis shows that data is lacking, put the project on hold temporarily while the IT department figures out how to properly collect data.

When planning for business data and business intelligence requirements, it is always advisable to consider specific scenarios that apply to a particular organization, and then select the business intelligence features best suited for the scenario.

Often, scenarios revolve around distinct business processes, each built on one or more data sources. These sources are used by features that present that data as information to knowledge workers, who subsequently act on that information. The business needs of the organization for each business process adopted correspond to the essential steps of business intelligence. These essential steps of business intelligence include but are not limited to:

1. Go through business data sources in order to collect needed data
2. Convert business data to information and present appropriately
3. Query and analyze data
4. Act on the collected data

The **quality aspect** in business intelligence should cover all the process from the source data to the final reporting. At each step, the **quality gates** are different:

1. Source Data:
   - Data Standardization: make data comparable (same unit, same pattern...)
   - Master Data Management : unique referential
2. Operational Data Store (ODS)
   - Data Cleansing: detect & correct inaccurate data
   - Data Profiling: check inappropriate value, null/empty
3. Data Warehouse:
   - Completeness: check that all expected data are loaded
   - Referential Integrity: unique and existing referential over all sources
   - Consistency between sources: check consolidated data vs sources
4. Reporting:
   - Uniqueness of indicators: only one share dictionary of indicators
   - Formula accuracy: local reporting formula should be avoided or checked

Decision tree analysis involves construction of a diagram showing all the possible courses of action, states of nature and the probabilities associated with the states of nature. The decision diagram looks very much like a drawing of a tree, therefore also called decision tree.

A decision tree consists of nodes, branches, probability estimates, and payoffs. There are two types of nodes: Decision nodes and chances nodes. A Decision node is usually represented by a square and indicates places where a decision-maker must make a decision. Each branch leading away from a decision node represents one of the several possible courses of action available to the decision- maker. The chance node is represented by a circle and indicates a point at which the decision- maker will discover the response to his decision, i. e different possible outcomes occurred from a chosen course of action.

Branches emanate from and connect various nodes and are either decision or states of nature. There are two types of branches: decision branches and chance branches. Each decision leading away from a decision node represents a course of action or strategy that can be chosen at a decision point, whereas a branch leading away from a chance node represent the state of nature of a set of chance factors. Associated probabilities are indicated along side of respective chance branches. These probabilities are the likelihood that the chance outcome will assume the value assigned to the particular branch. Any branch that makes the end of the decision tree, i.e, it is not followed by either decision or chance node, is called a terminal branches A terminal branches can represents either the course of action or a chance outcome. The terminal points of a decision tree are said to be mutually exclusive points so that exactly one course of action will be chosen.

The payoffs can be positive (i.e. revenue or sales) or negative (i.e. expenditure or cost) and they can be associated either with decision or chance branches.

The optimal sequence of decision in a tree is found by starting at the right hand side and rolling backward. The aim of this operation is to maximise the return from the decision situation. At each node, an expected return is calculated (called position value). If the node is a chance node, the position value is calculated as the sum of the products of the probabilities or the branches emanating from the chance node and their respective position value. If the node is a decision node, then the expected return is calculated for each of its branches and the highest return is selected. The procedure continues until the initial node is reached. The position values for this node corresponds to the maximum expected return obtained from the decision sequence.

DECISION TREE

It is a network, which shows logical relationship between different parts of a complex decision making process. In a decision tree, problem is structured in a chronological order. The tree has branches, which are connected by decision or chance forks. A decision point or decision node is at which the decision maker has to decide about one of the various alternatives. This is represented by a square. Circle is used to represent chance event alternatives. These are sub branches of a tree. There are two types of decision tress: Deterministic and probabilistic. These can further be classified in to single stage and multi stage trees. A single stage deterministic decision tree involves making only one decision under conditions of certainty. In multi stage deterministic tree a sequence or chain of decision is to be made, the optimal path (strategy) is one that corresponds to the maximum EMV.

In drawing decision tree certain basic rules to be followed as stated below:

a. Identify all decisions including alternative decisions to be made and the order in which they must be made.
b. Identify the chance event or state of nature that might occur as a result of each decision alternative.
c. Develop a tree diagram showing the sequence of decision and chance events. Tree is constructed starting from left towards right. Square box indicate decision point and circle denotes chance node or event.
d. Estimate probabilities that possible events occur as a result of the decision alternatives.
e. Obtain outcomes of the possible interaction among decision alternatives and event.
f. Calculate the expected value of all possible decision alternatives.
g. Select the decision alternative offering the most attractive expected value.

Advantages of Decision Tree

a. Enable business to quantify decision making.
b. Useful when outcomes are uncertain.
c. Places numerical value on likely or potential outcomes.
d. Allows comparison of different possible decisions to be made.
e. Enable effective use of back data.
f. Objective and scientific analysis to decision making.
g. Use of probability allows flexibility.
h. Decision tree makes complex problems simple to visualize.
i. Enable the decision maker to see various elements of decision problem in a systematic way.
j. Decision tree concept can be applied to various functions of management.

Limitations of Decision Tree

a. How accurate is the data used in the construction of the tree.

b. How reliable are the estimate of the probabilities.
c. Data May be historical, does this data relate to real time.
d. Reliant on the accuracy of the data used.
e. Probabilities only estimated.
f. Required qualitative input to give complete picture.
g. Real time data problems.

Decision theory can be applied to any kind problem irrespective of time span. Decision theory may involve marketing problems such as pricing, launch of a new products or test marketing. It can also be applied to financial management or buying of plant and machinery. The payoffs arising out of decision could be positive or negative. Sometimes, the decisions are made under certainty and some other time with uncertainty. Some events are beyond the control of the decision maker. These uncontrollable occurrences are called as states or outcomes. These are several criteria used to make decision under uncertainty such as optimism, pessimism equally likely, realism and regret.

In optimism, the decision maker would like to achieve the highest profit (maximum) or lowest possible costs. In pessimism, the decision maker unsure that he will earn no less than some specified amount. In equally likely criterion, it is assumed that all states with occur equal probability. In Criterion for realism, the decision maker should neither completely optimistic, nor pessimistic and therefore, it is a mixture of both.

Decision tree analysis involves, construction of a diagram showing all possible course of action, states of nature. It also shows probabilities associated with the states of nature.

References:

1. Jump up^Dedić N. & Stanier C. (2016). Measuring the Success of Changes to Existing Business Intelligence Solutions to Improve Business Intelligence Reporting. Lecture Notes in Business Information Processing. Springer International Publishing. Volume 268, pp. 225-236.
2. Jump up^ (*Rud, Olivia (2009). Business Intelligence Success Factors: Tools for Your Business in the Global Economy. Hoboken, N.J: Wiley & Sons* ISBN 978-0470-39240-9)
3. Jump up^ *Coker, Frank (2014). Pulse: Understanding the Vital Signs of Your Business. Ambient Light Publishing. pp. 41–42* ISBN 978-0-9893086-0-1
4. Jump up^ Chugh, R & Grandhi, S 2013, 'Why Business Intelligence? Significance of Business Intelligence tools and integrating BI governance with corporate governance', International Journal of E-Entrepreneurship and Innovation, vol. 4, no.2, pp. 1-14.
5. Jump up^ *Miller Devens, Richard. Cyclopaedia of Commercial and Business Anecodates: Comprising Interesting Reminiscences and facts Remarkable Traits and Humors of Merchants, Traders, Bankers Etc. in All Ages and Countries.D. Appleton and company. p. 210*. Retrieved 15 February 2014.
6. Jump up^ H.P.Luhn *(1958). "A Business Intelligence System" (PDF). IBM Journal.* ***2*** *(4): 314. doi: 10.1147/rd.24.0314*
7. Jump up^ *D. J. Power (10 March 2007). ." A Brief History of Decision Support Systems, version 4.0"DSSResources.COM*.
8. Jump up^ "Decoding big data buzzwords"*cio.com. 2015. BI refers to the approaches, Tools, mechanisms that organizations can use to keep a finger on the pulse of their Businesses. Also referred by unsexy versions -- "dash boarding", "MIS" or "reporting."*

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Theme: Global Opportunities in the Context of Digital Era for Sustainable Indian Economy
Sub Theme: Business Intelligence and CSR

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ABSTRACT

Corporate Social Responsibility (CSR) has been playing a very important role in today's commercial world, especially after the Globalization was accepted by various countries in and around the world. While trying to promote them as a good business unit, CSR provides an opportunity to them to project themselves as a good corporate citizen as well. While conducting CSR activities, however, effective use of Business Intelligence methodologies are also important as they are considered as a natural ally of the company who want to perform CSR activities. Therefore, the paper provides a detailed analysis of CSR and Business Intelligence methodologies and the ideology of business beyond the thinking of profit making. Finally, this paper also touches upon the case of business to give a thought to Business Intelligence, while carrying out CSR in India.

Keywords: *Globalization, CSR, Business Intelligence*

INTRODUCTION

Corporate Social Responsibility (CSR) is a topic of discussion for everyone in today's era. In modern business, CSR has played an important role in brand building of the product of the corporate. The best example of CSR can been seen in the country of United States of America, where, large number of Private Universities have been set-up, by corporates, under the CSR activities.

CSR activities in India have been taken up post-independence period. Today, we see commercials in the television, where a part of proceeds go towards either education or medical facilities of needy students. This is nothing but CSR program undertaken by that corporate. But what is the impact of such advertisements on us? The reality is that it creates soft corner in our minds and we are inclined to buy such products, to contribute to noble cause. This is nothing but brand building, which comes from CSR Activities. And that is Business Intelligence.

MEANING OF CORPORATE SOCIAL RESPONSIBILITY

According to The United Nations Industrial Development Organization (UNIDO), CSR is defined as

"a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders. CSR is a way in which companies achieve a balance of economic, environmental and social imperatives."

The above definition of CSR talks about integration of social and environmental concerns of the companies, which shows their sensitivity towards the society and the words interaction with stake holders has a major significance here as the respective stake holders are made aware about the same and interactions ensure two-way communication between the companies and the stake holders. Thus CSR helps the companies to strike a balance between the economic motives, which is the blood of every business, along with the environmental and social motives, which is essential for the sustainable development of the society and the parameters for that are determined because of interaction with the stakeholders.

In India it is observed that CSR activities include contribution by corporates to Non – Government Organizations (NGO's). In some cases, corporates like Reliance Group or Wadia Group have set-up their own trusts of foundations and they donate the money to such trusts or foundations. The main benefits of such donations were the benefits received by them u/s. 80G of Income Tax Act. These donations, however, had their own limitations, as it was criticized that there was no transparency in the donations.

LEGAL PROVISIONS FOR CSR

The real importance of CSR has been increased, since the passing of Companies Act by the Parliament in the year 2013. The provisions of this new Companies Act, made it compulsory for companies to undertake CSR activities.

u/s. 135 of Companies Ac, 2013, has defined the concept of CSR. Further, Companies Act, 2013, is applicable to all companies, whose annual turnover is Rs. 1,000 crore or more or they have net worth of Rs. 500 crores or more or have a net profit of Rs. 5 crores or more. Section 135, not only defines CSR, but also emphasizes on other aspects like setting up of the CSR Committee, its functions, responsibility of the Board, etc.

Section 135 of the act also states that companies who fulfill the criteria mentioned under section 135, are supposed to set aside at least 2% of their average profit in the last three years for CSR activities.

The spectrum of activities stated by law under CSR are listed as follows:

1. promotion of education,
2. gender equity and women's empowerment,
3. combating HIV/AIDS, malaria and other diseases,
4. eradication of extreme poverty,
5. contribution to the Prime Minister's National Relief Fund and other state and central funds,
6. social business projects, reduction in child mortality,
7. improving maternal health, environmental sustainability and
8. Employment enhancing vocational skills among others.
9. Any other matters that may be prescribed

Section 135 of the Companies Act, 2013 states that companies must set up a CSR committee, which shall consist of 3 or more directors, with at least one independent director, so that, there is transparency and fair decision making.

The investments in areas like youth training and development, skill development, etc, can result in increasing employment in the country. It is also expected that CSR is going to form an alternative to government funds and schemes as CSR ensures allocation of funds for activities, beneficial to public interest.

Environmental sustainability will probably ensure that pollution will be reduces and it will help in bringing down pollution and emission of greenhouse gases and will help in compliance with international norms and regulations. Therefore, CSR is seen as a step to achieve social and environmental sustainability that will benefit the society in general, in near future.

CSR Rules 2014

Further to Section 135 of Companies Act, 2013, CSR Rules 2014 were framed with the following objectives:

- Establishing a guideline for compliance with the provisions of Regulations to dedicate a percentage of Company's profits for social projects.
- Ensuring the implementation of CSR initiatives in letter and spirit through appropriate procedures and reporting
- Creating opportunities for employees to participate in socially responsible initiatives.

BUSINESS INTELLIGENCE

Stackowiak et al. (2007) has defined Business intelligence as the process of taking large amounts of data, analyzing that data, and presenting a high-level set of reports that condense the essence of that data into the basis of business actions, enabling management to make fundamental daily business decisions. (Cui et al, 2007) view BI as way and method of improving business performance by providing powerful assists for executive decision maker to enable them to have actionable information at hand. BI tools are seen as technology that enables the efficiency of business operation by providing an increased value to the enterprise information and hence the way this information is utilized.

On the other hand (Golfarelli et.al, 2004) defined BI that includes effective data warehouse and also a reactive component capable of monitoring the time critical operational processes to allow tactical and operational decision-makers to tune their actions according to the company strategy. (Gangadharan and Swamy, 2004) define BI as the result of in-depth analysis of detailed business data, including database and application technologies, as well as analysis practices. (Gangadharan and Swamy, 2004) widen the definition of BI as technically much broader tools, that includes potentially encompassing knowledge management, enterprise resource planning, decision support systems and data mining. BI includes several software for Extraction, Transformation and Loading (ETL), data warehousing, database query and reporting, (Berson et.al, 2002; Curt Hall, 1999) multidimensional/on-line analytical processing (OLAP) data analysis, data mining and visualization.

COMPONENTS OF BUSINESS INTELLIGENCE

Business Intelligence includes the following:

a. OLAP (On-line analytical processing) - It refers to the way in which business users can slice and dice their way through data using sophisticated tools that allow for the navigation of dimensions such as time or hierarchies.
b. Advanced Analytics: it is referred to as data mining, forecasting or predictive analytics, this takes advantage of statistical analysis techniques to predict or provide certainty measures on facts.
c. Corporate Performance Management (Portals, Scorecards, Dashboards): this general category usually provides a container for several pieces to plug into so that the aggregate tells a story.
d. Real time BI: It allows for the real time distribution of metrics through email, messaging systems and/or interactive displays.
e. Data Warehouse and data marts: It supports the physical propagation of data by handling the numerous enterprise records for integration, cleansing, aggregation and query tasks.
f. Data Sources: Data sources can be operational databases, historical data, external data for example, from market research companies or from the Internet), or information from the already existing data warehouse environment.

REASONS FOR BUSINESS INTELLEGENCE

Business Intelligence is required for the following purpose:

a. It helps to understand the position of the firm as in comparison to its competitors
b. It helps to understand The capabilities of the firm
c. It helps to understand the changes in customer behavior and spending patterns
d. It helps to understand the social, regulatory, and political environment
e. It understands the Market conditions, future trends, demographic and economic information.

BENEFITS OF BUSINESS INTELLIGENCE

Business Intelligence is beneficial because of the following:

a. Business Intelligence can help the employees to transform their knowledge of business for resolving disputes related to business.
b. Business Intelligence can help to fix a higher margin for insurance premiums, thereby enabling the scope to earn better profit margin.
c. Business Intelligence helps to determine what products can be demanded by the customers in markets.
d. Business Intelligence helps to determine customer behavior as to why customer would be inclined to purchase the products of the firm's competitor.
e. Business Intelligence helps to identify fraudulent behavior in case if the credit cards or sim cards are stolen, through usage spikes.
f. Business Intelligence is importance to identify acts of money laundering
g. Business Intelligence helps to identify risk through correct financial scores of customers.

CASE FOR BUSINESS INTELLIGENCE AND CSR

In India, the concept of Business Intelligence has been a game changer and has enabled the business to adapt to global challenges by using effective tools for Business Intelligence. Customers are an important aspect of business and therefore, Business Intelligence helps the companies to identify customer needs and adapt to customer expectations, in order to satisfy their needs and wants. Thus, the dual motive of earning profit and customer satisfaction is possible to be achieved, only because of Business Intelligence. Business Intelligence helps to anticipate actions of the Competitors and therefore, be prepared for appropriate provisions to adapt to these actions.

On the other hand, CSR helps to create a Social Personality in the minds of the customers and therefore, enable to flush confidence in their minds about the Corporate and create trust amongst them. On the other hand, CSR also makes sure that the economic development of the country is achieved by creating employment in the economy and promotes education and woman empowerment.

RESEARCH METHODOLOGY

The data is collected from secondary method.

CONCLUSION

CSR and Business Intelligence both have their own importance and both have their own positions in commercial and legal world. However, it is also important to understand that both complement each other. It can be confidently said that while CSR helps to create corporate personality of a company, which is an artificial person. Similarly, it helps for economic development of the country and contributes to the social progress as well as perform the responsibility of contributing a part of profit to the development and well-being of the society. The corporates can either engage themselves in the CSR activities, or, they appoint or contribute to NGO's or trusts, where they are enable to claim benefit u/s. 80G

On the other hand, the Business Intelligence helps to understand the needs of the customers, prevent frauds and understand the actions of the competitors. This ensures that the business stays ahead and adapts to the changing economic environment and thereby makes sure that they stay ahead in the competition.

Therefore, it is undisputed that both are required for the business as well as for the economic development of the corporate as well as for the country. Both have their own limitations, but, the fact is that both are crucial for businesses. The increasing support for CSR and Business Intelligence from academicians and practitioners are evident. But firms must make an attempt to co-relate the CSR activities and Business Intelligence so that the firm's social and economic objectives are achieved. The current research also has given scope for further research, where firms can efficiently use and implement both Business Intelligence and CSR to make sure their larger socio-economic objectives are achieved and the effect of various situations on these tools will be tested under changing economic situations like demonetization, global recession, Make in India Policy and changing tax structures in our country.

REFERENCES

1. Ackerman, R. W. (1975), The Social Challenge to Business, Harvard University Press, Cambridge,
2. Journal of Business Ethics, Vol. 69 No. 2, pp. 111–132 Blumenfield, M (2008), "Brand rankings find top CUS have one thing in common: they stay true to values",
3. Credit Union Journal, Vol. 12 No. 36, p.16 Basu, K. and G. Palazzo (2008),
4. "Corporate social responsibility: a process model of sense making",
5. "Corporate social responsibility: Strategic implications
6. "Corporate social responsibility: whether or how?",
7. Gangadharan.G.R. and Swamy, N., Sundaravalli. (2004) 'Business Intelligence Systems: Design and Implementation Strategies', Proceedings of 26th International Conference on Information Technology Interfaces, Cavtat, Croatia. Retrieved 15 March, 2007 from http://ieeexplore.ieee.org/ xpls/abs_all.jsp?arnumber=1372391 [8].
8. Goebel Michael and Le Gruenwald (1999) , 'A survey of data mining and knowledge discovery software tools', Volume 1 , Issue 1 (June 1999) Publisher ACM New York, NY, USA .
9. Golfarelli Matteo, Rizzi Stefano and Cella Luris. (2004) 'Beyond Data Warehousing: What's next in Business Intelligence?' Proceedings of DOLAP-04, Washington, DC, USA. Retrieved May 17 2006 from www.acm.org [10]. Inmon, W.H. (1999) 'Build
10. Companies Act, 2013
11. CSR Rules, 2014

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Significance of Biomechanics in Physical Education

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Abstract

Biomechanics is study of forces and impact of sports event during performance. It helps to execute a correct skill during sports event. Biomechanics help us being a better teacher of physical education, a better coach or a better worker in the field of recreology. In this paper I have tried to present reasons why students of physical education, coaching, and recreology find biomechanics included in their curriculum.

The major goal of biomechanics of sport and physical exercise is to improve performance in given sport or physical exercise. In a wider context the goal of biomechanics of sport and physical exercise is also to increase physical fitness.

Biomechanics can fulfill its goals by Performance Improvement. The performance can be improved by Technique Improvement. In many sporting events technique is the major factor of performance. **Injury prevention and rehabilitation are currently among very important goals of research in the field of biomechanics of sport and physical exercise.** Injury reduction is caused through changes to equipment function by biomechanics.

With the help of biomechanics it is possible to manage the teaching and training processes far better. **Using the knowledge of biomechanics we can achieve better performance of our charges and teach new skills to our students on a higher level or, as the case may be, in a shorter time.** Students of sports training, physiotherapy, or sport medicine can also use the knowledge of biomechanics in their work.

INTRODUCTION:

Biomechanics is study of forces and impact of sports event during performance. It helps to execute a correct skill during sports event. Biomechanics help us being a better teacher of physical education, a better coach or a better worker in the field of recreology. In this paper I have tried to present reasons why students of physical education, coaching, and recreology find biomechanics included in their curriculum.

Biomechanics is not focused only on sports or on human motion. In some of the articles we find information on plant biomechanics, the biomechanics of blood flow, etc. The word biomechanics can be divided into two parts: the prefix "bio" and the root "mechanics".

Knowledge of mechanics is essential for studying biomechanics. **Mechanics is concerned with the analysis of the action of forces on objects.**

Biomechanics studies forces and their impact on living systems. Being a student or a teacher of physical education, a coach, or a specialist in the field of physical exercise we are likely to be engaged in sporting or "fitness" activities. While doing so we often hear the following questions:

- Why do I have to do this skill exactly this way?
- Why do I have to use exactly this piece of equipment?
- What is the advantage of this technical execution?
- Why do I have to use exactly this load during strength training?

Biomechanics studies forces and their impact on living systems. In 1993 James G. Hay defined human biomechanics as follows:

"Human biomechanics is a branch of science studying the impact of internal and external forces on human body."

Sometimes biomechanics is identified with kinesiology. Kinesiology studies physiological, psychological, and mechanical rules in relation to the motions of living organisms. Therefore, kinesiology is superior to biomechanics.

McGinnis (2005) defined biomechanics of sport and physical exercise in the following way:

"Biomechanics of sport **and** physical exercise **studies forces and their impact on human body during physical exercise and sport."**

In this definition by sport is meant an organized, competitive, fun activity, requiring skills, ability, determination, strategy, and fair play, in which the winner can be determined by objective means within a firm set of rules. By physical exercise it is meant any intentional physical activity which enhances or maintains physical fitness, performance, health, or wellness.

OBJECTIVE OF BIOMECHANICS:

The major goal of biomechanics of sport and physical exercise is to improve performance in given sport or physical exercise. In a wider context the goal of biomechanics of sport and physical exercise is also to increase physical fitness. For instance the correct biomechanics of running allows athletes to carry out regular physical exercise for long enough periods of time without being seriously limited by injuries and their consequences.

The secondary goal of sport biomechanics is to provide recommendations for injury prevention and rehabilitation. This goal of sport biomechanics is strongly related to the main goal because a healthy athlete will perform better than an athlete plagued with frequent injuries.

FULFILMENT OF THE GOALS:

Biomechanics can fulfill its goals by Performance Improvement. The performance can be improved by Technique Improvement. In many sporting events technique is the major factor of performance. Martens (2004) define sport technique as follows:

"**Sport technique is a physical action of an athlete which leads to the best possible execution of a physical motion, in conformity with a required task of a given sporting event."**

Improvement of technique with the help of biomechanics can be used by teachers and coaches to correct motions of students or athletes. Moreover, research workers in the field of biomechanics may develop a new and more effective technique for better execution of a sport motion. In the former case teachers and coaches make use of the methods of qualitative biomechanics analysis in their every day practice to produce changes in the technique used by their charges. In the latter case research workers in the field of biomechanics use quantitative biomechanics methods to develop new techniques which can then be implemented into teaching and training processes.

METHODOLOGY:

For instance if a gymnastics coach sees that her charge has difficulties to turn a somersault she can come up with three recommendations to help the gymnast execute this exercise correctly:

1. to jump higher,
2. to fling arms with more energy before taking off, or

3. to curl up more tightly.

All these recommendations can help to execute this task correctly and are based on the principles of biomechanics. If the gymnast jumps higher, she has more time to finish the turn during the flight phase. To curl up more tightly means to increase the speed of rotation while keeping the same angular momentum. To fling arms with more energy increases the angular momentum which helps the gymnast to rotate faster.

With the use of biomechanics it is possible to specify motor actions or positions that can increase sport performance. I have already mentioned that with the use of biomechanics we can decide which technique is better than other and to justify such decision. Let us have a look at an example of quantitative biomechanics research. Researchers Estevan, Falco and Jandacka (2011) presented novel scientific information in taekwondo. The stance position is a factor that affects the mechanical performance of taekwondo athletes' kicks. The 90° stance position of feet with regards to the rival involves longer execution and total time than the 0° and 45° stance positions in the roundhouse kick. They concluded that the 0° and 45° stance positions seem more appropriate than the 90° stance position.

Among sport events that saw in the past substantial changes in technique are javelins, high jump, and cross country skiing.

Equipment Improvement is also essential for achieving the goals of biomechanics in sports. Use of biomechanics can also lead to a better look and better functioning of sport equipment. For example ski boots can have a real impact on sport performance. Sophisticated sport equipment gives advantage to both elite and recreational athletes.

Artistic gymnastics offers good examples. An introduction of the new vaulting equipment (vaulting table) after the 2000 Olympics represents the most substantial transition in the development of gymnastics equipment in the last decades. New vaulting equipment allows gymnasts to produce bigger angular momentum and thus to execute more complex vaults with multiple rotations around horizontal and vertical axes (Farana and Vaverka, 2010).

Researchers have recently also developed a new swimming suit which helped swimmers at the Sydney Olympics in 2000 better several world records because it has a favourable influence on the draft force and buoyancy of water that is acting against swimmers. This swimming suit had such an influence on sport performance in swimming, in fact, that its use was later banned.

Biomechanics can also help in training improvement. It can improve training of athletes in two ways:

First, by the analysis of mechanical values a coach defines such training conditions that may lead to threshold stimuli. We can use as an example the research project by Jandacka and Uchytil (2011), which carried out mechanical analysis of bench press with various loads in elite footballers. They discovered that the use of a load equaling to 30 – 50% of the load which the footballers were only able to lift once leads to maximal produced mechanical power output. The recommendation resulting from this research project was as follows: Soccer players should train maximal strength during the preparatory period for their competitive season along with training for speed and endurance. When athletes maximally develop muscular power toward the end of a season when the most important competitions are scheduled, dynamic effort strength training with loads from 30 to 50% of 1RM BP should be used. During the competitive season, loads of 50% of 1RM BP should be used to maintain muscular power over a wide load range.

Secondly by the analysis of technical imperfections of a given athlete the coach/teacher identifies the type of training needed for this athlete to improve. An athlete is limited by strength or endurance of certain muscle groups, by speed of motion, or by specific aspects of motion technique. Sometimes the limits are quite obvious. For example a gymnast executing the crucifix on the gymnastic rings must have very strong shoulder adductors. In the case of certain sport skills the required abilities to execute a motor task are not easy to detect and quantitative biomechanics analysis must be used.

Injury Prevention too can be managed by biomechanics. **By injury prevention it is meant an attempt to prevent or to limit the seriousness of injuries before they are actually incurred.** The concept of injury prevention is part of public health and its goal is to improve the general health of the population and thus to increase the quality of life. Biomechanics is a tool that can be used in sport medicine to identify forces and mechanical energy that cause injuries. It helps to understand how injuries originate, how to avoid them during sport performance, and how to identify exercise suitable for injury prevention and rehabilitation. Biomechanics offers possibilities to create alternative techniques of executing specific movements, using new equipment, and carrying out more effective training methods, which also contributes to injury prevention.

RESULT:

Good examples of how biomechanics helps reduce the prevalence of injuries can be found in volleyball. Zahradník and Jandacka (2011) examined whether it is possible to adapt the landing after a volleyball blocking to reduce impact reaction forces acting on knee joints. They found that it is better for volleyball players to make one step back after blocking as opposed to staying on the landing spot and absorbing the relevant forces there.

Another result of biomechanics analysis with the purpose of injury prevention was the causation study of the so-called iliotibial band syndrome. Various researchers have found that the lateral knee pain, typical for many distance runners who train regularly, represents roughly 12% of all injuries in runners. They also discovered that this syndrome may be caused by increased hip abduction and knee internal rotation during the stance phase, which causes strain in iliotibial band. From a large prospective study, female runners who incurred iliotibial band syndrome during the study were compared to a control group who incurred no injuries. Strain, strain rate and duration of impingement were determined from a musculoskeletal model of the lower extremity. This study indicated that a major factor in the development of iliotibial band syndrome was the strain rate. Therefore, Hamill et al. (2008) suggested that strain rate, rather than the magnitude of strain, could be a causative factor in developing the iliotibial band syndrome.

Injury prevention and rehabilitation are currently among very important goals of research in the field of biomechanics of sport and physical exercise. Injury reduction is caused through changes to equipment function by biomechanics.

One of the examples of using the results of biomechanics research for improving the functioning of sport equipment can be found in running. The number of people who realize the importance of healthy life style is recently growing. Running, as an elementary human locomotion, is a legitimate part of healthy lifestyle. But the growing numbers of people engaged in running also brought higher prevalence of injuries. Running shoes at the beginning of the 1970s were too stiff for inexperienced runners. Among the injuries with growing prevalence were stress fractures and shin bone pain. Shoe manufacturers therefore started to market shoes with soft soles. However, soft soles did not offer good stability and motor control. Runners started to suffer from ankle, knee and hip injuries. Biomechanics research has made it possible to manufacture running shoes which reduce impact forces and, at the same time, offer good stability and motor control. With the help of biomechanics it is even possible to recommend custom made shoes for individual athletes. Prevalence of injuries in running has decreased again.

Isn't human body itself the best equipment for running? People who wear shoes from very early age mostly touch the ground first with their rear foot when they walk. Lieberman et al. (2010) studied the style of running in Kenyans who never wore shoes and assert that in barefoot running people naturally touch the ground first with their forefoot. This produces slower loading rate in foot compared to running in shoes and touching the ground first with rear foot. Grand reaction forces during running may cause chronic injuries that runners often suffer from.

CONCLUSION:

Good knowledge of biomechanics allows us to evaluate a technique of motions in a sport we never personally did, as well as a new technique in a sport we have been doing for years. Training methods based on the traditional approach always recommend which skills and techniques we should learn but biomechanics answers these questions, too, and many more. With the help of biomechanics it is possible to manage the teaching and training processes far better. **Using the knowledge of biomechanics we can achieve better performance of our charges and teach new skills to our students on a higher level or, as the case may be, in a shorter time.** Students of sports training, physiotherapy, or sport medicine can also use the knowledge of biomechanics in their work.

References:

1. A regression model to determine load for maximum power output" (Jandacka, Vaverka 2008).
2. "Adductor longus mechanics during the maximal effort soccer kick" (Charnock, Lewis, Garrett, Queen 2009).
3. "Influence of the distance in a roundhouse kick's execution time and impact force in Taekwondo" (Falco, Alvarez, Castillo, Estevan, Martos, Mugarra, Iradi 2009).
4. Effects of the rider on the linear kinematics of jumping horses (Powers, Harrison 2002)
5. Computer simulation of the effects of shoe cushioning on internal and external loading during running impacts (Hamill, Miller 2010).
6. A prospective study of iliotibial band strain in runners (Hamill, Miller, Noehren, Davis 2008).

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THEME: Global Ppportunities in the Context of Digital Era for Sustainable Indian Economy.
SUB THEME- Digital Marketing

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ABSTRACT-

Marketers are facing new challenges and opportunities within this digital era. Digital marketing is the utilization of electronic media by the marketers to promote the products or services into the market. The main objective of digital marketing is attracting customers and allowing them to interact with the brand through digital media. This article focuses on the importance of digital marketing for both marketers and consumers. This study has described various elements of digital marketing, its effectiveness and comparison between traditional marketing and digital marketing.

Keywords- Digital Marketing, Promotion, Effectiveness,Traditional Marketing

INTRODUCTION-

Digital Marketing is an umbrella term for the marketing of products or services using digital technologies mainly on the internet, but also including mobile phones, display advertising and any other digital medium.

Digital Marketing techniques such as Search Engine Optimization (SEO), Search Engine Marketing (SEM), Content Marketing, Influencer Marketing, Content Automation,

Campaign Marketing, Data driven Marketing and e-commerce Marketing (Electronic Commerce) are becoming more and more common in our advance technology. In fact this extends to non-internet channels that provide digital media, such as smartphones (SMS and MMS) call back and on-hold mobile ringtone. Through digital media, consumers can access information any time and any place where they want. With the presence of digital media,

consumers do not just rely on what the company says about their brand but also they can follow what the media, friends, associations, papers, etc., are saying as well.

The main objective to identify the effectiveness of digital marketing in the competitive market are as follows-

1. To show the various elements of digital marketing;
2. To focus on the basic comparison between traditional and digital marketing;
3. To show the various advantages of digital marketing to the customers.

DEFINITION-

Digital marketing is a form of direct marketing which links consumers with sellers electronically using interactive technologies like emails, websites, online forums and newsgroups, interactive television, mobile communications etc. The term Digital Marketing was first used in 1990's, but Digital Marketing has roots in the mid 1980's when the SoftAd Group, now Channel Net developed advertising campaigns for automobile companies, where in people would send in reader reply cards found in magazines.

Digital Marketing is often referred to as 'Online Marketing', 'Internet Marketing' and 'Web Marketing'. The term Digital Marketing has grown in popularity over time, particularly in certain Countries. In the USA *online marketing* is still prevalent, in Italy is referred as *web* *marketing* but in the UK and worldwide, *digital marketing* has become the most common term, especially after the year 2013. Digital marketing became more sophisticated in the 2000's and the 2010's the proliferation of devices' capability access digital media at almost any given time has led to great growth of digital advertising.

TRADITIONAL MARKETING V/S DIGITAL MARKETING

Traditional marketing is the most recognizable form of marketing. Traditional marketing is non-digital way used to promote the product or services of business entity. On the other hand, digital marketing is the marketing of products or services using digital channels to reach consumers. Some comparisons are presented below-

Traditional Marketing	Digital Marketing
1. Traditional marketing includes print, broadcast, direct mail, and telephone.	1. Digital marketing includes online advertising, email marketing, social media, text messaging, affiliate marketing, search engine optimization, pay per click.
2. No interaction with the audience.	2. Interaction with the audience.
3. Results are easy to measure.	3. Results are to a great extent easy to measure.
4. Advertising campaigns are planned over a long period of time.	4. Advertising campaigns are planned over short period of time.
5. Expensive and time-consuming process.	5. Reasonably cheap and rapid way to promote the products and services.
6. Limited reach to the customer due to limited number of customer technology.	6. Wider reach to the customer because of the use of various customers' technology.
7. 24/7 year-round exposure is not possible.	7. 24/7 year-round exposure is possible.
8. No ability to go viral.	8. Ability to go viral.
9. One way conversation.	9. Two ways conversation.
10. Responses can only occur during work hours.	10. Response or feedback can occur anytime.

ELEMENTS OF DIGITAL MARKETING.-

There are various elements by which digital marketing is formed. All forms operate through electronic devices. The most important elements of digital marketing are given below:

(i)Online advertising-

Online advertising is a very important part of digital marketing. It is also called internet advertising through which company can deliver the message about the products or services. Internet-based advertising provides the content and ads that best matches to consumer interests. Publishers put about their products or services on their websites so that consumers or users get free information. Advertisers should place more effective and relevant ads online. Through online advertising, company well controls its budget and it has full control on time.

(ii) Email Marketing-

When message about the products or services is sent through email to the existing or potential consumer, it is defined as email marketing. Direct digital marketing is used to send ads, to build brand and customer loyalty, to build customer trust and to make brand awareness. Company can promote its products and services by using this element of digital marketing easily. It is relatively low cost comparing to advertising or other forms of media exposure. Company can bring complete attention of the customer by creating attractive mix of graphics, text and links on the products and services.

(iii) Social Media-

Today, social media marketing is one of the most important digital marketing channels. It is a computer-based tool that allows people to create, exchange ideas, information and pictures about the company's product or services.Social media marketing networks include Facebook, Twitter, LinkedIn and Google+. Through Facebook, company can promote events concerning product and services, run promotions that comply with the Facebook guidelines and explore new opportunities. Through Twitter, company can increase the awareness and visibility of their brand. It is the best tool for the promotion of company's products and services. In LinkedIn, professionals write their profile and share information with others. Company can develop their profile in LinkedIn so that the professionals can view and can get more information about the company's product and services. Google+ is also social media network that is more effective than other social media like Facebook, Twitter. It is not only simple social media network but also it is an authorship tool that links web-content directly with its owner.

(iv) Text Messaging-

It is a way to send information about the products and services from cellular and smart phone devices. By using phone devices, company can send information in the form of text (SMS), pictures, video or audio (MMS).

(v) Search Engine Optimization (SEO)-

Search engine optimization (SEO) is the process of affecting the visibility of a website or a web page in a search engine's "natural" or un-paid ("organic") search results. In general, the earlier (or higher ranked on the search results page), and more frequently a website appears in the search result list, the more visitors it will receive from the search engine users. SEO may target different kinds of search including image search, local search, video search, academic search, news search and industry-specific vertical search engines.

ADVANTAGES OF DIGITAL MARKETING-

With rapid technological developments, digital marketing has changed customers buying behaviour. It has brought various advantages to the consumers as given below:

(i) Stay updated with products or services-

Digital marketing technologies allow the consumers to stay with the company information updated. Nowadays a lot of consumer can access internet any place anytime and companies are continuously updating information about their products or services.

(ii) Greater engagement-

With digital marketing, consumers can engage with the company's various activities. Consumers can visit company's website, read information about the products or services and make purchases online and provide feedback.

(ii) Greater engagement-

With digital marketing, consumers can engage with the company's various activities. Consumers can visit company's website, read information about the products or services and make purchases online and provide feedback.

(iii) Clear information about the products or services-

Through digital marketing, consumers get clear information about the products or services. There is a little chance of misinterpretation of the information taken from sales person in a retail store. However, Internet provides comprehensive product information which customers can rely on and make purchase decision.

(iv) Easy comparison with others-

Since many companies are trying to promote their products or services using digital marketing, it is becoming the greatest advantage for the customer in terms that customers can make comparison among products or services by different suppliers in cost and time friendly way. Customers don't need to visit a number of different retail outlets in order to gain knowledge about the products or services.

(v) 24/7 Shopping-

Since internet is available all day long, there is no time restriction for when customer wants to buy a product online.

(vi) Share content of the products or services-

Digital marketing gives viewers a chance to share the content of the product or services to others. Using digital media, one can easily transfer and get information about the characteristics of the product or services to others.

(vii) Apparent Pricing-

Company shows the prices of products or services through digital marketing channel and this makes prices very clear and transparent for the customers. Company may regularly changes the prices or gives special offers on their products or services and customers are always in advantages by getting informed instantly by just looking at any one mean of digital marketing.

(viii)Enables instant purchase-

With traditional marketing, customers first watch the advertisement and then find relevant physical store to purchase the products or services. However, with digital marketing, customers can purchase the products or services instantly.

CONCLUSION-

Digital channel in marketing has become essential part of strategy of many companies. Nowadays, even for small business owner there is a very cheap and efficient way to market his/her products or services. Digital marketing has no boundaries. Company can use any devices such as smartphones, tablets, laptops, televisions, game consoles, digital billboards, and media such as social media, SEO (search engine optimization), videos, content, e-mail and lot more to promote company itself and its products and services. Digital Marketing may succeed more if it considers user needs as a top priority. Digital Marketing results won't come without any trial or attempt. Companies should create innovative customer experiences and specific strategies for media to identify the best path for driving up digital marketing performance.

RESEARCH METHODOLOGY-

Data is collected from Secondary sources.

REFRENCES-

http://en.wikipedia.org/wiki/Affiliate_marketing

http://en.wikipedia.org/wiki/Search_engine_optimization

http://www.businessdictionary.com/definition/digital-marketing.html

http://www.simplydigitalmarketing.com/what-is-digital-marketing

www.researchhelp.com

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The Management of Physical Education & Sports in Colleges

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Abstract

It is important to understand the framework of management of physical education and sports. The field for physical education is in transition and athletic programmes are experiencing many new challenges. In the mean time sports management is an emerging concept although the truth of the matter is that the management itself is an emerging concept. From one stand point, sports are perhaps better understood through experiences than through any attempt to analyze the nature of activity externally. Each of us had our own experiences in sports and with sport, and such experiences are probably essential in our understanding of sport. Management is the science – Same say out of managing resource including the most unpredictable the human being in a well co-ordinate towards the fulfilment of the goals of the organization."*Management is the process of planning, organising and controlling the resource of an organisation in efficient and effective result of specified organizational goals"*

The need for good teamwork in any organization is being recognised increasingly especially with increasing competition in the market place. *'Management do things right', 'Leaders do the right things'.* The role of an inspiring leader in any given situation has been recognised from time immemorial. A leader's presence and his vision can make a big difference.

"Tatha Raja Yatha Praja" – The people tend to be like the leader.

The available literature on nature of management is rather extensive. In spite of the assortment of ideas on the subject, there tends to be a strong thread of continuity in the approach that is followed. By and large, management is analyzed by considering the functional activities that constitute the management process. Sport and management shares are major common denominator. As was said earlier the nature of sports may be better understood through experience in sport than through theoretical explanation. The very same thing can be said about management. The best way to learn about management is to get involved with it.

Introduction:

It is important to understand the framework of management of physical education and sports. Off course, we invariably have to begin with the current situation. Seldom do we have opportunity to start from scratch. Therefore it will be evident that a considerable amount of attention has been given to an analysis of the present structure of functions in schools and colleges sports programmers. However, it is equally important to recognize that things are changing and the need for further change is increasingly evidence.

The filed for physical education is in transition and athletic programmes are experiencing many-new challenges in the mean time sports management in an emerging concept although the truth of the matter is that the management itself is an emerging concept management of sports programmes in the schools and colleges is not something new. It has been there and continues to be there what could be called disjointed from. What is needed is an integrated sports management programme that proceeds from a systematic approach to management.

To manage is to plan, organize, staff, directing and controlling. Although each of these functions is allured being carried out in schools and colleges sports programme there is good reason to believe that each could also be handled much more effectively.

Management and Sports:

From one stand point, sports is perhaps better understood through experience than through any attempt to analyze the nature of activity externally. Each of us had our own experiences in sports and with sport, and such experiences are probably essential in our understanding of sport. However, a full understanding is restricted through the every limitation of personal experience. It is impossible for anyone to generalize accurately only from what represents our experimental background. For example, someone may have minimum or no background, may have or no involvement either as a participant or a spectator, with the "trinity" of American sports (football, basketball and base ball) as identified by Michael Novak in the joy of sports. Likewise person may not have seen a game of lacrosse or field hockey any yet be an avid football fan. In such cases, the difference in experimental background would likely yield contrasting conclusions regarding the nature of sport. So, in spite of the importance of the sports experience in gaining a partial understanding of sport it seems desirable to enhance that perspective within the frame work of a broader theoretical structure. I have selected three works that seems of offer a potential source of theoretical. In support for sport managers who are seeking a basis for policy development. In each case, a summary of the work is presented within the context of the management implication for those working in college programmes.

Four our purpose we may note Novak's analysis of issues or areas in which serious question have been raised or should be raised concerning the conduct of sport programmes. It seems rather unlikely that anyone who is involved with the management of a college sport programme can avoid most of these questions.

(1) Woman and Sport
(2) Relation of Sport to Politics and Morality
(3) Regionalism and Sport
(4) The press and Sport
(5) Coach

Nature of Management

Management is the science - Same say out of meaning resource including the most unpredictable the human being in a well co-ordinate efficient manner toward the fulfillment of the goals of the organization.

The basic needs of human being vary widely, for some a mere meat a day, what is needed to survive and work while for some others, the basic needs have different connotation. After the basic needs are met, the person will look for safety in work place.

Management Defined:

Every management author or management professor seems to have developed a different definition for management Nevertheless; the basic meaning of the term has remained virtually un charged over the years for the purpose of this study. We will define management as follow:

"Management is the process of planning, organizing leading and controlling the resource of an organization in efficient and effective result of specified organizational goals.

In the process of clarifying this definition, an analysis of the term's efficient and effective would be appropriate. An efficient manager does right things. An efficient manager

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uses resources carefully an expertly. Maximizing their application on the task at hand. The efficient Manager achieves greater output at lower costs. The effective manager on the other hand understand the priorities of the organization and place emphasis on those things that are most important for success.

Managers and supervisors are warned against begin soft with the people under their control. They are told to deal with the people firmly and hot tolerate any breath of discipline while managers and supervisors undergo training in technology planning and other quantifiable are human relation training is left mostly to the personal department. That is why most managers are weak in dealing with people as human beings.

The Art of Pulling Together:

The need for good teamwork in any organization in being recognized increasing especially with increasing competition in the market place. Mass production of items as opposed to one or two items begin made in the past involves breaking up a job into its various attention co-ordination of these various functions and providing leadership are the direct responsibility of the owner or chief executive of the organization.

The art of leading people: -

"Management do things right, leaders do the right things”. State warren Benin's in their book leaders. The role of an inspiring leader in any given situation has been recognized from time in memorial. A leader’s presence and his vision can make a big difference. The presence of a leader helps people to rise from mediocrity to excellence. "Tatha raja Yatha Praja" The people tend to be like the leader.

1. Trust your sub ordinates
2. Develop a vision
3. Keep yourself cool
4. Encourage risk
5. Be an expert
6. Invite dissent
7. Simplify

Sport and management shares are major common denominator. As was say earlier the nature of sports may be better understood through experience in sport than through any theoretical explanation. The very same thing can be say about management. The best way to learn about management is to get involved with it. Nevertheless as an sport experience, that does not necessary in the management experience in the story in an effective manner. A colloguial expression says that "we can't see the forest because of the tree" that may be applicable to management and sport.

The available literature on nature of management is rather extensive. In spite of the assortment of ideas on the subject, there tends to be a strong thread of continuity in the approach that is followed. By and large, management is analyzed by considering the functional activities that constitute the management process. Differences can be noted in the functions that a included in the total process of management however for the most part the differences are more superficial than real. For example one writer may identify five principle functions in management whereas another sets forth seven functions, closer examination will probably reveal the only real difference stands from the way in which the categorization and sub grouping are approached.

Following is a listing of the more commonly identified functions of management.

Planning, Organizing, Staffing, direction, Controlling, Evaluating, Communication, Decision-making.

Institutional Objectives:

The proceeding objectives were advanced from the perspective that they are individually oriented. There are possibilities regarding what an individual consumer might seek through involvement with a sport programme. That consumer could be a participant or a spectator, but it is obvious that each obvious that each objectives is not equally applicable to each type of sport consumer. These objectives are important because management naturally wishes to offer a programme that meets the needs and interest of the consumer, which in turn are reflected in the individual objectives. The following objectives fall within category.

1. Enhancing the image of the college.
2. Developing College spirit.
3. Positive Association with the College.
4. Contributing to the total education programme.

One Major component of planning remains to be considered is the broad area of policy development. It is being considered at this point because it occupies a different place in the total process of planning. Setting objectives planning the programme budget and the planning procedures are all matters that calls for initial attention. By contrast even through policies will ultimately represent some of the factors of planning which were evolved over a period of time therefore, it seems appropriate to think of policies in the form of policy development before examining the potential policy domain in college sport programmes. Planning is usually begging with some form of forecasting. The nature and extend of the forecast will largely depend on the circumstances that around the particular organization. It is not easy to identify the specific need for forecasting when planning a college sport programme.

Organizing A College Sport Programme

General factor in organizing:

Why do we organize? The most basic need for the organizing function is to provide the machinery or network for carrying out the planning faction. The organizational structure should offer or means for determining how each group member can contribute to the achievement to the goals or objectives of the organization. Thus from a simple stand point the division of work is a principal consideration then we organize however there is much more involvement in addition to deciding who does what we also organize to provide the means for interaction communication and co-operation among group members. Although there may we considerable variance from organization to organizing regarding he extant of independent work. All members of any organization or two some extant dependent on the work of their fellow group members to state somewhat differently, one never completely works in isolation with in an organizational structure.

Steps in organizing : Following are the steps in organizing college and sports programms:

1- Work must we broken down into specific tasks so that it can we fit to the specialized skills of the people in the organization.

2- Activities must be grouped into units of workable size, no unit should we so large that it is unmanageable or small that is inefficient.

3- Resource must be provided and responsibility delegate commensurate with the state objective of each unit it is sign of managerial inexperience to expect results from a person or group when the necessary tools for such results has not been supplied.

4- "Duties of every unit and every employee category must be defined. Employees may not live into management expectations otherwise.
5- Personal must be assigned to the units to falsehood the organization, which untill then is simply a paper structure.
6- Tasks and relationships must be specified in details this can be most difficult of all because in any organization there are overlapping across where two or more groups seek jurisdiction.

Controlling A College Sport Programme:

Any standard dictionary is likely to provide somewhat diffuse definitions of the word control we tend to use that word in various contexts with different meanings. However, in general the idea of control we tend to use that word in various contexts with different meanings. However, in general the idea of control conveys thoughts about restraint, regular managerial function of controlling but in a sense they only reveal half of the picture from a management perspective, certain things must be kept in check within limits yet is equal as important to provide the stimulation for moving beyond existing limits in an effort toward improvement. Evaluation is the key concept in the managerial controlling function. It is the pivotal process between performance standards and the reporting system, as initial components in controlling and the system the culmination of the controlling function. In that respect, it is much like the organism and staffing functions.

Conclusions:

The concept of control is actually a very pervasive factor in college sport programmes. There is a need for same kind of control with respect to each of the following consideration in the total programme, budget, facilities equipment game management eligibility and personal. The reason should be approach personal control is the key to carrying out all other aspects of the controlling function. The personnel performance will determine the relative effectiveness in controlling the budget, facilities or any of other control factors. Some of the performance standards are aimed directly at those factors for example one would certainly expect that budgetary control would be a principal area in setting performance standards for an college sports programme.

References:

Kotler Philips - Marketting Management.

Anand R.L. - "Planning of the Educational Programme of Higher Institutes of Physical Education & the Different problems." SNIPES Journal.

Bucher, Charles, A. (ed.), 1987, Management of Physical Education and Athletic Programs, Saint Louis : Times Mirror/Mosby College Publishing.

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The Beginning of Wisdom is the Practice of Mindful Analytic Reasoning: Hermeneutic Analysis of Sankhya Yoga in the Light of Psychotherapy

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Abstract:

Introduction:

Wisdom has recently been considered as a valid concept of scientific investigation. Wisdom is often associated with maturity and age. Wisdom is a multi-dimensional construct with cognitive, emotional, social and spiritual components. Wisdom is often associated with philosophy. Philosophy encompasses the use of logic and analytic reasoning. Wisdom leads to insight. In therapeutic terms this could be conceptualized as an extension of psychotherapy in its broadest definition. Mindfulness is a recent concept, derived from the philosophical and spiritual wisdom traditions of India, gaining grounds in modern psychotherapy.

Sankhya Yoga forms the second chapter of the Bhagavad Gita, the Sanskrit scripture which is part of the great Indian epic, the Mahabharata. The Bhagavad Gita is considered as one of the classical texts of Yoga and its philosophy and practice. The Sankhya philosophical tradition forms one of the six such traditions of Indian philosophy called Sankhya Darshana seen as leading to emancipation. Sankhya Yoga, has been interpreted variously as knowledge, logical analysis, analytical reasoning, wisdom, etc. For the present purpose it is translated as the practice of Mindful Analytic Reasoning.

Objectives:

The objective of this study is to use the qualitative analytical technique of hermeneutics applied to the Sankhya Yoga part of the Bhagavad Gita using the modern concept of psychotherapy as a preliminary groundwork towards wisdom and explore its potential utility as a therapeutic foundation technique of wisdom as psychotherapy.

Design and Method:

Hermeneutics is the study of interpretation and meaning. It is derived from philosophy of science. It is a qualitative research analytical method well suited for the study of ancient literature. This method is used to explore and interpret the Sankhya Yoga as a preliminary foundation towards wisdom in psychotherapy.

Results:

The exploration reveals modern conceptualization of wisdom and its multidimensional components were as relevant and present in the content of these ancient scriptural aphorisms. The pragmatic nature of the propositions become apparent: Mindful Awareness, Duty without Desire and Achieving Equanimity. The potential therapeutic nature of the study of the text and experiential application for personal transformation can be demonstrated. Further it is proposed that Sankhya Yoga can form the basis for modelling a foundational wisdom method of psychotherapy.

Conclusion:

Wisdom can be a modern therapeutic construct and a valid therapeutic concept much valued in the ancient traditions. The Sankhya Yoga, conceptualized as Mindful Analytic

Reasoning, described in the second chapter of the Bhagavad Gita, a classical manual of Yoga and a revered scripture, can be understood as a pragmatic application of a traditional wisdom practice and as a potential preliminary intervention technique in wisdom based psychotherapy.

Key Words: Wisdom, Psychotherapy, Bhagavad Gita, Sankhya Yoga, Mindful Analytic Reasoning

"The beginning of wisdom is found in doubting; by doubting we come to the question, and by seeking we may come upon the truth." Pierre Abelard, medieval French scholastic philosopher, theologian and preeminent logician

Introduction:

The concept of wisdom is very ancient. Throughout civilization we encounter in history the reverential place wisdom has occupied. It is seen as a most desirable precious quality or aspect of an individual to be endowed with. A person possessing wisdom or a 'wise man' has always been considered as one worthy of great respect and an asset to the community and society. Wisdom is seen as a sign of great maturity. Even today, in many cultures, people with difficulties or conflicts, that they have not been able to resolve, approach their wise elders. Wisdom is often associated with philosophy and spirituality. Philosophers are considered to be wise people and likewise a spiritual person is also seen as being wise.

In the Indian culture, we see the importance of wisdom in many everyday practices. Elders and teachers are assumed to be possessed of wisdom. Therefore the younger members are expected to treat them with great respect and show this through their actions and gestures. Prostrating, touching the feet and giving them priority and importance and serving them are customary and traditional practices. By doing so the younger generation are seen to be doing good karma and also benefitted through the elders' wisdom and blessings. In fact, in the ancient Vedic tradition, the wise, which included one's parents, teachers and guests, were considered equivalent to the Gods. We also see that the notion of wisdom is also prevalent in all the major religious traditions of the world as referred to in their scriptures and ancient traditional practices.

Science of Wisdom

The scientific study of wisdom is a recent concept. Wisdom is gaining increasing attention from neuroscientists and clinicians as a useful concept for understanding and its potential for therapeutic applications. Eric Erickson was a pioneer among modern psychologists to introduce wisdom as part of his personality development theory where wisdom is seen as a trait of successful matured personality in later life. Baltes and colleagues are among the modern scientists to study wisdom extensively. They conclude wisdom as the pinnacle of all achievements of a human being. Wisdom is conceived as "expertise in the pragmatics of life serving the good of oneself and others." In Sternberg's balance theory of wisdom, the basis of wisdom is a high level of common sense or practical intelligence. In the modern scientific theories of wisdom, the core paradigm of wisdom is the acknowledgement of uncertainty and adaptability. As per the modern scientific theories, wisdom is a multidimensional complex of human traits with several components. Those components seen to be commonly occurring are: (1) rich life knowledge (2) good emotional regulation (3) being insightful (4) good social decision making ability (5) contributing to the common good

(6) tolerance towards different values (7) openness to ideas (8) decisiveness (9) refined humour and (10) spirituality. A wise person is seen as one who not only thinks but also acts wisely.

Wisdom as Therapy

Health care and well-being are the areas of human endeavour where therapy is seen to have a role. Modern concept of health and well-being are multidimensional with not only physical but also psychological, social, environmental and spiritual wellness. There are several well established therapies with good evidence base for psychosomatic and mental health conditions. Cognitive Behaviour Therapy (CBT) is one such psychotherapy. More recently, Mindfulness, a concept taken from Eastern philosophical and spiritual traditions, has been integrated with modern psychotherapy, especially with CBT. There is now established and growing evidence of the effectiveness of such techniques in the management of several chronic physical and psychological conditions. Broadly, psychotherapy facilitates improved awareness, emotional regulation, insight and improved problem solving skills. Some of the components of wisdom can be seen as being in common with the therapeutic outcomes of psychotherapy. Therefore it would be reasonable to conceptualize wisdom as a framework for healing and help lay a foundation for understanding and creating models of recovery, preventive health and well-being.

Wisdom of the Bhagavad Gita

The Bhagavad Gita forms part of the great Indian epic – the Mahabharata authored by the sage, Maharishi Veda Vyasa. Often referred to as 'the Gita', it is considered as a holy scripture in the Hindu religion. It is also considered as a synopsis of the extensive and rich cultural and philosophical tradition and spiritual Vedic heritage of India which is continuing from the ancient Vedic times. The backdrop of the Gita is a battlefield. Here Arjuna, a great and noble warrior is ready to fight, along with his brothers, against his greedy and cruel cousins who have taken over the kingdom by deception and ruling over it tyrannically. Krishna, who is considered an avatar of God, plays the role of Arjuna's charioteer and who is also his good friend, philosopher and guide throughout. Seeing his own family and friends in the battlefield ready to fight a bloody and harsh war, Arjuna becomes greatly distressed, overwhelmed, disillusioned, full of doubt and depressed. Then, with great compassion and benevolence, Krishna expounds the Gita, which empowers and restores self-confidence to Arjuna. Arjuna then fights bravely and valiantly and conquers his enemies winning the battle and thus restoring justice and peace in the kingdom. The dialogue between Krishna and Arjuna is presented as a narration by Sanjaya, a wise counsellor, to the blind king Dritharashtra, father of the aggressing cousins.

Several indigenous and Western Indic scholars have emphasized the secular nature and universal applicability of the tenets of the Bhagavad Gita. Further, several scholars have highlighted the meaningfulness of the concepts expounded in the Gita to modern living and their relevance in different cultural settings. Several ideas of the Gita have similarities with the modern concepts of wisdom. Similarities as observed through quantitative and qualitative analysis include the enriching of life knowledge, emotional self-regulation, decisiveness, insight, humility, compassion, sacrifice, action for social good and spirituality. The aspects that are different and possibly have a more cultural context are complete faith in and surrender to God, doing action as a duty and responsibility without expectation of results, self-effort and self-contentedness as desirable qualities. Further, the emphasis is on Yoga or integration for holistic living and achieving the ultimate liberation from the desire-ridden material world and communion with the universal or God consciousness.

Analytic Reasoning and Affective Mood States

The ability to reason is what distinguishes man from the rest of the animal kingdom. Reasoning is the highest level of thinking capacity. There are generally, two types of reasoning: One is the instantaneous, instinctive, associative and effortless type of reasoning. This is protective and essential for survival and is operational during crisis and threats. This is a fight-flight response and a function of lower neurophysiological processes. The second type is the slow, intuitive, deliberate, effortful and analytic type of reasoning. This takes into account knowledge and experience and a weighing of alternatives before a decision is made. This is called salience of decision making and is a function of higher cortical processing in terms of neurophysiology and psychology. Even this second type, though it may seem a better form of reasoning may still be coloured by one's feelings or emotional state. Hence the outcome can be determined by the prevailing mood. It is not essential that a positive mood state may produce a more positive decision and vice versa. There are times when a better decision is made in a negative mood state. This has been demonstrated through psychological experiments as well. We see this in the creative expression of artists and musicians who have excelled at times of adversity and dejection in their lives. In terms of therapy, when a subject is demonstrating errors under the first type of reasoning, he/she is less likely to be amenable to correction as they are under substantial emotional and cognitive load or pressure. Therapy is more likely to be effective and the subject more amenable to correction when they are accountable and take ownership and responsibility for their decisions. Even here the process can be prolonged and dependent on the pervading affective mood state as this can affect the cognitive analytic reasoning process.

Mindfulness and Mindful Analytic Reasoning in Psychotherapy

In recent times, Mindfulness is a concept that is becoming more and more prevalent in psychotherapy as an effective tool. The concept of mindfulness has its origins in the ancient spiritual and philosophical traditions of India. It has especially gained recognition through Yoga and meditation especially through the Buddhist traditions that have more appeal to the modern scientific community. Mindfulness-based therapies come out of several robust systematic and randomized controlled research studies from prestigious academic and clinical centres from across the globe. To be mindful is to be aware or attentive or present. It is the moment to moment awareness of the present with a non-judgemental and non-reactive attitude. This increased awareness of sensations, impulses, thoughts and urges gives increased control over them allowing one to choose one thing over another. This is a skill that can be learnt and practiced and developed. Neuroscientific studies on subjects practicing mindfulness based techniques have revealed how neuroplasticity of the brain and the nervous system physiology can be affected in positive ways and sustained over extended time periods. In terms of therapy, such an ability can allow a subject to become more aware of physical and psychological processes and at the same time enhance his/her stamina and resilience to feel more in control and make wise choices whatever their prevailing affective mood state. In this study the attempt is to show how adding the technique of mindfulness to the analytic reasoning process can be a stepping stone to wisdom as described in the Sankhya Yoga of the Bhagavad Gita, defined as Mindful Analytic Reasoning.

Sankhya Yoga: the Practice of Mindful Analytic Reasoning

The Gita has 18 chapters. The second chapter, which is also the longest, is called Sankhya Yoga. Sankhya in Sanskrit, literally means related to numbers or counting or logic and analysis. Sankhya Yoga, thus can be seen as an integrative practice of analysis through a logical and meaningful or reasoned process. Sankhya Yoga appears to resonate with a more extensive classical Indian philosophical school called Sankhya Darshana. The best known work of this school is that of an ancient Sanskrit scholar named Ishwara Krishna who attributes the philosophy to a still ancient Sage named Maharishi Kapila. Sankhya Darshana forms part of the six classical Indian philosophical schools. The others are: Yoga Darshana, Nyaya Darshana, Vaisheshika Darshana, Mimamsa Darshana and Vedanta Darshana.

The first chapter of the Gita is called Arjuna Vishada Yoga wherein is described the faulty logic and distorted reasoning used by Arjuna culminating in a doubtful, dejected and despondent state. So, in the immediate succeeding chapter, we can see how Krishna begins the process of correcting this distorted cognition and negative feeling state through the exposition of the Sankhya Yoga. There is a gentle and compassionate process of correction that unfolds through imparting of knowledge and facilitation of self-awareness, self-understanding and self-management, a process that can be termed Mindful Analytic Reasoning thus laying the foundation for wisdom.

Design and Method:

Hermeneutics

Hermeneutics is a qualitative research methodology. It is the systematic application of interpretation and deriving meaning. It has its origins in the German philosophical works most notably that of Heidegger and Gadamer as applied to the natural sciences. The principles guiding hermeneutics encompass six dynamic research activities: 1) commitment to an abiding concern; 2) oriented stand toward the research question; 3) investigating the experience as it is lived; 4) describing the phenomena (through writing) 5) reframing (rewriting) and 6) consideration of parts and the whole of phenomena (gestalt). The method used is referred to as a hermeneutic circle. This comprises of reading, reflection (or reflective writing) and interpretation. Paradigm is essential for research. When applied to the qualitative research tradition this includes metaphysics, methodology, quality and ethics.

In the traditional Indian context, there is a Vedic tradition of interpreting important scriptural works through editorial, explanatory and expositional commentary called Bhashya by Vedic teacher-philosophers called Paramacharyas. In this sense too it makes hermeneutics a suitable method for studying the present paradigm. The present study is an attempt using the modern concept of psychotherapy in its broadest sense as an instrument for hermeneutic analysis of the second chapter of the Gita called Sankhya Yoga.

The Bhagavad Gita is an ancient literary and philosophical scripture in the Sanskrit language. Although the author does not claim to have a formal expertise in neither ancient Indian philosophy nor the Sanskrit language, he has some knowledge of both, by way of being a hereditary student and practitioner of Yoga and the Vedic tradition. Reliable translations and Sanskrit dictionaries have been consulted.

Psychotherapeutic Hermeneutics of Sankhya Yoga and the Beginning of Wisdom

In Sankhya Yoga, Sanjaya, who is providing a running commentary of the happenings on the battlefield to Dhritarashtra, thus narrates: Krishna, also known as the destroyer of delusion, having listened fully to Arjuna and seeing that he was tearful with his eyes lowered and recognizing that he was overwhelmed with sorrow and self-pity, spoke to him with compassion.

He begins by encouraging Arjuna to pause and attend to the origins of his misery. He poses him the question, from where upon had arisen this dejection, perilousness and crisis, when clearly it was against the nature of nobleness, goodness and honour that were his identity. He encourages him not to yield and become disempowered as it was against his nature. Addressing him as one capable of great effort he advices him to give up negative self-perception of worthlessness and self-assumption of faint-heartedness and to bring greater self-awareness into his being. In other words, Krishna gently encourages Arjuna to become mindful of himself and his situation without judging and reacting.

Arjuna, continuing with his doubt, asks Krishna, how he could get himself to fire missiles against his own granduncle, Bhishma, and his revered teacher, Drona (who were fighting on the side of the cousins), who were in fact so great that they were worthy of worship. He considers that it would be far better to live by begging than to slay such great masters and think that he could live happily, as such a living would be tainted and guilt ridden. If in the battle he were to slay all his cousins, he doubts what would be better, conquering or being conquered as then he wold not care to live. But in the midst of this doubt, he admits that his nature was burdened by disempowerment which had confused his understanding. He now places his trust in Krishna to guide him as a teacher for he was unable to find any remedy for his despair which was so overpowering that nothing would matter even if he were to be the unrivalled and the richest ruler of earth and beyond. Thus he surrenders completely to his plight with the resolve not to fight.

Krishna with a smile now gently encourages Arjuna to become mindful of how he was thinking. He begins by proposing that Arjuna had made conclusions about events that had not yet happened and he was grieving for those who perhaps did not deserve it but yet he appeared to speak as if out of wisdom.

Krishna continues that the truly wise should grieve neither for the living nor for the dead. With this, is introduced the bold concept of the indestructible nature of the spirit or vital force or vital energy within all sentient beings. It is neither created nor destroyed. In the cycle of continuity called samsara where the will and volition to exist and continue is that force or energy or spirit that is constant in the universe and so in this sense none was non-existent and none would cease to exist in the future. The spirit went through childhood, adulthood and old age and then passed on to another state. This appears to be similar to the law of conservation energy – energy can neither be created nor destroyed; rather, it transforms from one form to another. A deep meditation on this and understanding would make one peaceful.

Perceptions are created when the senses come in contact with the objects in the universe. Further these create feelings and so aversions and pains, and desires and pleasures. These are not permanent as they come and go. One can learn to not be affected by them by cultivating patience by observing them without coming under their sway in a reactive way - mindfully. These cease to torment a person who is balanced and steadfast through practice and is fit to attain wisdom. Perceptions can be misleading and not objectively real or existent. That is real which is indestructible – the spirit, as realized through wisdom.

Recognizing the indestructible nature of the spirit is emphasised in different ways as the beginning of wisdom. The next emphasis is on duty. Duty was to uphold goodness or righteousness or ethics and values of living. Hence engaging in actions which were ones duties i.e. responsible actions, would free one of legitimate guilt. Cultivation of this awareness or this self-knowledge would help one to overcome life's hurdles.

Krishna then motivates Arjuna by saying that the proof of this was in the practice. It would not be a wasteful exercise as there was no adverse effect and engaging even in a little practice would begin to show by reducing negativity. Becoming reactive to desires and aversions would be deceiving oneself and others by creating unreal goals and clinging to pleasures and power which only lead to misery in the end. The mind would then become unstable and one would be robbed of their discriminating ability.

By observation and self-awareness, by becoming more and more mindful, remaining balanced and being centred in the self (as opposed to being self-centred) the door to wisdom would be opened. One's rights and claims are on one's actions in the form of duties alone, and never on their results. Duty was to be performed therefore for duty's sake not in the expectation of a specific result. In doing so, one should be careful not to associate with inaction. Performing duties with an even mind being steadfast and balanced without anticipation of success or failure one gained equilibrium leading to equanimity. In equanimity one was able to perform actions that would be deemed to be wise. Inferior were actions which had specific motives as they were unstable pushing the performer into desperation. In equanimity one rose above not only bad deeds but also the so called good deeds, and actions became efficient and creative. Performing duty devoid of motives and the mind in equanimity would lead one to wisdom that could further lead to true freedom and towards a pure state of consciousness. When understanding transcended distortions of thinking one became unperturbed to perceptions of past, present and future. When the intellect attained equipoise in the wake of conflicting opinions one was in a ready state for wisdom.

At this juncture, Arjuna became composed and attentive. He asked Krishna, how would one know that a person ws established in wisdom and how would one recognize such a person? Krishna then goes on to describe the characteristics of a wise person. A wise person was contented and self-sufficient. A person whose mind had attained steady wisdom was not perturbed by adversity. The mind was not swayed by extremes of feelings, either negative like fear and anger or positive like happiness and fondness. The mind would be neither too excited at receiving so called good things nor too dejected at experiencing trauma. The wise person would be in control and not swayed by sensations aroused by objects or events outside. The senses were so powerful that they could easily lead astray even the mind of a wise person. When intuitively the wise had gained the full knowledge of the self then the senses remained in full control.

Man developed unhealthy attachments to sense objects by habituation. Through this unhealthy desires and cravings arose. When the cravings were not satisfied this led to dissatisfaction giving rise to anger. Misdirected anger deluded the mind and confused the memory which then led to ruin of reason. Ruin of reason was the harbinger of a self-destructive cycle.

By the practice of reasoned logical analysis as expounded, with disciplined practice one could manoeuvre the senses and regain tranquillity becoming free from aversions and attractions. The tranquillity so achieved destroyed suffering as the tranquil mind got anchored to equilibrium. When the mind became fickle and swayed by the senses, going after sense objects that mind was said to be not meditative and wisdom could not be established in such a mind. The roving senses carried away discrimination. Hence one had to practice restraint through reasoned logical analysis. The power of discrimination was high in a wise person. Such a person would be able to see through deceptions. What would be light to the wise may be dark to others and what the wise perceived as dark the others may falsely mistake for light.

The one well established in wisdom attained peace as all sensations entered him/her just as rivers entered the ocean that ever remained full and stable. Attaining such a state of super-consciousness there was no scope for bewilderment. In such a peaceful state one would be in communion or in oneness with the universal consciousness or ultimate reality.

Thus, with this chapter the foundation is laid for Arjuna to become composed and become more discriminating – the beginning of wisdom. Through mindful analysis with logic and reason he is helped to think with increased clarity and he finds himself emboldened and able to ask further questions. The succeeding chapters of the Bhagavad Gita explores further questions and concepts that ultimately lead to the emancipation of Arjuna. He then emerges empowered and self-confident, resuming to face his enemies on the battlefield with renewed vigour and vitality.

This hermeneutic exercise itself had been personally therapeutic to the author as it appealed to both a scientific and objective mind of a professional and also at the feeling level by empathizing with the plight of Arjuna, a common encounter in clinical practice. The discourse from Krishna appealed directly to the conscience and was motivating and inspiring. It did not conflict with any of the modern tenets of psychology, neuroscience and medicine and for that matter any creed of theology.

Conclusion:

There is a popular saying in therapy, "Pain is inevitable; suffering is optional". With the acceptance of the inevitable comes understanding. With increasing understanding we are in a better position to manage ourselves in spite of the adverse situation we may find ourselves in. Understanding is the beginning of wisdom. Understanding is a process that resonates with outcomes of psychotherapy. Mindfulness is a concept recently becoming more prevalent in psychotherapy that has its origins in the ancient traditions of India. The Bhagavad Gita is an ancient Sanskrit scripture of India revered as a practical manual for wise living. It has universal appeal and many of the concepts have parallels with modern scientific thinking. The scientific basis of wisdom as a concept in psychotherapy has potential practical relevance in clinical practice. The concept of wisdom is well established in the Gita. Sankhya Yoga, the second chapter of the Gita can be conceptualized as Mindful Analytic Reasoning, a practice that can lay the foundation for wisdom. Hermeneutic analysis of the Sankhya Yoga in the light of modern psychotherapeutic understanding especially Cognitive Behaviour Therapy and Mindfulness-based Therapy has been attempted to demonstrate the potential for use in therapeutic interventions for a broad range of conditions where suffering is a common factor. Although certain concepts may be seen as culturally oriented to Eastern traditional thinking, it has a broad and universal appeal and hence would be applicable with appropriate modifications and qualifications in a wider multi-cultural clinical setting. Future research could focus on empirical study of the methods proposed in a larger clinical setting. Further exploration and research in wisdom as therapy and particularly the Bhagavad Gita can be a worthwhile endeavour and enrich the understanding of human nature and also provide a therapeutic approach for preventive and transformative health, promotion of well-being and peace.

Declaration:

I declare that this is my original work and I am the sole author. There is no conflict of interest and no financial or material support whatsoever was received from any source.

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References:

1. Alter AL., Oppenheimer DM., Epley N. and Eyre RN.: Overcoming Intuition: Metacognitive Difficulty Activates Analytic Reasoning. Journal of Experimental Psychology: General 2007; 136 (4): 569 – 576
2. Apte VS: The Practical Sanskrit-English Dictionary Online: www.aa.tufs.ac.jp/~tjun/sktdic
3. Arnold, Edwin, Sir: The Song Celestial or Bhagavad-Gita (from the Mahabharata): Being a Discourse between Arjuna, Prince of India and the Supreme Being Under the Form of Krishna. Truslove, Hanson & Comba, Ltd., New York, 1900
4. Baltes, PB. and Smith, J.: The psychology of wisdom and its ontogenesis. In: Sternberg, RJ., editor. Wisdom: Its nature, origins and development. Cambridge University Press; New York: 1990
5. Bhatia SC., Madabushi J., Kolli V., Bhatia SK., Madan V.: The Bhagwat Gita and Contemporary Psychotherapies. Indian Journal of Psychiatry 2013; 55: 315 - 321
6. D'Souza R.: The Importance of Spirituality in Medicine and its Application to Clinical Practice. Medical Journal of Australia 2007;186: S57 – S59
7. Erikson, EH. Identity and the Life Cycle. International University Press; New York: 1959
8. Gangadhar BN.: Bhagwatgeeta: The Indian Treatise on Mental Health Care and Promotion. Asian Journal of Psychiatry; December 2011; 4 (4): 303
9. Heelan PA.: Scope of Hermeneutics in the Philosophy of Natural Science. Studies in the History and Philosophy of Science 1998; 28: 273 – 298
10. Holroyd AEM.: Interpretive Hermeneutic Phenomenology: Clarifying Understanding. Indo-Pacific Journal of Phenomenology 2007; 7 (2): 1 – 12
11. Jeste DV. and Vahia IV.: Comparison of Conceptualization of Wisdom in Ancient Indian Literature with Modern Views: Focus on the Bhagavad Gita. Psychiatry 2008; 71 (3): 197 – 209
12. Jeste DV.: Aging and Wisdom. Samatvam: A Quarterly Newsletter of NIMHANS Integrated Centre for Yoga, Bengaluru, India; October 2015; 4 – 8
13. Kabat-Zinn J. Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain and Illness. The Mindfulness Based Stress Reduction (MBSR) Program Used in Medical Centers Worldwide. 2013, Revised Updated Edition, Bantam, USA
14. Kafle NP.: Hermeneutic Phenomenological Research Method Simplified. Bodhi: An Interdisciplinary Journal 2001; 5:181 – 200
15. Monier Williams' Sanskrit–English Dictionary Online: www.sanskrit-lexicon.uni-koeln.de/scans/MWScan/2014/web/index.php

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Concept of Social-Emotional Nurturing, and Promotion of Problem Solving and Creative Thinking in Ancient Indian Systems of Learning: A Comparison with Modern Systems of Education

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Abstract:

Introduction

The ancient Indian system of learning involved a holistic program for all round development of the student. It also helped the student progress in the areas in which they had specific or special talents. Modern systems of education have a structured set up with a fixed curriculum and standardized testing methods. This review study aims to compare the ancient systems of learning with modern systems of education and suggest a probable integrated model of learning.

Objectives

To provide a brief overview of ancient Indian systems of learning through available traditional knowledge in the scriptures and also through other available sources. This review study also aims to compare the ancient system with modern systems of education. To suggest a more effective Integrated model of learning than what is available at present.

Design & Method:

Qualitative analysis and review study of different aspects of learning in the context of ancient and modern systems of education and learning

Results

The qualitative analysis and review study shows that the ancient Indian system of learning helped improve not just the intellectual and creative abilities of the students but also helped improve their physical prowess as well. The Gurukulas also provided a nurturing environment that promoted social-emotional and spiritual development. This system encouraged value based learning and independent thinking that helped develop high moral values, honesty and integrity in the disciples. In contrast, most modern education systems promote rote learning, conformist thinking and textbook based approaches. The student is not encouraged to question or argue against supposedly time tested beliefs and ideas. There are positive aspects of modern teaching as a structured environment is provided and there is a fixed curriculum and standardized testing methods that can be used universally.

Conclusion

From the review and analysis of ancient Indian systems of learning and modern education systems it can be concluded that an integrated model that incorporates the ancient methods of ability based training, compassionate teaching and positive aspects of modern educational curricula would be helpful in creating a generation of intelligent, well rounded and compassionate individuals that can better serve society.

"Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid." Albert Einstein

Introduction

Learning is a process of acquiring knowledge and skills through a process of study and experience. Education is a process of receiving instructions through a structured program. In ancient India the emphasis was on learning rather than education. The focus was all round development of the individual and empowerment for life. The ancient Indian system of learning also known as the Gurukula system comprised a comprehensive all round learning program. It incorporated all aspects of development such as cognitive, communicative, physical, social-emotional and even spiritual development. The disciple would be left in the care of a learned Guru in a residential set up or ashram at the age of eight and would stay there till the age of 18. The Guru was learned in all areas. He was capable of assessing each students strengths and abilities and training them accordingly.

A conducive environment was created to provide for the physical needs along with being helpful in nurturing the pupil's social and emotional development. The qualities of compassion and empathy were also sought to be instilled in the pupil. The Guru and his wife the Guru Matha were considered as foster parents to the disciple. They would provide not only for their physical needs and comforts but also provide emotional support. They would look after them with kindness and compassion. There would be a family and community kind of environment which made the transfer of knowledge both from and to the Guru easier. The position of the Guru was one of providing the knowledge and the interpretation and analysis was left to the disciple.

The following review study will help understand some basic aspects of social-emotional development, the Gurukula system and the importance of providing a nurturing environment. This study also hopes to provide a brief comparative overview of systems of learning in ancient India as compared to the current model of education and how it helped promote social-emotional development.

Social-Emotional Development

To understand how social and emotional development was fostered in ancient Indian systems of learning, it is first imperative to understand what it is. Social and emotional development is the ability to understand and express emotions, to form secure attachments, to empathize and explore the environment. According to the Collaborative for Academic, Social and Emotional Learning (CASEL) based in America there are five core aspects of social and emotional learning namely self-awareness, self-management, social awareness, relationship skills and responsible decision making.

Importance of Social-Emotional Development to Promote Holistic Child Development

Recent research studies show that social-emotional development plays a major role or is the key to the development of cognitive skills, communication skills and intelligence. Activities to promote social-emotional learning are now considered to be an important part of the curriculum in public schools in America. CASEL works towards research and practical application strategies to foster social-emotional development in children of different age groups. The latest research studies on early childhood development have shown that brain development is not just influenced by genes but also by the environment.

Social-emotional learning at a young age impacts a number of other areas including the connections that are formed in the brain. The way the child develops emotionally has a direct influence on forming neural networks that are responsible for memory, learning and organization. It is important to provide a nurturing and receptive social environment for the child to develop good social-emotional capabilities.

Research has shown that if social-emotional nurturing is not provided it hinders the cognitive and intellectual development of the child. If a stimulating and responsive environment is not provided then there is delayed development in all areas. In one study on orphaned children where there was no emotional connect or nurturing provided by the caregiver, development was delayed in almost all areas. When social and emotional nurturing was provided to these children they started to develop normally. Even children with developmental difficulties started to show positive changes.

Different Life Stages and Ashramas

In ancient India the lifespan of the individual was divided into different Ashramas or phases of life. The first was the Brahmacharya, then Grahasta then the Vanaprastha ashrama and lastly the Sanyasa ashrama. The Brahmacharya Ashrama was the stage of learning and the individual was considered a student or Brahmachari. The student life started with the upanayanam or sacred-thread ceremony usually at the age of eight years after which the child would be sent to the Guru's place known as the Gurukula where he/she would stay upto the age of eighteen years. From the age of eighteen to twenty four the student would go to higher education institutions to enhance knowledge in his area of expertise. This was followed by the Grahasta Ashrama which started after marriage and the individual would live a householders life. The next stage was the Vanaprastha Ashrama or the age of retirement where the householder would retire from active earning and be in the role of an advisor to the next generation. The last stage was the Sanyasa Ashram where the individual would dedicate himself to a spiritual life and withdraw from all worldly entanglements. In this study we will be focusing on the Gurukula system and modern education system upto the age of eighteen years. It is important to note that in the Vedic times women were also allowed to study in the Gurukulas and they were called Rishikas or Brahmavadinis. There were separate Gurukulas for women known as Kanya Gurukulas. But later, with the erosion of culture following invasions and oppression this became less prevalent.

Rationale behind the Age of Entry into Gurukula

Recent research studies have shown that the period from birth to eight years is a vital period in the development of the brain. It includes both physical, social, intellectual and emotional development.

The ancient Gurus or Rishi Munis must have analyzed this and hence the age of entry was fixed at eight years. This was done so that the child would be in a comfortable and free environment. The child could learn through observation and being with nature upto this age. Once the maturity both of the brain and emotional maturity is achieved, the child would be ready for a structured program and also to spend time away from the family. In Finland the age of entry to school is seven years and their model of teaching is considered to be a very successful one.

Qualities of the Guru

The word Guru literally means dispeller of darkness where ‘Gu’ mean darkness or ignorance and ‘ru’ means radiance or light which dispels darkness. The qualities of a Guru and the Shishya are mentioned in the Shiksha Valli of the Taittriya Upanishads. A Guru is one who has a high level of honesty and integrity. He would be well versed in all the scriptures, arts and sciences. He would have full control over his emotions and his sense organs. He would be highly spiritual and act as a role model to his disciples. The meaning of a role model here is that the Guru himself embodies all the qualities that he expects the disciple to have. If this happens the disciple will automatically develop positive attributes by imitating the Guru's behaviour and activities. The examples of great Gurus can be seen in ancient epics such as the Mahabharatha and the Ramayana. In the Mahabhartha the Gurukul training of both the Kauravas and the Pandavas by Dronacharya is described. In the Ramayana Rama's training under Guru Vasishta and also the learning provided in his journey with Vishwamitra is well documented. When Rama goes through a difficult time, it is his Guru Vasishta who counsels him. The Yoga Vasistha Maha Ramayana contains these discussions. Thus the ideal Guru was one whom you could approach to find solace and proper guidance in times of distress. The Guru was also considered a mentor to his students and a friend, philosopher and guide.

Qualities of the Student

The student or shishya was also expected to have certain qualities. The main quality was humility, the thirst for knowledge, being truthful, following dharma and having a learning attitude. The student was expected to have the ability to take criticism, be dedicated and diligent in his work. The student was expected to work and live cooperatively with other students. They should be able to work independently.

Environments in the Gurukula Compared with Modern Schools

The usual location for Gurukulas were the Ashramas that were situated in close proximity to nature. The ashramas were usually located close to the riverbank or at the edge of a forest in the midst of plenty of greenery. The Gurukulas were also places where the mode of living would be in harmony with nature. The classes would usually be conducted under the shade of trees in good weather and thatched hut or kutiras when it was not possible to go outdoors. The residential quarters would be constructed with locally available and ecofriendly materials. This helped create a therapeutic and calm environment that fostered both contemplation and assimilation of knowledge. The mode of living in the Gurukula helped the student understand the value and importance of sustainable living. This is the physical environment that was provided in the Gurukula.

The psychological environment was also a nurturing environment where the students would be considered part of a family. They would be expected to do all the duties and day to day activities of the ashram like a family member of the Guru. In return the students would be treated with the same respect and love as given to a son or daughter.

In ancient history it is hard to find shishyas in Gurukulas being punished either through beatings or harsh words. There are anecdotes of how moral stories and other methods were used in the case of truant pupils to aid in their self-realization and correct themselves.

Modern school environments in India are mostly based in concrete buildings. In some schools there is provision for a playground with limited amount of greenery. In most of the modern schools space is at a premium and many schools do not have play areas. The psychological environment is one of extreme discipline and structure. Free movement, discussion and a nurturing environment is not prioritized when schools are conceptualized. In some schools also called alternate education schools the ancient concept of vast spaces and locations close to nature are given priority. There is also emphasis in some modern schools on providing a nurturing environments but these are very few in number and not accessible to everyone.

In public schools in America now importance is given to school environments and a school environment assessment scale has also been devised. This is because it is now believed that social and emotional nurturing is an important factor in the normal development of the child. It is also believed that proper social-emotional nurturing can help prevent developmental delays. The school environment is therefore considered an important means to achieve this. Here again the focus area is on preschools.

Curriculum in Gurukula Compared with Modern Indian Schools

In ancient India the Gurukula system of teaching had the objective of not only imparting knowledge but also to develop the overall personality and character of the disciple. The teaching were based on the Vedas and Upanishads. The objective was also to preserve the rich cultural heritage of that time. The curriculum not only included the study of Sanskrit and other texts, art, science, astronomy, etc. but also fine arts such as music and dance. Training was also given in the martial arts, archery and yoga. This incorporated elements that would help physical, psychological, social-emotional and spiritual growth. There was no fees charged and the Gurukula was open to students from all walks of life

The modern educational curriculum focuses mostly on academic excellence. In the preschool years the main activities that children are taught involves reading, writing, math and other skills that will prepare them for school. In primary and secondary education establishments also academic achievement is considered the highest priority. The modern curriculum does have a component of sports and art and craft as extracurricular activities but these are mostly optional. Parents in modern times also prefer academic focused schools where importance is given to scoring high in order to get admission into premier universities.

The three syllabi used in India are the CBSE (Central Board of Secondary Education), ICSE (Indian Certificate of Secondary Education) and State Syllabus. The other curriculum being followed is the IGCSE (International General Certificate in Secondary Education, Cambridge University). The IGCSE system seems to incorporate some aspects of the ancient Indian system of learning where children are taught the basics in science, maths, English and other subjects. The child can then study advanced levels of the subject that they have interest or aptitude in while being in the same grade or class. There is also the National Open School (NOS) system where subjects can be chosen based on the level of ability and students can study at home. They have to come to a specified center to take the exams.

Promoting the Spirit of Inquiry, Problem Solving and Creative Abilities

In the Gurukulas of ancient India there was the concept of tadvidh sambhasana or discussion. This discussion could be between the disciples themselves or with the Guru. There would be visits to other Gurukulas or events organized where students from different Gurukulas would be invited for debates on various topics. This promoted inter disciplinary learning and also exchange of knowledge between different schools of thought. The student was allowed to question or disagree with what was taught by the Guru. The Guru would encourage the student to do his own studies or experiments to verify his teachings. The student would also be given certain tasks where he would have to learn the subject and find the solution to a particular problem. This helped promote the development of problem solving and also creative abilities. The student would be encouraged to do swadhyaya or self-study. A fixed time period every day would be allocated for this purpose.

One example of this is the task set by a Guru to his disciple to find one plant that does not have any medicinal property. For this the shishya would first have to make a list of all the available plants, then test each plant and then come to a conclusion. In essence this one question would constitute a whole research study equivalent to a PhD.

Promoting Self-Awareness, Self-Discipline and Empathy

Every child is born with an inherent ability to self-regulate and also to show compassion. These qualities can only be nurtured and become part of the child's personality if the environment is conducive to such development. In other words the child will imitate and incorporate those behaviors and responses that they see on a day to day basis.

In the Gurukula system the student would be given the opportunity to introspect and become self-aware. This was done through stories, question and answer sessions or through specific tasks. In one story the Guru gives all the disciples a fruit. This had to eaten in secret where no one was watching. All the shishyas completed the task except for one shishya. When questioned he said that he could not find a single place where no one was watching him as there would be one person who was watching him. There were two versions of this story, where in one version the shishya says that God would be watching him as he is present everywhere and the other is his own self or conscience. Even though the other students did not have the same awareness, they could learn from this example.

Self-discipline and self-regulation was promoted as the Guru would try to correct indiscipline not through punishment but through stories or examples in such a way that the student would realize his mistake and rectify his behavior.

Empathy was also promoted through role modeling. The Guru would show kindness and compassion to all living creatures. Since the student would like to emulate the Guru in all aspects to become equally learned and accomplished they would also learn to show empathy and compassion to all creatures big or small.

Modern schools in general use externally enforced disciplinary measures. Threatening and corporal punishment are considered the most effective tool to accomplish this. It is generally believed that students are mischievous and will behave only if there are negative consequences to actions. It has been proven that harsh physical punishment or fear does not help improve behavior. This will make the child more rebellious and uncooperative. There are research studies that have shown that childhood neglect and abuse can lead to abnormalities in brain development.

Teaching Methodology: A Comparison of Modern and Ancient Systems:

The teaching methods in the Gurukula was such that the students would learn by the example set by the Guru. They would follow the strict discipline and austere lifestyle of the Ashram. They were also given practical skills by helping in the daily chores and by taking care of the cows and other animals in the Gurukula. Since the Gurukulas were located close to nature, many concepts could be easily explained by day to day observation of nature or field trips. The Guru would closely observe and assess each student. They would then receive further training in that particular field based on their specific skills, talents or abilities. The Guru would treat the student with compassion and answer their queries patiently. The other unique aspect was building character through the use of stories. The Panchatantra which was authored by Vishnu Sharma and used by him to build the character and develop moral values of the princes under his care is a very good example of this.

In modern schools teachers are usually given a fixed curriculum and text books for teaching different subjects. Here the teacher has to strictly adhere to the syllabus. The student also has is expected to only learn the subjects from the books prescribed. The teacher has the choice to be flexible and use innovative methods to teach the prescribed material. The student also has the option to increase his knowledge and learn from other sources. The questioning attitude is not encouraged in modern schools as time is a major constraint. If active inquiry is promoted it will take extra effort and time for the teacher to answer them. Also in some cases the teacher might have to spend time improving their knowledge. This becomes difficult as the focus is on finishing the prescribed portions and preparing the student for the final or other exams. The concept of patient listening and compassionate teaching is not part of current teacher training courses unlike in ancient times.

Advantages and Disadvantages of Gurukula System of Learning

The advantages of the Gurukula system of learning was that the student had a choice of learning according to his interest and aptitude. He would spend the full time of his education with a single Guru and with the same group of students. Study would happen in a comfortable and peaceful environment. There was no pressure of monthly tests and exams. The training in Gurukula helped the student develop a well-rounded personality and become highly accomplished. They could progress to advanced levels of training irrespective of their age. Competition was there but it would not unhealthy competition. Student from all walks of life were treated equally.

The disadvantages are that there was no uniform standardized method of assessing the student's level of accomplishment. In some cases where the student was more knowledgeable or if the Guru felt insecure then he may not be allowed to progress to his full potential. Also if the student was sent out of Gurukula or wanted to leave and join another Gurukula it would be impossible to do so.

Advantages and Disadvantages of Modern Systems of Education

The advantages of the modern system of learning is that there a fixed curriculum and standardized testing and assessment methods that are universally accepted. Transfer from one syllabus to another or from one school to another can be easily done. The parents have the choice of admitting their children in regular schools or schools with alternate education models.

The disadvantage of modern systems of education is the lack of focus on imparting knowledge. The lack of compassion and not enough positive role models for students to follow. The curriculum is mostly focused on academic achievement and all round development is not promoted. The spirit of inquiry and independent thinking is not actively sought to be instilled in the students.

Proposed Integrative Model of Education

There are some schools that have an integrated curriculum that imparts the Vedic system of teaching and the modern curriculum either CBSE or NOS curriculum. This may be a good model to follow but it has been seen that the student is burdened with the task of learning both the curriculums. This creates undue pressure on both the students and teachers. There is also the confusion created by the contradiction between the Vedic concepts and modern subjects where certain distortions have crept in.

A model of education that incorporates the positive aspects of modern curricula that can be universally applied and the ancient Gurukula system of knowledge enhancement through self-inquiry, independent thinking and free flow of knowledge both to and from the Guru would be beneficial. This model would also include the ancient system of ability based training and self-paced learning. The curriculum should be such that it promotes the spirit of inquiry, compassion, empathy, integrity and value-based education. The curriculum should include fine arts such as music and yoga as part of the standard subjects instead of it being optional. School environments and activities should be modified to be child-centric rather than adult-centric. Teachers selection should be based not only on their qualifications but on other qualities such as compassion, the passion to teach and dedication to the profession.

Conclusion

The review and analysis of ancient systems of learning and modern system of education show that an integrated model of education would be ideal. This model would incorporate the positive aspects of both ancient systems of learning and the modern curriculum. Providing an environment that helps social-emotional development is also vital for overall development of the child. Value based education that promotes empathy, compassion and moral values will help build future citizens who can bring about positive and constructive change in society.

Declaration:

I declare that this is my original work and I am the sole author of this review. There is no conflict of interest and no financial or material support was received from any source.

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References

1. Corlu, M. S. (2014). Which preparatory curriculum for the International Baccalaureate Diploma Programme is best? The challenge for international schools with regard to mathematics and science. International Review of Education, 60(6), 793-801.
2. Frederick, A. G. (2016). A Comparative Study between Gurukul System and Western System of Education. IRA International Journal of Education and Multidisciplinary Studies (ISSN 2455–2526),3(1).
3. Harris, D. N., & Sass, T. R. (2011). Teacher training, teacher quality and student achievement. Journal of public economics,95(7), 798-812.
4. Kak, V. (2015). Neurosciences education: From'Gurukul'to e-learning. Neurology India. 63(3), 298.
5. Kashalkar-Karve, S. (2013). Comparitive Study of Ancient Gurukul System and the New Trends of Guru-Shishya Parampara. American International Journal of Research in Humanities, Arts and Social Sciences,2(1), 81-84.
6. Husen, T., Saha, L. J., & Noonan, R. Teacher training and student achievement in less developed countries.
7. O'Sullivan, P. G. (1997).Vedic Education (Gurukula) In a Contemporary Context(Doctoral dissertation, The University of Melbourne).
8. Ramteke, R. D., Tawalare, K. A., & Tawalare, K. K. (2015). Ancient Teaching Learning Method-Guru Shishya Parampara. Journal of Education Technology in Health Sciences, 2(1), 22-24.
9. Shonkoff, J. P., & Phillips, D. A. (Eds.). (2000). From neurons to neighborhoods: The science of early childhood development. National Academies Press.
10. Swami Sarvananda, Taittriya Upanishads**,** Ramakrishna Math, 1921
11. Tomoda, A., Suzuki, H., Rabi, K., Sheu, Y. S., Polcari, A., & Teicher, M. H. (2009). Reduced prefrontal cortical gray matter volume in young adults exposed to harsh corporal punishment. Neuroimage, 47, T66-T71.

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Future of Information Technology is Cloud

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Abstract:

Cloud computing has freshly emerged as an innovative model for hosting and delivering services over the Internet. Cloud computing is eye-catching to industry owners as it eliminates the prerequisite for users to plan ahead for provisioning, and allows enterprises to begin from the small and augment resources only when there is a rise in service stipulate. However, despite the fact that cloud computing offers enormous opportunities to the IT industry, the development of cloud computing technology is presently at its immaturity, with many issues still to be addressed. In this manuscript, we present an examination of cloud computing, highlighting its key concepts, architectural principles, and high-tech implementation as well as research challenges. The aim of this document is to provide a better thoughtful of the design challenges of cloud computing and categorize important research directions in this increasingly vital area.

Keywords: Cloud computing, Data Centers, Virtualization

1. Introduction:

With the rapid increase of processing and storage technologies and the success of the Internet, computing resources have become cheaper, more powerful and more ubiquitously available than ever before. This technological trend has enabled the realization of a new computing model called cloud computing, in which resources (e.g., CPU and storage) are provided as general utilities that can be leased and released by users through the Internet in an on-demand fashion. In a cloud computing environment, the traditional role of service provider is divided into two: the infrastructure providers who manage cloud platforms and lease resources according to a usage-based pricing model, and service providers, who rent resources from one or many infrastructure providers to serve the end users. The emergence of cloud computing has made a tremendous impact on the Information Technology (IT) industry over the past few years, where large companies such as Google, Amazon and Microsoft strive to provide more powerful, reliable and cost-efficient cloud platforms, and business enterprises seek to reshape their business models to gain benefit from this new paradigm. Indeed, cloud computing provides several compelling features that make it attractive to business owners, as shown below.

No up-front investment: Cloud computing uses a pay-asyou-go pricing model. A service provider does not need to invest in the infrastructure to start gaining benefit from cloud computing. It simply rents resources from the cloud according to its own needs and pay for the usage.

Lowering operating cost: Resources in a cloud environment can be rapidly allocated and de-allocated on demand. Hence, a service provider no longer needs to provision capacities according to the peak load. This provides huge savings since resources can be released to save on operating costs when service demand is low.

Highly scalable: Infrastructure providers pool large amount of resources from data centers and make them easily accessible. A service provider can easily expand its service to large scales in order to handle rapid increase in service demands (e.g., flash-crowd effect). This model is sometimes called surge computing

Easy access: Services hosted in the cloud are generally web-based. Therefore, they are easily accessible through a variety of devices with Internet connections. These devices not only include desktop and laptop computers, but also cell phones and PDAs.

Reducing business risks and maintenance expenses: By outsourcing the service infrastructure to the clouds, a service provider shifts its business risks (such as hardware failures) to infrastructure providers, who often have better expertise and are better equipped for managing these risks. In addition, a service provider can cut down the hardware maintenance and the staff training costs. However, although cloud computing has shown considerable opportunities to the IT industry, it also brings many unique challenges that need to be carefully addressed. In this paper, we present a survey of cloud computing, highlighting its key concepts, architectural principles, state-of-the-art implementations as well as research challenges. Our aim is to provide a better understanding of the design challenges of cloud computing and identify important research directions in this fascinating topic.

2. Literature Review:

This section presents a general overview of cloud computing, including its definition and a comparison with related concepts.

Definitions

The main idea behind cloud computing is not a new one. John McCarthy in the 1960s already envisioned that computing facilities will be provided to the general public like a utility. The term “cloud” has also been used in various contexts such as describing large ATM networks in the 1990s. However, it was after Google’s CEO Eric Schmidt used the word to describe the business model of providing services across the Internet in 2006, that the term really started to gain popularity. Since then, the term cloud computing has been used mainly as a marketing term in a variety of contexts to represent many different ideas. Certainly, the lack of a standard definition of cloud computing has generated not only market hypes, but also a fair amount of skepticism and confusion. For this reason, recently there has been work on standardizing the definition of cloud computing. As an example, the work in compared over 20 different definitions from a variety of sources to confirm a standard definition. In this paper, we adopt the definition of cloud computing provided by The National Institute of Standards and Technology (NIST), as it covers, in our opinion, all the essential aspects of cloud computing.

NIST definition of cloud computing *Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.*

The main reason for the existence of different perceptions of cloud computing is that cloud computing, unlike other technical terms, is not a new technology, but rather a new operations model that brings together a set of existing technologies to run business in a different way. Indeed, most of the technologies used by cloud computing, such as virtualization and utility-based pricing, are not new. Instead, cloud computing leverages these existing technologies to meet the technological and economic requirements of today’s demand for information technology.

Related technologies

Cloud computing is often compared to the following technologies, each of which shares certain aspects with cloud computing: *Grid Computing*: Grid computing is a distributed computing paradigm that coordinates networked resources to achieve a common computational objective. The development of Grid computing was originally driven by scientific applications which are usually computation-intensive. Cloud computing is similar to Grid computing in that it also employs distributed resources to achieve application-level objectives. However, cloud computing takes one step further by leveraging virtualization technologies at multiple levels (hardware and application platform) to realize resource sharing and dynamic resource provisioning.

Utility Computing: Utility computing represents the model of providing resources on-demand and charging customers based on usage rather than a flat rate. Cloud computing can be perceived as a realization of utility computing. It adopts a utility-based pricing scheme entirely for economic reasons. With on-demand resource provisioning and utility based pricing, service providers can truly maximize resource utilization and minimize their operating costs.

Virtualization: Virtualization is a technology that abstracts away the details of physical hardware and provides virtualized resources for high-level applications. A virtualized server is commonly called a virtual machine (VM). Virtualization forms the foundation of cloud computing, as it provides the capability of pooling computing resources from clusters of servers and dynamically assigning or reassigning virtual resources to applications on-demand. *Autonomic Computing*: Originally coined by IBM in 2001, autonomic computing aims at building computing systems

Capable of self-management, i.e. reacting to internal and external observations without human intervention. The goal of autonomic computing is to overcome the management complexity of today's computer systems. Although cloud computing exhibits certain autonomic features such as automatic resource provisioning, its objective is to lower the resource cost rather than to reduce system complexity. In summary, cloud computing leverages virtualization technology to achieve the goal of providing computing resources as a utility. It shares certain aspects with grid computing and autonomic computing but differs from them in other aspects. Therefore, it offers unique benefits and imposes distinctive challenges to meet its requirements.

3. Cloud computing architecture

This section describes the architectural, business and various operation models of cloud computing.

3.1 A layered model of cloud computing

Generally speaking, the architecture of a cloud computing environment can be divided into 4 layers: the hardware/ datacenter layer, the infrastructure layer, the platform layer and the application layer, as shown in Fig. 1. We describe each of them in detail:

The hardware layer: This layer is responsible for managing the physical resources of the cloud, including physical servers, routers, switches, power and cooling systems. In practice, the hardware layer is typically implemented in data centers. A data center usually contains thousands of servers that are organized in racks and interconnected through switches, routers or other fabrics. Typical issues at hardware layer include hardware configuration, fault tolerance, traffic management, power and cooling resource management. *The infrastructure layer*: Also known as the virtualization layer, the infrastructure layer creates a pool of storage and computing resources by partitioning the physical resources using virtualization technologies such as Xen, KVM and VMware. The infrastructure layer is an essential component of cloud computing, since any key features, such as dynamic resource assignment, are only made available through virtualization technologies.

The platform layer: Built on top of the infrastructure layer, the platform layer consists of operating systems and application frameworks. The purpose of the platform layer is to minimize the burden of deploying applications directly into VM containers. For example, Google App Engine operates at the platform layer to provide API support for implementing storage, database and business logic of typical web applications.

The application layer: At the highest level of the hierarchy, the application layer consists of the actual cloud applications. Different from traditional applications, cloud applications can leverage the automatic-scaling feature to achieve better performance, availability and lower operating cost. Compared to traditional service hosting environments such as dedicated server farms, the architecture of cloud computing is more modular. Each layer is loosely coupled with the layers above and below, allowing each layer to evolve separately. This is similar to the design of the OSI model for network protocols. The architectural modularity allows cloud computing to support a wide range of application requirements while reducing management and maintenance overhead.

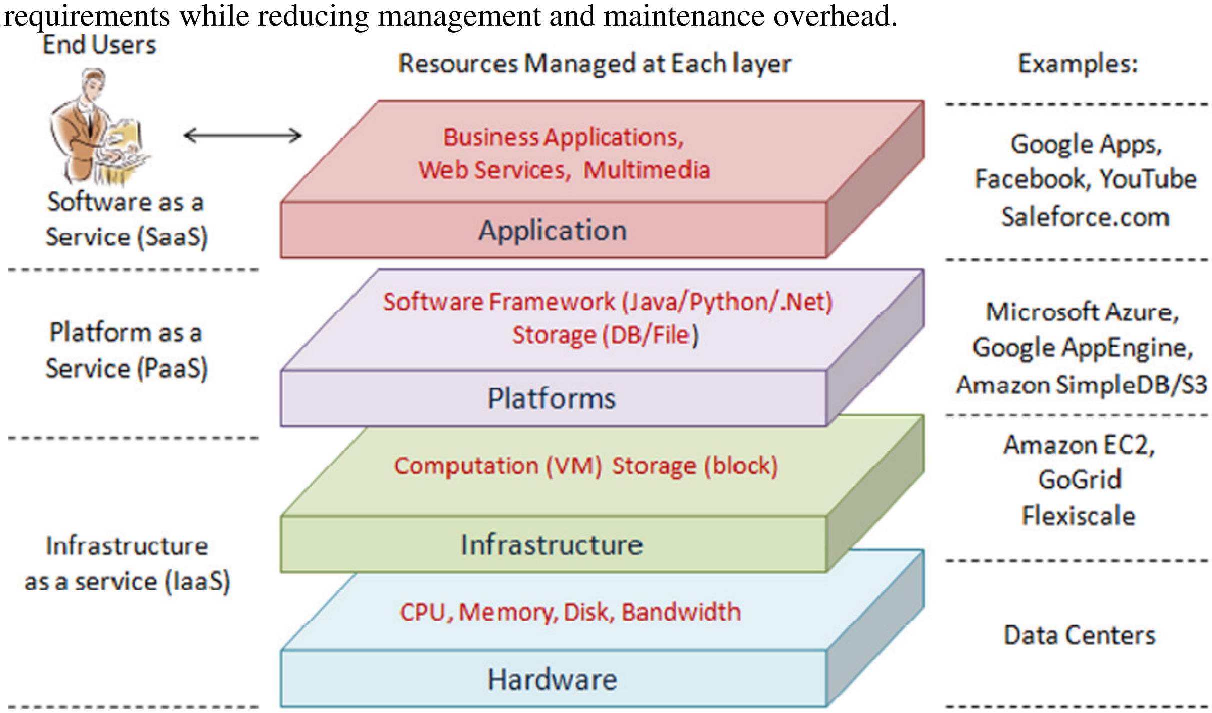

Fig. 1 Cloud computing Architecture

3.2 Business model

Cloud computing employs a service-driven business model. In other words, hardware and platform-level resources are provided as services on an on-demand basis. Conceptually, every layer of the architecture described in the previous section can be implemented as a service to the layer above. Conversely, every layer can be perceived as a customer of the layer below. However, in practice, clouds offer services that can be grouped into three categories: software as a service (SaaS), platform as a service (PaaS), and infrastructure as a service (IaaS).

1. Infrastructure as a Service: IaaS refers to on-demand provisioning of infrastructural resources, usually in terms of VMs. The cloud owner who offers IaaS is called an IaaS

provider. Examples of IaaS providers include Amazon EC2, GoGrid and Flexiscale.

2. Platform as a Service: PaaS refers to providing platform layer resources, including operating system support and software development frameworks. Examples of PaaS providers include Google App Engine, Microsoft Windows Azure and Force.com.

3. Software as a Service: SaaS refers to providing on demand applications over the Internet. Examples of SaaS providers include Salesforce.com, Rack space and SAP Business by Design. The business model of cloud computing is depicted by Fig. 2. According to the layered architecture of cloud computing, it is entirely possible that a PaaS provider runs its cloud on top of an IaaS provider's cloud. However, in the current practice, IaaS and PaaS providers are often parts of the same organization (e.g., Google and Salesforce). This is why PaaS and IaaS providers are often called the infrastructure providers or cloud providers.

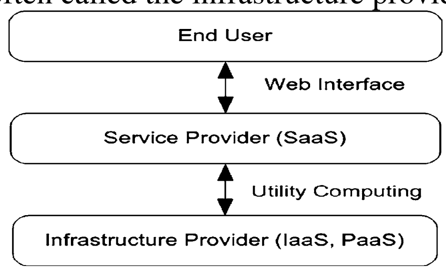

Fig. 2 Business model of cloud computing

3.3 Types of clouds

There are many issues to consider when moving an enterprise application to the cloud environment. For example, some service providers are mostly interested in lowering operation cost, while others may prefer high reliability and security. Accordingly, there are different types of clouds, each with its own benefits and drawbacks:

Public clouds: A cloud in which service providers offer their resources as services to the general public. Public clouds offer several key benefits to service providers, including no initial capital investment on infrastructure and shifting of risks to infrastructure providers. However, public clouds lack fine-grained control over data, network and security settings, which hampers their effectiveness in many business scenarios.

Private clouds: Also known as internal clouds, private clouds are designed for exclusive use by a single organization. A private cloud may be built and managed by the organization or by external providers. A private cloud offers the highest degree of control over performance, reliability and security. However, they are often criticized for being similar to traditional proprietary server farms and do not provide benefits such as no up-front capital costs.

Hybrid clouds: A hybrid cloud is a combination of public and private cloud models that tries to address the limitations of each approach. In a hybrid cloud, part of the service infrastructure runs in private clouds while the remaining part runs in public clouds. Hybrid clouds offer more flexibility than both public and private clouds. Specifically, they provide tighter control and security over application data compared to public clouds, while still facilitating on-demand service expansion and contraction. On the down side, designing a hybrid cloud requires carefully determining the best split between public and private cloud components.

Virtual Private Cloud: An alternative solution to addressing the limitations of both public and private clouds is called Virtual Private Cloud (VPC). A VPC is essentially a platform running on top of public clouds. The main difference is that a VPC leverages virtual private network (VPN) technology that allows service providers to design their own topology and security settings such as firewall rules. VPC is essentially a more holistic design since it not only virtualizes servers and applications, but also the underlying communication network as well. Additionally, for most companies, VPC provides seamless transition from a proprietary service infrastructure to a cloud-based infrastructure, owing to the virtualized network layer. For most service providers, selecting the right cloud model is dependent on the business scenario. For example, computation-intensive scientific applications are best deployed on public clouds for cost-effectiveness. Arguably, certain types of clouds will be more popular than others. In particular, it was predicted that hybrid clouds will be the dominant type for most organizations. However, virtual private clouds have started to gain more popularity since their inception in 2009.

4. Cloud computing characteristics

Cloud computing provides several salient features that are different from traditional service computing, which we summarize below:

Multi-tenancy: In a cloud environment, services owned by multiple providers are co-located in a single data center. The performance and management issues of these services are shared among service providers and the infrastructure provider. The layered architecture of cloud computing provides a natural division of responsibilities: the owner of each layer only needs to focus on the specific objectives associated with this layer. However, multi-tenancy also introduces difficulties in understanding and managing the interactions among various stakeholders.

Shared resource pooling: The infrastructure provider offers a pool of computing resources that can be dynamically assigned to multiple resource consumers. Such dynamic resource assignment capability provides much flexibility to infrastructure providers for managing their own resource usage and operating costs. For instance, an IaaS provider can leverage VM migration technology to attain a high degree of server consolidation, hence maximizing resource utilization while minimizing cost such as power consumption and cooling.

Geo-distribution and ubiquitous network access: Clouds are generally accessible through the Internet and use the Internet as a service delivery network. Hence any device with Internet connectivity, be it a mobile phone, a PDA or a laptop, is able to access cloud services. Additionally, to achieve high network performance and localization, many of today's clouds consist of data centers located at many locations around the globe. A service provider can easily leverage geo-diversity to achieve maximum service utility.

Service oriented: As mentioned previously, cloud computing adopts a service-driven operating model. Hence it places a strong emphasis on service management. In a cloud, each IaaS, PaaS and SaaS provider offers its service according to the Service Level Agreement (SLA) negotiated with its customers. SLA assurance is therefore a critical objective of every provider.

Dynamic resource provisioning: One of the key features of cloud computing is that computing resources can be obtained and released on the fly. Compared to the traditional model that provisions resources according to peak demand, dynamic resource provisioning allows service providers to acquire resources based on the current demand, which can considerably lower the operating cost.

Self-organizing: Since resources can be allocated or deal located on-demand, service providers are empowered to manage their resource consumption according to their own needs.

Furthermore, the automated resource management feature yields high agility that enables service providers to respond quickly to rapid changes in service demand such as the flash crowd effect.

Utility-based pricing: Cloud computing employs a pay per use pricing model. The exact pricing scheme may vary from service to service. For example, a SaaS provider may rent a virtual machine from an IaaS provider on a per-hour basis. On the other hand, a SaaS provider that provides on-demand customer relationship management (CRM) may charge its customers based on the number of clients it serves (e.g., Salesforce). Utility-based pricing lowers service operating cost as it charges customers on a per-use basis. However, it also introduces complexities in controlling the operating cost. In this perspective, companies like VKernel provide software to help cloud customers understand, analyze and cut down the unnecessary cost on resource consumption.

5 high-techs

In this section, we present the state-of-the-art implementations of cloud computing. We first describe the key technologies currently used for cloud computing. Then, we survey the popular cloud computing products.

5.1 Cloud computing technologies

This section provides a review of technologies used in cloud computing environments.

5.1.1 Architectural design of data centers

A data center, which is home to the computation power and storage, is central to cloud computing and contains thousands of devices like servers, switches and routers. Proper planning of this network architecture is critical, as it will heavily influence applications performance and throughput in such a distributed computing environment. Further, scalability and resiliency features need to be carefully considered. Currently, a layered approach is the basic foundation of the network architecture design, which has been tested in some of the largest deployed data centers. The basic layers of a data center consist of the core, aggregation, and access layers, as shown in Fig. 3. The access layer is where the servers in racks physically connect to the network. There are typically 20 to 40 servers per rack, each connected to an access switch with a 1 Gbps link. Access switches usually connect to two aggregation switches for redundancy with

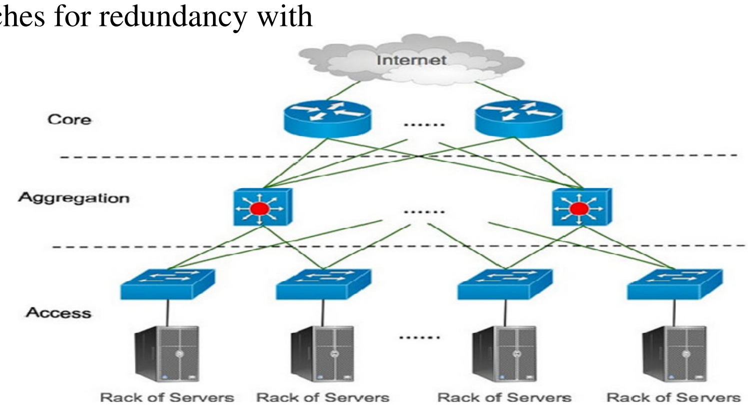

Fig. 3 Basic layered design of data center network infrastructure

10 Gbps links. The aggregation layer usually provides important functions, such as domain service, location service, server load balancing, and more. The core layer provides connectivity to multiple aggregation switches and provides a resilient routed fabric with no single point of failure. The core routers manage traffic into and out of the data center. A popular practice is to leverage commodity Ethernet switches and routers to build the network

infrastructure. In different business solutions, the layered network infrastructure can be elaborated to meet specific business challenges. Basically, the design of data center network architecture should meet the following objectives:

Uniform high capacity: The maximum rate of a server to- server traffic flow should be limited only by the available capacity on the network-interface cards of the sending and receiving servers, and assigning servers to a service should be independent of the network topology. It should be possible for an arbitrary host in the data center to communicate with any other host in the network at the full bandwidth of its local network interface.

Free VM migration: Virtualization allows the entire VM state to be transmitted across the network to migrate a VM from one physical machine to another. A cloud computing hosting service may migrate VMs for statistical multiplexing or dynamically changing communication patterns to achieve high bandwidth for tightly coupled hosts or to achieve variable heat distribution and power availability in the data center. The communication topology should be designed so as to support rapid virtual machine migration.

Resiliency: Failures will be common at scale. The network infrastructure must be fault-tolerant against various types of server failures, link outages, or server-rack failures. Existing unicast and multicast communications should not be affected to the extent allowed by the underlying physical connectivity.

5.2 Commercial products

In this section, we provide a survey of some of the dominant cloud computing products.

5.2.1 Amazon EC2

Amazon Web Services (AWS) is a set of cloud services, providing cloud-based computation, storage and other functionality that enable organizations and individuals to deploy applications and services on an on-demand basis and at commodity prices. Amazon Web Services' offerings are accessible over HTTP, using REST and SOAP protocols. Amazon Elastic Compute Cloud (Amazon EC2) enables cloud users to launch and manage server instances in data centers using APIs or available tools and utilities. EC2 instances are virtual machines running on top of the Xen virtualization engine. After creating and starting an instance, users can upload software and make changes to it. When changes are finished, they can be bundled as a new machine image. An identical copy can then be launched at any time. Users have nearly full control of the entire software stack on the EC2 instances that look like hardware to them. On the other hand, this feature makes it inherently difficult for Amazon to offer automatic scaling of resources. EC2 provides the ability to place instances in multiple locations. EC2 locations are composed of Regions and Availability Zones. Regions consist of one or more Availability Zones are geographically dispersed. Availability Zones are distinct locations that are engineered to be insulated from failures in other Availability Zones and provide inexpensive, low latency network connectivity to other Availability Zones in the same Region. EC2 machine images are stored in and retrieved from Amazon Simple Storage Service (Amazon S3). S3 stores data as "objects" that are grouped in "buckets." Each object contains from 1 byte to 5 gigabytes of data. Object names are essentially URI pathnames. Buckets must be explicitly created before they can be used. A bucket can be stored in one of several Regions. Users can choose a Region to optimize latency, minimize costs, or address regulatory requirements. Amazon Virtual Private Cloud (VPC) is a secure and seamless bridge between a company's existing IT infrastructure and the AWS cloud. Amazon VPC enables enterprises to connect their existing infrastructure to a set of isolated AWS compute resources via a Virtual Private Network (VPN) connection, and to extend their existing management capabilities such as security services, firewalls, and intrusion detection systems to include their AWS resources. For cloud users, Amazon Cloud Watch is a useful management tool which collects raw data from partnered AWS services such as Amazon EC2 and then processes the information into readable, near real-time metrics. The metrics about EC2 include, for example, CPU utilization, network in/out bytes, disk read/write operations, etc.

5.2.2 Microsoft Windows Azure platform

Microsoft's Windows Azure platform consists of three components and each of them provides a specific set of services to cloud users. Windows Azure provides a Windows based environment for running applications and storing data on servers in data centers; SQL Azure provides data services in the cloud based on SQL Server; and .NET Services offer distributed infrastructure services to cloud-based and local applications. Windows Azure platform can be used both by applications running in the cloud and by applications running on local systems. Windows Azure also supports applications built on the .NET Framework and other ordinary languages supported in Windows systems, like C#, Visual Basic, C++, and others. Windows Azure supports general-purpose programs, rather than a single class of computing. Developers can create web applications using technologies such as ASP.NET and Windows Communication Foundation (WCF), applications that run as independent background processes, or applications that combine the two. Windows Azure allows storing data in blobs, tables, and queues, all accessed in a RESTful style via HTTP or HTTPS. SQL Azure components are SQL Azure Database and "Huron" Data Sync. SQL Azure Database is built on Microsoft SQL Server, providing a database management system (DBMS) in the cloud. The data can be accessed using ADO.NET and other Windows data access interfaces. Users can also use on-premises software to work with this cloud based information. "Huron" Data Sync synchronizes relational data across various on-premises DBMSs

6. Research challenges

Although cloud computing has been widely adopted by the industry, the research on cloud computing is still at an early stage. Many existing issues have not been fully addressed, while new challenges keep emerging from industry applications. In this section, we summarize some of the challenging research issues in cloud computing.

6.1 Automated service provisioning

One of the key features of cloud computing is the capability of acquiring and releasing resources on-demand. The objective of a service provider in this case is to allocate and de-allocate resources from the cloud to satisfy its service level objectives (SLOs), while minimizing its operational cost. However, it is not obvious how a service provider can achieve this objective. In particular, it is not easy to determine how to map SLOs such as QoS requirements to low-level resource requirement such as CPU and memory requirements. Furthermore, to achieve high agility and respond to rapid demand fluctuations such as in flash crowd effect, the resource provisioning decisions must be made online. Automated service provisioning is not a new problem. Dynamic resource provisioning for Internet applications has been studied extensively in the past. These approaches typically involve: (1) Constructing an application performance model that predicts the number of application instances required to handle demand at each particular level, in order to satisfy QoS requirements; (2) Periodically predicting future demand and determining resource requirements using the performance model; and (3) Automatically allocating resources using the predicted resource requirements. Application performance model can be constructed using various techniques, including Queuing theory, Control theory and Statistical Machine Learning. Additionally, there is a distinction between proactive and reactive resource control. The proactive approach uses predicted demand to periodically allocate resources before they are needed. The reactive approach reacts to immediate demand fluctuations before periodic demand prediction is available. Both approaches are important and necessary for effective resource control in dynamic operating environments.

6.2 Virtual machine migration

Virtualization can provide significant benefits in cloud computing by enabling virtual machine migration to balance load across the data center. In addition, virtual machine migration enables robust and highly responsive provisioning in data centers. Virtual machine migration has evolved from process migration techniques. More recently, Xen and VMware have implemented “live” migration of VMs that involves extremely short downtimes ranging from tens of milliseconds to a second. Clark et al. pointed out that migrating an entire OS and all of its applications as one unit allow avoiding many of the difficulties faced by process level migration approaches, and analyzed the benefits of live migration of VMs. The major benefits of VM migration are to avoid hotspots; however, this is not straightforward. Currently, detecting workload hotspots and initiating a migration lacks the ability to respond to sudden workload changes. Moreover, the in memory state should be transferred consistently and efficiently, with integrated consideration of resources for applications and physical servers.

6.3 Server consolidation

Server consolidation is an effective approach to maximize resource utilization while minimizing energy consumption in a cloud computing environment. Live VMmigration technology is often used to consolidate VMs residing on multiple under-utilized servers onto a single server, so that the remaining servers can be set to an energy-saving state. The problem of optimally consolidating servers in a data center is often formulated as a variant of the vector bin-packing problem, which is an NP-hard optimization problem. Various heuristics have been proposed for this problem additionally, dependencies among VMs, such as communication requirements, have also been considered recently. However, server consolidation activities should not hurt application performance. It is known that the resource usage (also known as the footprint of individual VMs may vary over time. For server resources that are shared among VMs, such as bandwidth, memory cache and disk I/O, maximally consolidating a server may result in resource congestion when a VM changes its footprint on the server. Hence, it is sometimes important to observe the fluctuations of VM footprints and use this information for effective server consolidation. Finally, the system must quickly react to resource congestions when they occur.

6.4 Energy management

Improving energy efficiency is another major issue in cloud computing. It has been estimated that the cost of powering and cooling accounts for 53% of the total operational expenditure of data centers. In 2006, data centers in the US consumed more than 1.5% of the total energy enerated in that year, and the percentage is projected to grow 18% annually. Hence infrastructure providers are under enormous pressure to reduce energy consumption. The goal is not only to cut down energy cost in data centers, but also to meet government regulations and environmental standards. Designing energy-efficient data centers has recently received considerable attention. This problem can be approached from several directions. For example, energy efficient hardware architecture that enables slowing down CPU speeds and turning off partial hardware components has become commonplace. Energy-aware job scheduling and server consolidation are two other ways to reduce power consumption by turning off unused machines. Recent research has also begun to study energy-efficient network protocols and infrastructures. A key challenge in all the above methods is to achieve a good trade-off between energy savings and application performance. In this respect, few researchers have recently started to investigate coordinated solutions for performance and power management in a dynamic cloud environment.

6.5 Traffic management and analysis

Analysis of data traffic is important for today's data centers. For example, many web applications rely on analysis of traffic data to optimize customer experiences. Network operators also need to know how traffic flows through the network in order to make many of the management and planning decisions. However, there are several challenges for existing traffic measurement and analysis methods in Internet Service Providers (ISPs) networks and enterprise to extend to data centers. Firstly, the density of links is much higher than that in ISPs or enterprise networks, which makes the worst-case scenario for existing methods. Secondly, most existing methods can compute traffic matrices between a few hundred end hosts, but even a modular data center can have several thousand servers. Finally, existing methods usually assume some flow patterns that are reasonable in Internet and enterprises networks, but the applications deployed on data centers, such as MapReduce jobs, significantly change the traffic pattern. Further, there is tighter coupling in application's use of network, computing, and storage resources, than what is seen in other settings. Currently, there is not much work on measurement and analysis of data center traffic. Greenberg et al. report data center traffic characteristics on flow sizes and concurrent flows, and use these to guide network infrastructure design. Benson et al.perform a complementary study of traffic at the edges of a data center by examining NMP traces from routers.

Conclusion:

Cloud computing has recently emerged as a compelling paradigm for managing and delivering services over the Internet. The rise of cloud computing is rapidly changing the landscape of information technology, and ultimately turning the long-held promise of utility computing into a reality. However, despite the significant benefits offered by cloud computing, the current technologies are not matured enough to realize its full potential. Many key challenges in this domain, including automatic resource provisioning, power management and security management, are only starting to receive attention from the research community. Therefore, we believe there is still tremendous opportunity for researchers to make groundbreaking contributions in this field, and bring significant impact to their development in the industry. In this paper, we have surveyed the state-of-the-art of cloud computing, covering its essential concepts, architectural designs, prominent characteristics, key technologies as well as research directions. As the development of cloud computing technology is still at an early stage, we hope our work will provide a better understanding of the design challenges of cloud computing, and pave the way for further research in this area.

References:

1. Al-Fares M et al (2008) A scalable, commodity data center network architecture. In: Proc SIGCOMM
2. Amazon Elastic Computing Cloud, aws.amazon.com/ec2
3. Amazon Web Services, aws.amazon.com

4. Ananthanarayanan R, Gupta K et al (2009) Cloud analytics: do we really need to reinvent the storage stack? In: Proc of HotCloud
5. Armbrust M et al (2009) Above the clouds: a Berkeley view of cloud computing. UC Berkeley Technical Report
6. Berners-Lee T, Fielding R, Masinter L (2005) RFC 3986: uniform resource identifier (URI): generic syntax, January 2005
7. Bodik P et al (2009) Statistical machine learning makes automatic control practical for Internet datacenters. In: Proc HotCloud
8. Brooks D et al (2000) Power-aware microarchitecture: design and modeling challenges for the next-generation microprocessors, IEEE Micro
9. Chandra A et al (2009) Nebulas: using distributed voluntary resources to build clouds. In: Proc of HotCloud
10. Chang F, Dean J et al (2006) Bigtable: a distributed storage system for structured data. In: Proc of OSDI
11. Chekuri C, Khanna S (2004) On multi-dimensional packing problems. SIAM J Comput 33(4):837–851MATHMathSciNetCrossRefGoogle Scholar
12. Church K et al (2008) On delivering embarrassingly distributed cloud services. In: Proc of HotNets
13. Clark C, Fraser K, Hand S, Hansen JG, Jul E, Limpach C, Pratt I, Warfield A (2005) Live migration of virtual machines. In: Proc of NSDI
14. Cloud Computing on Wikipedia, en.wikipedia.org/wiki/Cloudcomputing, 20 Dec 2009
15. Cloud Hosting, CLoud Computing and Hybrid Infrastructure from GoGrid, http://www.gogrid.com
16. Dean J, Ghemawat S (2004) MapReduce: simplified data processing on large clusters. In: Proc of OSDI
17. Dedicated Server, Managed Hosting, Web Hosting by Rackspace Hosting, http://www.rackspace.com
18. FlexiScale Cloud Comp and Hosting, www.flexiscale.com
19. Ghemawat S, Gobioff H, Leung S-T (2003) The Google file system. In: Proc of SOSP, October 2003
20. Google App Engine, URL http://code.google.com/appengine
21. Greenberg A, Jain N et al (2009) VL2: a scalable and flexible data center network. In: Proc SIGCOMM
22. Guo C et al (2008) DCell: a scalable and fault-tolerant network structure for data centers. In: Proc SIGCOMM
23. Guo C, Lu G, Li D et al (2009) BCube: a high performance, server-centric network architecture for modular data centers. In: Proc SIGCOMM
24. Hadoop Distributed File System, hadoop.apache.org/hdfs
25. Hadoop MapReduce, hadoop.apache.org/mapreduce
26. Hamilton J (2009) Cooperative expendable micro-slice servers (CEMS): low cost, low power servers for Internet-scale services In: Proc of CIDR

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Health and Development through Physical Activity and Sport

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Abstract

Regular exercise is an important part of a healthy lifestyle. People who lead an active life are more likely to live longer and less likely to develop serious diseases such as heart disease and diabetes. Physical activity can ease the symptoms of certain long-term health conditions, such as rheumatoid arthritis and chronic obstructive pulmonary disorder. Exercise not only improves your physical health, it also helps to reduce anxiety and lowers your risk of other mental health conditions such as depression.

Keywords: Benefits of exercises, Fitness, Physical activity

Introduction

We Can Improve our Health and Well-being Through Physical Activity and Sport. Physical activity and healthy sports are essential for our health and wellbeing. Physical activity includes all forms of activity, such as walking or cycling for everyday journeys, active play, work-related activity, active recreation such as working out in a gym, dancing, gardening or competitive sport. (3). Appropriate physical activity and sports for all constitute one of the major components of a healthy lifestyle, along with healthy diet and avoidance of other substances harmful to health.

Available experience and scientific evidence show that the regular practice of appropriate physical activity and sports provides people, male and female, of all ages and conditions, including persons with disability, with wide range of physical, social and mental health benefits. It interacts positively with strategies to improve diet, helps reduce violence, enhances functional capacity and promotes social interaction and integration. Physical activity is for an individual; a strong means for prevention of diseases and for nations a cost-effective methods to improve public health across the population.

The public is generally aware that being healthy is important. However, the public may not know, or understand, the importance of physical education. Opinions regarding past physical education experiences in school often distort the link between quality physical education and personal health. Central to the association between physical education and health is the teacher. Teachers trained as physical educators exhibit higher levels of effective teacher behaviors (3) and create quality physical education programs. Trained physical education teachers can achieve, for example, greater physical fitness improvement in children than physical education teachers who lack appropriate training (14).

According to the latest Shape of the Nation Report (12), both the *National Association of Sport and Physical Education* and the *American Heart Association* believe physical activity achieved through participation in physical education improves one's overall well-being and is one of the best preventers of significant health problems linked to many chronic diseases (e.g., obesity, high blood pressure, and high cholesterol). No other school subject has the potential to fulfill these health needs. If schools are to make a positive impact on our children's health now and in the future, physical education must be present in schools, be taught by qualified teachers, and focus on healthy behaviors.

Regular physical activity, fitness, and exercise are critically important for the health and well-being of people of all ages. Research has demonstrated that virtually all individuals can benefit from regular physical activity, whether they participate in vigorous exercise or some type of moderate health-enhancing physical activity. Even among frail and very old adults, mobility and functioning can be improved through physical activity (1). Therefore, physical fitness should be a priority for all ages.

Direct and indirect health benefits

Regular physical activity, active play and sports can be a practical means to achieving numerous health gains, either directly or indirectly through its positive impact on other major risks, in particular high blood pressure, high cholesterol, obesity, tobacco use and stress. Physical activity reduces the risk of cardiovascular disease, some cancers and type 2 diabetes. These benefits are mediated through a number of mechanisms: in general, it improves glucose metabolism, reduces body fat and lowers blood pressure. Physical activity may reduce the risk of colon cancer by effects of prostaglandins, reduced intestinal transit time, and higher antioxidant levels. Physical activity is also associated with lower risk of breast cancer, which may be the result of effects on hormonal metabolism. Participation in PA can improve musculoskeletal health, control body eight, and reduce symptoms of depression.

Regular physical activity:

- Reduces the risk of dying prematurely.
- Reduces the risk of dying from heart disease or stroke, which are responsible for one-third of all deaths.
- Reduces the risk of developing heart disease, colon cancer and type 2 diabetes.
- Helps to prevent/reduce hypertension, which affects one-fifth of the world's adult population.
- Helps control weight and lower the risk of becoming obese.
- Helps to prevent/reduce osteoporosis, reducing the risk of hip fracture in women.
- Reduces the risk of developing lower back pain can help in the management of painful conditions, like back pain or knee pain.
- Helps build and maintain healthy bones, muscles, and joints and makes people with chronic, disabling conditions improve their stamina.
- Promotes psychological well-being, reduces stress, anxiety and depression.
- Helps prevent or control risky behaviors, especially among children and young people, like tobacco, alcohol or other substance use, unhealthy diet or violence.

Dose physical education have a positive effect on children's physical Health?

According to research, the answer is yes. The following research studies serve as evidence that learning during physical education experiences can have positive, immediate, and long-term effect on children's health:

- Physical education plays an important role in promoting healthy behaviors. Students in physical education, when compared to those who are not in physical education, are more physically active, eat more fruit, and watch less television (15).
- When meeting national recommendations, participation in physical education diminishes the potential for future body mass increase among children (6).
- When physical education increases, overweight or obese females decrease their Body Mass Index (4).
- More physical education is associated with lower Body Mass Index scores (9).

- Quality physical education with quality teaching represents an important predictor of health enhancing cognitions and behaviors in elementary school children (17).
- The odds of being an overweight adult decrease 5% for each day per week of physical education (8).
- Males participating in physical education three or more days per week gained less in waist circumference than males who were in physical education less frequently (16).
- Normal weight children are 25% more likely to be normal weight adults when they participate in physical education five days per week (8).
- Physical education lowers Body Mass Index scores and reduces the probability of obesity among grade-five male students (2).
- Even when physical education is offered at low frequencies, participation is associated with improved mental health and dietary choices (13).

How much physical activity is needed in order to improve and maintain health?

Much of the health gain is obtained through of at least 30 minutes of cumulative moderate physical activity every day. This level of activity can be reached through a broad range of appropriate and enjoyable physical activities and body movements in people's daily lives, such as walking to work, climbing stairs, gardening, dancing, as well as a variety of leisure and recreational sports additional health gains can be obtained by relevant daily moderate to vigorous physical activities of longer duration: e.g.

i) Children and young people need an additional 20 minutes' vigorous physical activity 3 times a week.
ii) Weight control would require at least 60 minutes every day of moderate/vigorous physical activity).

Conclusion

It is concluded the regular exercise is an important part of a healthy lifestyle. People who lead an active life are more likely to live longer and less likely to develop serious diseases such as heart disease and diabetes.

Reference:

1. Butler RN, Davis R, Lewis CB, et al. (1998). Physical fitness: benefits of exercising for the older patient. Geriatrics 53(10):46-62.
2. Cawley, J., Frisvold, D., & Meyerhoefer, C. (2013). The impact of physical education on obesity among elementary school children. *Journal of Health Economics, 32*, 743-755.
3. Constantinidies, P., Mantalvo, R., & Silverman, S. (2013). Teaching processes in elementary physical education classes taught by specialists and nonspecialists. *Teaching and Teacher Education, 36*, 68-76.
4. Dater, A., & Sturm, R. (2004). Physical education in elementary school and body mass index: Evidence from the early childhood longitudinal study. *American Journal of Public Health, 94*, 1501-1506.
5. Department of Health (2011). Start Active, Stay Active: A report on physical activity for health from the four home countries' Chief Medical Officers.
6. Fernandes, M., & Sturm, R. (2011). The role of school physical activity programs in child body mass trajectory. *Journal of Physical Activity Health, 8*, 174-181.
7. Gonzalez-Suarez, C., Worley, A., Grimmer-Somers, K., & Dones, V. (2009). School-based interventions on childhood obesity: A meta-analysis. *American Journal of Preventive Medicine, 37*, 418-427.

8. Mensschik, D., Ahmed, S., Alexander, M. H., & Blum, R. W. (2008). Adolescent physical activities as predictors of young adult weight. *Archives of Pediatrics & Adolescent Medicine, 162*, 29-33.
9. Madsen, K. A., Gosliner, W., Woodward-Lope, G., & Crawford, P. B. (2009). Physical activity opportunities associated with fitness and weight status among adolescents in low-income communities. *Archives of Pediatrics & Adolescent Medicine, 163*, 1014-1021.
10. McKenzie, T. L., & Lounsbery, M. A. F. (2014). The pill not taken: Revisiting physical education teacher effectiveness in a public health context. *Research Quarterly for Exercise and Sport, 85*, 287-292.
11. National Association of Sport and Physical Education. (2012). *Shape of the nation report: Status of physical education in the USA*. Retrieved from http://www.shapeamerica.org/advocacy/son/2012/upload/2012-Shape-of-Nation-fullreport-web.pdf
12. Sdrolias, P. (2009). The effect of the Manitoba grade 11 and 12 high school physical education curriculum on fitness-related health, academic achievement and behavioral outcomes. Doctoral dissertation, University of Manitoba.
13. Starc, G, & Strel, J. (2012). Influence of the quality implementation of a physical education curriculum in the physical development and physical fitness of children. *BMC Public Health, 12*, doi:10.1186/1471-2458-12-61.
14. Simms, K., Bock, S., & Hackett, L. (2013). Do the duration and frequency of physical education predict academic achievement, self-concept, social skills, food consumption, and body mass index. *Health Education Journal*, doi: 10.1177/0017896912471040.
15. Tassitano, R. M., Barros, M. V. G., Tenorio, M. C. M., Bearra, J., Florindo, A. A., & Reis, R. S. (2010). Enrollment in physical education is associated with health-related behavior among high school student. *Journal of School Health, 80*, 126-133.
16. Wardle, J., Brodersen, N. H., & Boniface, D. (2007). School-based physical activity and changes in adiposity. *International Journal of Obesity (Lond), 31*, 1464-1468.
17. Wilson, A. J., Liu, Y., Keith, S. E., Wilson, A. H., Kermer, L. E., Zumba, B. D., & Beauchamp, M. R. (2012). Transformational teaching and child psychological need satisfaction, motivation, and engagement in elementary school physical education. *Sport, Exercise, and Performance Psychology, 14*, 215-230.

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Theme :- Global Opportunities in the Context of Digital Era for Sustainable Indian Economy
Sub Theme:- Entrepreneurship and Innovation

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ABSTRACT:-

Entrepreneurship is central for enhancing the economic opportunity of nations and organizations. Entrepreneurs create and exploit changes, are innovative and have ability to mobilize resources.

Innovation is an invention, paired with a process and a market. The term "INNOVATION" can be defined as something original and more effective and as a consequence, new that 'breaks into' the market or society. For organization innovation is occasion for both 'Opportunities and Risk'.

INTRODUCTION:-

The word Entrepreneur has a French origin. It is derived from French word, 'entreprendre'. Entrepreneurship is defined as the process of making money, earning profits and increasing the wealth while posing characteristics such as risk taking, management, leadership and innovation.

Innovation is the process of bringing the best ideas into reality, which triggers a creative idea, which generates a series of innovative events. Innovation destroys the existing market and creates new ones, which will in turn be destroyed by even newer products or services.

MEANING:-

Entrepreneurship is one of the driving forces of modern global economy. Entrepreneurship is defined as the process of making money, increasing profits and increasing the wealth while posing characteristics such as risk taking, leadership and innovation.

Innovation is a tool of Entrepreneurship.No innovation is possible without Creativity

DEFINITION:-

ENTREPRENEURSHIP

Joseph Schumpeter:- Viewed Entrepreneurship as a force of "Creative Destruction.

A. Schumpeter:- The Entrepreneurship is essentially a creative activity or it is a innovative function.

Peter Drucker:- Entrepreneurship is neither a science nor an art. It is a practice. It is knowledge based. Knowledge in entrepreneurship is a means to an end, that is, by the practice.

INNOVATION

Innovation is the process of bringing the best ideas into reality, which triggers a creative idea, which generates a series of innovative events.

Innovation is the process that transforms new ideas into new values.

Innovation is the process that combines ideas and knowledge into new values.

COMPARISON BETWEEN ENTREPRENEURSHIP AND INNOVATION

ENTREPRENEURSHIP	INNOVATION
1.Entrepreneurship is applying	**1.** Innovation is applying your creativity
the innovation to bring the ideas to life.	to come up with a unique idea.
2. It is a Social invention which let people	**2.**It is a Technological invention, which
do what they could not previously.	do lets parts to do what they can't do.
3.Innovation is part of Entrepreneurship.	**3.** Creativity is part of Innovation.
4.Progress depends on Entrepreneurship	**4.**Progress depends on Innovators
and entrepreneurs can even be richer	and innovators can get rich.
than great innovators.	

IMPACT OF ENTREPRENEURSHIP

As every coin has two sides in the same way Entrepreneurship has both negative as well as positive impact.

POSITIVE IMPACT

Entrepreneurship creates job opportunities, reduces unemployment, increases competition, opens new market, increases foreign income and poverty alleviation.

NEGATIVE IMPACT

The single largest impact of entrepreneurship on an economy is the plundering of resources, which can have a disastrous effect on the environment.

IMPACT OF INNOVATION

Innovation improves the productivity and reduces the cost.

ADVANTAGES AND DISADVANTAGES OF ENTREPRENURSHIP

ADVANTAGES

- It gives a great amount of freedom to work.
- It allows you to set your own earnings.
- It offers flexibility.

DISADVANTAGES

- It requires you to dedicate a huge amount of time.
- It can be difficult to compete with other businesses.
- It does not guarantee 100% success.
- Work comes with unpredictable schedules.

ADVANTAGES AND DISADVANTAGES OF INNOVATION

ADVANTAGES

- Improved Productivity and reduced cost.
- Better Quality
- Building a product range
- More added value to the product.

DISADVANTAGES

- Competition
- Uncertain commercial returns
- Lack of availability of finance

7 Principles of Entrepreneurship given by STEVE JOBS

- Do what you love
- Put a dent in universe
- Kick start your brain
- Sell dreams, not product
- Say no to 1000 things
- Create insanely great experiences
- Master the message

KEY ELEMENTS OF ENTREPRENURSHIP

There are 4 key elements of entrepreneurship:-

- Innovation
- Risk taking
- Vision
- Organizing skills

FUNCTIONS OF ENTREPRENURSHIP:-

The Entrepreneur has to perform various functions like:-

A) Organizing Function

- Co-ordination of factors of production
- Decision making
- Planning
- Supervision
- Rewards to Factors

B) Uncertainty and Risk Bearing Function

- Insurable risk
- Uninsurable risk

C)Innovative Function

Entrepreneur perform various functions therefore he is regarded as the Captain of the Company.

CONCLUSION:-

Therefore we conclude, to be successful in sustainable business practices often requires entrepreneurship and innovation. The importance of Entrepreneurship and Innovation also applies to companies that change how to produce products and services. Innovation is part of Entrepreneurship nut Entrepreneurship is not the part of Innovation.

RESEARCH METHODOLOGY :-

Data is collected from Secondary Sources.

RESEARCH:-

BUSINESS ENVIRONMENT AND ENTRPRENEURSHIP - CS FOUNDATION TEXTBOOK

http://www.tutor2u.net/business/reference/innovation-benefits-risk

http://www.futureofworking.com/8-advantages-and-disadvantages-of-entrepreneurship/

www.smallbusiness.chron.com

http://en.m.wikipedia.org

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Effective Water Resource Management in Ethiopia Using Geographical Information System (GIS) – A Review

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Abstract:

One of the main concern of ourwater resources for the future is the sustainability of the present and imminent water resource allocation.As water becomes scarce, the importance of how it is to be administered ought to be established vastly. Now a day's water becomes inadequate and scarce due to overloads on the environment in terms of industrialism and population growth. It's led us to study how it's to be managed for the present and future needs. In the sustainable water resource management, it is an important thing to focus on the optimized and balanced allocation of ground and surface water management for the nations social, economic and environmental needs.Its show the way to us to use advanced technologies. Geographic information science is a successful means of effective water resource management which has been acknowledged in this study. Also the various combinations of geographic information systems, simulation models and GIS thematic (maps) layers with weights were discussed to advance the knowledge of water resource assessment and management.

***Keywords**: Water Resource Management, Geographic Information System, Environmental needs.*

1. Introduction:

Water is one of the important primary resources for the living organism. Water is the vital part in socioeconomic development and the reduction of poverty. Now a days many factors having a collision with water resources and management system such includes widespread poverty, malnutrition, demographic change, growing urbanization, the effects of globalization and the recent warning of climate change. All above factors intrude on the water sector rapidly complex ways. (UNESCO, 2006)

The total quantity of water resources on earth is assessed to be $1.37x10^8$ Million hectare meter. Of the total global resources, 97.2% are the saline water resides in the oceans and 2.8 % is the fresh water. On this fresh water by 2.8%, around 2.2 % of surface water, 2.15% is in the form of glaciers and ice caps and only 0.01% is available in the form of lakes and reservoirs and about 0.0001% in terms of streams and others in the form of water vapors (0.001%) in the atmosphere and soil moisture at 0.002%. Of the 0.6% of stored ground water, only 0.3% can be extracted with economically.

In the society of Ethiopia, water is always playing a critical role. By the legacy water resources of Ethiopia can be categorized in two ways; natural and historic. i). The natural legacy, depending on the high hydrological variability coupled with rainfall seasonality ii). The historical legacy is the one of quite a few international rivers, in

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which the Nile is the most important one.

In general, Ethiopia is having 12 river basins in which total surface water flow of about 122 billion cubic meters per year and having 2.6-6.5 billion cum of groundwater potential as per 2011 statistics which was corresponded to an average of 1575 cum of available water per year (FAO, 2003).

In global water resources, Ethiopia's water resource share is about 0.22%. This natural water resource is classified as follows (i) surface water which appears to be stationery as in lakes and ponds; (ii) running water in the form of rivers and streams and (iii) ground water in aquifers or mixed with the soil. But each form of water does not exist alone or independently of the others; on the contrary, they are all inter-connected through a complex natural process. A water system or water regime denotes the inter-connection among the different forms in a given geographical location. Individuals may make use of one water source or another (or a combination), depending on the nature of their livelihoods and their proximity to the sources of water(DessalegnRahmato, June 1999).

In Ethiopia2.10% of the water resource are groundwater and 97.90 % of the water resource are surface water from runoff in which only about 11% that is 0.3% of the total is used for the domestic water supply.

Table:1 Toatl Water Resource by country Ethiopia.

Country	Area (Km^2)	Average Percipitation (1961-1990) (km^3/yr)	External water resources(1961-1990) (km^3/y110.0r)	Total water resources (km^3/yr)	Dependency ratio %	IRWR (per capita) (m^3/yr) inhab.	TRWR (actual per capita) (m^3/yr) inhab.
Ethiopia	1104300	936.0	0	110.0	0.0	1749	1749

(Extracted from FAO (2003), review of world water resources by country.)

IRWR - Internal Renewable Water Resources, TRWR - Total Renewable Water Resources

Water scarcity is a function of water demand and water unavailability. At the present days the developing countries are facing one amongst the most big vulnerable problem is water scarcity. As a total, only 1% of global water are drinkable and people residing in Africa and Asia have to walk on an average of 3.7 miles (around 6 km) to collect water (Water Facts). As per UNESCO, 783 million global populations are not having access to clean water and almost 2.5 billion people do not have an access to adequate sanitation. The effective water resources management is the only solution to conquer these issues.The main objective of this paper is to investigate the effective and efficient water resources management system in Ethiopia by using remote sensing and Geological Information System (GIS).

Topography and Altitudinal Gradient of Ethiopia

Ethiopia is the country having high mountains consisting of flat plateaus often cut by deep gorges and wide valleys in the highland and plains in the lowlands.The highlands with very rough terrain are dense, making accessibility as well as other development efforts a multifaceted endeavour. The Geophysical location of the country is generally characterized by highland in the centre circumscribed by the lowlands. The common features of the Ethiopian Highlands are high raising mountains with flat top and steep sides. The lowlands are flat with frequent incision by ravines and gullies. The transition from highland to lowlands is very abrupt with sharp falls and cataracts. The overall land mass of the country is hydrologically divided into 12 Basins. In which eight of these are River Basins, one Lake

Basin and three are Dry Basins . a) In that Four of the River Basins are part of Nile River System, namely 1. Abbay, 2.Baro-Akobo, 3.Mereb and 4.Tekeze, flowing generally in the Western direction toward Sudan eventually terminating in the Mediterranean Sea . b) Five Basins can be categorized as the Rift-valley system, that is 1.Omo-Ghibe, 2.Awash, 3.Rift-valley Lakes , 4.Denakil and Aysha as all of them drain their water in the Great East African Rift-valley. C) The remaining three are part of the Eastern Ethiopian Basin, 1.Genale-Dawa, 2.Wabishebelle and 3.Ogaden that generally flows in the South-easterly direction toward the Somali - Republic and then to the Indian Ocean[1].

Table2: Important Topographical Characteistics of the Ethiopian Basins

R.No.	Basin Name	Source		Highest point		Lowest Point	
		Locality	Altitude (masl)	Locality	Altitude (masl)	Locality	Altitude (masl)
1	Wabishebelle	Mt Bale	4000	Galama & Ahmar	4000	Somali Border	200
2	Abbay	Sekela, West Gojam	2000	Mt Choke	4100	Sudan Border	500
3	Genale Dawa	Mt. Bale	4300	Mt. Batu	4307	Somali Border	180
4	Awash	Ginchi	3000	-	-	Terminal Lakes	250
5	Tekeze	Lalibela	3500	Ras Dejen	4620	Sudanese Border	550
6	Denakil	-	-	Abuna Yoseph	4170	Kobar Sink	160mbsl
7	Ogaden	-	-	Divide-line with Awash	1900	Somali Border	400
8	Omo-Ghibe	Ambo	2800	Mt. Guge	4200	Rudolph Lake	350
9	Baro-Akobo	Illubabor	3000	-	3900	Sudan Border	395
10	Rift Valley Lakes	-	-	Arsi Mt.	4193	Chew Bahir	300
11	Mereb	Zalanbessa	2500	-	3242	Eritrean Border	900
12	Aysha	-	-	-	1200	Djibouti Border	400

Source:RespectiveBasinMasterPlanStudies (http://www.mowr.gov.et/index.php?pagenum=2.1&pagehgt=5495px# - Ministry of water and Energy

1.1.Climate and Hydrology

Climate is the function of the location (latitudinal function), altitude, angle of the sun, distance from oceans or other water bodies, terrain and the like. The different combination of these factors resulted in the prevalence of diverse climatic conditions in Ethiopia. The major climatic conditions in Ethiopia can be categorized as tropical in the south and southwest, The climate in the highlands and arid and semi-arid in the Northeastern and Southeastern lowlands. Climate has a direct implication on the development of the basin with particular influence on the availability and use of water and pattern of settlement.

Hydrology of an area is a direct reflection of the climate, the terrain and other physical characteristics such as porosity, permeability and vegetation cover. Water travels on the surface, underground and in the atmosphere in a well-known cycle. Here emphasis is given to part of the water that runs on the surface in the form of streams and rivers or stored in the form of lakes.

The very high variability exhibited by the climatic components of the country over time and space is the main reason behind the spatial and temporal variability in the availability of water. The shape, size and other physical features of the River Basin does also contribute to the same. The nature of the river channel, which is a direct function of the relationship between the flow and the formation of the channel, governs accessibility to and pattern of use of the waters flowing in the rivers or stored in natural depressions. The table 2 indicates important climatic components and water resource potential of Basins in Ethiopia in terms of mean annual run-off, storages in major lakes and impoundments and underground[1].

Table3: Important Climate and Hydrology Characteistics of the Ethiopian Basin

R.No.	Basin Name	Temperature (^{o} c)		Rainfall(mm)			Evaporation (mm)	Water resource potential(Bm 3)		
		Min.	Max.	Max.	Min.	Average	Average	Surface	Ground	Stored
1	Wabishebelle	6	27	1563	223	425	1500	3.4	2.3	1.1
2	Abbay	11.4	25.5	2220	800	1420	1300	54.4	na	30
3	Genale Dawa	<15	>25	1200	200	528	1450	6.0	na	-
4	Awash	20.8	29	1600	160	557	1800	4.9	0.8	2.2
5	Tekeze	<10	>22	1200	600	1300	1400	8.2	na	-
6	Denakil	5.7	57.3	1500	100	na	na	0.86	na	na
7	Ogaden	25	39	800	200	400	na	0	na	-
8	Omo-Ghibe	17	29	1900	400	1140	1600	16.6	1.0	na
9	Baro-Akobo	<17	>28	3000	600	1419	1800	23.23	1	na
10	Rift Valley Lakes	<10	>27	1800	300	na	1607	5.64	na	56.55
11	Mereb	18	27	2000	680	na	1500	0.72	0.11	-
12	Aysha	26	40	500	120	na	na	0	na	-

Source:RespectiveBasin Master Plan Studies (http://www.mowr.gov.et/index.php?pagenum=2.1&pagehgt=5495px# - Ministry of water and Energy)

1.2. Surface Water Resources of Ethiopia:

Ethiopia is abled with a substantial amount of water resources. The surface water resource potential is impressive, but little developed.

The country possesses twelve major river basins, which form four major drainage systems: i).The Nile basin (including Abbay or Blue Nile, Baro-Akobo, Setit-Tekeze/Atbara, and Mereb) covers 33% of the country and drains the northern and central parts westwards ii).The Rift Valley (including Awash, Denakil, Omo-Gibe, and Central Lakes) covers 28% of the country iii).The Shebelli-Juba basin (including Wabi-Shebelle and Genale-Dawa) covers 33% of the country and drains the southeastern mountains towards Somalia and the Indian Ocean. iv).The North -East Coast (including the Ogaden and Gulf of Aden basins) covers 6% of the country

The aggregate annual runoff from nine important Ethiopian river basins are about 122 km^3 (Table 5) pointed out by the Integrated development master plan studies and related river basin surveys undertaken at the end of the 1990s. The Abbay, Baro-Akobo, and Omo-Gibe basins account for about 76% of the total runoff from an area that is only 32% of the total area of the country (Table 6). Most of the rivers in Ethiopia are seasonal and about 70% of the total runoff is obtained during the period June-August. Dry season flow originates from springs which provide base flow for small-scale irrigation. (FAO, Irrigation in Africa in figures – AQUASTAT Survey 2005)

Table 5: Renewable water resources

Average precipitation		848 - 936	mm/yr 10^9 m^3/yr
Internal Renewable water resources		122	10^9 m^3/yr
Total actual Renewable water resources		122	10^9 m^3/yr
dependency ratio		0	%
Total actual Renewable water resources per inhabitant	2004	1685	m^3/yr
Total dam capacity	2002	5559.037	10^6 m^3

Table 6 : Area and annual runoff by river basin

Major Drainage System	**River basin**	**Area (ha)**	**As % of total area (%)**	**Annual runoff (km^3/yr)**	**As % of total runoff (%)**
Nile basin		36881200	32.4	84.55	69
	abbay (blue Nile)	19981200	1706	52.6	42.9
	Baro-Akobo	7410000	6.5	23.6	19.3
	Setit-Tekeze/Atbara	8900000	7.8	7.63	6.2
	Mereb	590000	0.5	0.72	0.6
Rift Valley		31764000	27.9	29.02	23.7
	Awash,	11270000	9.9	4.6	3.7
	Denakil	7400000	6.5	0.86	0.7
	Omo-Gibe	7820000	6.9	17.96	14.7
	Central Lakes	5274000	4.6	5.6	4.6

Shebelli-Juba		37126400	32.7	8.95	7.3
	Wabi-Shebelle	20021400	17.6	3.15	2.6
	Genale-Dawa	17105000	15.1	5.8	4.7
North East Coast		7930000	7	0	0
	Ogaden	7710000	6.8	0	0
	Gulf of Aden	220000	0.2	0	0
Total		113701600	100	122.52	100

Source: Water Sector Devolopment Programme Reports, 2002

1. The areas are estimates and the total area is slightly different from the total area of the country, which is 110 430 000 ha. This last figure should be considered as being the correct one nationally

All of the basins spread out from the central ridges that separate the Rift Valley from the highlands of Ethiopia to all directions out of the country. Basins drained by rivers originating from the mountains west of the Rift Valley flow West into Sudan , and thus start off from the Eastern highland flow East into the Republic of Somalia .

The Rift Valley Basins (River Drainage) System originates from the adjacent highlands and flow of North and South of the uplift in the Center of the Ethiopian Rift Valley North of Lake Ziway (The Federal Democratic Republic Of Ethiopia, Ministry Of Water Resources, Ethiopian Water Sector Policy)

There is very big variation in the size of the Basins. The size of a basin in mainly depends on the geological formation. The largest basin in Ethiopia is Wabishebelle Basin with an area of 202, 220 km^2 followed by the Abbay Basin covering an area of 199812km^2 . The Aysha Basin is the smallest basin with an area of 2223 km^2 followed by the Mereb that has an area within Ethiopia of 5900km^2 .

1.4.Groundwater Resources of Ethiopia:

Ethiopia having plentiful surface and ground water resources potential of which groundwater has a lion-share. The estimated amount of yearly groundwater recharge of the country is about 28,000 mm^3 . In that the potential is much greater than this amount indicated by the recent studies. Most of the groundwater resources are mainly used for domestic and industrial water supply. (Ethiopian Geological Survey).

Ground waters in unconsolidated aquifers are usually of exceptional quality; being naturally filtered. The water is normally clear, colorless, and free from microbial contamination and thus requires minimal treatment.

As a result of the slow travel times in the flat plains and having longer contact with the sediment, the groundwater often contains significant quantities of minerals in solution. This solute content varied with the residence time of water in the aquifer and the mineral composition of the aquifer itself as seen in the flood plains of the alluvial aquifers in the Rift Valley.

High concentrations of fluoride are also most common in the Rift Valley boreholes and springs. The concentrations are above 1.5 parts per million (ppm) which is over the limits for drinking water established by the World Health Organization.

The different variations of factors strongly influences the quantity and quality of groundwater in different parts of the country such as the country's geology, geomorphology, tectonics and climate. There is usable groundwater in many areas, contributing to good transmission of rainfall to recharge aquifers, sustaining springs and maintaining flows in perennial rivers. In another region, however, groundwater only originates at depth (e.g. lowland regions such as Somali), in only limited extent (with limited storage), or quality poses a risk to health (particularly its fluoride content). (ENGDA-Ethiopian National Groundwater Database)

In Ethiopia, there are a number of lithological units of varying age and composition, including metamorphic, sedimentary and igneous rocks. In the most of the parts of the country, groundwater is a significant source of potable water, in particular in rural areas, where possibly 90% of rural water supplies are groundwater-dependent, even also for towns. The Annual groundwater recharge in the main five basins where previous studies have been conducted and estimated at 18bcm, and total annual recharge can reach 36bcm. The total stored potential of groundwater is estimated at one tcm.Fekahmed Negash, 2012)

2. Significance of Geographical Information System:

GIS is a technology used for general-purpose for handling geographic data in digital form.

Its capabilities include: pre-processing data into a form appropriate for analysis, supporting spatial analysis and modelling directly, and complete with post processing results (Goodchild, 1993).

GISs offer a spatial illustration of water resource systems. A GIS can fetch spatial dimensions into the traditional water resource data base, and it has the ability to present an integrated view of the world. This is accomplished by combining various social, economic and environmental factors related to spatial entities of a water resources problem and making them available for use in a decision-making process (Csillag, 1996).

In particular, the visual display capability of GISs compliments the user interface of water resources models, its allowing the user to take more complete control of data input and manoeuvring. Sophisticated graphical user interfaces can provide user-defined triggers, which allow the user to dictate how features will respond to environmental changes, and to construct rules to control the modelling process (Crosbie, 1996).

A GIS system can be sighted as a database, which comprises all geometric elements of the geographical space with specific geometric accuracy together with information (i.e.) in tabular form which is related to geographic location. The GIS is associated by a set of tools, which do data management, processing, analysis and presentation of results for information and related geographic locations. The geographical space can be viewed as composed of overlaid planes of information over a wider geographical area and each plane has specific information or features. One plane may have the drainage features, another plane may have the elevations, an other plane may have the rainfall, etc. Tools help among others to combine planes of information do processing with combined planes using map algebra, and create thematic maps.

Further developments on GIS tools allows modelling to be carried out based on object programming techniques (Daene et al., 2002) with components ordered into classes which comprise data, methods or procedures and events. A class which may be a line segment of a river, for example, may contain data such as coordinates of points, length and profile dimensions and may have procedures to compute the flow capacity at a given moment. GIS software vendors have developed more modelling tools and capabilities into their systems (Booch et al., 1999); have also evolved into a wider range of applications.

3. Water Resource Management:

Water resource management is the activity of planning, developing, distributing and managing the optimum use of water resources. It is a sub-set of water cycle management. In an ideal world, water resource management planning has regard to all the competing demands for water and seeks to allocate water on an equitable basis to satisfy all uses and demands. This is rarely possible in practice.

Water management requires a good understanding of the geographical space and related spatial information such as water sources, terrain surface, watershed, land cover, land use, rainfall, temperature, humidity, soil condition and composition, geology, conditions on the atmosphere, human activities, environmental data, etc. The accurate knowledge of the terrain surface helps to understand and model most hydrological processes.

There are three basic issues on water management (i) pollution control and mitigation for both surface water and ground water; (ii) water utilization for water supply for municipalities, agriculture, industry and competing demands for instreamwater use and wildlife habitat and (iii) flood control and mitigations.There are many hydrological models for the surface and subsurface water hydrology and GIS is the way that many researchers are trying to use to manage the information. The terrain surface is the medium on which many activities of the water take place such as: Rainfall, water transport over the surface or through the surface, irrigation, flooding, plant evapotranspiration, and this work is focused on the terrain surface(Maidment(1993).

Flooding meanwhile causes significant damage tosettlements and infrastructure, and the inundation and water-logging of productive land underminesagriculture by delaying planting, reducing yields,and compromising the quality of crops, especially ifthe rains occur around harvest time.

3.1. Understanding the Droughts:

Drought is widely recognized as a creeping natural hazard that occurs due to the natural climatic variability. Droughts occur with varying frequency in all climatic regimes. In recent years, concern has grown world-wide that droughts may be increasing in frequency, intensity, and duration as a result of climate change. Likewise, the impacts associated with droughts are increasing because of changing societal vulnerabilities. Traditionally, response to drought throughout the world has been through a reactive, crisis management approach. This approach to drought management responds to the impacts of drought once they occur in an attempt to speed the recovery process (CathrynTurton and Anthony Bottrall,1997).

Drought is an insidious natural hazard and there is no clear understanding of the onset of drought, its termination, and common techniques to measure its severity and spatial extent. Drought rarely draws public sentiment and the response is generally lacking as compared to the dramatic, more visual natural hazards such as floods and earthquakes that result in significant structural damage to infrastructure. Indeed drought characteristics differ for different climate regimes and the impacts are directly proportional to societal vulnerability. The impact of drought in a region depends on the adaptive capacity of communities or the ecosystems to cope (Brekke et al., 2009).

3.1.1. Water resources challenges:

Droughts are endemic, with significantevents every 3–5 years. Droughts destroy watersheds, farmlands, and pastures, contributing toland degradation and causing crops to fail andlivestock to perish. During the 1984–5 drought, forexample, GDP declined by 9.7 percent, agricultureoutput declined 21 percent, and gross domesticsavings declined 58.6 percent. Drought can alsoseverely undermine hydropower generation,Ethiopia’s main source of electricity.If rains fail, or simply come too early or too late,the entire agricultural cycle can be disrupted,because there is inadequate water storage capacityto smooth and schedule water delivery. This sensitivity of production to seasonal timing and the spatial distribution of rainfall means that hydrologycan constrain growth in years that appear "good"or "bad" according to average national data.

(The world bank, Report No: 36000-ET)

Drought is a frequent natural disaster in Ethiopia. Recent remarks have shown that the occurrence of droughts have increased over the last few decades. There have been about thirty major drought episodes over the past nine centuries. Of these drought episodes, thirteen were very severe at the national level. Table 7 shows the number of people affected by droughts and the population which required basic food assistance between 1990 and 2004. (UNESCO,2006)

Table 7: Number of people affected by recent droughts

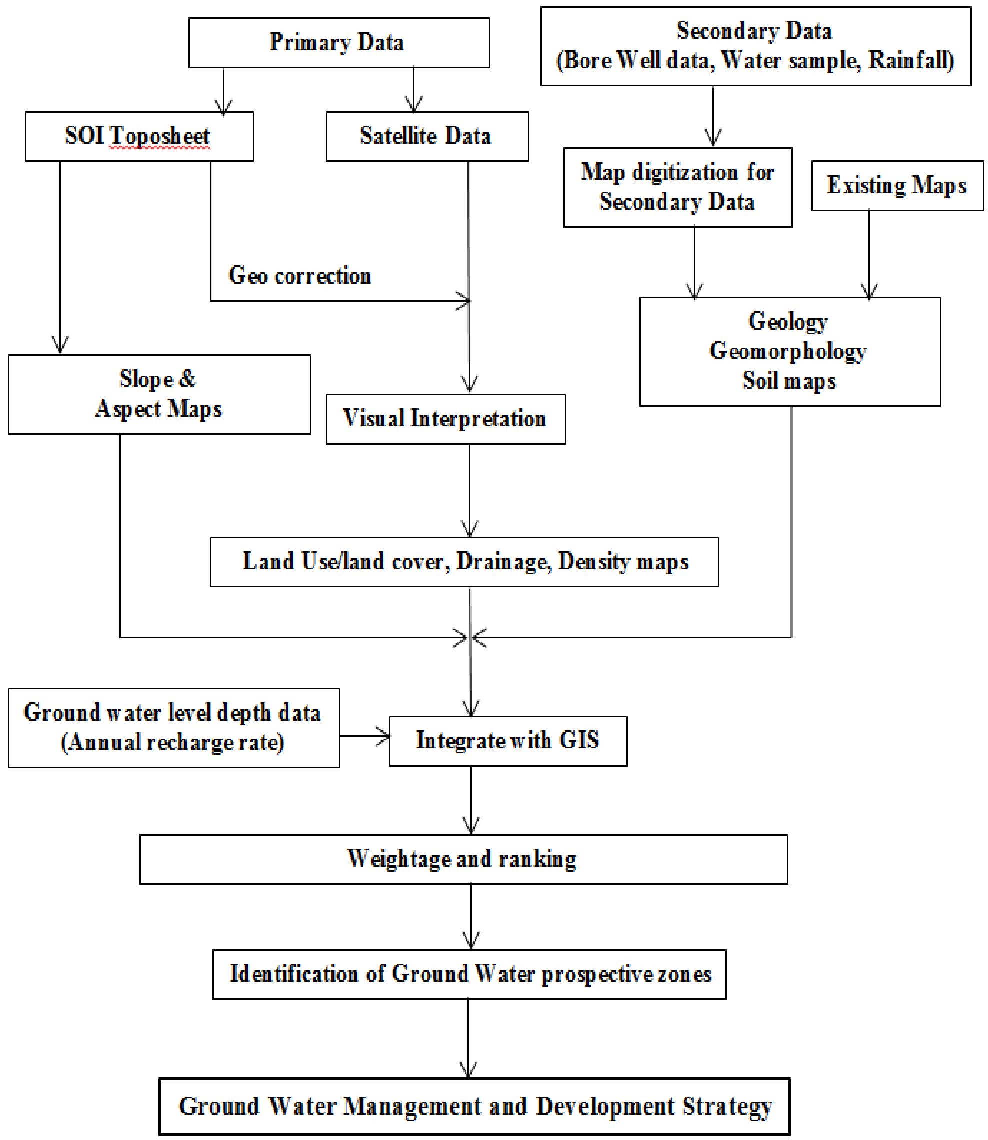
Year	**Population**	**Food assistance requirements affected (number of people)**
1990	3,429,900	374,400
1991	1,850,000	838,974
1992	5,228,530	1,288,737
1993	1,644,040	739,280
1994	889,000	577,586
1995	3,994,000	492,460
1996	3,153,000	253,118
1997	1,932,000	199,846
1998	5,820,415	572,834
1999	2,157,080	1,138,994
2000	7,732,335	836,800
2001	6,242,300	639,246
2002	5,181,700	557,204
2003	14,490,318	1,461,679
2004	9,369,702	964,690

Source: (UNESCO),2006, "Water a shared responsibility", The United Nations World Water Development Report-2

3.2. GIS in Water Resource Management:

For water resources problem solving, both a spatial representation of the system and an insight into water resource problems are necessary. GIS can represent the geo-referenced characteristics and spatial relationships of systems, but predictive and related analytical capacities are more useful and necessary for solving complex water resources planning and management problems (Walsh, 1992). The production of basic data such as thematic maps using the GIS technology will also leads us for effective water management. The typical methodogy of water resources management by GIS is given in Flow Chart 1.

3.2.1. Work Flow



Flow Chart 1: *Methodology*

3.2.2. Requirement of Thematic Maps:

Thematic maps emphasize spatial variation of one or a small number of geographic distributions.Thematic maps serve three primary purposes; (i) they provide specific information about particular locations; (ii) they provide general information about spatial patterns; (iii)they can be used to compare patterns on two or more maps.

Thematic maps required for the water resource management studies contain variety of features namely; Geology, Geomorphology, Soil, DEM, Drainage, Drainage density, Land Use/Land Cover and Rainfall.

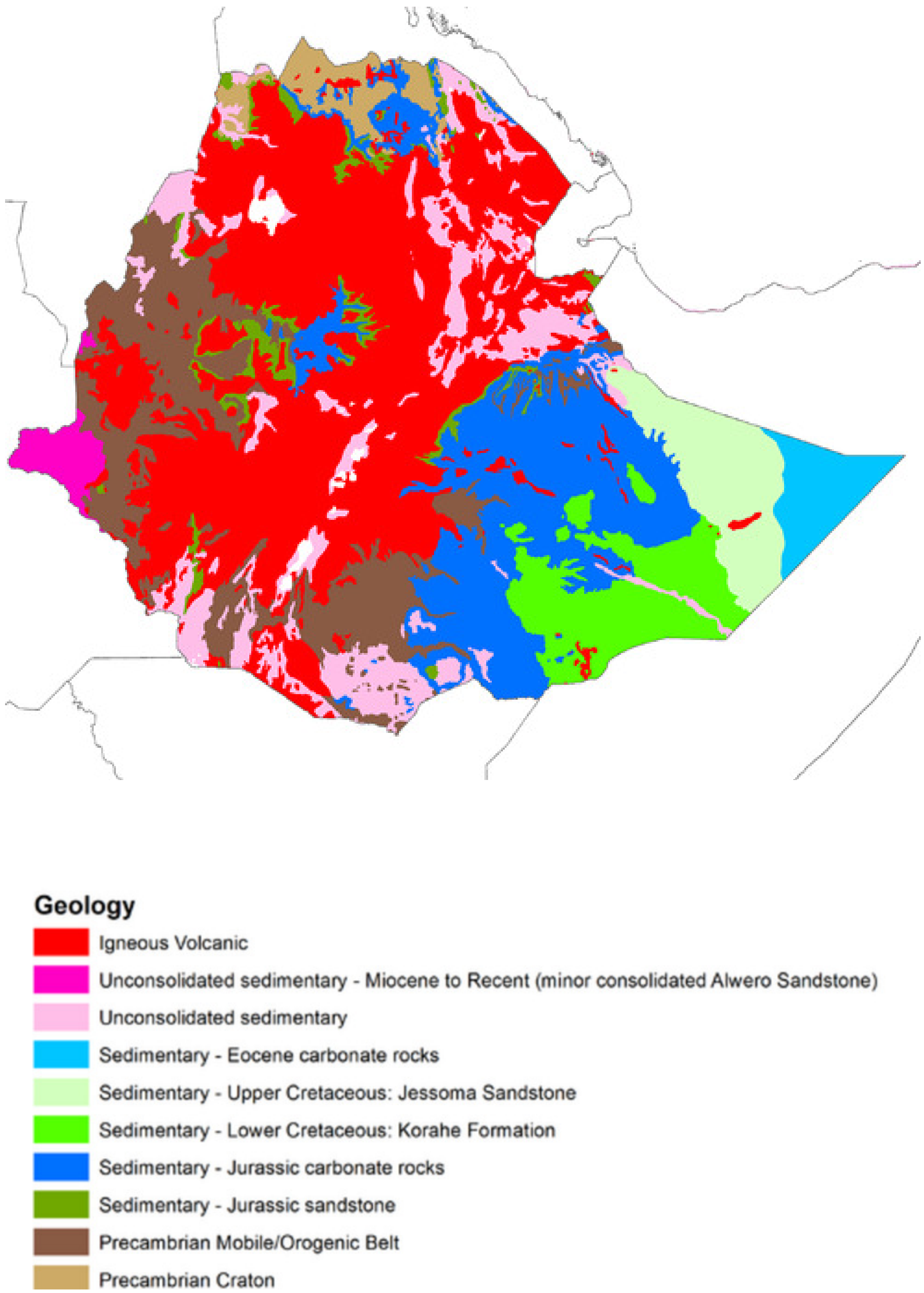


Figure 1: Geology of Ethiopia

(Source: British Geological survey, Hydrogeology of Ethiopia)
(http://earthwise.bgs.ac.uk/index.php/Hydrogeology_of_Ethiopia)

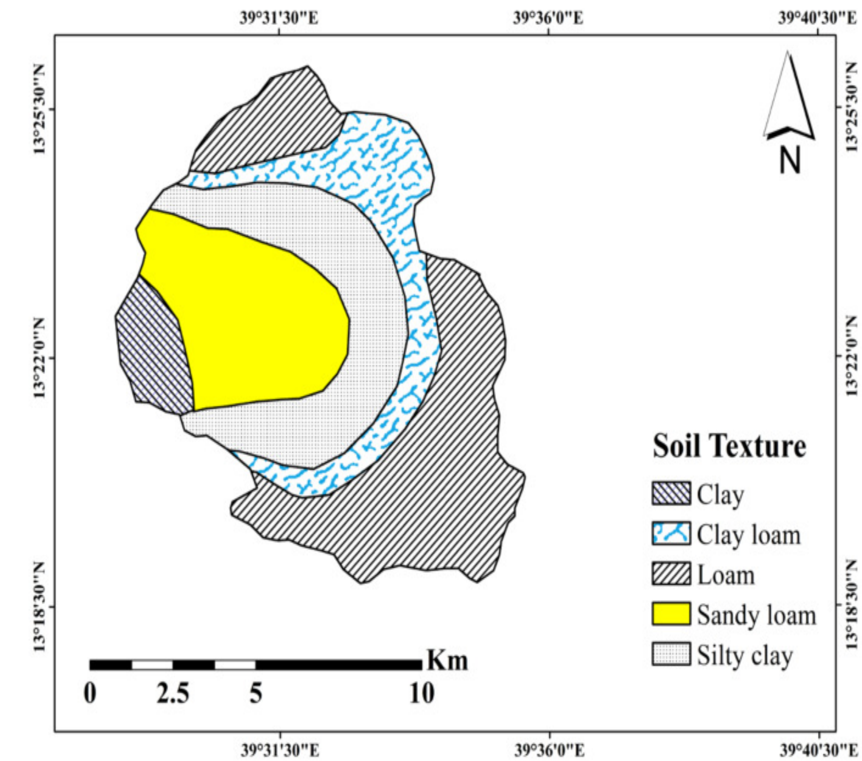


Figure 2: Soil Texture map (Area of Tigray -Ethiopia)
(Source: Tesfaye Gebre et.al, April 2015)

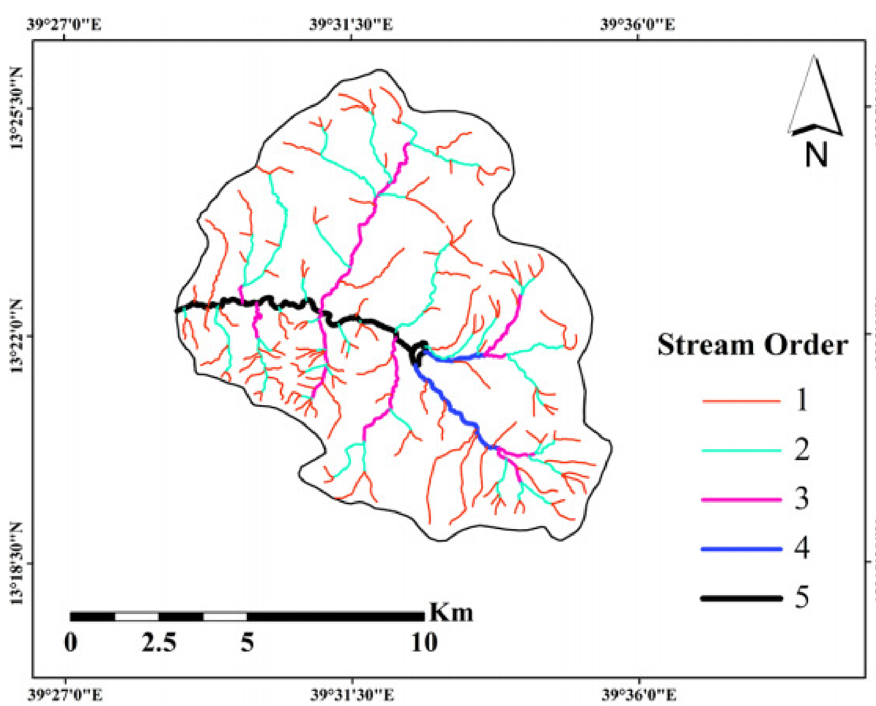


Figure 3: Drainage map with stream (Area of Tigray -Ethiopia)
(Source: Tesfaye Gebre et.al, April 2015)

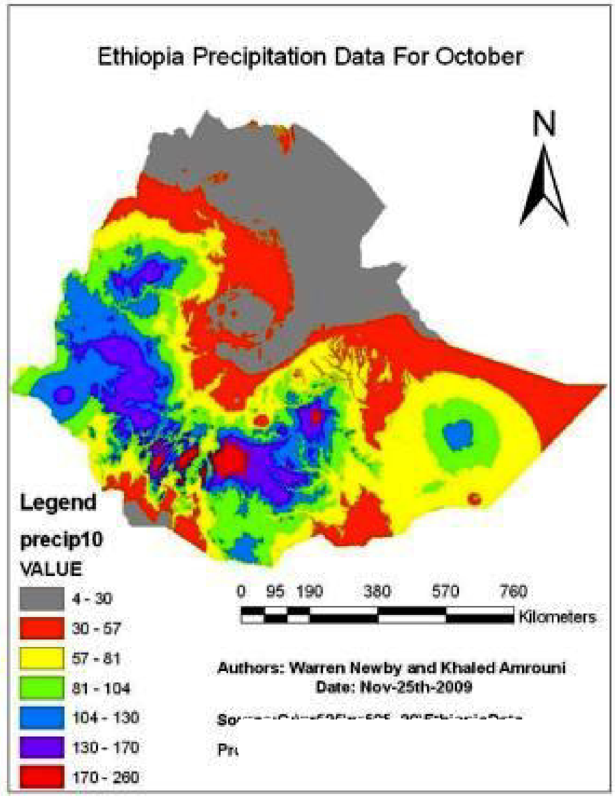


Figure 4: rainfall map (Area of Ethiopia)
(Source:Q:/nr505/nr505-09/Ethiopia Data)

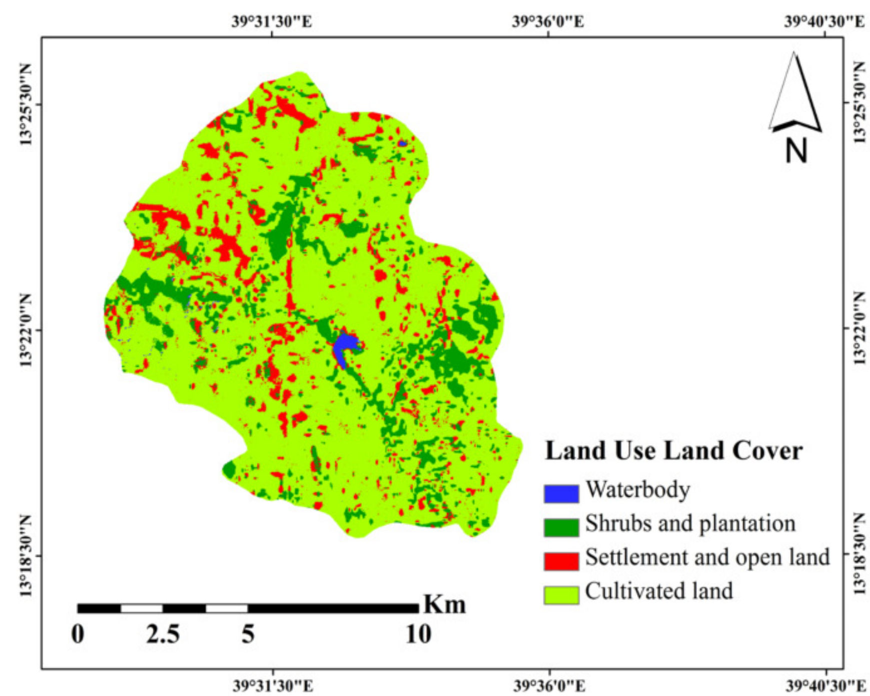


Figure 5: Example Land use/Land cover Map (Area of Tigray -Ethiopia)
(Source: Tesfaye Gebre et.al, April 2015)

Example map for geology, soil, drainage, rainfall and Land use/Land cover thematic maps were shown in Figure 2, Figure 3, Figure 4, and Figure 5 respectively.

Each thematic map having individual themes. The thematic layers of geology, geomorphology, soil, DEM, drainage, drainage density, LU/LC map, rainfall map were used for the effective water resource management. Example map for geology and soil thematic maps (Tigray) of Ethiopia Basin were shown in Figure 1 and Figure 2 respectively. To differentiate zones for management, all these thematic layers were integrated using GIS techniques.

The weights of the different themes were assigned on a scale of 1 to 5 based on their influence on the water resource management. Different features of each theme were assigned weights on a scale of 1 to 9 according to their relative influence on water resource management. Based on this scale, a qualitative evaluation of different features of a given theme was performed, with: poor (weight = 1–1.5); moderate (weight = 2– 3.5); good (weight = 4–5.5); very good (weight = 6–7.5); and excellent (weight = 8–9). All the thematic layers after assigning weights are integrated step by step to differentiate the zones where we have to concentrate more for effective water resource assessment and management (GWP, 2000; Dirk Craigie, 2008).

4. Conclusion

Water resource management is crucial as we look for ways to construct environmentally and socially sustainable communities and lifestyles. Now a day we need to Find i). New methods for changing supply and/or demand for water resources ii). Faster and more effective methods to identify and manage sources of pollution and minimize surface and ground water contamination.

GIS will contribute to problem solving as discussed in each of these instances. At a more general level, GIs technologies may help to guide the adoption of water resource policy and promote a more efficient and equitable allocation of natural and community resources as we strive to achieve the above goals (Sharad K. Jain, 2012).

Proper and effective management is very important to ensure the sustainability of water resources in any region. The approach has suggested in this study, that is giving main concern to the GIS is one of the effective techniques that can be used in water resource management in will solve water related problems in Ethiopia.

GIScience has also influenced the development and implementation of hydrologic thematic maps at several different levels. For example, GISs have provided tools to compute average values more efficiently and to include at least some level of spatial effects of partitioning entire surface into ground water in both site-specific and lumped parameter thematic maps. Example map for geology, soil, drainage, rainfall and Land use/Land cover thematic maps (John P. Wilson et.al).

These thematic maps offer the best opportunity for improving our understanding of spatial processes and patterns affecting the distribution and movement of water as well as the impact of land use on water resources over the long term by these maps. We can easily understand and study the water problem in the particular region in Ethiopia based on thematic layer weights and these data will help us for effective water resource management.

In particular, We are in need to study prospect research on the development and evaluation of new thematic maps, representation issues, and the development and inclusion of new spatial analysis functions in GISs Mapping and water resource decision support systems.

Use of simulation, GIS thematic maps and decision support systems that help to identify and solve real-world water resource problems.

5. Acknowledgements:

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References

1. Ministry of Water And Energy, Ethiopia, *http://www.mowr.gov.et/index.php?pagenum=3.*
2. Food and Agricultural organization of united states , 2003, *http://www.fao.org/nr/water/aquastat/countries_regions/eth/index.stm*
3. The Federal Democratic Republic of Ethiopia, Ministry of Water Resources, Ethiopian Water Sector Policy, 2001.
4. Dessalegn Rahmato, June 1999 ."*Water Resource Development In Ethiopia: Issues of Sustainability and Participation*" , Forum For Social Studies, Addis Ababa.
5. The world bank, Report No: 36000-ET " Country Water Resources Assistance Strategy, Ethiopia:Managing Water Resources To Maximize Sustainable Growth" , world bank agriculture and rural development department,
6. The United Nations Educational, Scientific and Cultural Organization (UNESCO),2006, "*Water a shared responsibility The United Nations World Water Development Report-2* ",ISBN UNESCO: 92-3-104006-5, New york, United States of America.
7. Teshome Workie (2005), a base line and Need Assessment Study of Water Resources in Ethiopia, UN published, Addis Ababa
8. Fekahmed Negash, 2012, "*Managing water for inclusive and sustainable growth in Ethiopia: key challenges and priorities*", Basin Administration Directorate, Ethiopian Ministry of Water and Energy
9. John P. Wilson, Helena Mitasova, Dawn J. Wright, spring 2000, " Water Resource Applications of Geographic Information Systems", URISA Journal • Vol. 12, No. 2.
10. Tesfaye Gebre, Tigist Kibru, Samuale Tesfaye, Gebeyehu Taye, April 2015 "*Analysis of Watershed Attributes for Water Resources Management Using GIS: The Case of Chelekot Micro-Watershed, Tigray, Ethiopia*", Journal of Geographic Information System, Vol.07 No.02(2015).
11. Brekke, L.D.,Julie, E., Kiang, J., Rolf Olsen., Roger, S. Pulwarty., David, A. Raff., Phil Turnipseed, D., Robert S. Webb, and Kathleen D. White.,2009. *"Climate change and water resources management – A federal perspective*," US Geological Survey Circular 1331, Reston, USA, 65 pages.
12. Booch, G., Rumbaugh, J., & Jacobson, I. 1999. *"The unified thematic maping language user guide"*.Publisher: Addison-Wesley.

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A Study on Cross-Cultural Look of Celebrity Endorsement in Sports in India

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INTRODUCTION –

Celebrity endorsers have dominated advertising for many years (Cho, 2010). Their ability to cut through advertising clutter has contributed to their effectiveness as persuasive advertising sources (Kamen, Ahzari, & Kragh, 1975). More recently sports celebrities have been heavily utilized to endorse products and services (Charbonneau, 2006). However, not all celebrity sports endorsement advertising campaigns around the world have been successful. This has raised a number of issues regarding the use of celebrity sports endorsers in advertising. Theories such as credibility, attractiveness, match and meaning transfer have been offered as explanations for the persuasiveness of celebrity athletes in advertising. However, past study results have been inconclusive (Kahle & Homer, 1985; Kamins, 1989; McCracken, 1989).

Therefore, a new perspective combining elements of current theory is proposed in the current research. Specifically, the research looks at situations where consumer perceptions of athlete performance enhancement by an endorsed product affect consumer attitudes toward advertising In addition, due to the global use of celebrity sports endorsement cultural values have been recognised to affect consumer persuasion and attitudes. The bulk of marketing literature has focussed on western perspectives (Triandis, 1996). Therefore, persuasion across two dissimilar cultures for celebrity sports endorsement advertising is also explored.

Celebrity endorsement involves contractual agreements between companies and endorsers. As part of an agreement endorsers may be required to fulfil certain obligations. For example, celebrity endorsers may be required to wear the clothes that the company wants to promote, make appearances in media advertising and attend promotional events. (McCracken, 1989; Bush, Martin, & Bush, 2004). Associations with a high profile celebrity lends credibility to the brand, product or company (Sonwalker, Kapse, & Pathak, 2011). Celebrity endorsement generally allows companies to experience increased sales revenue as consumers hold positive perceptions about celebrities. In return for this outcome companies pay endorsers a substantial fee (Bush et al., 2004).

OBJECTIVES –

- To introduce a new theoretical framework for effective celebrity endorsement in consumer behaviour.
- To test the effectiveness of celebrity sports endorsement advertising at influencing consumer attitudes in a number of different advertising situations.

REVIEW OF LITERATURE –

- **The media dichotomy of sport heroes and sport celebrities: marketing of professional women's tennis players. Joshua A. Shuart, PhD. Assistant professor, Managem** The research was shaped heavily by suggested future research directions by three eminent sport hero scholars. Burton (2001) challenged researchers to better "understand how heroes are created and, if not worshipped, revered." He also questioned the popular "Q" score rating system commonly used in marketing. Burton claimed that Q-scores, which focus predominantly upon likeability and fame, might not be truly indicative of celebrity athlete endorsement phenomena.

- Movie stars for example, gain meaning from the characters they represent on screen, this meaning is then transferred to the endorsed product and thus creates some form of appeal to the recipient of the advertising message. Furthermore, research identifies that celebrities may be persuasive endorsers as they represent ideal images for consumers to aspire to. Consumers match their ideal self-image with the image of the celebrity endorser **(Marshall et al., 2008).**
- **(Douglas, 1989; Herda, Terrell, & Gunson, 1990; Kramer, 1995).** This may have more of an impact on evaluations of advertising. This is compared with studies which have focussed on Western responses which historically have shown persuasion and attitude change depending on the quality of advertising message arguments

ANALYSIS AND FINDINGS:

Endorser type was also manipulated in the research. This was carried out to confirm the manipulation of the selected celebrity athlete endorser and non-celebrity endorser for the study. The manipulation check was conducted to determine whether research participants were able to identify the celebrity endorser from the non-celebrity endorser.

In order for the manipulation of endorser type to be successful participants were expected to be able to identify the celebrity endorser and not be able to identify the non-celebrity endorser in the advertisements. Chi-Square results (χ (1) = 128.86, p<.001) showed that the majority (81.8%) of the research participants who were exposed to the celebrity endorser survey condition correctly identified Daniel Carter as the celebrity athlete endorser. Of the participants who were exposed to the non-celebrity condition no one could identify the endorser. The results show that manipulation of the endorser type was successful.

These included celebrity sports endorsement, persuasion and culture. From these key areas two research questions emerged. Firstly, under what situations do consumer perceptions of athlete performance enhancement of an advertised product affect consumer attitudes toward an ad? Secondly, how does persuasion differ in terms of culture for advertising which features celebrity sports endorsers? In consideration of these research questions thorough exploration of relevant literature generated three hypotheses. Firstly, high (vs. low) performance enhancement leads to positive attitudes towards advertisements and towards brands.

Secondly, consumers from individualist cultures follow the central route to persuasion in high involvement situations and the peripheral route to persuasion in low involvement situations. Thirdly, consumers from collectivist cultures are more influenced by the peripheral route to persuasion in both high and low involvement situations.

REFERENCES:

1. Anae, M. (2010). Research for better Pacific schooling in New Zealand: Teu le va – a Samoan perspective. MAI Review(1), 1-24.
2. Anderson, N. (1971). Integration theory and attitude change. Psychological Review, 78(3), 171-206.
3. Andrews, J. C., & Shimp, T. (1990). Effects of involvement, argument strength, and source characteristics on central and peripheral processing of advertising. Psychology & Marketing, 7(3), 195-214.
4. Deshpande, R., & Stayman, D. (1994). A tale of two cities: Distinctiveness theory and advertising Journal of Marketing Research, 31(1).
5. Kelman, H. (1961). Process of opinion change. Public Opinion Quarterly, 25(1), 57-78.

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A Study on Impact of Sports Movies as a Career W.R.T Mumbai Region

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Dr. Nilesh Bansode: Shishuvan School, Matunga Mumbai

Abstract

There are two things that rule the hearts of every Indian – sports & bollywood. In a country where bollywood and sports are treated on a par with religion, it is inspiring to see both these themes come together. With passing time, even other sports have garnered a lot of interest amongst Indians. And Indian filmmakers noticed this growing sports frenzy and tapped the opportunity giving us some of the finest sports films in Hindi cinema. In this paper the researcher will converse about the sports movies as a career. Sports and cinema may have very little in common but when put together they make one hell of a combination.

Keywords : Sports Movies, Combination, Opportunities, Garnered.

Introduction

With development of modern technology and peoples' consciousness, mass media have acquired an overwhelming presence in the life of human beings. The presence of media in one form or the other round-the-clock in one's life has made masses to be dependent on it for entertainment and information more than ever every passing day. This has also made it far more convenient on the part of the media to exert influence on the human minds in an unprecedented way than anything else. The human mind revolves around such images and messages received from media. It has captured a very special place in our lives which none of us can ignore.

According to Aggarwal and Gupta (2001) mass media teaches values and behavioural patterns which in turn act as the agent of socialization These sports movies evoke inspiration and a sense of team spirit and patriotism in viewers. Cricket being the favoured sport of the country, several Hindi films have been centered on this sport in the last few years. Therefore it is not hard to see why Hindi sports films impact viewers so much. Here are some of Bollywood's 5 most inspirational sports based movies.

- **Dhan Dhana Dhan Goal**

Dhan Dhana Dhan Goal' revolves around the game of football. It deals with the story of a struggling football team from Southall that fight all odds to emerge victorious and, as a result, save their cherished ground. The scene where the coach of the team (BomanIrani), takes them to the home of Manchester United in order to inspire them to winning ways is a high point and truly scores high in terms of inspirational quotient.

- **Lagaan**

'Lagaan', which was nominated for the Academy Awards, told a tale of grit and resilience in the British-ruled India. A group of villagers agree to play a match of cricket against the British officers to save the village from paying exorbitant taxes to the Britishers, despite having no idea about how the game is played. The film showed that anything is possible if you're determined and united in your fight for a cause.

- **Chak De! India**

A failed hockey player, Shah Rukh Khan brings together girls of conflicting ethnicity to form the Indian Women's Hockey Team that take opposition in their stride and go on to become the most successful women's team in Indian hockey history. The film serves an example of how cultural harmony combined and hard-work help in garnering victory.

- **Iqbal**

Iqbal is a beautiful and heart-warming tale of a deaf and mute guy who aspires to join the Indian Cricket Team. Iqbal's dream of becoming a cricketer is given a thrust when Naseeruddin Shah, an ex-cricketer, decides to coach him. Owing purely to his will and industriousness, Iqbal is able to achieve and live his biggest dream.

- **Jo Jeeta Wohi Sikandar**

The film that catapulted Aamir Khan to superstardom chose the medium of an unconventional sport to highlight its theme. The protagonists of the film take part in a cycling race which tests their sense of strong will and desire to succeed in life. As obvious, the one who works the hardest emerges victorious in the race and symbolically, in life.

Objectives

- To study the impact of sports movies on viewers.
- To analyze and understand the concept of motivation shown by the sports movies.

Review of Literature –

- **School of Humanities and Social Sciences, Tezpur University, Napaam, Tezpur 784028 (INDIA) -** With development of modern technology and peoples' consciousness, mass media have acquired an overwhelming presence in the life of human beings. The presence of media in one form or the other round-the-clock in one's life has made masses to be dependent on it for entertainment and information more than ever every passing day. This has also made it far more convenient on the part of the media to exert influence on the human minds in an unprecedented way than anything else. The human mind revolves around such images and messages received from media. It has captured a very special place in our lives which none of us can ignore. According to Aggarwal and Gupta (2001) mass media teaches values and behavioural patterns which in turn act as the agent of socialization.
- Sports in Film, Aaron Baker - Since the start of the motion picture industry in the United States, sports have been a frequent subject for the movies. Hollywood has produced hundreds of films about sports for the same reason that synergistic ties have been established between American movies and other cultural forms, including theatre, literature, fashion, television, advertising, and toys. From the documentary style "news films" of major prize-fights and the World Series that were an important part of the early film industry to recent blockbusters such as The Blind Side (2009) and Money ball (2011), collaboration with sports has helped sell the movies.

Research Methodology –

The data is collected from 50 respondents through questionnaire. The secondary data is analysed through various websites and research papers of others. The sample size is selected through simple random sampling method. In order to collect the data, questionnaire method is adopted by the researcher. The universe referred is thane, Navi Mumbai for the present study. Few questions were asked through questionnaire method for the people especially college going students about this and responses were collected.

Analysis and Interpretation of Data

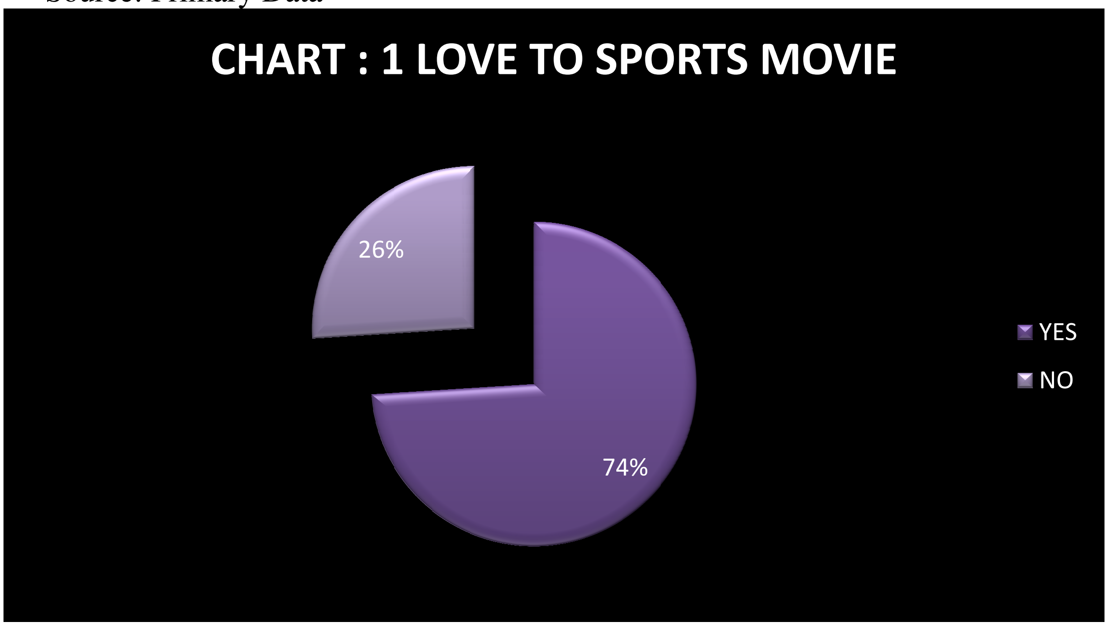
Researcher ask some people about our research topic, we select questionnaire methods to as the questions to the people, after asking the questions they gave their opinion and respective answers about impact of sports movies as a career. Following are the important questions which we ask the people

1. Do you love sports movies?

TABLE 1 : LOVE TOWARDS SPORTS MOVIE

PARTICULARS	MALE	FEMALE	TOTAL
YES	31	06	37
NO	05	08	13
TOTAL	36	14	50

Source: Primary Data



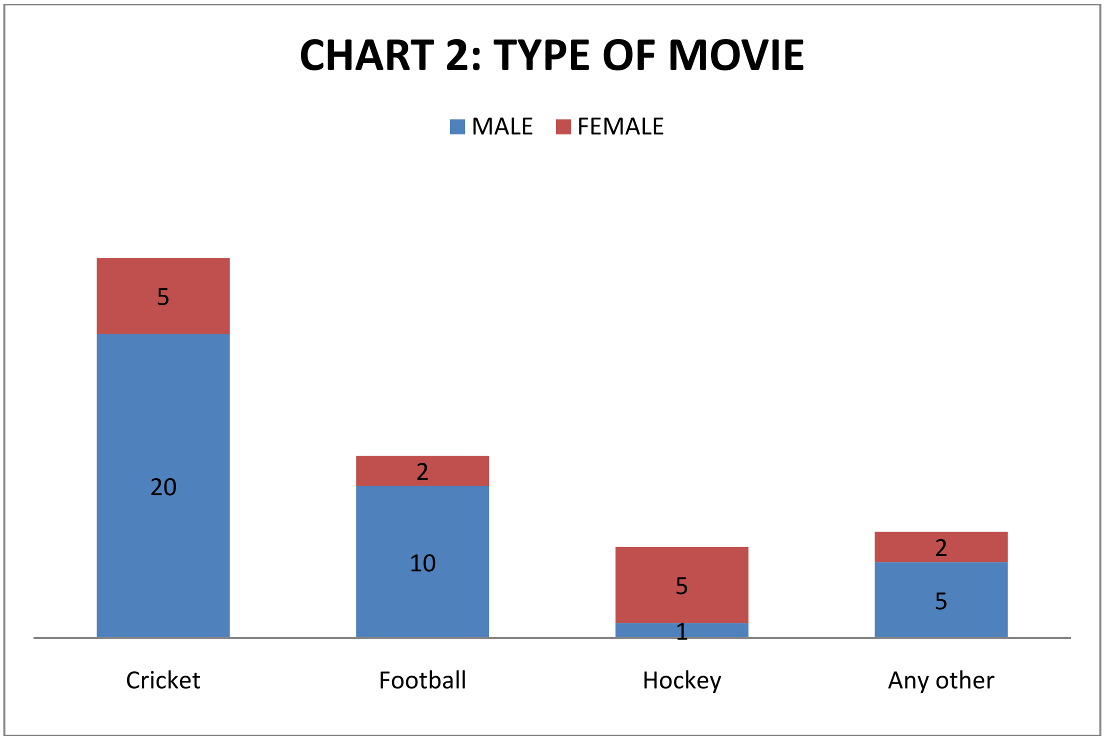
From the above table and graph it is understood that, 74 percent of respondents love sports movie and 26 percent do not love it. Amongst male and female category of respondents , male category do love it more than female respondents.

2. Which type of sports movie do you like most?

TABLE 2: TYPE OF MOVIE

PARTICULARS	MALE	FEMALE	TOTAL
Cricket	20	5	25
Football	10	2	12
Hockey	1	5	6
Any other	5	2	7
TOTAL	36	14	50

Source: Primary Data



From the above table and chart , it is observed as 50 respondents do prefer cricket movies to watch and football is second preferred movie. Hockey movies are preferred at third position by 14 percent respondents.

3. Do you feel sports movie as a career?

TABLE 3: SPORTS MOVIE AS A CAREER

PARTICULARS	MALE	FEMALE
STRONGLY AGREE	16	1
AGREE	8	1
NEUTRAL	1	6
STRONGLY DISAGREE	7	4
DISAGREE	3	2
TOTAL	36	14

Source: Primary Data

From the above table it is observed as male are more influenced by sports movie as a career path. Whereas female are not influenced. The characters that depict the issues in the sports films transcend the human realities of racism, gender, policies that are very prominent in these fast moving societies of today.

FINDINGS AND CONCLUSION –

Cutting across all that is represented in such films, sports films generate immense energy and power and forms positives attitudes which are very necessary in real life. The game of sports filled with rules and penalties restrict human ideologies to think in the right and correct direction for the society's future improvement. Most of these themes in sports film are regeneration of the events happening around us in real life. Irony is - most of the times people do not have time to think or have ignored them for some reason or the other. But film being a popular media for the masses it uplifts the entire messages to give it a higher and immediate effect. A good sports film is not only about losing or winning on the field, it speaks about the deep meaning associated with the sports itself. Sports films appreciate the struggle of the participants by showcasing losers as the temporary pain to achieve greater rewards in the future. Sports films penetrate into human emotions which results in the positive attitude in the way we think and live in the society.

REFERENCES –

- School of Humanities and Social Sciences, Tezpur University, Napaam, Tezpur 784028 (INDIA).
- Sports in Film, Aaron Baker.
- Raney, Arthur A and Bryant Jennings. (2006). Handbook of Sports and Media, 198-199.
- Dunning, Eric and Coakley Jay. (2002). Handbook of Sports, 49-50.
- Deci, Edward L and Ryan, Richard M. (2000). Intrinsic Motivation and Self-Determination in Human Behavior, American Psychologist, 68-78.
- Johnston, Robert K. (2006) Reel Spirituality: Theology and Film in Dialogue, 89-90.
- Monaco, James. (2000). How to Read a Film: The World of Movies, Media, Multimedia: Language, History, Theory, 157-159.

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Critical Analysis of Genesis of Skill Development to Enhance Competences

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Abstract:

Skill development has emerged as a priority in organization as a result of increasing globalization, digital development and huge outsourcing. The purpose of this study is to analyze the genesis of skill development. The paper presents a conceptual model of skill development training program to enhance competences. The skill and base competences are analyzed to identify the gap between formal education and required competences. These base competences are relevant in recruitment, selection, training and development of employees. There is considerable onus on skill development program to improve productivity and profitability of the organization. The model could be used by educators, human resource experts and employers to enhance employment skills.

Key words: Skill development, training, competences, performance, productivity

Introduction:

Organizations face a considerable skill development challenges. The major challenge is imparting 'employable skills' according to the need of industry. Organizations put efforts to strengthen this initiative which needs a change in attitude to emphasize skill development as fundamental for business success. Furthermore, skill development needs to become a priority and not just the responsibility of HR department.Human Resource department in any organization plays a vital role in skill development as they are involved in designing job profile, recruitment process, competence assessment and training programs.

Skill development initiatives should offer a wide spectrum of training including job profile, employability, soft skills, managerial skills, technology skills, communication skills. Skill development program needs to combine formal education and hand-on experience on job under proper guidance. Academia- industry linkage can help to bridge the gap between formal education and required skill sets at workplace.

Here it is essential to define terms like training, development, skills and competences to provide some insight from the perspective of human resource development and to understand the level of criticality of these terms in organization.

Training is an activity to understand technicalities to develop skills and knowledge. Development focus on improving psychological oriented observation to develop knowledge. Mostly, the terms training and development are considered to be synonymous.

The terms skill and competences are often inter-changeable. There is a general agreement that competence encompasses knowledge, skill and attitude. Some of the generic competences are problem solving, decision making, time management, personal organization, risk-taking skills, communication skills, interpersonal skills, managing conflict, creativity, coordinating, leadership, team building, learning skills, technical skills, etc. According to Senge (1990), today five new key learning areas are emerging as competences namely, system thinking, personal mastery, mental models, shared vision and team learning.

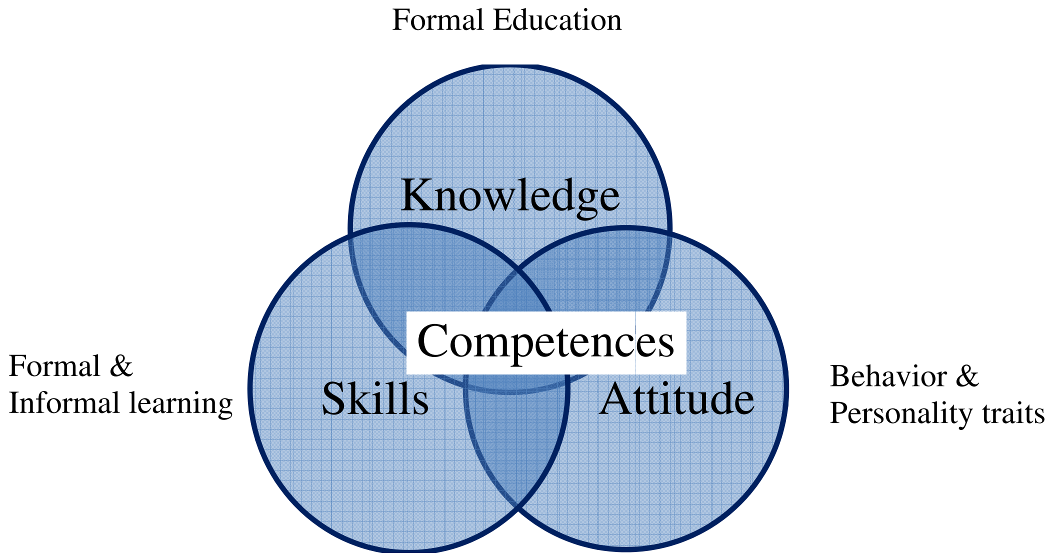

Figure 1: Co-relation between skills, knowledge, attitude and competences

Objective of the Study:

Training and development is a structured program designed to empower employees with upgraded skills, knowledge and competences to increase efficiency and productivity. The objective of this study is mainly:

1. To comprehend the genesis of skill development
2. To identify the skill gaps to be bridged
3. To understand the challenges in skill development and training program
4. To analyze the factors to be addressed to design skill development and training program
5. To design effective skill development and training program to build competences

Conceptual Model:

The conceptual model presented in this paper is built on earlier research and the evolving literature. This is an exploratory research attempted to discuss various factors to design skill development program to enhance competences. The model could be modified depending on individual activity or team activity to develop unique competence or different competences in conjunction with each other.

To design effective skill development training program, following factors need to be considered.

- To define occupational standards and competences for job profiles
- Engage academia for the development of training program curricula
- Facilitating seamless transition between formal education and required skill sets
- Assessment of prior learning to evaluate the knowledge level.
- Design embedded learning solutions customized to fit job requirements.
- Comprehensive training strategies and evaluation of learning outcome

  Furthermore, effective training programs require:

- Qualified, experienced and dynamic trainers
- Inclusion of HR and other departments to the CEO level
- Establishing quality standards for training
- Training model integrating skill sets and competences

Evans' research explains key competences that emphasize the abilities of an individual.

- Methodological competences
- Competences related to attitudes and values
- Learning competences
- Interpersonal competences
- Content-related and practical competences.

Taking into consideration the above-mentioned factors, a conceptual model of Skill development training program is presented in this paper. This conceptual model is based onFour basic steps to design effective skill development training program.

1. **Assessment of prior learning** – Before developing a training program, it is essential to gather information to determine the area of focus. An assessment of prior competence level can be conducted to determine opportunities of development. Assessment of formal and informal learning can be carried out to evaluate:

- knowledge level
- current performance level
- the gap between prior learning and required skill sets and competences
- specific skills and competences to be developed

2. **Develop a training program**– Training program should be learner oriented. It is necessary to identify learning partners, their strengths, development needs, learning styles, preferences and future plans. This step would help to:

- Identify learning goals and specific performance outcomes
- Set specific and reasonable goals in measurable and visible terms
- Design content suitable for each focus area – the content should be in conjunction with prior learning, it should be the expansion of previous knowledge, it should be specific for each focus area, it should clearly define successful achievement of goals.
- List learning activities with realistic timeframe to achieve desired outcomes.
- Design customized activities depending on focus area and different learning styles. This may include on-the-job learning, presentations, peer support, workshops, conferences, mentoring, self-directed learning, community activities etc.

3. **Implementation of program** – Implementing program is critical as it needs to

- Identify stakeholders – identify and motivate learners, communicate importance and availability of training program, involve HR and other departments to CEO level,
- Derive action plan – list every possible action plan that can develop skills in a particular area, make flexible action plans to be modified to suit learning needs and to stimulate ideas about new activities
- Identify resources –emphasize on learning experience rather than information provider. Engage educators, human resource experts and academia
- Create realistic timeframe– create a reasonable schedule, encourage time management
- Establish system for tracking and monitoring–this should involve monitoring specific, measurable, attainable, relevant and time bound goals, provide feedbacks, suggest corrective actions, encourage learning by reflection.
- Design evaluation process– establish clear evaluation criteria, define ethical and quality standards for evaluation, develop evaluation plan, review evaluation and communicate to the learners with proper feedback.

4. **Assess Progress**–Continuous assessment of the training program would help in improvement effectiveness of the program.

- Assess progress in terms of current job performance
- Observe effectiveness of applying learned skills in the current job
- Periodically review progress
- Collect feedback about training program
- Expand skill sets and knowledge areas
- Continue to support new goals for future roles
- Ensure continued development activities

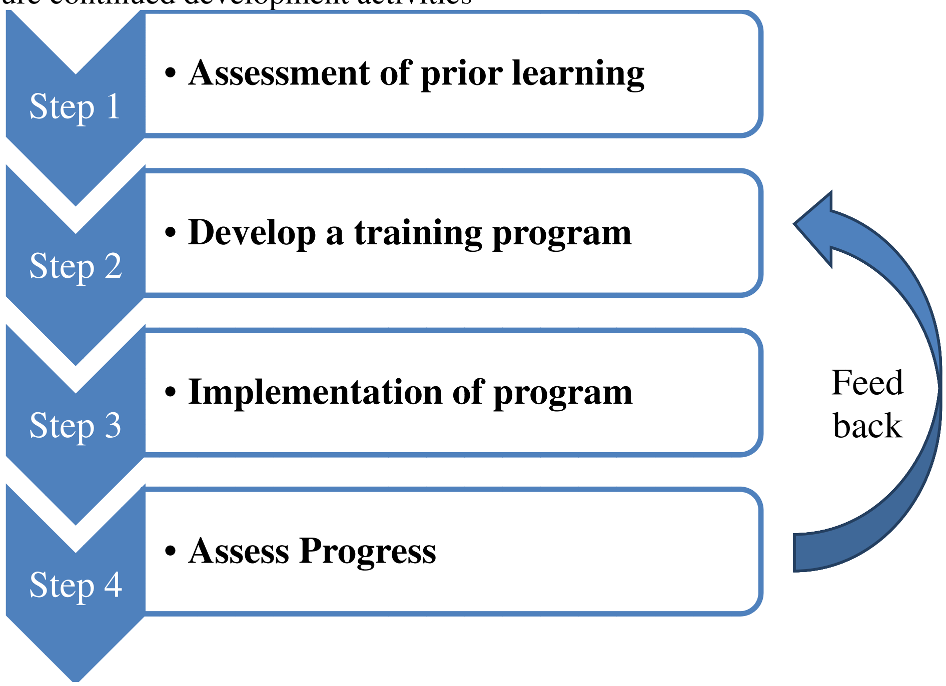

Figure 2: Four steps of skill development program

Suggestions:

The education system should emphasize importance of competence development in the curricula. Courses should be offered to encourage innovation and creativity. Education system should try unconventional teaching models which include activities to enhance competences.

Employers should contribute in skill development program as large amount of learning and skill development happens at workplace. Though technical skills are of prime consideration in recruitment process, employers should view base competences as critical and create conducive environment for skill development.

Conclusion:

Competence development is a complex issue and its understanding varies with context. Skill development program is an embedded process that largely contributes to culture, productivity and profitability of an organization. Skill development is a life-long process which can be enhanced by formal education and employment. With increasing globalization and outsourcing, it has become necessary to adopt exemplary standards and best practices in skill development training program.

Conceptual model of skill development training program presented in this paper can be used as a valuable tool by human resource and training departments to assess and improve skill and competences required for a specific job. This model can also be aligned with business strategy and culture. The model could to be further elaborated and modified depending on the requirement and culture of the organization.

References:

1. Sonali Kanchan, SakshiVarshney "Skill development initiatives and strategies" Asian Journal of Management Research.
2. Evans,K. (1995) Competence and citizenship: Towards a complementary model for times of critical social change, British Journal of Education and Work, Issue 8, pp. 14-27.
3. Senge, Peter M. (1990) The Fifth Discipline; The Art and Practice of the Learning Organization. New York: Doubleday.

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Review and Assessment of the Digital Era on Environment, Society and Economy with Context to Sustainable Development

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Abstract :

It is a general belief that we can't have both economic development and environmental quality simultaneously, that if we want to improve economically we must sacrifice the environment. Often in the past Economic Development has been given importance over the environment and society. There is a mutual connection between environment and economy that is often not recognized. There is a widely held theory that resource management practices and policies which protect the environment are most likely to harm the economy and reduce employment opportunities. However empirical data supporting this theory are rare. In recent years, economists and ecologists have increasingly begun to use quantitative methods to test this theory. Studies examining industrial emissions endangered species, air quality and other issues have found no evidence that economies suffer as environmental policy strength increases. On the contrary, numerous researchers have reported slight positive correlations between environmental and economic indices suggesting that environmental health may help to improve the economy.

Keywords :

Economic development, Quantitative method, Digital Era, E-commerce, Technological innovations.

Introduction :

With the fast development of Science and Technology man has acquired the power to transform his environment in countless ways on an unbelievable scale. Modern rise of population since the 17th century and the world populations has rapidly expanded from an estimated half a billion in 1650 to the current figure of 6 billion. Global economic output has also increased six fold since 1950. As a result of which environmental resources are already overstressed to meet the demands of the present population. Thus the call of the day is to a solution towards a better environment and greater equity in health and wealth for all the people in the world. In short, the world has to look and develop a Sustainable Development policy which would be based on economic growth. Environmental care and social development. So far, it has been made clear that the study of environment is inter-disciplinary. At the same time, it is multi-dimensional and treated with the help of `High technology'. It is nothing but the advanced development of technology i.e. electronics, computer and medical technology etc.

Objectives :

1. To study Digital Era and its importance.
2. To focus on socio-economic impacts on digital era.
3. To discuss the impacts of digital era on the environment, society and economy.
4. To aware the people about environmental protection.
5. To develop business according to sustainable development.

Methodology :

Survey method is followed to Study Digital Era and its positive and negative impacts on environment, society and economy. Major technological innovations have not only brought fundamental change to the economic system but also far-reaching environmental impacts, for better or worse. During the past 8000 years as human society evolved from hunting and gathering to agriculture and especially since the beginning of the late eighteenth century, we have increasingly transformed the earth's surface and caused our fragile environment to deteriorate at an increasingly rapid rate. In fact, contemporary environmental problems can be traced to the sudden acceleration in the rate and power of technological innovations. Many business leaders and scholars contend that sustainable development hinges on the further development of knowledge-based industry and deployment of innovative technologies especially the Internet-led information technologies. E-commerce a truly clean environmental friendly economy, which will simply lead to the substitution of information for physical resource flows along energy and transporation networks

Methods are being developed to measure the value of clean water and air, and healthy forests throughout the world. Estimated values vary widely, but studies agree that clean, river, clean air, biodiversity and open space are highly valued by the public and that the public is willing to pay to preserve and enjoy these resources. For example, properties near clean rivers haven been found to be worth more than similar properties elsewhere. Another rapidly expanding field of study is the valuation of ecosystem services. Ecosystem services are the processes by which the environment produces resources that we often take for granted such as clean water, timber and habitat for fisheries and pollination of native and agricultural plants. The following is list of the positive impacts of environmental protection on a nation's economy.

Environmental protection prevents pollution and the related cost of health care. Reduction in pollution results in increased yield from agriculture and cattle

1. A healthy environment supports healthy human beings and increases productivity.
2. In a protected environment, the effects of natural calamities such as drought and flood will be less.
3. Environmental protection produces job opportunities in the field of green industries and ecotourism.
4. As policymakers begin to incorporate environmental conservation into resource management laws and practices, the quality and sustainability of our lives and economies will improve.`

Conservation encompasses the maintenance of environmental quality and resources or a particular balance among the species present in a given area. The resources may be physical (e.g. fossil fuels), biological (e.g. tropical forests) or cultural (e.g. ancient monuments).

What is Digital Era?

The Digital Era refers to a time in which there is widespread ready and easy access to sharing of and use of information in electronically accessible i.e. digitized form in economic activities.

The technology which increases the speed and breadth of knowledge turnover within the economy and society. Faster knowledge in changing surrounding environment. The Digital Era can be seen as the development of an evolutionary system in which knowledge turnover is not only very high but also increasingly out of the control of humans, making it a time in which our lives become more difficult to manage. Understanding the Digital Era in terms of Evolution will help ensure we build sustainable socio-economic relationships both with technology and with the advanced knowledge that technology help us create.

Conclusion :

Impacts of the Emerging Digital Economy –

Although great potential exists to harness information technology in general and the internet in particular and improve the environment, possible negative impacts of e-commerce and dealt with. The potential positive impacts of technological innovations and the deeper cultural roots of environment degradation caused by increasing consumption. E-commerce is quickly becoming the engine for economic growth in the new millennium.

How does digital media really affect us?

We now spend more time online each day than we do sleeping. But how does that affect our everyday lives? What effect does it have on how we communicate and interact, how we work and engage with the rest of the world?

There are many positive implications and improvements to our everyday lives as there are potentially negative consequences. Seize the many opportunities digital media offers and avoid the risks that arise from overuse or maleficent use.

Best and worst aspects of digital media.

The most positive effects of digital media were found in the work place. Digital media use had improved their ability to learn and develop professionally. This included their ability to carry out then work, collaborate with colleagues. New digital technologies offer the opportunity to work across boundaries of location and time, opening up job opportunities for remotely located workers and ensuring access to the best talent, no matter where it is located around the globe. Digital media brings both benefits and risks, all depending on how it is used.

Sustainability and Digital Revolution –

As we know supply of raw materials is limited and we use it on large scale. Traditional energy sources are getting more expensive as fossil fuel supplies become less certain, climate change and related natural disasters have global impact and the scarcity of some raw materials is demanding new approaches to manufacturing. In response many governments and companies are deploying.

Pillars of sustainability –

In World Summit on Social Development, it described the three main components of sustainability i.e. Environment, Economic and Social.

Environment is the primary focus concerns about air pollution and acid rain. Other aspects are water and other natural resources, biodiversity, clean energy, agriculture and food. Smart cities, enhanced by mobility, social networks and connected objects, is not only an efficient way to manage a city and improve.

References :

1. highered.mheducation.com>sites>free
2. http://en.m.wikipedia.org>wiki>envis
3. . https://engineering.dartmouth.edu>eco
4. https://www.the guardian.com>jan>eco
5. http://www.uow.edu.an>pacific2
6. www.businessdictionary.com
7. www.ecoiq.com>prod-conflict
8. www.newsweek.com>howbalance-eco
9. www.standford.edu-ljlan>presentations.

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Theme Global Opportunities in the Context of Digital Era for Sustainable India Economy
Sub Theme: Economic Issues of Business

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ABSTRACT

The role of business in contributing to sustainable development remains indefinite. India has been witnessing a pace of growth and development in recent times. But this growth has raised concerns from economical issues as regards to its basic business and economical policies. Experts are now calling for "sustainable development" and the term has gained currency in the last few years. In spite of fast growth in various sectors, business remains the backbone of the Indian economy. This paper attempts to tackle and explore the issues of sustainable development in business sector in India. Further it aims to compare the sustainable system with the traditional system and the current system in practice, across the dimensions of ecological, economic and social sustainability. It also tries to give long term solutions to solve the problems plaguing the system so that sustainable practices can be promoted and practiced.

Keywords: Sustainable Development, Ecological Sustainability, economic sustainability, social sustainability, Economic issues

INTRODUCTION

Business occupies the most important position in Indian economy, as it is one of the largest private enterprises in India, which continues to dominate the change in economy through its links of various sectors of production and markets. While all business enterprises can make a contribution towards its attainment, the ability to make a difference varies by sector and organization size. Some executives consider the principal objective of business to be making money. Others recognize a broader social role. There is no consensus among business leaders as to the best balance between narrow self-interest and actions taken for the good of society. Companies continually face the need to trade off what they would 'like' to do and what they 'must' do in pursuit of financial survival. From a broader perspective, however, it is clearly in the interest of business to operate within a healthy environment and economy. It is equally plain that, on a global basis, growing and sustainable economies in the developing countries will provide the best opportunities for expanding markets.

In the short term, sound environmental performance is probably a reasonable objective for most businesses, with sustainable development as a longer term goal. However, this can lead to confusion. In the developed world, the focus is on environmental management, while in developing countries, rapid and sustainable development is paramount.

The global economy is coming under growing pressure to pay for the restoration of damaged environments. But this economic engine is being asked to help and solve other pressing problems at the same time. The challenge is to solve all of these problems in a sustainable manner, so as to generate continuing development.

A company's existence is directly linked to the global environment as well as to the community in which it is based. In carrying out its activities, a company must maintain respect for human dignity, and strive towards a society where the global environment is protected.

For achieving the goal of Sustainable Indian Economy in the business sector legal touch can be effective. To make it effective the help of certain specific laws can play vital role in economic development of business world. Indian Contract act 1872, Environmental laws, Companies act 2013, Certain acts like Water Act 1974, Air Act 1981, Consumer Protection Act 1986 are important in achieving the object of sustainable development with economical progress in business sector in India.

ANALYSIS

The growing population and its never ending demands for higher and higher consumption poses concerns regarding the sustainability of the impressive economic registered by many countries including India. Impressive growth rates of economy can be achieved and if so how. In India the rate of depletion of the country's ecological assets and productive base is more than the rate of its accumulation. These analysis indicate that the current global level of consumption is unsustainable. How sustainability can be achieved?

Sustainable means to keep in being. Development means it would be process which raises the average level of well-being in the community being referred to.

World Commission on Environment and Developments known as Brundtland Commission stated about the sustainable development as 'development that meets the needs of the present generation without compromising the ability of future generation to meet their own needs'.

Economic issues in India

1) How should we advance business sustainability?

The correlation among economy, ecology and equality can be useful to develop a sustainable society. Some models are very much helpful to understand the concept of sustainability by gathering, sharing and analysis of the data. Three important models have been reported to recognize the sustainable development. Sustainable development based on three pillars named as 1. Environment (conservation) 2. Economy (growth) 3. Social. The multidimensional sustainable development indicators (MSDI) which hold the linkage among the economy of a community, environment, and society are given importance so that business sustainability can be possible. Now-a-days sustainable development has become a key issue at state, national and international level concerning education policy since last decade. Various stakeholders recognize the sustainable development in different ways and search for different outcomes. There are some specific challenges in the implementation of sustainable development. In business challenges are there but to achieve economic progress and business sustainability proper planning is necessary. Industrialists and businessmen have to take efforts in this issue.

2) Natural resources-

The total cultivable area in India is 60% of its total land area, which is shrinking due to population pressures and rapid urbanisation. Resources are classified as either biotic or abiotic on the basis of their origin. Biotic resources are obtained from the living and organic material. These include forest products, wildlife, crops and other living organisms. Forests are being cut for construction and industrialization. Deforestation takes place due to such activities. No doubt development in business and industries is necessary but deforestation can be effective to create economic issue in business and development. One landmark judgment is there in environmental law.

In Vellor citizen's case the Indian Judiciary first time brought the concept of sustainable development into the ambit of Indian Law.

The **Case Law** is
Vellore Citizens Welfare Forum
v/s
Union of India
Judgment on 28th August 1996.
Issues before the court were:

- To what extent environmental safety be compromised for economic development ?
- Has there been a violation of the Right to Wholesome Environment, guaranteed under Article 21 of the Constitution?

Article 21 of the Constitution is for protection of life. Justice Kuldeep Singh of Hon'ble Supreme Court of India stated in above case that Sustainable Development is a balancing concept between ecology and development. There must be balance between development and ecology. Then only economic development can be possible in any business. Without violation of Article 21 of the Constitution development has to be achieved.

The Indian landmass contains a multitude of both types of resource and its economy, especially in rural areas, is heavily dependent on their consumption or export. Due to overuse being depleted. India had about 750 Million metric tonne of proven oil reserves as April 2014 which is the second-largest amount in the Asia-Pacific region behind China. Most of India's crude oil reserves are located in the western coast (Mumbai High) and in the northeastern parts of the country, although considerable undeveloped reserves are also located in the offshore Bay of Bengal and in the state of Rajasthan. The combination of rising oil consumption and fairly unwavering production levels leaves India highly dependant on imports to meet the consumption needs. Economically it is expensive to gain profit in any business which are depending mostly on these resources.

3) Finance

Finance is the integral part of any business. Money is the nerve centre of the business. Financial planning involves short term and long term money flows to and from the firm. The major objective of the financial planning is to optimize financial profits and make the best use of money. In business the need for operating funds never seems to cease. Capital expenditures are major investments in long-term assets such as land, building, equipment etc. Financial manager must evaluate the appropriateness of capital expenditure. Put the agreement in writing. Make the contracts for business as per the Indian Contract Act, 1872. Contracts have a crucial role in trade, commerce and industries. It is the base of every commercial transactions. Contracts in India are governed by the Indian Contract Act, 1872. Law of contract lays down the rules relating to formation of contract, its performance and remedies available to the parties It is up to each firm and industry in the business to determine exactly what is the proper balance between the debt and equity financing.

4) Government Policy

New standards and policies have been laid down by government. Government policies in trade and business are responsible to control the economic development of this sector. It can be considered as controlling factor in business. Efforts have to be made to give importance to small business and small industries to develop with sustainability in the country. Government policies related to export and import, foreign transactions, foreign investments changes day by day. The changes have been made in such a way that possibility of loss is there. New policies of government will be effective if these policies are to encourage the business world in the country.

Recently on 8th November 2016 demonetization took place. The impact of demonetization can be seen on each and every part of the business, trade, commerce, economy, banking and life of the people, globally, thereby potentially raising risks in the business sector. It appears uncertainty on the production side. Inflation takes place due to changing government policies.

5) Climate change

Climate change is the most significant challenge of current and future generations. It affects all aspects of our economy, society, environment and finally business. Indian firms need to play a greater role in balancing the economy and Sustainable Development in such changes. This issue affects the Indian economy in many ways. For example in drought the productivity decreases and impact on business can be seen. Economically country and businesses may suffer loss.

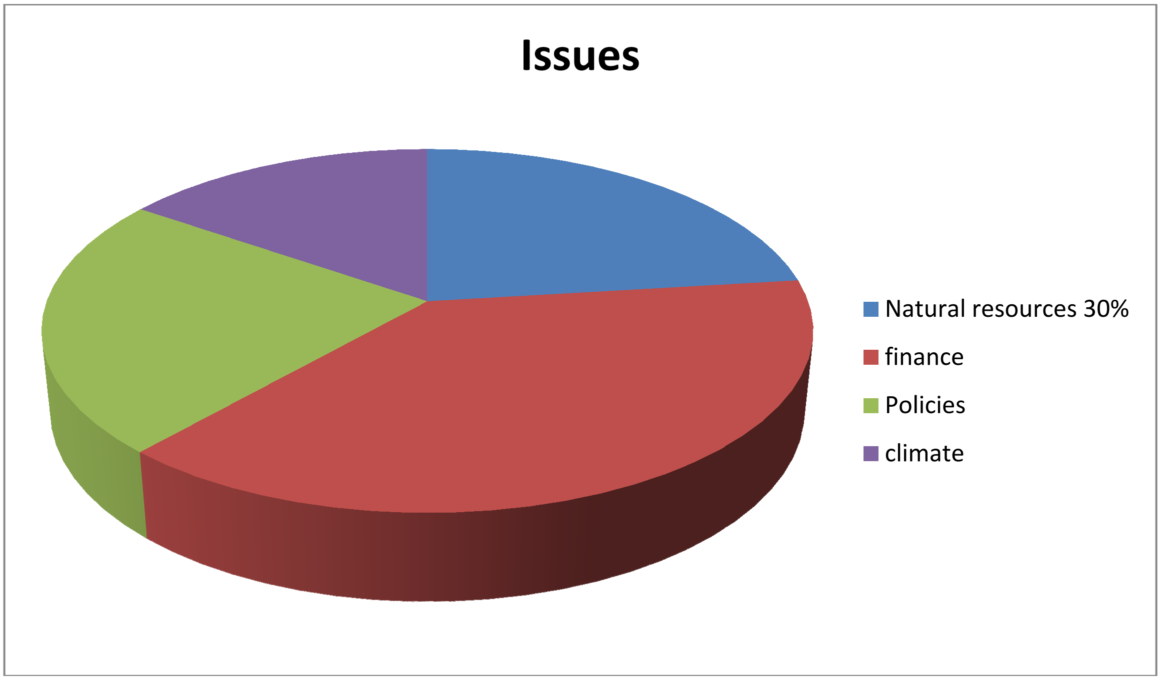
6) Consumers

Consumer behaviour influences the businesses. Business occupies the most important position in Indian economy, as it is one of the largest private enterprises in India, which continues to dominate the change in economy through its links of various sectors of production and markets. Consumer pays to consume goods and services produced. A typical legal rational for protecting the consumer is based on notion of policing market failures and inefficiencies. In India Consumer Protection Act 1986 is passed to protect the interest of the consumer. Consumers play the most important role in the economic system of our country. Because of social media and internet consumer is being smart and alert. The consumer forms a part of distribution of goods. To satisfy the demands of the consumer the businesses have to take efforts.

7) Turbulent financial markets, unstable consumer purchasing patterns, changing trade agreements and inconsistent public policies make it increasingly difficult to act for the long-term. Businesses need a way to reconcile short-term and long-term perspectives. Other issues like low level of national income and per capita income, vast inequalities in income and wealth, predominance of agriculture, tremendous population pressure and others.

Therefore there is need to tackle the issues related to sustainable Indian economy. Need for collaborating for sustainability is there in business sector. Most sustainability issues require systemic change and systemic change requires collaboration among stakeholders. Businesses need to speak with one voice with competitors and affected stakeholders to tackle sustainability challenges. It can be beneficial in some manner. Given the proliferation of sustainability rankings and reporting standards, businesses need to know how to streamline reporting to reduce redundancy, resolve inconsistencies and produce a positive impact.

Graphical representation of Economic Issues in Business in India



CONCLUSION

Indian business sector is one of the most prominent sectors of the Indian economy.

India is a vast country with variety of land forms, climate, geology, physiography and vegetation. India is endowed with regional diversities therefore for its uneven economic development efforts have to be taken. Policies should treat domestic demand as equally important to the visible trade balance. But market production implies certain risks as markets are fickle and change quickly. As a World Trade Organization signatory, the Indian government is under pressure to deregulate and open its economy to the world market so it cannot protect the tariff walls. Sustainable economy with its emphasis on small-scale businesses, labor-intensive activities, government policies will help to overcome these problems. Development cannot be sustainable unless it reduces poverty. and population. Social injustice is where some section of the society is neglected from development opportunities. But having robust system of social sustainability can bridge the gap between 'have' and 'have-nots.

The Indian business sector has been undergoing economic reform since 1990s in a move to liberalize the economy to benefit from globalization. In 1991, the new economic policies stressed both external sector reforms in the exchange rate, trade and foreign investment policies and internal reform in areas such as industrial policies, price and distribution controls, and fiscal restructuring in the financial and public sector increases. Business sector is an important contributor to the Indian economy around which socio-economic privileges and deprivations revolve and any change in its structure is likely to have a corresponding impact on the existing pattern of social equity. Sustainable Indian Economy depends upon the efficient use of natural resources, human resources, capital resources, finance, forest, climate, government policies, quality decisions of businessmen and authorities related to it.

Sustainable development is a process which involves human intelligence, decision making efficiency, planning and management skills, power of imagination, entrepreneurship, development and production with environmental safety etc. Usually, sustainable development is a human subject. The issue associated with sustainable development can be seen as one of the basics of any society. Therefore, so far its major field of concern has been for the environment and economy but its applicability has been extended to wrap almost each human attempt. The discussion is a principle element in education for sustainable development. With legal provisions and certain reforms the correlation among economy, ecology and equality can be useful to develop a sustainable society.

Research Methodology

Data is collected from secondary sources.

Bibliography

Books
Environmental Law by Dr. S. R. Myneni
The Constitution Of India by P. M. Bakshi.
Business Law by Suman Kalani
Business Law by Dr. S. A. Karandikar
Economics by Surabhi Arora
Journals
The Student Advocate
Journal of planning and Environmental Law
Annual report of government on commerce.

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Automation in Adaptive Batch Reactor

Nitin S.Patil : G.M.C.Polytechnic Shahada

ABSTRACT

In Industries all processes such as extraction& distillation of crude oil, manufacturing of chemicals and fertilizers etc . are classified mainly in two types such as continuous as well as batch processes. In plywood industry preparation of good quality of particle boards depend upon the quality and quantity of pest added to pulp made from baggasse. The proper mixer of resin and glue is prepared in batch to mix with pulp.

These batch processes vary with time. In the design of a batch control system, time based process condition and traction phenomena must be handled. Charging, reacting, agitating and discharging are example of sequential events in time requiring, corresponding control action actions. Each control action may be require many process step such as opening and closing of valves, starting and stopping of pump and setting and resting of control loop.

In addition to normal step by step control action batch processes control requires many other functions for example responding to abnormal or failure condition, kipping batch record, maintain recipes and scheduling batch processes.

1. INTRODUCTION

Batch reactors that are cooled and heated through a water jacket are common in chemical, pharmaceutical, biotechnological and similar industries. Therefore, many papers discussing the temperature control of such systems have been published. Dynamic systems that involve continuous and discrete states are called *hybrid systems*. Most industrial processes contain both continuous and discrete components, for instance, discrete valves, on/off switches, logical overrides, etc. The continuous dynamics are often inseparably interlaced with the discrete dynamics.

Bagasse Depither:

The waste bagasse from the sugar mill is brought to bagasse yard where it is store .In this section the pith from the bagasse is extracted and pure bagasse is made available for further process pith effect the strength of the particleboard and the removal on the pith in this section improves the quality of the board.

***Wet Bin :**

Wet bagasses from depither is collect in bin through a conveyor . Wet bagasses has to reach a sufficient level and then it is passed on to a dryer for removal of the moisture content from bagasses. Optical sensors are used for level detection.

Dryer:

The moisture present in bagasse is remove in the dryer. The source of heat is steam from boiler. Thermistor is used for temperature measurement in the dryer. In case of temperature, fire may arise this is detect by flame detector .

*__Hammer Mill:__

Bagasse is hammer and converted in to small fiber. The bagasses from hammer mill is stored in a screening mill to separate small and big fiber. The long fiber are recycled in hammer mill to convert them in to small fiber. The flame detectors are also install in a conveyor for security purpose.

Dry Bin :

The screen bagasse is brought to dry bin through conveyor .The bagasses level is maintained in a dry bin by optical sensors. If the level of dry bin drops by any means, the supply of dry bagasse from dry bin to glue section is stopped.

***Glue section:**

Urea formaldehyde(U.F) resin is a synthetic adhesive used for bonding of bagasse fibres. Hardener and wax emulation are also added to provide strength and shine respectively to the particleboard. The bagasse along with resin, hardener & wax are mixed together in a blender to form a uniform mixture of all the content. The material in a blender is monitored at certain level by optical sensors to avoid any difficulty in the next unit. The level of the mixture is maintained according to desired width of particle board selected.

Forming section:

Uniform distribution of the mixture is done in a forming machine.The distribution of the material on a belt is according to the thickness of the board decided. The level of material is maintained by optical sensors to avoid any irregularities in the board.

Pressing section :

The uniformly distributed material on the belt is pressed by rollers to form a ribbon like structure. The pressure applied by rollers depends upon thickness of the desired board. The rollers are maintained at certain temperature by steam. The pressure on roller is controlled by hydraulic system.

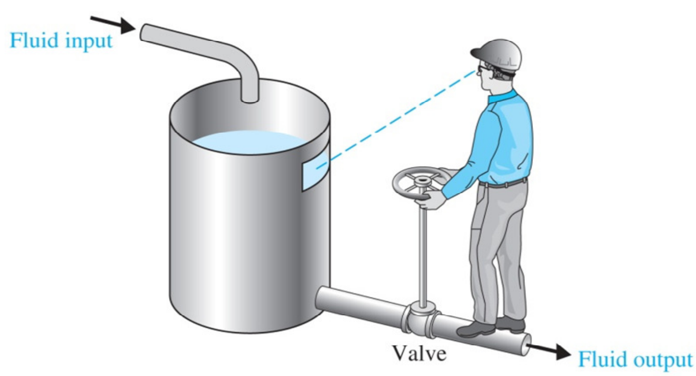

Fig. Manual operation system

Replacing manual system :=>

1. consistent operation round of the clock.
2. Accurate measurement of raw material & other resources for operation of all the batches
3. Improvement in product quality.

2. LITERATURE SURVEY

HISTORY OF THE SYSTEM :

Batch reactor :

A batch reactor is like a giant washing machine. There is a big vat where all of the reagents are agitator that keeps them stirring. A batch Reactor is great if a company wants to make the same thing over & over . This is because the reactor must be emptied & cleaned after every batch is made. This takes a lot of time & money, & every batch can be just a little bit different due to small changes in reaction condition, equipment aging, or because the operator drops a little bit of something foreign into the reactor.

PLC:

PLCs are well adapted to a range of automation tasks. These are typically industrial processes in manufacturing where the cost of developing and maintaining the automation system is high relative to the total cost of the automation, and where changes to the system would be expected during its operational life. PLCs contain input and output devices compatible with industrial pilot devices and controls; little electrical design is required, and the design problem centers on expressing the desired sequence of operations. PLC applications are typically highly customized systems, so the cost of a packaged PLC is low compared to the cost of a specific custom-built controller design. On the other hand, in the case of mass-produced goods, customized control systems are economical. This is due to the lower cost of the components, which can be optimally chosen instead of a "generic" solution, and where the non-recurring engineering charges are spread over thousands or millions of units.

For high volume or very simple fixed automation tasks, different techniques are used. For example, a consumer dishwasher would be controlled by an electromechanical cam timer costing only a few dollars in production quantities.

A microcontroller-based design would be appropriate where hundreds or thousands of units will be produced and so the development cost (design of power supplies, input/output hardware and necessary testing and certification) can be spread over many sales, and where the end-user would not need to alter the control. Automotive applications are an example; millions of units are built each year, and very few end-users alter the programming of these controllers. However, some specialty vehicles such as transit buses economically use PLCs instead of custom-designed controls, because the volumes are low and the development cost would be uneconomical.[9]

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3. SYSTEM DEVELOPMENT :

Growing demand of accurate process automation in many engineering & industries. In most engineering streams like process Automation, Production, Automobile engineering etc. & for industrial purposes accurate & optimized automation is necessary & important.

The developed PLC based adaptive Batch Reactor system has a high accuracy, high speed, better resolution than existing manual & other operating system.

The auto configuration feature allows the design of the modules to be quite generic as the address according section is identical hence ensuring case of manufacture.

Details of Circuit Diagram Of PLC Based Adaptive Batch Reactor System:

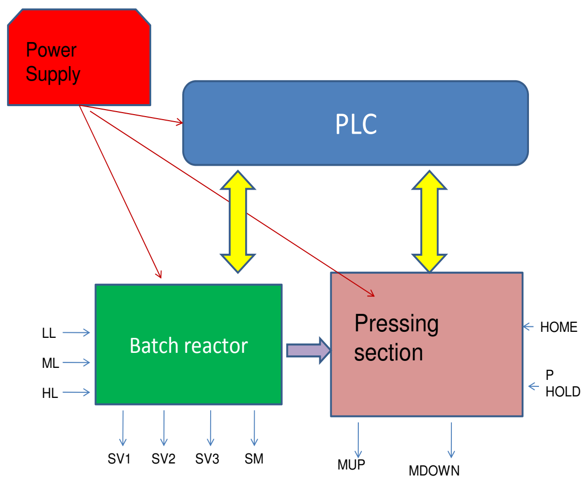

Fig. Block Diagram Of PLC Based Adaptive Batch Reactor System

Programmable Logic Controller (PLC) :

It gets the input signal from different switches, operate as per the algorithm/ program & activate various output devices like valves & motors.

Specification of PLC:

*Model No. : 07KR51
*Power Supply : 24 V DC
*Current consumption : 120 mA.
*Number of Inputs : 8
*Number of Outputs : 6(Relay type)
*Input Voltage : 24 V DC

Working of PLC :

Relay based operation is replaced by PLC. It is Digital Electronic device that uses a programmable memory to store instruction, implement specific function such as logic, sequence, timing, counting & arithmetic operation to control machine & process. The PLC gets input-Executes program-turning on/off its outputs.

Adaptive Batch Reactor :

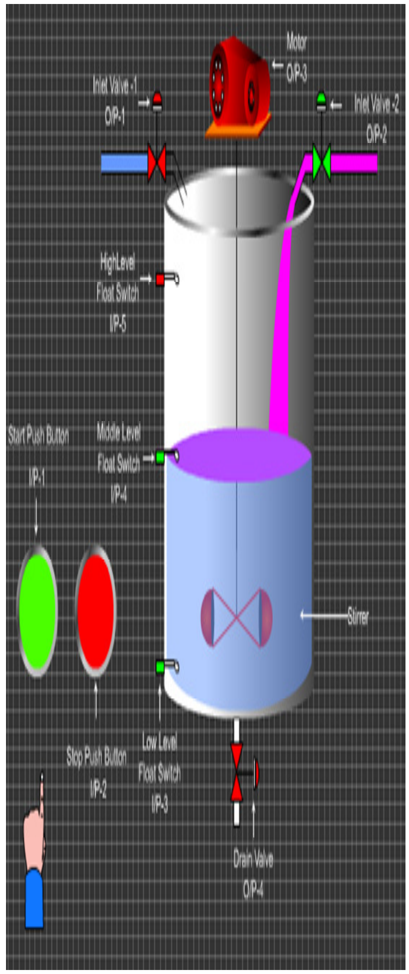

Fig. Adaptive Batch Reactor.

Process Description:

In industries all processes such as extraction & distillation of crude oil, manufacturing of chemicals & fertilizers etc. are classified mainly in two types such as continuous as well as batch process. In plywood industry preparation of Good quality of particle boards depends upon the quality & quantity of pest added to pulp made from bagasse. The proper mixer of resin & glue is prepared in batch to mix with pulp.

Batch reactor process is better for making special chemical for one batch at a time. For batch reactor process, mixing of two reactant for sticking & hardening. Reactant A &B mixed together with stirrer for certain interval. Final solution mixed with bagasse for specific interval in blender. Then mixer

Pressing Unit :

we are receiving mixer of product from reactor added with Baggasse in blender through conveyor. The pressing is done for fix interval to get final quality product (Plywood board).

In pressing Mechanism we have used up & down motor to move the pressing pad to press the received material from blending unit. Also we have used press home & press done limit switches to sense the position of pressing pad.

PLC Interfacing:

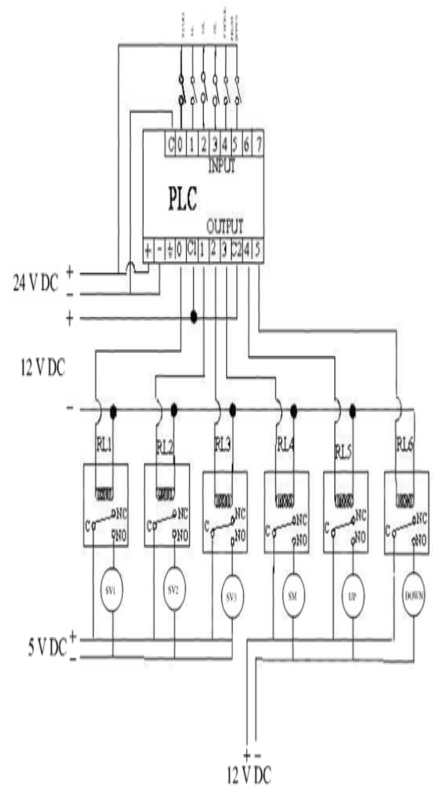

Fig. Interfacing diagram of a PLC with Adaptive Batch Reactor

4.PERFORMANCE ANALYSIS:

System analysis is the critical element of measure of quality assurance & represent the ultimate review of specification & system design. There are number of testing objectives. Testing is the process of executing hardware with intent of finding an error.

*The system can be tested using following types of analysis.

1. Experimental analysis.
2. Statistical analysis.
3. Theoretical analysis.

Experimental Evaluation:

After the many times doing the experimentation to evaluate the performance of designed system "Adaptive Batch reactor system using PLC", we found out that current developed system. Although the comparison of practical results are better, We have not been able to achieve the result 100% error free operation because there are some variation in different parameters which are because of limitation of physical properties of the different devices which can not be avoided. In brief the practical results are in agreement with the satisfactory expected result.

System operation timing analysis :

Table : System operation timing:

Device Operation	Time		
	Manual	Electrical	PLC
SV1 open	9 min	4.5 min	90 sec
SV2 open	6 min	3 min	60 sec
Stirrer Motor on	2 min	1 min	20 sec
Wait Time	2 min	1 min	20 sec
SV3 open	15 min	7.5 min	150 sec
M down on	2 min	1 min	20 sec
Press hold	2 min	1 min	20 sec
M UP ON	2 min	1 min	20 sec
Total cycle time	40 min	20 min	400 sec

Comparison:

Table: Comparison with & without PLC.

With PLC	Without PLC
*Flexible. *Reduced maintenance *Fine control possible. *Data logging possible. *On line process monitoring using SCADA *Adopted today by all industry.	*Not flexible. *More maintenance. *Fine control not possible *Data logging not possible *On line process monitoring not possible. *Adopted previously by old industries.

5. CONCLUSIONS :

PLC Based batch reactor system & pressing mechanism is best suitable for demand of automation.system is flexible to produce good quality productwith minimum investment of raw material Energy resources .Accurate measurement for all the batches of operation.flexible for changing the operation time for different element .Give fast operation then other existing system

Batch reactors, such as the one used in the experiment, have a highly nonlinear and hybrid nature. What is more, such a process cannot be treated as a simple time-invariant process, especially when a strong exothermic reaction with unknown kinetics is involved. In this paper we showed how to avoid some of the

difficulties in the control design for such processes.

Applications :

I.Used in different area of industries like

1. Chemical & fertilizer industries.
2. Oil & natural gas industries.
3. Pulp & paper industries.
4. Cement industries.

5. Process industries.
6. Glass industries.
7. Automobile & production industries.
8. Filling & packing industries.
9. Power generation plant.

II.This system is also useful in pharmaceutical industries.

1. Drug mixing process.
2. Preparation of various size and volume of tablets.

III. It is also useful in sugar factories:

1. Mixing of two reactant.
2. distillation process.
3. Cleaning of sugar juice.
4. Crystallizer.
5. Evaporator.

IV. Data logging helps to trouble shoot the problem & improve product quality.

Future Scope:

By connecting multiple PLCs & processes in networking, Major plant can be monitored & controlled.

The following are the suggestions for the future work.

*The hardware can also be used by engineering students for testing different PLC programmers, as there are various types of inputs & outputs associated in the hardware.

*The setup is also useful to electrical engineering students to learn the interfacing of PLC, relays, motors, & switches because PLC, relays, motors, & switches are of different specification.

*The setup can also be useful for electronic technicians to develop an test various PLC program in FBD (Functional Block Diagram) IL(Instruction list), ST(Structured Test), SFC(Sequential Function Chart) language.

*System can also be useful in quality control, and analytical laboratories for analysis and preparation of different drugs as well as solution.

References:

[1] K.J. A° stro¨m, B. Wittenmark, Adaptive control, in: Electrical Engineering: Control Engineering, second ed., Addison-Wesley Publishing Company, 1995.

[2] P. R. A. Batch process modelling. Club Report CR 2828(CON), Warren Springs Laboratory, Herts, UK, 1986.

[3] J.S. Chang, W.Y. Hseih, Optimization and control of semibatch reactors, Ind. Eng. Chem. Res. 34 (1995) 545–556.

[4] L. Chen, G. Bastin, V. Van Breusegam, A case study of adaptive nonlinear regulation of fed-batch reactors, Automatica 31 (1995) 55–65.

[5] W. Cho, T.F. Edgar, J. Lee, Iterative learning dual-mode control of exothermic batch reactors, in: 2005 5th Asian Control Conference, 2005, pp. 1270–1275.

[6] B.J. Cott, S. Macchietto, Temperature control of exothermic batch reactors using generic model control, Ind. Eng. Chem. Res. 28 (1989) 1177–1184.

[7] J.E. Cuthrell, L.T. Biegler, Simultaneous optimization and solution methods for batch reactor control, Comput. Chem. Eng. 13 (1998) 49–69.

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A Comparative Study of Characteristics of Athlets from Defferente Geographical Conditions and it's Role in Sports Performance

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Abstract:

In this modern scenario, everyone desires to do one's personal best, to excel and to attain the highest standard of performance, and to be supreme in one's chosen field. This is a worthy human ambition which has led, and can continue to lead to increase standard and personal growth. Yet, high level of achievement and excellence in any area do not come easily. There are numerous obstacles to be overcome and barriers to be pushed aside. The greatest barriers we confront in our pursuit of excellence and psychological and sociological barriers are numerous.

Every nation and individual wants to show their supremacy by challenging other individual, state, group or nation. This challenge stimulates, inspires and motivates the entire nation to strive for faster, higher, and further growth with admirable advancement. It compels to exaggerate, strengthen skills in the present competitive sports world. By nature, human beings are competitive and ambitious for the excellence in all athletic performances.

In the present time of competitive world of sports, it is not only physical differentials which matter but the psychological make-up of an individual is also of paramount consideration as it plays decisive role in the performance of the competitors.

This study examined the psychometric difference of the Devaluation sub domain of Athlete Burnout Scale in a sample of national level athletes (N = 450; coastal area= 150, Plain area-150, Hill area= 150 men athletes). The ANOVA one-way test clearly indicates that the F-Value calculated (4.755) is higher than the tabulated value (3.02). There is significant relationship among the means of costal, plain & hill area players level in relation to their Devaluation sub domain of Athlete Burnout level.

Keywords: Deferent geographical conditions, Athlete Burnout, Devaluation.

Introduction:

The purpose of this study is to find out the effect of deferent geographical conditions on the physical and physiological conditions of sports person and its impact on sports performance. It is important to note similarities as well as differences between the Characteristic of Athlete from Costal, plain & hill area and its effect on their Sports Performance. For instance, such as climatic conditions. The purpose of this section is to describe the physiological responses to several environmental conditions during the performance of sporting activities. Human being is a product of the earth's surface. This means not merely that he is a child of the earth; earth has mothered, set task, directed thoughts, confronted with difficulties, that have strengthened the body and sharpened wits, gave problems of navigation and irrigation, at the same time whispered hints for their solution which he/ she has entered into his bones and tissues, into his mind and soul. On the mountain nature, has given him leg muscles of iron to climb the slope and rough and uneven terrain, along the coast nature has left these weak and flabby but given him instead vigorous development of chest and arm to handle his paddle.

Review of related literature:

In writing the literature review, our purpose is to convey to our readers what knowledge and ideas have been established on a topic so far.

Raedeke, Thomas D. (1997) conducted a study on the topic Examined athlete burnout from a commitment perspective, which suggests that athletes can be involved in sport for a combination of reasons related to sport attraction (want to be involved) and sport entrapment (must be involved). According to this framework, athletes are likely to experience burnout if they are involved in sport primarily for entrapment-related reasons. 236 female and male 13–18-year-old age-group swimmers completed a questionnaire that assessed theoretical determinants of commitment and burnout (emotional/physical exhaustion, swim devaluation, and reduced swim accomplishment). Cluster analysis was used to partition swimmers into profiles based on the theoretical determinants of commitment. Subsequent analyses of variance compared emergent cluster groups on burnout. Results revealed that athletes who exhibited characteristics reflecting sport entrapment generally demonstrated higher burnout scores than athletes who were primarily involved in sport for attraction-related reasons. These results provided support for a commitment perspective as a viable framework for understanding athlete burnout.

Price, M. S.; Weiss, M. R.(2000) conducted a study on the topic "The relationship among coach burnout, coaching behaviors, and athletes' psychological responses" was examined using the multidimensional model of leadership as a theoretical framework. It examines whether coaches who vary in level of burnout differ in the behaviors athletes perceive they exhibit; and whether coaching behaviors are related to athletes' enjoyment, perceived competence, anxiety, and burnout. A sample of 193 female soccer players and 15 head coaches of high school teams completed measures of the constructs of interest (location, date not specified). Coaches higher in emotional exhaustion were perceived by their teams as providing less training and instruction and social support and making fewer autocratic and greater democratic decisions. For the second question, athletes' perceptions of greater training and instruction, social support, positive feedback, democratic decisions, and less autocratic style were related to more positive (i.e., perceived competence, enjoyment) and less negative (i.e., anxiety, burnout) psychological outcomes

Scott L. Cresswell **(2009)** conducted a study on the topic "Athlete burnout is a concern because of its potential negative consequences for athlete performance and welfare. The aim of the current research was to examine if proposed early signs of burnout measured midseason were associated with characteristics of burnout measured at the end of the season. Quantitative methods (i.e., questionnaire) were used to identify the level of burnout and perceptions of proposed early signs among male professional rugby union players (n = 183) aged 18–36 years (M = 25.19, S.D. = 2.98). Results indicated significant associations among proposed early signs measured mid-season and athlete burnout measured at the end of the season. Consistent with previous research perceived rugby and money hassles were positively associated with key charac

Md. Dilsad Ahmed (2014) Burnout is a burning issue. It is prevalent across all age categories and levels of performances. Burnout evolved due to foliage of hidden causes with ramification to the performance decrement. Therefore, it has become an increasing topic of interest to the sport psychology community. A great deal of this research having been initiated nearly 20 years ago, and till date today it is still under veil yet to conduct researches to come to an exact solution. Hence the research scholar was keen interested to explore this study examined the prevalence of burnout in adolescent athletes. A total of 150 (20 cricket, 50 football, 20 badminton, 30 hockey, 15 basketball and 15 volleyball) Male Adolescent Athletes represented Inter-District Level Competitions in various games and sports under the Authority of District Sports Office of Assam Region were took part in this study. Their ages were ranging from 12 to 17 years. The athletes were free to participate if they choose to. The questionnaire on the Athlete Burnout (ABQ) of 15 items developed by *Raedeke (1997; Raedeke & Smith, 2001)*, was administered intended to quantify the athlete burnout syndrome with three subfactros Reduced sense of Accomplishment (RA), Sport Devaluation (D), and Emotional/Physical Exhaustion (E) *(Eklund & Cresswell, 2007).* Each response is scored on a 5-point Likert scale with “almost never” (1), “Rarely” (2), “Sometimes” (3), “Frequently” (4), “Almost Always” (5) representing all possible responses. Descriptive statistics was conducted to measure the mean, standard deviation of the items of the questionnaire. Pearson correlation coefficient was performed to see the intercorrelation among all the items and also to prepare the correlation matrix. Factor analysis was performed to explore all the items to assess the occurrence of burnout among the athletes. To see the reliability of all the extracted factors further Cronbach Alpha was applied. These findings suggest that factors 1 item “I am exhausted by the mental and physical demands of sport” under the subfactor of emotional and physical exhaustion showed highest prevalence of burnout with 67.3% followed by “I feel overly tired from my sport participation 53.3% and the item under “It seems that no matter what I do, I don’t perform as well as I should” with 34.0% of the total samples.

Methodology:

Design of study

It was a survey Study focused to assess the characteristic of athlete from different geographical condition and its role in sports performance.

Selection of subjects

Four hundred fifty (450) male athletes of deferent games and sports, who have participated in National games, All India University games, Zonal games. level players were selected as a subject for our study.

Sampling procedure:

One Hundred Fifty (150) subjects from different sports discipline form the state of Goa, Maharashtra, Kerala, Tamil Nadu and Andhra Pradesh (Coastal area). One Hundred Fifty (150) subjects from Uttar Pradesh, Haryana, Punjab, Rajasthan and Madhya Pradesh (Plain area) and One Hundred Fifty (150) were selected from Uttrakhand, Himachal Pradesh, Jammu and Kashmir, Assam, Mizoram, and Manipur (hill area). The age level of subjects ranged from 18 to 25 years. All the subjects were residing at different geographical environment.

Game and sports wise distribution of sample

Subjects were selected from different team and individual games as: participant of National games, All India University games, Zonal games and State level games. Wrestling (67x3), Athletics (37x3), Boxing(17x3), Basket Ball(10x3), Yoga(13x3), Squash(6x3), (N=450). Ssubjects from each event filed all three questionnaires entirely and carefully and before filling the questionnaires athletes / subjects were instruct properly regarding and filling the questionnaires

Selection of variables

a. Independent

The independent variables for this study are the athletes who belongs from different geographical condition in India i.e. Plain area, Hill area and Costal area.

b. Dependent

The dependent variables in this study are

- Athlete Burnout

  Based on this dependent variable we will measure and do our comparative study.

Criterion measures To measure devaluation sub-domain of burn-out among athletes of deferent geographical condition and it's role in sports performance, athlete bur-out scales by Raedeke and Smith.

Result:

TABLE-1: Descriptive statistics of Devaluation sub domain of Athlete Burnout among coastal, Plain & hill area players

	Coastal Area	Plain Area	Hill Area
Mean	**14.24**	**13.77**	**12.89**
Standard Deviation	**3.63**	**3.83**	**4.09**
Minimum	**5**	**5**	**5**
Maximum	**22**	**23**	**23**

Observation -

- The above table shows the Mean value and Standard Deviation of Coastal Area is 14.24 and 3.63 respectively.
- The Mean value and Standard Deviation of Plain Area is 13.77 and 3.83 respectively.
- The Mean value and Standard Deviation of Hill Area is 12.89, and 4.09 respectively.
- Table also reads that the minimum value of Devaluation sub domain of Athlete Burnout (D-ABS), for costal area players were 5, whereas minimum values for plain area were 5 and minimum values for hill players area 5. This table shows the maximum value for costal area were 22, whereas maximum value for plain area were 23 and maximum value for hill players area 23.

  In table fourteen Analysis of Variance- Devaluation sub- domain of Athlete Burnout, presented in table-2

TABLE-2: Analysis of variance in Devaluation sub domain of Athlete Burnout among coastal, plain & hill area players.

Source of Variance	Degree of freedom	Sum of squares	Mean Squares	F-ratio	F-critical
Between Group	**2**	**141.498**	**70.75**	**4.755**	**3.02**
Within Group	**447**	**6651.267**	**14.88**		

Tabulated value of F to be significant at 0.05 level for the degree of freedom (2,447) = 3.02.

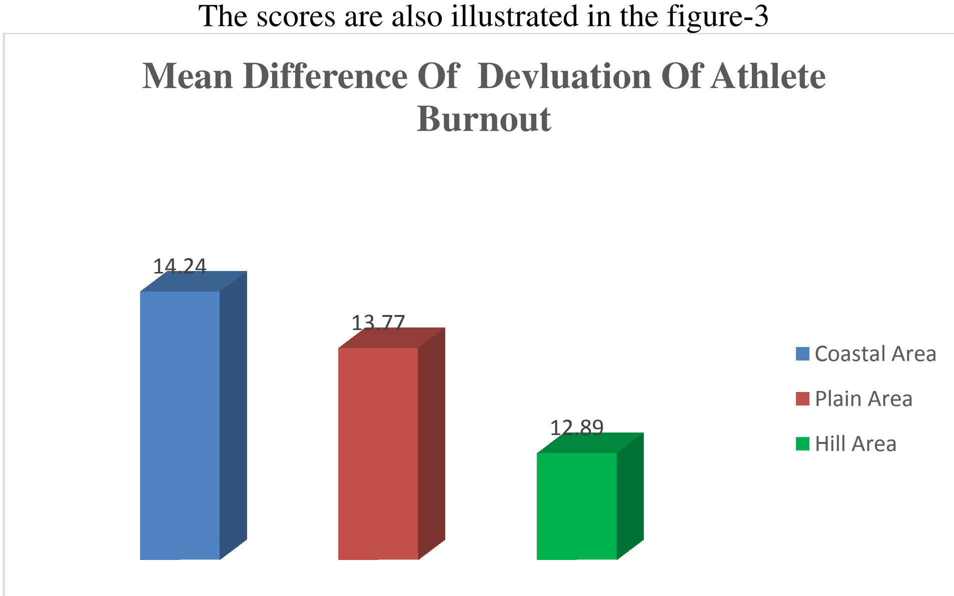
The value shown in table-14 clearly indicates that the F-Value calculated is higher than the tabulated value. This indicates that, there is significant relationship among the means of coastal, plain & hill area players level in relation to their Devolution- Athlete Burnout level. Costal, plain and hill area through post hoc test was computed which are presented in the following tables.

TABLE-3: Comparison of Devaluation sub domain of Athlete Burnout among costal, plain & hill area players.

Coastal Area	Plan Area	Hill Area	Mean Difference	Critical difference
14.24	13.77		0.47	0.874
14.24		12.89	1.35	
	13.77	12.89	0.88	

- The post hock test to compare the Devolution- Athlete Burnout among coastal, plan & hill area players. It has clearly revealed the insignificant difference between the players of coastal area and plain area where the calculated mean difference found (0.47).
- Coastal area and hill area players have revealed significant calculated mean difference found (1.35).
- Though plan area and hill area players have the calculated mean difference found (0.88), as the required value was much higher than the calculated value at 0.05 level of significant.

The scores are also illustrated in the figure-3



Figer-1 Mean difference among coastal area, plain area and hill area athletes devaluation sub domain of athlete burnout

Findings of study:

The Mean value coastal area athletes are higher than plain area and Hill area athlete. Variance and Standard Deviation of Hill area athletes is higher than plain area and Coastal area athlete. The reason behind high mean of coastal area athletes can be attributed to lack of support from family and society. Also, lack of information about the gains and utility of sport participation could be a reason for high average score in coastal area,

References:

1. Raedeke, Thomas D. (1997) “Is athlete burnout more than just stress? A sport commitment perspective” Journal of Sport & Exercise Psychology, Vol 19(4), Dec 1997, 396-417.
2. **Price, M. S.; Weiss, M. R.(2000) Relationships among coach burnout, coach behaviors, and athletes' psychological responses.** Sport Psychologist**2000 Vol. 14 No. 4 pp. 391-409**
3. http://s3.amazonaws.com/academia.edu.documents/33106285/EXPLORING_THE_RELATIONSHIP_AND_OCCURRENCE_OF_BURNOUT_OF_COMPETITIVE_ATHLETES.pdf?AWSAccessKeyId=AKIAJ56TQJRTWSMTNPEA&Expires=1470157814&Signature=SoPczvUrJ17f2lKNtIYoqy68SLQ%3D&response-content-disposition=inline%3B%20filename%3DEXPLORING_THE_RELATIONSHIP_AND_PREVALENC.pdf

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A Study on Financial Inclusion in India

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Banks are playing a crucial role in our economy and in the day to day life of a common man. It offers various services to the people like accepting deposits, giving credits, payments, transfers, remittances, acting as a business correspondent etc. There have been tremendous changes and developments that have been seen in the banking sector. But there are many people who are not yet using the basic services provided by banks due to various reasons. It has been witnessed that still 20% of the world's unbanked population is in India. To resolve this problem and to reach out to every potential customer the Reserve Bank of India (RBI) and the government took initiatives to bring about financial inclusion in our economy. Indian banking sector and the financial inclusion plans made by the government has witnessed enormous changes in the last decade. The focus is from rendering and making availability of credit facilities to a more extensive approach i.e opening of bank accounts, taking insurance policies etc. So, this paper is an attempt to highlight the efforts made by the government and Reserve Bank of India (RBI) to bring about financial inclusion in our economy.

Key words: unbanked population, financial inclusion.

Introduction

It is believed that the progress and development of a financial system contributes in the economic growth of an economy. Banks play a crucial role in developing this financial system. There were several changes that took place in this sector. From indigenous banks to commercial banks. As the economy grew, there were many developments that were witnessed in the banking sector.

The metamorphic changes were with regard to the ownership, the number of branches as well as technology.

As the competition increased and technology bloomed in this sector, the customers started getting more fruits in terms of better personalized services and an advanced technology. But inspite of these developments 20% of the world's unbanked population is in India.

To resolve this problem and bring about financial inclusion in India, government and Reserve Bank of India took several initiatives.

Meaning and definition of Financial Inclusion

Financial Inclusion is rendering of banking services to the weaker sections and unbanked areas in an economy at a nominal cost.

According to World Bank-Around 2 billion people don't use formal financial services and more than 50% of adults in the poorest households are unbanked. Financial inclusion is a key enabler to reducing poverty and boosting prosperity.

Working definition given by- Banking Association South Africa

Access and usage of a broad range of affordable, quality financial services and products, in a manner convenient to the financially excluded, unbanked and under-banked; in an appropriate but simple and dignified manner with the requisite consideration to client protection. Accessibility should be accompanied by usage which should be supported through the financial education of clients.

To bring about financial inclusion in our economy the Reserve Bank of India and the Indian government took tremendous efforts, wherein the benefit of the common was considered.

Here are some of the initiatives that were taken to reach out the unbanked areas in India i.e launch of other banks and various other schemes under the existing banks:

- Payment Banks
- Pradhan Mantri Jan Dhan Yojana
- Pradhan Mantri MUDRA Yojana
- Pradhan Mantri Jeevan Jyoti Bima Yojana
- Pradhan Mantri Suraksha Bima Yojana
- Stand up Loan Yojana (for SC/ST and women)

Payments Banks

A committee on Comprehensive Financial Services for Small Businesses and Low Income Households was formed on 23rd September 2013 by RBI which was headed by Mr. Nachiket Mor.

In 2014 this committee recommended the formation of new type of bank known as the

'Payment Bank'. The main aim behind setting up of these banks was to bring about

'Financial Inclusion' in an economy.

RBI started drafting the guidelines for these banks whereby the opinions of interested institutions and general public were taken. Later in November 2014 the final guidelines for setting up of these banks were released by RBI.

Based on the guidelines, RBI received 41 applications for the license of the payment bank.

Out of 41 applicants received, the committee shortlisted only 11 applications based on their performance, financial records, administrative issues etc.

These 11 institutions were granted license subject to the fulfillment of the norms within the period of 18 months that were laid down by RBI.

Out of the eleven applicants, three entities walked out of this, due to limited business activity and profitability involved.

The final eight payment bankers are:

- Reliance Industries
- Aditya Birla Nuvo (Idea Cellular)
- Airtel
- Vodafone
- Department of Posts
- FINO PayTech
- National Securities Depository Ltd
- Paytm (Vijay Shekhar Sharma)

Airtel Payments banks and Paytm Payments banks launched.

A payment bank is for a common man. This bank will offer specified services like:

- Acceptance of deposits (initially upto Rs.1,00,000)
- Payment and remittance

- Internet banking
- Issue of debit cards only
- Payment to third parties etc.

Pradhan Mantri Jan Dhan Yojana

This scheme was launched on 28th August 2014 with a national mission to bring about comprehensive financial inclusion in an economy. This scheme was targeted towards the people who belong to below poverty line but it helped all others too who did not had bank accounts. Under this scheme 26.06 crore accounts were opened out of which 15.86 crore accounts were in rural areas. Rs. 71,557 crores were deposited in these accounts.

Pradhan Mantri MUDRA Yojana

Another scheme that was launched on 8th April 2015, was basically targeted to cover the Micro Units Development and Refinance Agency with the objective to give financial support to the non corporate small business units. This comprises of proprietorship/ partnership firms running as small manufacturing units, service sector units, shopkeepers, fruits/ vegetable vendors, artisans, truck operators, food service units, repair shops, machine operators, small industries etc in rural and urban areas. From April , 2016 onwards ' Activities allied to agriculture' such as livestock, grading, sorting, diary, fishing, food and agro processing etc that support and promote livelihood are also included under this scheme. The small business units can avail loans ranging from Rs. 50 thousand to Rs. 10 lakhs, that is divided under various scheme:

i.e shishu- upto Rs. 50,000,
kishore- Rs. 50,001 to Rs. 5,00,000 and
tarun Rs. 5,00,001 to Rs. 10,00,000.

As on 9th December, 2016 disbursement amount was Rs.77,916.54 crores. The number of borrowers were 2.12 crores.

Pradhan Mantri Jeevan Jyoti Bima Yojana

Our prime minister launched another scheme on 9th May 2015 for multiplying the people covered under the insurance sector. In this, the insured can get a life insurance cover of

Rs. 2 lakhs with an annual premium of just Rs. 330. It covers the people from 18-50 years of age who have a saving bank account. The cumulative gross enrolment reported by the banks by

28th December 2016 were approximately 3.08 crores. Till this date 51,745 claims were registered out of which 48,023 have been expend.

Pradhan Mantri Suraksha Bima Yojana

This scheme was also launched on 9th May 2015 to provide accidental insurance cover to all Indian citizens having saving bank accounts of the age 18-70 years. The insured or the family gets Rs. 2 lakhs on the death or full diability of the insured and Rs. 1 lakh on partial disability

with an annual premium of Rs. 12. Till 28thDecember, 2016, Cumulative Gross enrolment reported by Banks subject to verification of eligibility, etc. is over 9.88 Crore under this scheme. 10,084 Claims were registered as on this date out of which 7,282 have been disbursed.

Stand up Loan Yojana (for SC/ST and women)

On 5th April 2016 the government launched stand up loan scheme for SC/ST and women. This scheme was launched to promote entrepreneurship among this class. The loan amount under this scheme varies from 10 lakhs to 1 crore wherein the government will also help in eliminating the legal and operational hurdles. The rate of interest on loans taken under this scheme is less than that taken from any other financial institution. The borrower over here will get the duration of seven years to repay the loan amount. In addition the borrower can himself decide the monthly loan instalment that he can repay.

Basic eligibility criteria for availing loan under this scheme: (veracious)

The company should be a private limited/ LLP or a partnership firm

The company should not have completed 5 years of its business.

The annual turnover should not exceed Rs. 25 crores.

The company that has got approval from DIPP i.e Department of Industrial Policy & Promotion will only be eligible for the loan.

Other documents as may be required during application procedure. Till 23rd December 2016 the total number of loans sanctioned under this scheme were 15,341.

Conclusion

From above instances/ data it is noticed that the Reserve Bank of India and the government authorities are trying their best to bring about financial inclusion in our country. With such a large population of 134 crores which is going on increasing day by day, still the efforts are always to reach out the common man who is away from these basic banking and insurance facilities. As its said "Rome was not built in a Day"….In the similar manner the hard work which is rendered now will not give immediate results but it will surely.

References

1. *Anand Sahasranaman, IFMR Finance Foundation, 07 January 2014. RBI Releases Report of the Nachiket Mor Committee on Comprehensive Financial Services.*
2. *http://www.ifmr.co.in/blog/2014/01/07/rbi-releases-report-of-the-nachiket-mor-committee-on-comprehensive-financial-services/*
3. Sarkari Yojana-Central Government- Pradhan Mantri Yojana, Stand Up India Loan Scheme-8th April 2016 https://www.sarkariyojna.co.in/stand-up-india-loan-scheme/
4. 02 October 2016. World Bank, Financial Inclusion. http://www.worldbank.org/en/topic/financialinclusion/overview
5. India 's guide- Population of India
6. http://www.indiaonlinepages.com/population/india-current-population.html
7. Press Information Bureau, Government of India, Ministry of Finance-1st January 2017
8. file:///C:/Users/jaydev/Desktop/16-17%20desktop/Article/Financial%20Inclusion/Press%20Release-Gov-Important.html
9. Gadgets 360 staff- 12 January 2017
10. http://gadgets.ndtv.com/telecom/news/airtel-payments-bank-officially-launched-now-available-across-29-states-1648138
11. Sandeep Sherpa 18 February 2017 , Paytm to launch its payments banks on 21 February 2017
12. http://www.gizbot.com/apps/news/paytm-launch-its-payments-bank-on-february-21-038502.html

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Corporate Tax Planning

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Abstract:

Tax planning is a broad term that is used to describe the processes utilized by individuals and businesses to pay the taxes due to local, state, and federal tax agencies. The process includes such elements as managing tax implications, understanding what type of expenses are tax deductible under current regulations, and in general planning for taxes in a manner that ensures the amount of tax due will be paid in a timely manner.

One of the focuses of tax planning is to apply current tax laws to the revenue that is received during a given tax period. The revenue may come from any revenue producing mechanism that is currently in operation for the entity concerned. For individuals, this can mean income sources such as interest accrued on bank accounts, salaries, wages and tips, bonuses, investment profits, and other sources of income as currently defined by law. Businesses will consider revenue generated from sales to customers, stock and bond issues, interest bearing bank accounts, and any other income source that is currently considered taxable by the appropriate tax agencies.

Unit I: Introduction to Tax Management

Corporate Taxes in India

Corporate Tax relates to the taxation of companies in India. For the purpose of taxation laws, a Company means:

- An Indian company or a corporate body incorporated inside or outside India
- Any institution, association or body whether incorporated or not, and whether domestic or nonresident, which is declared as a company by the Central Board of Direct Taxes (CBDT)

Income of a company

Before we head on to talking about what the rates of taxation for companies are, let‘s take a look at what makes up the "income" of a company. Generally, the income of a company falls under any of the following 4 heads of income:

- Profits or gains from the business
- Income from property, whether it is housing, commercial, self-occupied or let-out. If the property is used in the company‘s business operations, it does not fall under this head.
- Capital gains (short term capital gain and long term capital gain)
- Income from other sources including winnings from lotteries, races and interest on securities.

The resultant figure is set off against any carried forward profits / loss which is then subject to deductions that are available under relevant headings. After the deduction of T.D.S less prepaid taxes. This net income is liable to income tax.

Domestic Company and Corporate Tax

A domestic company (including deemed company U/S25) is a company formed and registered under the Companies Act 1956 or any other company which is liable to income tax. It can be either a private or public company. Here are some of the highlights of corporate taxation for domestic companies in I

- Domestic companies are subject to a flat rate of 30% as corporate tax on their earnings.
- If the company has a turnover of Rs. 1 crore or more, 5% surcharge is levied on the tax

paid by the company.

- 3% education cess is also payable. Tax is levied on the global earnings of a domestic company, i.e. income from all sources is taxable

Foreign companies and Corporate Tax

For the purpose of corporate taxation, a company whose control and management lies wholly outside India is a foreign company. It must also be noted that such companies should not have made arrangements to pay dividends within India. The taxation of foreign companies is not as straight-forward as that of a domestic company.

Unit-2

Tax Planning for New Business

TAX MANAGEMENT IN LOCATION OF THE NEW BUSINESS

1. Sec. [10A] : Tax Holiday for newly established undertaking in Free Trade Zone: First 5 Years – 100 % of profits and gains is allowed as deduction Next 2 Years : 50% of such Profit and Gains is deductible for further 2 assessment years.
   Next 3 Years : for the next three consecutive assessment years, so much of the amount not exceeding 50% of the profit as is debited to the profit and loss account year in respect of which the deduction is to be allowed and credited to a reserve account (to be called the "Special Economic Zone Re-investment Allowance Reserve Account") to be created and utilised for the purposes of the business of the assessee
2. Sec. [80IA] : an [undertaking] which,—(a) is set up in any part of India for the generation or generation and distribution of power if it begins to generate power at any time during the period beginning on the 1st day of April, 1993 and ending on the 31st day of March, 2010;
   (b) starts transmission or distribution by laying a network of new transmission or distribution lines at any time during the period beginning on the 1st day of April, 1999 and ending on the 31st day of March,2010
   (c) undertakes substantial renovation and modernisation of the existing network of transmission or distribution lines at any time during the period beginning on the 1st day of April, 2004 and ending on the 31st day of March, 2010.
   Deductions allowed is 100% or 30% of profits from such eligible business
3. Sec. [80IB] : Deduction in respect of Profits of Industrial Undertaking located in backward State or District. Deduction allowed is either 100% and /or 30% for 10 years depending upon case to case.
4. Sec. [80IC] : Profits from Industrial Undertaking located in the specified States,. States are State of Jammu & Kashmir, Himachala Pradesh, Uttaranchal and North Eastern States. Deduction allowed is 100% of such profit.
5. Sec.[80 LA] : Where the gross total income of an assessee,— (i) being a scheduled bank, or, any bank incorporated by or under the laws of a country outside India; and having an Offshore Banking Unit in a Special Economic Zone; or (ii) being a Unit of an International Financial Services Centre , there shall be allowed a deduction from such income, of an amount equal to— 100% of such income for five consecutive assessment years beginning with the assessment year.

Tax Management In Nature Of The New Business

1. Sec. [10(1)] : Agricultural Income– fully exempted (100%).
2. Sec. [10(23FB)] : Dividend or Long-Term Capital Gain (LTCG) accruing to Venture Capital or a Venture Company – 100% tax exempted.

"venture capital company" means such company—

(i) which has been granted a certificate of registration under the Securities and Exchange Board of India Act, 1992

"venture capital fund "means such fund—

(i) operating under a trust deed registered under the provisions of the Registration Act, 1908 or operating as a venture capital scheme made by the Unit Trust of India established under the Unit Trust of India Act, 1963;

(ii) (ii) which has been granted a certificate of registration under the Securities and Exchange Board of India Act, 1992 .

3. Sec. [33 AB)] : Tea Development Account, Coffee Development Account and Rubber Development Account : Where an assessee carrying on business of growing and manufacturing tea or coffee or rubber in India has, before the expiry of six months from the end of the previous year or before the due date of furnishing the return of his income, whichever is earlier,— deposited with the National Bank any amount or amounts in an account the assessee shall be allowed a deduction of—

(a) a sum equal to the amount or the aggregate of the amounts so deposited ; or

(b) a sum equal to 40% [forty] per cent of the profits of such business (computed under the head ―Profits and gains of business or profession before making any deduction under this section), whichever is less :

4. Sec. [35 D] : Amortization of Certain Preliminary Expenses : Where an assessee, being an Indian company or a person (other than a company) who is resident in India, incurs, after the 31st day of March, 1970, any expenditure specified in sub-section (2),—

(i) before the commencement of his business, or

(ii) after the commencement of his business, in connection with the extension of his [industrial] undertaking or in connection with his setting up a new [industrial] unit, the assessee shall be allowed a deduction of an amount equal to one-fifth(1/5 th.) of such expenditure for each of the five successive previous years beginning with the previous year in which the business commences or the new [industrial] unit commences production or operation :

5. Sec. [35 E] : Profits from Prospecting Certain Minerals : Where an assessee, being an Indian company or a person (other than a company) who is resident in India, is engaged in any operations relating to prospecting for, or extraction or production of, any mineral and incurs, after the 31st day of March, 1970, any the assessee shall be allowed for each one of the relevant previous years a deduction of an amount equal to one-tenth (1/10) of the

6. Sec. [35 ABB] : Expenditure for obtaining licence to operate telecommunication services : In respect of any expenditure, being in the nature of capital expenditure, incurred for acquiring any right to operate telecommunication services and for which payment has actually been made to obtain a licence, there shall be allowed a deduction equal to the appropriate fraction of the amount of such expenditure. amount of such expenditure.

7. Sec. [36(1)(viii)] : Special Reserve Created by Financial Corporation : in respect of any special reserve created and maintained by a specified entity, an amount not exceeding 20% of the profits derived from eligible business computed under the head ―Profits and gains of business or profession (before making any deduction under this clause) carried to such reserve account: Provided that where the aggregate of the amounts carried to such reserve account from time to time exceeds twice the amount of the paid up share capital and of the general reserves of the specified entity, no allowance under this clause shall be made in respect of such excess.

8. Sec. [42] : Special provision for deductions in the case of business for prospecting, etc., for mineral oil : For the purpose of computing the profits or gains of any business consisting of the prospecting for or extraction or production of mineral, there shall be made in lieu of, or in addition to, the allowances admissible under this Act

9. Sec. [44BB] : Special provision for computing profits and gains in connection with the business of exploration, etc., of mineral oils : If an assessee engaged in the business of providing services or facilities inconnection with, or supplying plant and machinery on hire used in the prospecting for, or extraction or production of, mineral oils, then 10% of the aggregate of the amounts shall be deemed to be the profits and gains of such business chargeable to tax under the head ―Profits and gains of business or profession.

10. Sec. [44 AD] : Special provision for computing profits and gains of business of civil construction, etc. : in the case of an assessee engaged in the business of civil construction or supply of labour for civil construction, a sum equal to 8% of the gross receipts paid or payable to the assessee in the previous year on account of such business or, as the case may be, a sum higher than the aforesaid sum as declared by the assessee in his return of income, shall be deemed to be the profits and gains of such business chargeable to tax under the head "Profits and gains of business or profession":

11. Sec. [44 AE] : Special provision for computing profits and gains of business of plying, hiring or leasing goods carriages : If an assessee engaged in the business of plying, hiring or leasing such goods carriages and who owns not more than 10 goods carriages and, the income of such business chargeable to tax under the head "Profits and gains of business or profession" shall be deemed to be the aggregate of the profits and gains, computed as follows

(i) An amount equal to Rs.3,500 [three thousand five hundred rupees] for every month or part of a month for a heavy goods vehicle

(ii) An amount equal to Rs. 3,150) [three thousand one hundred and fifty rupees] for every month or part of a month for other than a heavy goods vehicle.

12. Sec. [44 AF] : Special provisions for computing profits and gains of retail business : If the assessee engaged in retail trade in any goods or merchandise, a sum equal to 5% (five per cent) of the total turnover shall be deemed to be the profits and gains of such business chargeable to tax under the head ―Profits and gains of business or profession.

13 Sec. [44B] : Special provision for computing profits and gains of shipping business in the case of non-residents. : in the case of an assesses, being a non-resident, engaged in the business of operation of ships, a sum equal to 7½ % (seven and a half per cent) of the aggregate of the amounts shall be deemed to be the profits and gains of such business chargeable to tax under the head ―Profits and gains of business or profession.

14 Sec. [44 BBA] : Special provision for computing profits and gains of the business of operation of aircraft in the case of non-residents : in the case of an assessee, being a nonresident, engaged in the business of operation of aircraft, a sum equal to 5% (five per cent) of the aggregate of the amounts shall be deemed to be the profits and gains of such business chargeable to tax under the head ―Profits and gains of business or profession.

15 Sec. [44 BBB] : Special provision for computing profits and gains of foreign companies engaged in the business of civil construction, etc., in certain turnkey power projects : in the case of an assessee, being a foreign company, engaged in the business of civil construction or the business of erection of plant or machinery or testing or commissioning thereof, in connection with a turnkey power project approved by the Central Government, a sum equal to (10%) ten per cent of the amount paid or payable (whether in or out of India) to the said assesse or to any person on his behalf on account of such civil construction, erection, testing or commissioning shall be deemed to be the profits and gains of such business chargeable to tax under the head ―Profits and gains of business or profession.

16 Sec. [44 D] : Special provisions for computing income by way of royalties, etc., in the case of foreign companies : in the case of an assesse, being a foreign company,—

(a) the deductions admissible under the said sections in computing the income by way of royalty or fees for technical services received shall not exceed in the aggregate 20% (twenty per cent) of the gross amount of such royalty or fees ;

(b) no deduction in respect of any expenditure or allowance shall be allowed under any of the said sections in computing the income by way of royalty or fees for technical services received

17. Special Provisions under section 115A, 115AB, 115AC, 115AD, 115B, 15BB, 115BBA and115D.

Business Organization Nature and Scope

Meaning of Business Organization

Business organization is composed of two words, business and organization. In order to understand the nature of business organization, it is necessary that the meaning of these two words is made clear to the readers

(1) Business

Business is a human economic activity. It involves continuous and regular production and distribution of goods and services with a view to earn profit. Money flowing in and earning of profit through the satisfaction of the customers are the two measuring rods of the success of a business.

(2) Organization

The meaning of the word organization is generally divided into two parts (i) material organization and (ii) human organization.

(i) Material Organization The material organization is the determining and providing of necessary raw materials, tools, capital, personnel etc. in an enterprise fonts smooth function in

(ii) Human Organization It is the appointment of qualified staff, dividing the duties and re of the personnel employed. Then grouping these duties in the form of posts and delegating authority to each post so that work is carried out as planned.

Business Organization Thus is a process or an art of establishing effective cooperation between the factors of production (land, material, capital equipment. personnel) for producing or acquiring wealth with a view to earn profit in an enterprise. Scope of business organization. Business organization thus is a process or an art of establishing effective cooperation between the factors of production (land, material, capital equipment. personnel) for producing or acquiring wealth with a view to earn profit in an enterprise.

Scope of Business Organization

The scope of business organization has considerably expanded after the Industrial Revolution. The process of production is now quite complicated. An organization is needed to determine what each person will do and how much authority each will have. The role of business organization in various forms of business ownership is discussed in brief.

(1) **In Sole Proprietorship**

Form of business, the organization structure is very simply. The entrepreneur generally introduces his own capital. He alone is the sole organizer, financier, decision taker, operator, and controller and above all responsible for air the success and failures of business, there is generally rule sub-division of main work into small groups.

(2) **In a Partnership Firmof Business**

Ownership, each partner provides capital, labour and management according to an agreement the partners determine among themselves the extent to which each partner shall take part in the management. The pattern of division of activities, determination of responsibilities. Delegation of authority etc. depends upon the nature and size of business. As the partnership business is generally run on small scale, the business organization structure is relatively simple, temporary and informal.

(3) **In a Company Form of Business**

There is a formal pattern of organization. The work of organization begins even before its incorporation by the promoters. This work of organization continues after incorporation. An organization chart of responsibilities is prepared. The duties and responsibilities of the personnel employed are defined, procedures are aid down. Methods are evolved discussed and put before the personnel 'in clear terms. The scope of business organization in corporate business is quite wide and complicated.

Importance of Business Organization

(1) Product Growth activities directed towards production are better grouped through organization. It encourages product growth and diversification.
(2) Efficient Use Organization helps in the efficient use of factors of production and thus reduces cost of production of goods.
(3) Technological Improvements A good organization provides for the optimum-use of technological improvements.
(4) Creative thinking it stimulates independent creative thinking in various departments of production.
(5) Use of Skilled Salesman It is useful in providing skilled salesman for satisfying the various needs of the customers.
(6) Quick Decisions the business organization makes easy to take quick decisions.
(7) Recognition of The Problem The recognition of the problem, selection of the solution, issuing of the necessary orders can be taken with correct Timings in sound organization.
(8) Fixing of Responsibility Fixing of responsibility can easily be pin pointed.
(9) Feed Back An organization makes possible to take decisions about production on objective facts gathered from the market.
(10) Mark Functions All the marketing functions of goods such as buying! Selling, transporting, storage. Financing, risks taking product Standardization and grading, etc., are solved by the business organization.
(11) Minimum Cost The organization helps to attain the goals and objectives of the business at the minimum cost

Unit-3

Tax plan At Financial Decisions,

At Financial Decisions, we provide specialist taxation planning advice to ensure that your tax liability is legally minimized and your overall financial plan is structured in the most tax effective manner. Taxation legislation changes constantly and every day new court cases are decided, which influence the interpretation of the legislation. We closely monitor the legislation and rulings and provide our clients with accurate and timely advice

Our team will provide strategic advice in relation to successfully managing your taxation, compliance and accounting affairs. We'll help structure your business to meet your income tax, accounting and estate planning requirements, including the use of corporations, partnerships, trusts and superannuation funds. We'll review your superannuation fund and provide guidance on complex legislation, accumulating benefits for your retirement, creating a retirement strategy and obtaining taxation concessions.

We also specialize in self-managed superannuation funds (SMSFs), which suit certain individuals, families and small businesses but must have less than five members. We can assist you to establish a SMSF and provide the necessary support to administer the fund on your behalf. Please call us today for strategic advice on minimizing your taxation and maximizing your future wealth.

Management Decision - Capital Structuring: On should understand the basis of arriving at the decision about capital structure, i .e. debt, equity or preference shares. The factors like risk, cost and control are relevant. In addition one must understand the tax implication and should also consider this while deciding the best mix to optimize shareholder's return. Dividend on share is not allowable deduction in the hand of the company; however, interest on debt paid is allowable deduction. The cost of raising equity is a capital expenditure which can only be capitalized and amortized in certain conditions (may not be amortized in all cases). However, the cost of raising debt is allowed as deduction. This has direct implication in calculating corporate tax liability. On dividend from Indian company, the company is liable to pay DWT and then such dividend is exempt in the hand of the shareholders.

Management Decision: Make or Buy: In Financial management course, students are taught to understand the basis of arriving at the make or buy decision considering capacity utilization, inadequacy of fund, cost of fund, latest technology, variable cost of manufacturing etc. While arriving at this decision due consideration must also be given to tax implication as this will certainly influence the decision. One must consider that if one decides to make, there is less outflow due to tax benefit on depreciation/interest and tax advantage available due to location of manufacturing in a particular area. These tax advantages have already been listed earlier. If the company is able to take advantage of any of these tax incentives, the decision to make may come out better in comparison to decision to buy.

Management Decision: Own or Lease: Concept of leasing is gaining immense popularity. One private airline has recently sold and taken back the same aircraft on lease. In the process it got some fund in its account. One factor which influenced its decision was that the lease rental paid to foreign enterprise is not subject to withholding tax if the lease agreement has been approved by the Central Government. Other factors which must be considered for tax implications are that in case of buying the asset, the assesse will be entitled to deduction on the account of depreciation and interest, while in case of lease he will be entitled to deduction on account of lease rental which will be higher in the initial years. Hence, tax consideration will also influence management decision to own or lease.

Capital Gain: It is important to understand that long term capital gain tax is less than normal tax on business or interest income. Further in case of equities, where security transaction tax is paid, there is no long-term capital gain and short-term capital gain is only charged at 10%. Even if the taxpayer has long term capital gain he has the opportunity to reduce it by properly investing it in approved bonds of National Highway Authority or Rural electrification Corporation under section 54EC or investing in house property under section 54 and 54F. Thus if someone has an option to earn regularly or through capital gain, the earning through capital gain will attract less tax. This will influence the investment decision of the taxpayer.

Amalgamation: There is limitation in the Income-tax Act for carry forward of losses. It is quite possible that one of the group companies is making profit and another group company is making losses. Some of these losses may be getting lapsed due to time limitation. One cannot transfer profit of one Group Company to another just like that, as it would amount to tax avoidance and can invite trouble. The tax planning in such cases could be to merge the two companies. However, it must be ensured that the conditions of merger as given in the Income-tax Act are satisfied. These are:

1. All property and liability of the amalgamating company or companies immediately before the amalgamation becomes the property of the amalgamated company by virtue of amalgamation.

2. Shareholders holding not less than 75% in value of the shares in the amalgamating company or companies become shareholders of the amalgamated company by virtue of the amalgamation. Corporate Tax, Planning.

3. Conditions as prescribed in section 72A of the Income-tax Act are satisfied by both amalgamating company and the amalgamated company.

Bibliography

1. TATA MCGRW – Hill Edition Brealey / Myers
2. The Income Tax Compliance Cost of Indian Corporations.
3. With the references of journals and Income tax Guide line.

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Digital Marketing

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Abstracts:

Digital marketing has a bright future in India because of various reasons and demonetization is an added reason. As this will bring an era of cashless India where digital media is being used for selling and purchasing. Card or E-wallet plays vital role in marketing sector. People moving towards Digital India and this exactly how digital marketing can be assumed as a great future in India in coming years.

Introduction:

The term digital marketing was first used in 1990's. In the 21st century the term digital marketing became more sophisticated and popular in developed countries and also in developing countries

Digital marketing is marketing that makes use of electronic devices such as computers, tables, smart phones, cellphones to encage with consumers and other business partners. Digital marketing applies technology such as websites, e-mails, applications (apps), and social networks. Various forms of digital marketing are internet marketing, social marketing, viral marketing, telemarketing, and mobile marketing.

Keywords of Digital Marketing

Blogs, Online Video, Website Content, Internet, Email marketing, Social Media, Mobile marketing (SMS, MMS, etc.

Why Choose Digital Marketing

The economy of digital marketing makes it the numeric Uno choice. A social media campaign or even an email campaign has the potential to convey the intended message to a far wider audience far more effectively than made possible previously print or TV ad campaign.

Another key factor weighing in for digital marketing is how easily the results may be monitored and tracked. So, instead of splurging on unnecessary customer research you can put the money to better use. All the relevant data like customer response rates and other metrics in real time which enable more effective planning for the future.

But the argument that will find the strongest advocates in favor of utilizing digital media is the fact that the consumption of information as given out by the various forms of digital media is fast outpacing the conventional Medias.

Objectives:

- To study the global market.
- To study the size of audience.
- Lower investment and operating cost.
- To understand convenience in shopping anytime.
- Price lower

Findings to digital marketing:-.

- E commerce boom.
- More business turn digital.
- E commerce going towards offering heavy discount and drive sale offers to increase sale by online payment.
- Put Discount via online or cards payment to increase the users in selling and purchasing.

- Sudden increment in use of online wallet like mobikwik, paytm etc.,
- Increase user traffic on even small website like big basket, grofers etc. because of the use of online cards and payments.
- Government to encourage digital ways of payment and various schemes.
- Tremendous changes occurs in every field whether it is local market, banking sectors, marketing sectors or ecommerce business and daily life course.
- Indian citizen move towards net banking and payment through internet wallet.
- People hugely move towards digital marketing for most of their needs.
- Problem of cash and limited amount of withdraw from ATM and banks has given a boost to digital marketing.
- Rising internet and smartphones penetration in Tier-2 and Tier-3 cities, ecommerce has witnessed a strong growth.
- Telecom companies have also tried their best in the growth of digital marketing and also provided free data to consumers which has given a reason for the growth of digital marketing.
- Travel and Tours also provided tour packages, booking of airlines or railways seats easy for consumers (customers).
- Banking , insurance sectors , stock market ,consultancy services, health care services ,retail sectors ,educations sectors have given consumers more awareness and opportunities after demonetization and the growth of using digital ways have increased.
- Various new companies have introduced themselves in digital marketing which has been a reason to the growth of digital marketing.
- Saves time, less efforts makes people more effective.
- Personalized and relevant web experiences for employees and customers.
- The merging form data and documents with existing backend systems.
- Deep- dive analytics and reports to further enhance application optimization.
- Visibility into the agent's social media in order to help manage the deep relationship between their customers.
- Multi channels campaign managements for real time citizen notification and communication.
- **Information for all -** This will bring in transparency and accountability by easy and open access to documents and information to the citizens.

Impact of Digital Payment:-

Source Price cash Survey 2014		
	Cash%	Card %
Online shopping. -	39	61

- The digital payments and online shopping has enhance because consumers resorting to online purchase /transactions.
- Online restaurants booking, food ordering, groceries, booking etc. also increased digital marketing.
- Big basket saw a 25% rise on the order of new customers.
- Even the cod cash on delivery was a problem with the wallet payment cards (debit/credit) internet banking options were used.

- Companies like paytm and mobikwik posted and social media also shows the pictures of local vegetables vendors displaying signs accepting digital payment increased by two fold.

Impact on online shopping

Average spend per online shoppers in India	**In USD**	**Number of online shopper in India**	**In Millions**
2013	**147**	**2013**	**20**
2015	**247**	**2015**	**39**
2018*	**288**	**2018***	**140**
2020*	**464**	**2020***	**220**

The continuous innovation, digitization internet penetration and increase in the number of smartphones users have boost e-commerce and digital marketing.

Online shoppers as a percent of Total Internet Users	
2013	9
2015	11
2018*	25
2020*	36

This figure shows the growth in online shopping and online internet users which has given an advantage to digital marketing. Today's consumers are smart ,savvy, time starved and wants their needs delivered in an instant .Whether at a desk on a bus or in a bank queue people like to access the internet for variety of reasons, be that to shop find answers via search engines, book flight or check in with friends. In the execution on all of these tasks, the quality of an individual's online experience makes a huge difference. A critical part of that experience is the ease with which they can find access review or buy products and services. For businesses wanting to attract and convert that interest into revenue, user experience is crucial to their success and in many eases survival. The majority of ecommerce transactions still takes place on the PC and as such a balanced multi- platform, strategy is essential to the buyer's journey. Despite this, many marketers and brands still treat the desktop as their main area of focus which is out of sync with today's consumer's behavior.

Suggestions:-

The Government of India hopes to achieve growth on multiple fronts with the Digital India Programme.

1. Universal access to Internet
2. Public Internet Access Programme
3. e-Governance – Reforming Government through Technology
4. e-Kranti - Electronic delivery of services
5. Information for All
6. Electronics Manufacturing

Conclusions:-

Rural areas are still in developing condition so there are not able to understand the strategies and benefits. People feel insecure for online payments and they have trust issues towards digital media. Education programs, awareness from the part of the government can change in digital marketing in rural areas.

Young generation understand its benefits and exactly how to involve in digital marketing with high benefits .Teenagers and youngsters find it easier and convenient to browse the internet visit the online sites and search for information and accordingly place order were demonetization has increased the use of plastic money for shopping .

The study started with the aim to analyse the different issues related to the digital markting. Based on the dicussion it has been found that in case of the digital marketing the most important aspects is to connect with the users. The ladder of engagement has shown the approaches to attah with the customers. The study has also revealed that in order to utilise the digital marketing in an effective way, the companies are required to design an effective platform.The current trends in the digital marketing have also been increased.

Reference:-

Marketing management : Michael Vaz
Philip kotler Principles of marketing.
http.//retail.economicstimes.indiatimes.com.
IAMAI Annual Report 2014 pg 69.(ratio)

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Digital Marketing in India – A Bright Future

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Introduction

The advent of the digital marketing has opened up a novel landscape of doing business i.e. online business.

According to a survey- by 2017, India will have around 600 million internet users that ultimately create a fascinating business opportunity to sell services and products to a growing population of tech-savvy internet users. Recently, booming prevalence of digital India campaign is also adding lots of new flavors and fervours to the future of digital marketing in India. The most common problem that startups face is lack of funds and digital marketing can rescue them as the most cost-effective blessing in disguise. It is highly economical and equally powerful way of conversion-oriented marketing.

Objectives

- To create awareness about the importance of digital marketing within the society
- To introduce the Channels of interaction, which provide an entry point for customers to digital marketing

Research methodology:

Research paper is based on secondary data

Contents

- Concept of digital marketing
- Scope of digital marketing
- Future Trends of Digital Marketing in India
- Conclusion

Concept of digital marketing

Digital marketing is an umbrella term for the marketing of products or services using digital technologies, mainly on the Internet, but also including mobile phones, display advertising, and any other digital medium.

Scope of digital marketing

- The future of marketing is way beyond the traditional marketing or outbound marketing methodologies that have been using TV and radio ads, print ads, hoardings, banners, magazines, etc. Now, marketing is majorly based on online marketing (inbound marketing) — Marketing in the Digital Sphere. Scope of Digital Marketing provides some of the most powerful techniques of marketing where traditional modes of marketing fail.
- Digital Marketing has great panjandrum over entrepreneurs as it not only rescues but also empowers them to optimize their startups in the most cost-effective and quickest possible fashion. Future of digital marketing is going to be more encompassing in 2017, thanks to its ability to offer wide range of economical, powerful and contemporary mechanisms and mediums of marketing.

Future Trends of Digital Marketing in India

There are more than 900 private TV channels and 250+ radio stations in India, which make traditional marketing quite expensive and highly confusing with lots of in-built vacillations. However, in today's world of internet, Digital Marketing is the only one and *most guaranteed way of marketing, which is popularly being the most preferred space of marketing communications and related interactions.*

Key findings of some of the Recent Digital Marketing Surveys are –

1. 34% of the companies already had an integrated digital marketing strategy in 2016
2. 72% marketers believe that traditional model of marketing is no longer sufficient
3. Company revenue driven by internet marketing will get increased by 30%
4. In 2017, 80% businesses will increase their digital marketing budget

Digital Marketing will remain as the most powerful and result-oriented way of marketing in 2017 too, and some observations on current and future outlook of key channels that will pay key role in deciding future of digital marketing in India are:

Mobile Marketing

To devise result-oriented marketing plans and campaigns, mobile marketing is going to play one of the most significant roles in 2017. Understanding customers changing needs and characteristics lets marketers plan in a result-oriented fashion.

From consumer's device usage perspective, Smartphone adoption and prevalence of mobile apps and messaging are going to be the topmost trends of digital marketing in 2017. From Facebook's Mobile Messenger, to Whatsapp, we have been witnessing the growing wish of consumers to communicate directly through mobiles.

- More than 52% of searches are done through mobile.
- 89% of Facebook Daily Active users come through mobile.
- 83% of Facebook advertising revenue comes through Smartphones.
- 92% of mobile media time is spent in Smartphone apps by consumers.

Video Marketing

Growing need for the visual content has turned video marketing be one of the most appealing trends of digital marketing in 2017. When a visual content is well produced to communicate the message in an interactive and engaging way, conversions are always guaranteed.

Video content is swallowing up the content marketing and online marketers take advantage of its power to tempt more customers in quickest possible time. With booming mobile marketing, videos are now offered on mobile phones that fuel up the whole process. Video marketing is the most powerful way that companies use for –

- Introducing themselves
- Spreading their messages
- Promoting their products/services
- Increasing their reach and optimizing search ranking
- Boosting customer engagement and enhancing returns on investments

Different kinds of Trending Video Content are-

- Social Media Videos like Facebook Videos, Facebook 360 Videos, YouTube Videos, Snapchat Videos, etc.
- Use of GIF videos on different social media channels like Twitter & Facebook
- Product Description/Demo Videos and Landing Page Videos
- Storytelling with the help of live streaming videos
- Use of Videos in Email Marketing

Email Marketing

Email marketing is so effective in nurturing leads and ensuring conversions. Email marketers of some of the most successful marketing agencies claim a return of Rs.40 for every rupee they invested. Well-targeted email marketing will be one of the most effective ways of ensuring conversions in 2017.

Email marketing is the most important part of your business branding and you need to choose those trends that befit with your customer profile and business objective. Your emails should reflect your quality and using professional email templates should be the base of your e-mail marketing campaign in 2017. Some of the top trends of email marketing in 2017 are-

- Use of Email automation tools for sending and tracking of targeted and personalized emails that will let you understand more and more about your customer base like their demographics, tendencies, age, loyalty, etc.
- Integration of social media content in email marketing strategy is another trend that will see great rise in 2017. Marketers will preferably provide references to their social content within their emails.
- 2017 will see a decrease in email blast, as this year would be of customized mails. Mobile-friendly email marketing is another trend that will be quite popular within the domains of digital marketing.
- Aesthetically appealing animated emails are also going to be a popular trend of digital marketing as such fun new mails entice visitors and hold their attention that ultimately aids in conversions.

Social Media Marketing

Social media changes quickly as there are dozens of new platforms arrive each year. The year 2017 will also be a host for the variety of new social media trends, and social media marketing will for sure be one of the most popular digital marketing channels for branding, optimization, lead generations and conversions.

As social media keeps evolving, it has a massive power to channelize marketing campaigns in innovative and effective ways. Social media is a medium that adeptly responds to new tech innovations, but at the same time, it also exceeds customer's expectations. Knowing future trends of social media and planning strategy as per that will ensure success for companies. Some of the key social media trends in 2017 are –

- Live video streaming is slowly changing the scenario of social media campaigns, and the trend will see great rise in next year too. Different platforms like Facebook live, SnapChat, Twitter, and Instagram all are blending live streaming videos that will let them be a top pick for marketers.
- Live videos also ensure 10 times more comments than pre-recorded videos, and such qualities will let them dominate social media marketing more efficaciously
- Instagram stories, social slideshow ads, social chats, etc. would be the top components of social media marketing in 2017.

Conclusion

To survive in today's competitive and frenzied market scenario; it is must for Indian businesses to have a well-integrated internet marketing strategy. Without Digital Marketing, businesses may fall short of creating contemporary marketing strategies and hence, they may turn directionless. Digital Marketing is the present and the future of marketing that will not only let businesses survive but also thrive in the most result-oriented fashion. In the year 2016, most of the industries were kind of struggling with a growth rate around 6 to 11%; only digital industry saw a growth rate of 41%, which is not going to be stagnant in 2017 as well. Digital Marketing will for sure remain as the most effective way of marketing in the future too, and it will be worthwhile for you to climb on to the digital bandwagon when the time is right, either career-wise or business-wise.

A proper digital marketing strategy has to taken up by the marketers so as to inform the prospective customers about the product that they are trying to sell. Proper market survey has to be done before making a strategy and applying it so as to gain more results from the marketing activities. So, to summarize, digital marketing can be characterized by high customer engagement. The more you engage, the more you gain popularity in the society, and make an impact. Digital Marketing is going to revolutionize the entire marketing industry, and being a part of this industry will definitely bear fruits for an organization.

References:

1. https://www.w3trainingschool.com/scope-digital-marketing-future
2. http://www.digitalstrategyconsulting.com/documents/DSC-Research-Market_Overview-India_with_intro.pdf
3. https://www.researchgate.net/publication/303163963_Digital_Marketing_in_Indian_Context
4. http://www.ciim.in/whats-the-future-of-digital-marketing-in-india
5. http://www.digitalvidya.com/blog/future-of-digital-marketing-in-india/
6. https://www.w3trainingschool.com/scope-digital-marketing-future
7. http://userfilescdn.yourstory.com/4aym3ynd-Kstart-Digital-Marketing-Survey-Report-June-2016.pdf
8. http://www.digitalstrategyconsulting.com/intelligence/india-digital-marketing/
9. http://wazebs.com/how-is-the-digital-marketing-industry-in-india-in-the-present-and-future/

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Customer Segmentation and Profiling

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Abstract:

Customer segmentation is a process of identifying groups that have common characteristics where the main objective is to understand consumer base and gain a deep knowledge that will help in framing of suitable marketing strategies. Also, the growth of information technology has paved way for drastic changes in lifestyles of all strata of customers affecting their buying behaviour too.

Since there is no sense in serving the entire market anymore which also is not profitable any longer, segmentation becomes the need of modern marketing which refers essentially to divide or to combine the customers into homogenous groups. Description of markets is usually done on basis of more than one variable. Data mining and CRM are some of the noticeable techniques of segmentation that can enable organisations to gain a competitive advantage and to gain maximum through customer management.

This paper discusses about various segmentation and profiling methods in the light of their probable effects and usage.

Keywords: CRM, segmentation, data mining, consumers, profiling

Introduction:

No business prospects can really be thought of without the presence of customers who are satisfied and loyal towards the brand/organisation. This largely forms a reason as to why companies need to design strategies that treat their customers well. This involves developing an understanding of the needs of individual customers which is done by incorporating the strategies of CRM that invariably focuses on established customers for building and maintaining customer relationships that are long lasting for which CRM should be a customer oriented technique based on the perception of customers.

Another such technique called online marketing strategy encourages the growth of online retail by enabling retailers to make their products available online through matching them with customer searches. So, to understand their behaviour more in depth is important for a firm and thus implementation of online marketing segmentation and profiling becomes necessary.

One of the basic principles of marketing thus remains market/customer segmentation and profiling which displays presence of quality in framing of strategies. Also, in today's marketing scenario is highly competitive due to which too, segmentation and profiling form urgent need of the hour that is said to have recently delivered rewarding and highly satisfying results.

The identification of groups with unique characteristics provide the organisation an opportunity to design customized products and services and hence enable them to manage them quite effectively. A segmentation project usually initiates with clarification of organisational objectives and stops at the ultimate delivery of distinct marketing strategies for different segments. They need to pay attention to customers' needs, wants, behaviour, attitudes, preferences and perceptions to gain a fuller outlook of their customers and thus enable them to gain a competitive advantage.

Various segmentation criteria are used depending on particular organisational objectives and targets to be achieved. Different methods are applicable and suitable for different conditions and objectives.

Literature Review:

Customer profiling is describing customers by their attributes such as age, gender, income, values and lifestyles. A single customer profile is that which contains at least age and gender. Combining together, profiling and segmentation can generate a better understanding of why certain areas of business may be performing poorly. (Matrix Solutions, 2015)

There are lots of segmentation variables used as a basis in segmentation the markets. But more conventional segmentation is based on demographic and geographic factors. (Walsh and Mitchell, 2005, Bojanic, 2007)

Kotler et al (2013) propose that psychographic element amongst one of the importance for segmentation variables as well.

Market segmentation can be defined as dividing markets into smaller groups of buyers with distinct needs, characteristics or behaviours who might require separate products or marketing mix. (Rusaiah, T.C. Melewar, &Sharifah Karidah, 2015 Charles et al. 2003)

Objectives of segmentation:

Better understanding of customers' needs to identify new opportunities in marketing.

Designing of products best suitable for particular needs of individual customers.

Framing of strategies that focus on customized needs of each segment.

Selection of right advertising and communication channels.

Selection of right channels of distribution of products.

Effective allocation of resources as per returns from segments.

Distinct customer service development on the importance of each segment.

Finding out importance of each segment and then aim at constructing the policies for customer retention to earn their loyalty.

Segmentation types:

Division of markets is a strategy of apportioning heterogeneous business areas into homogenous sub units. Different people have unmatchable requirements and needs which structures the reason for confining business parts.

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Degree of segmentation	Zero			Complete
Type	Mass marketing	Segment marketing	Niche marketing	Micro marketing
Approach	Considers all people as a bunch	Identifies people as different groups	Serves selectively one or very few groups of people	Focuses on individuals or very small groups

Segmentation and Profiling

There are diverse courses contrived by advertisers to fragment business sectors who select one or more components like geographic, demographic, psychographic and behavioural to portray their business sector section.

1 Geographic Segmentation:

This segment is made in view of variables like zone/areas, locales, urban communities/ town/towns by size/ thickness, atmosphere and society

2 Demographic Segmentation:

Markets are isolated into portions in light of variables like age, lifecycle, gender, family estimate, occupation, religion and nationality.

3 Psychographic Segmentation:

While geographic and demographic segmentation give physical perspectives of business sectors, genuine elements of procurement can be evaluated and showcasing offers can be composed of just on the premise of psychographics of general population like social class, lifestyle, personality, etc.

Counsellors of effective segmentation and profiling:

With fruitful usage of methodologies and correlated speculations can be suitable just in case it satisfies going with following essentials:

1 Reachability:

Publicists need to ensure dedicated abilities to consider sections so confined due to nonattendance and suitable range which makes them pick urban domains over common ones. They were till now dependent on delivery vans and neighbouring town wholesalers and retailers to accomplish commonplace purchasers. But, off late there have been various measures of progress in bases that can now promise openness of markets in towns based on segmentation.

2 Measurability:

Specific variables outline the reasons and game plan of segments which ought to be exceptional and comfortable. At this point, the segments can be portrayed in watchful terms.

Common consumers are less than dependable and as a rule this can be managed as also for their urban counterparts on account of non-attendance of information about size, purchasing power and other elements about national purchasers.

3 Differentiability:

Certain items/projects put provincial markets in unmistakable reactions because of their inputs being unique in relation to that of urban customers.

4 Sustainability:

A benefit conveying division can be termed as additionally lucrative. Portions ought to all these things are considered to have the attributes of being homogenous and huge.

Widely used segmentation types:

1 Behavioural:

One of the most efficient of all types, it is also largely used due to hardships in terms of availability of data . Customers are segmented according to their behaviour and pattern of usage. Hence, this segmentation is used to develop good product offering that are customized and can be put in action through a low cost.

2 Value based:

Here, the segmentation is done according to customers' value involving identifying most valuable customers (MVCs) and value changes over time. It is development through general calculations and does not require any data mining model

1 Based on loyalty:

This involves identifying the segments that have customers who are loyal to the brand as against those who keep switching over the brands and thus the aim becomes to segregate loyal customers from migrates/ switchers. This can be achieved by conducting a survey to find loyalty segments and then targeting them accordingly.

2 Socio- demographic:

This shows distinct grouping of customers based on information of customers like gender, race, age, social status, education, occupation, income and marital status. Also a widely used one, this segmentation creates an impact on customers' needs, preferences and usage behaviour.

3 Needs based:

This essentially identifies customer segmentation according to their needs and wants and perceptions about the product used to create a brand image. Quite a few times it is used in integration with behavioural and value based segmentation to find out or add inputs to the profile of customers and provides information on their qualitative characteristics.

Brief Methodology

1 Designing the segment:

This involves complete understanding of requirement of project and calls for meetings where knowledge can be shared between data miners and marketers who would together define organisational objectives and selection of suitable criteria for levels of segmentation.

2 Understanding the data:

Data is first acquired, integrated and processed to analyse, integrate and validate the data for its transformation towards a more efficient strategy for suitable segmentation of customers.

3 Development of cluster:

Cluster analysis technique is used to segment the customers into different parts. Data miners sometimes test and find out various combinations of inputs and different models for selection of final strategy of segmentation wherein different models are going to produce different segments.

4 Profiling of sought at segments:

Modelling inputs are analysed and followed by selection and implementation of best suitable segmentation strategy. Most effective strategy can be reached at for seeking enough information/ guidance from marketers. This involves profiling of segments cluster profiling and labelling the segments on the basis of their thus identified profiles.

5 Development of segment design:

The process will end at developing the solutions so found and utilizing them in development of marketing and segmentation strategies for different groups of customers. This will involve distribution segments information by taking decision in favour of more scoring segments.

Conclusion:

The criteria used to divide customers; be it the behavioural, demographic, value of needs or attitude based, define the type of segmentation. Customers that do not fit well to their segments need to be set apart and assigned as 'unclassified' so as to further improve upon homogeneity and segmentation quality.

A carefully chosen name or label may communicate unique elements of segments. Therefore, labelling of segments needs to be taken in due consideration. Also, demographic features used in behavioural segmentation projects should be avoided as this may then lead to confused behaviour on the part of customers having same demographic features but completely different behaviours.

Only relevant features to particular objectives of a business proposal should be essentially selected clearly avoiding mixing of all available inputs in anticipation of covering all aspects of relationship between customer and organisation.

So, the best and simple way to develop an effective strategy would be first to identify customer segments, positioning them, conducting cost benefit analysis and finally frame and deliver differentiated strategies.

References:

1. Philip Kotler and K. Lane Keller Marketing Management (12th Edition (Marketing Management)
2. Parikshat S. Manhas (2010) Strategic Brand Positioning Analysis, Journal Of Economics, Finance and Administrative Science Vol.15
3. Peelan Ed Customer Relationship Management Upper Saddle River; Financial Times, 2005
4. Kristin Customer Relationship Management; New York: Mc Graw Hill, 2002
5. Madhav N Segal and Ralph W Giacobbe(1994) Market Segmentation and Competitive Analysis for Supermarket Retailing, International journal of Retail and Distribution Management Vol.22, no.1

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Herbal Touch: The New Ad-Strategy for Indian FMCG Market

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Introduction

Fast-moving consumer goods (**FMCG**) or consumer packaged goods (CPG) are products that are sold quickly and at relatively low cost. **Fast Moving Consumer Goods** are the daily used products with relatively High Sales volume and low price. It includes: soft drinks, Bread, toiletries, batteries, milk, chocolate, glassware, light bulbs and grocery items. India is a relatively big market for all **Fast Moving Consumer Goods**, due to its large consumer base.

In massively competitive market in India, every player aims at being market leader in particular product or segment. Indian customers always focus on quality at lower price due to steep competition among the firms. Every company in India has its own market speciality and loyal customers. Companies are also taking continuous efforts to maintain their loyal customer base.

Customers in India are price sensitive. But over a period of time they are becoming health conscious due to environmental factors and increasing awareness about co-natural lifestyle. With increase in health problems for Indian as well as for global population; there is increased awareness for herbal products.

Objectives:-

To compare the change in advertisement messages of selected FMCG companies over a period of last 3 years in Indian market

To study the effect of entry of Patanjali Ayurved in FMCG sector in Indian market

To study the reasons and penetration of Patanjali Ayurved in Indian Market

Research methodology:

Research paper is based on secondary data

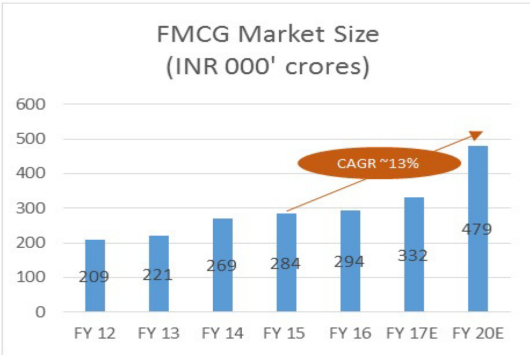
Limitations

This study is limited to selected FMCG products in Indian market only for last 2-3 years.

FMCG sector in India

India's market for fast moving consumer goods (FMCG) is expected to more than double to $104 billion by 2020 from the present level of $49 billion. According to the Assocham-TechSci Research report, steady economic growth, rising share of organised retail, improving awareness, and a favourable demographic dividend will give a boost to the industry's growth.

According to a recently released TechSci Research report, **"India Ayurvedic Products Market** ***Forecast & Opportunities, 2011 - 2021"***, *India Ayurvedic products market is projected to register a CAGR of 16% during 2016-2021. Introduction of Ayurvedic nutraceuticals & dietary supplements as well as Ayurvedic cosmetics & skin care products is likely to boost the market over the next five years.* Moreover, rising health concerns and awareness of side-effects of allopathy are few of the major factors driving consumer preference for Ayurvedic products in the country. Rising number of exclusive showrooms and increasing availability of Ayurvedic products at multi-branded stores is also boosting sales of Ayurvedic products in the country.



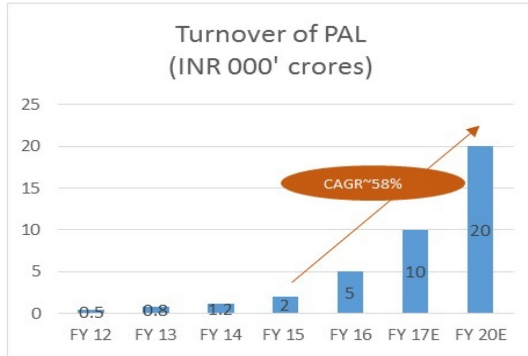


Fig.1 FMCG market size

Fig. 2 Turnover of PAL

Source: Newspaper articles, India Infoline Limited, Indian Brand Equity Foundation – FMCG, Jan 2016

Food products is the leading segment, accounting for 43 per cent of the overall market. Personal care (22 per cent) and fabric care (12 per cent) come next in terms of market share.

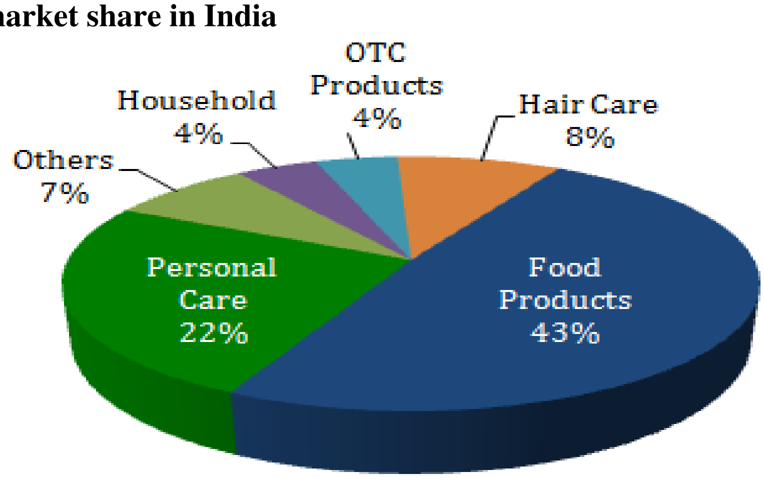
Growing awareness, easier access, and changing lifestyles have been the key growth drivers for the sector.

FMCG sector in India is led by various giants like Hindustan Unilever Limited, ITC, P & G etc. According to the study conducted by AC Nielsen, 62 of the top 100 brands are owned by MNCs, and the balance by Indian companies. Fifteen companies own these 62 brands, and 27 of these are owned by Hindustan Unilever Limited.

The top ten India FMCG brands are:

1. Hindustan Unilever Ltd.
2. ITC (Indian Tobacco Company)
3. Nestlé India
4. Dabur India
5. Procter & Gamble Hygiene and Health Care
6. Colgate Palmolive India limited
7. Britannia Industries
8. Himalaya Ayurveda
9. Marico Industries
10. Patanjali Ayurveda

FMCG sector market share in India



Source: http://www.blog.sanasecurities.com/wp-content/uploads/2015/09/Indian-FMCG-Sector.png

Herbal Products' market in India

The herbal supplements market, in terms of value, is projected to reach around USD 86.74 Billion by 2022.

The herbal supplements market has been segmented on the basis of source, function, application, form, and region. The years considered for the study are as follows:

Herbal products manufacturers in India

- Surya Herbal Limited: ...
- Vicco Laboratories: ...
- Charak Pharma Pvt Ltd. ...
- Zandu Pharmaceuticals Works Ltd. ...
- Emami Limited. ...
- Hamdard Laboratories. ...
- Baidyanath. ...
- Dabur Ltd.
- Himalaya Drug Company
- Patanjali Ayurveda Ltd.

Patanjali: The Game Changer (FMCG+Herbal a Deadly combination)

In a short span of time, Patanjali Ayurved has not only made a name for itself among Indian consumers, but also fuelled expansion of the herbal products market and helped rivals sell more home and personal care products, grabbing share from MNCs.

The Baba Ramdev-led company's sales jumped 64 per cent to Rs 731 crore in the six months ended December and rivals Dabur and Himalaya grew in double digits in a consumer products market that expanded barely 6 per cent, according to IMRB data. What's helping these firms is a growing preference for Ayurvedic products known for natural ingredients and health benefits. In addition, herbal products are cheaper.

Patanjali has registered a near-80 % growth in penetration, which is about 5 % points on an absolute level, in one year. The first wave of growth came from personal care products only, but the recent growth has been driven by homecare and food and beverages, which still has a smaller base,

Patanjali started in 1997 as a small pharmacy in the holy town of Haridwar to make healthcare products and was incorporated in 2006 as a company to sell personal care, food and beverage products through its own outlets. The company expanded its reach from 200 Patanjali outlets in 2014 to 5,000 franchise stores currently and launched more than two dozen mainstream FMCG products as none of the existing herbal players catered to categories such as noodles, oats and detergents.

In October 2016, Patanjali formed a marketing partnership with Future Group, which will offer over 300 of its products in 77 categories through stores such as Big Bazaar in about 250 cities. Four months after partnering with Future Group,(the country's largest retailer), Patanjali products have cornered a 7-12 per cent share in categories such as detergents, toothpastes, soaps and shampoos at Big Bazaar stores. In food products including oats, noodles and honey.

Patanjali has grabbed share from non-Ayurvedic companies. While the growth of Ayurvedic brands in the face wash category increased to 50 per cent from 36 per cent earlier, the growth of non-Ayurvedic brands eased to 16 per cent from 21 per cent a year ago. The share of market leader Himalaya remained unchanged at 35 per cent as Patanjali gained 7 per cent share.

In shampoos, sales of Ayurvedic brands more than doubled to 194 per cent, while for multinational companies, it declined to 15 per cent from 21 per cent earlier. Categories such as chyawanprash, amla and aloe vera juice saw growth double to 42 per cent, with Dabur retaining its 53 per cent market share.

According to Devendra Chawla, president, food and FMCG, at Future Group. The unusual phenomenon of consumer products market disruption is rare as brand erosion or loyalty for well-established brands generally doesn't happen so quickly. Patanjali products were purchased by about 21 per cent of Future Group shoppers in January compared with 2 per cent in October.

Patanjali attributes its success to consumer shift from non-Ayurvedic brands owned by multinationals to Indian herbal companies. Its products are on average 15-20 per cent cheaper than the competition and several rival companies have been running offers and promotions to compete with them.

According to Acharya Balkrishna of Patanjali Ayurveda, other Ayurvedic companies are coming up with good quality products at even cheaper prices, which is ultimately doing good. The country is huge and the FMCG market is so large that we may not be able to provide for everyone. According to him, the company has almost met its sales target of Rs 5,000 crore for the financial year ending March 2016, more than double the revenue of Rs 2,000 crore in 2014-15.

Rs 5,000 crore strong Patanjali Ayurved is expanding into every possible daily-use item categories shocking competitors and impressing investors with rapid growth in its consumer base across income groups.

The Patanjali effect

Even as Indian FMCG (fast moving consumer goods) companies battle an industry-wide slowdown in growth, many are hitching their wagons to the herbal-organic consumer products category, following in the footsteps of the Baba Ramdev's Patanjali Ayurved. Patanjali is the highest advertiser on television today, and in addition Baba Ramdev is increasing awareness for all ayurvedic-herbal products and further opening up the space. The fallout has been that there is greater awareness today about herbal and ayurvedic concepts and thus greater consumption of Patanjali products. Rivals are now hoping that they can also reap benefits from the emerging **'herbal trend.**

Emami recently acquired the Kesh King brand of medicinal hair oil and has also launched sugar-free honey. It was in the race to acquire Indulekha (a herbal hair oil brand) before bowing out to HUL. HUL has, in turn, revived its Ayush portfolio of brands apart from getting back into the herbal hair oil category, one that it had moved away from not so long ago.

There is an **affinity for herbal products** amongst consumers and Patanjali will help grow this segment Patanjali tackled the problem on both fronts. It has consistently advertised its products harping on quality and purity thereby hoping to dispel consumers' doubts on that score. And it has managed to keep prices low. Most importantly, it has consistently communicated the special features of its products as well as the price. It is currently aggressively advertising its honey as 43 per cent cheaper than a competitor's product (Dabur honey) for a 250 gm pack. Dabur's 500gm honey is priced at Rs 199; Patanjali honey 500gm is available for Rs 135 (32 per cent cheaper). Patanjali has also steered away from celebrity endorsements.

Colgate the market leader in toothpaste market, has also changed its strategy to herbal toothpaste. Before 1990, same company has advertised their product and advised consumers to avoid salt, charcoal for better teeth. From 2016, company has started its advertise campaign for its newly launched products containing salt and charcoal. This is a complete U turn by the company as a result of setback due to Patanjali and herbal products.

Reasons for change in advertise campaign towards Herbal touch

1. Patanjali effect
2. Increasing awareness for health
3. Changed Lifestyle
4. Awareness regarding Harmful chemical contents
5. Change in food habits (pizza, burger & other fast food)
6. Early age diseases
7. Awareness about Long lasting benefits of Ayurveda
8. Acceptance of traditional knowledge by western countries (yoga and Ayurveda)
9. Nuclear families
10. Working women
11. Urbanisation

Change in Advertisement Campaign of various products

Sr. No	**Product**	**Old Advertise campaign message**	**Recent advertise campaign message**	**Company involved**
1	Honey	Sabse Shuddh	FSSI approved Natural Purity ki guarantee	Dabur
2	Toothpaste	Majboot Daat	Contains Active Salt	Colgate
3	Dabur Chyawanprash	Kare bhitar ki Shakti ka Vikaas	Ayurvedic medicine	Dabur
4	Face wash	Freshness	Ayurvedic treatment	Himalaya
5	Biscuits	Tea time manoranjan	Fibre biscuits	Britannia
6	Fruit juice	Real fruits	Health drink	Tropicana, Real
7	Noodles	Zatpat banao befikr khao	Atta noodles	Maggi, Top Ramen
8	Toothpaste	Kills 99.9% germs	Charcoal for killing germs	Colgate
9	Cosmetics	Beautiful skin	Natural looking skin	
10	Dishwash soap	Jiddi daag mitaye	Haaton ke liye safe	Vim
11	Hair oil	Healthy hair	Natural coconut oil ke saath	Parachute
12	Bath Soap	Khushboo, fragrance	Natural fragrance	Margo, medimix, Santoor
13	Cooking oil	Taste and health	Health ke liye	Saffola
14	detergent	Clean and white	Nimboo chandan ke saath	Tide
15	Shampoo	Healthy hair	Ayurvedic shampoo	

Conclusions:

From the above comparison it is clear that the FMCG products advertising strategy has changed drastically over a period of last 2-3 years. From Taste, Quality, health, freshness as main message all advertisers are shifting towards marketing of herbal contents of their product. The Game changer Patanjali Ayurveda has diverted the Herbal product market from a **niche to mass** product. Further it is expected that this trend will continue in upcoming years.

References:

1. http://economictimes.indiatimes.com/industry/cons-products/fmcg/indias-fmcg-sector-to-reach-104-bn-by-2020-study/articleshow/54697324.cms
2. http://www.business-standard.com/article/companies/fmcg-companies-strategise-to-extract-more-from-rural-segments-109110900101_1.html
3. http://www.indiainfoline.com/article/news-corporate/fmcg-companies-target-rural-market-113110105407_1.html
4. http://economictimes.indiatimes.com/industry/cons-products/fmcg/indian-fmcg-companies-find-a-natural-way-to-grow/articleshow/53089855.cms
5. http://economictimes.indiatimes.com/industry/cons-products/fmcg/patanjali-ayurved-injects-new-life-into-herbal-market-helps-rivals-sell-more-personal-care-products/articleshow/51098124.cms
6. http://www.business-standard.com/article/management/the-patanjali-effect-116020800204_1.html
7. www.alleducationjournal.com/download/79/1-6-42
8. https://www.techsciresearch.com/news/1436-ayurvedic-products-market-to-grow-at-16-through-2021.html

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Physical Education and Yoga

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ABSTRACT:

It is well acknowledged that health is a multidimensional concept and is shaped by biological, physical, psychological, social, economic, cultural and political factors. Access to basic needs like food, safe water supply, housing, sanitation and health services influences the health status of a population and these are reflected through mortality, morbidity and nutritional indicators. An analysis of the mortality and nutritional indicators from the pre-school, primary, secondary and senior secondary levels show that under -nutrition and communicable diseases are the major health problems faced by majority of the children in this country. Therefore health is a critical input for the overall development of the child since it influences significantly enrolment, retention and completion of school. This subject area adopts a holistic definition of health within which physical education and yoga contribute to the physical, social, emotional and mental aspects of a child's development. The basic understanding is that health of children contributes to their healthy living in the future and also provides the base for performance in the chosen area of work.

INTRODUCTION:

Physical education is a course that focuses on developing physical fitness in the youth. Same as Music, Gym and Math, this is a required course in primary and secondary school. Most of the time, it is also required in college. Physical fitness is comprised of the following:

Cardiovascular fitness - This is the ability of your heart and lungs to deliver the oxygen your body needs for its daily tasks. This is the fitness component that is addressed by such aerobic activities as brisk walking, jogging, running, dancing and swimming.

Strength - This is the amount physical power that a muscle or group of muscles can use against a weight or resistance. This is addressed by such activities as weight lifting and body weight training.

Endurance -This is the ability of a muscle or group of muscles to repeat movements or hold a position over a certain period of time. Long-distance running is an activity that helps to develop endurance.

Flexibility - This refers to the body's range of movement. Pilates, yoga and gymnastics help promote this particular fitness component.

Body composition - This refers to the ratio of the body's fat component vs. its lean mass. Exercises that address cardiovascular fitness, strength, endurance and flexibility also promote the reduction of fat and the build-up of muscle.

Students of Music, Gym and Math often have to be challenged, in order to be interested. To break the monotony of the traditional Physical Education courses, many schools have updated their programs. These are some of the trends that are pervading the Physical Education programs across the country: The inclusion of activities that the students can use for life, like brisk walking, Frisbee and bowling. The principle behind this is that if students learn to like these

activities early, they can easily adopt these into their current lifestyle and even carry them into adulthood.

The inclusion of non-traditional sports - This makes Physical Education a cultural immersion at the same time. It teaches cultural sensitivity and can be a lot of fun.

Patterning the Physical Education program after health club programs - The advantage of this is that the student is exposed to a whole variety of activities that can only make Physical Education more fun for her. Here, the student may do Tae-bo one day and do yoga the next. The combination of cardio and strength training activities also promote overall fitness.

Adopting a sports league model - In this scenario, the Physical Education class is run like a sports league. Students take turns playing the roles of referees, players, scorers and coaches. This aims to develop the students into better-rounded, balanced individuals.

Including martial arts and self-defense - Not only do these activities capture the interest of the students - they also promote their safety and well-being. This is a practical improvement on the usual Physical Education program.

Inclusions of health and nutrition topics - Most Physical Education programs in the US include health and nutrition topics such as the following: hygiene, stress and anger management, self-esteem and bullying. Some states even require that Physical Education teachers are also certified as Health teachers.

Exposure to technological enhancements - Students are taught how to use modern gym equipment as well as other fitness-related devices such as pedometers and heart-rate monitors.

Although the primary goal of Physical Education is still to promote the physical fitness and well-being of each student, all these trends and advancements have changed the face of Physical Education forever. Music, Gym and Math will never be the same!

Yoga is a way of a better living. It ensures great or efficiency in work, and a better control over mind and emotions. Through yoga one can achieve both physical and mental harmony.

Health is the greatest blessing of all. Health is not just the absence of disease. To enable the individuals to lead a life of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

Physical Education may provide the right direction and needed actions to improve the health of members of any community, society, nation and the world as a whole. An educational system encompassing the mental, emotional, social and physical dimensions of health becomes imperative to bring about all around development in children.

Yoga is the movement of the body through different positions, postures, and poses.

“Yoga is skill in actions." -Lord Krishna.

"Yoga is the way or method through which internal and external facilities of man meets in totality and changes occur and by which may achieve God or feel his existence and may become the part of Him.” -Sri Aurobindo

PHYSICAL EDUCATION :

Kids, as well as adults, benefit from regular exercise. Health benefits from regular exercise include: stronger muscles and bones, increased coordination and energy, and decreased risk of developing chronic diseases such as type 2 diabetes. For most kids, exercise means being physically active during play, recess, and physical education class, also known as P.E. Physical education contributes to each child's total growth and development.

Physical education is a course taught in school that focuses on developing physical fitness and the ability to perform and enjoy day-to-day physical activities with ease. Kids also develop skills necessary to participate in a wide range of activities, such as soccer, basketball, or swimming. Regular physical education classes prepare kids to be physically and mentally active, fit, and healthy into adulthood. An effective physical education program should include engaging lessons, trained P.E. teachers, adequate instructional periods, and student evaluation.

Physical education helps students develop physical skills and confidence. For example, elementary and middle school curriculum includes activities that help kids obtain and improve skills, such as running, catching, throwing, and striking, applicable to sports such as baseball, volleyball, or karate. Balancing skills could be applied to dance or gymnastics.

High school curriculum should focus on lifetime sports skills like tennis or aerobic dance, with a secondary emphasis on team sports.

Physical education develops fitness and fosters the desire for lifelong participation in physical activity. high school curriculum prepares students to become highly proficient in one or more sport and/or fitness activity of their choice.

Physical education classes teach the health benefits of regular exercise and healthy food choices along with the risks of inactivity and poor diet. Students of all ages might be asked to dedicate themselves to making a few small improvements in diet and exercise for a period of six weeks. They would be expected to journal about how they feel during the process and reflect on how these changes affect performance and mood.

Physical education also helps students develop social skills. For example, team sports help them learn to respect others, contribute to a team goal, and socialize as a productive member of a team.

YOGA:

Derived from the Sanskrit word ***yuj***, ***Yoga*** means union of the individual consciousness or soul with the Universal Consciousness or Spirit. Yoga is a 5000-year-old Indian body of knowledge. Though many think of yoga only as a physical exercise where people twist, turn, stretch, and breathe in the most complex ways, these are actually only the most superficial aspect of this profound science of unfolding the infinite potentials of the human mind and soul. The science of Yoga imbibes the complete essence of the Way of Life.

As Gurudev Sri Sri Ravi Shankar says, "**Yoga is not just exercise and asanas.** It is the emotional integration and spiritual elevation with a touch of mystic element, which gives you a glimpse of something beyond all imagination."

Yoga is more than 10,000 years old. The earliest mention of the contemplative tradition is found in the oldest surviving literature Rig Veda, in Nasadiya Sukta. It dates back to the Indus-Saraswati civilization. The Pashupati seal from the selfsame civilization shows a figure sitting in a yogic posture, further corroborating its prevalence in those ancient times. However, the earliest mention of the practices that later became part of yoga are found in the oldest Upanishad, Brihadaranyaka. The practice of Pranayama finds a mention in one of its hymn and Pratyahara in Chandogya Upanishad. The first appearance of the word "***yoga***" with the same meaning as we know today, perhaps happens for the first time in Kato Upanishad, a mukhya or important Upanishad, embedded in the last eight sections of the Katha school of Yajurveda. Yoga here is seen as a process of inner journey or ascent of consciousness.

The famous dialogue, Yoga Yajnavalkya, (found in Brihadaranyaka Upanishad), between Sage Yajnavalkya and the learned Brahmvadin Gargi mentions asanas, numerous breathing exercises for cleansing the body and meditation. Gargi has also spoken about Yogasanas in Chandogya Upanishad.

Vratya, a group of ascetics mentioned in the Atharvaveda, emphasized on bodily postures, which may have evolved into **Yogasanas**. Even Samhitas mention munis, kesins and vratyas, various ancient seers and sages who practiced rigorous physical deportments to meditate or do tapasya.

Yoga as a concept slowly emerged and has an elaborate mention in Bhagavad Gita and in Shanti Parva of Mahabharata.

There are more than 20 Upanishads and **Yoga Vasishtha**, which predate Mahabharata and Bhagavad Gita, where Yoga is stated to be the union of mind with the Supreme Consciousness.

Yoga is discussed in the ancient foundational Sutra of Hindu philosophy and is perhaps most elaborately mentioned in **Patanjali Yogasutra**. Patanjali defines yoga in his second sutra as:

Patanjali's writing also became the basis for Ashtanga Yoga. Many practices like five vows in Jainism and Yogachara of Buddhism have their root in **Patanjali Yogasutras**. The Medieval Ages saw the development of Hatha Yoga.

BENEFITS OF PHYSICAL EDUCATION:

Physical activity can benefit participants in many ways. These benefits are not however, natural by-products of random participation. Physical education programs must be designed specifically to reach selected objectives. Some of the beneficial outcomes which can be achieved though participation in the appropriate kinds and amounts of physical activity are:

Reduced risk of heart disease:

Physical education can counteract major risk factors of coronary heart disease: obesity, inactivity and high blood pressure.

Improved physical fitness:

A good program improves children's muscular strength, flexibility, muscular endurance, body composition (fat-to-muscle ratio) and cardiovascular endurance.

Stronger bones:

Regular physical activity increases bone density to create a sturdy skeleton.

Weight regulation:

A good program can help children regulate their weight by burning calories, toning their bodies and improving their overall body composition.

Health promotion:

Appropriate physical activity prevents the onset of some diseases and postpones the debilitating effects of the aging process.

Improved judgment:

Quality physical education can influence moral development. Students have the opportunity to assume leadership, cooperate with others and accept responsibility for their own behavior.

Self discipline:

A good program teachers children to follow rules and established procedures and to be responsible for the own health-related fitness.

Skill development:

Physical education develops skills which allow enjoyable and rewarding participation in physical activities. New skills become easier to learn.

Experience setting goals:

Physical education gives children the time and encouragement they need to set and strive for personal, achievable goals.

Improved self-confidence and self-esteem:

Physical education instills a strong sense of self-worth in children. They can become more confident, assertive, emotionally stable, independent and self-controlled.

Stress reduction:

Physical activity is an outlet for releasing tension and anxiety.

Strengthened peer relationships:

Physical education can be a major force in helping children socialize with others more successfully. Being able to participate in games and sports is an important part of fitting in, especially for those in late childhood and early adolescence.

Reduced risk of depression:

Physical education is effective in the promotion of mental health.

More active lifestyles:

Physical education promotes a more positive attitude towards physical activity.

BENEFITS OF YOGA:

Weight loss, a strong and flexible body, glowing beautiful skin, peaceful mind, good health – whatever you may be looking for, yoga has it on offer. However, very often, yoga is only partially understood as being limited to asanas (yoga poses). As such, its benefits are only perceived to be at the body level and we fail to realize the immense ***benefits yoga*** offers in uniting the body, mind and breath. When you are in harmony, the journey through life is calmer, happier and more fulfilling.

- All-round fitness
- Weight loss
- Stress relief
- Inner peace
- Improved immunity
- Living with greater awareness
- Better relationships
- Increased energy
- Better flexibility & posture
- Better intuition

With all this and much more to offer, the *benefits of yoga* are felt in a profound yet subtle manner. Here, we can have a look at the top *10 benefits*:

1. *Yoga for all-round fitness -*

As Sri Sri Ravi Shankar puts it, "Health is not a mere absence of disease. It is a dynamic expression of life – in terms of how joyful, loving and enthusiastic you are." This is where yoga helps: postures, pranayama *(breathing techniques)* and meditation are a holistic fitness package. The benefits accrued by being a regular practitioner are numerous. Some very discernible ones are:

- Improves health
- Gives mental strength
- Improves physical strength
- Protection from injury
- Detoxifies the body

2. Yoga for weight loss.

Desire of many ! *Yoga helps* here too. Sun Salutations and Kapalbhati pranayama help lose weight with yoga. Moreover, with regular practice of yoga, we tend to become more sensitive to the kind of food our body asks for and the time we take. This can also help keep a check on our weight.

3. Yoga for stress relief. A few minutes of yoga during the day can be a great way to get rid of stress that accumulates daily - in both the body and mind. Yoga postures, pranayama and meditation are effective techniques to release stress. You can experience the calming effects of yoga in the Sri Sri Yoga Level 2 program.

4. Yoga for inner peace. We all love to visit peaceful, serene spots, rich in natural beauty. Little do we realize that peace can be found right within us and we can take a mini-vacation to experience this any time of the day! Benefit from a small holiday every day with yoga and meditation. Yoga is also one of the best ways to calm a disturbed mind.

5. Yoga to improve immunity. Our system is a seamless blend of the body, mind and spirit. An irregularity in the body affects the mind and similarly unpleasantness or restlessness in the mind can manifest as an ailment in the body. Yoga poses massage organs and strengthens muscles; breathing techniques and meditation release stress and improve immunity.

6. Yoga to live with greater awareness. The mind is constantly involved in activity – swinging from the past to the future – but never staying in the present. By simply being aware of this tendency of the mind, we can actually save ourselves from getting stressed or worked up and relax the mind. Yoga and pranayama help create that awareness and bring the mind back to the present moment, where it can stay happy and focused.

7. Yoga for better relationships. Yoga can even help improve your relationship with your spouse, parents, friends or loved ones! A mind that is relaxed, happy and contented is better able to deal with sensitive relationship matters. Yoga and meditation keeps the mind happy and peaceful; and watch how your relations with those around you blossom !

8. Yoga to increase energy. Do you feel completely drained by the end of the day? Shuttling through chores, and multitasking continuously can be quite exhausting. A few minutes of yoga everyday provides the much-needed fillip that boosts our energy and keeps us fresh. A 10-minute online-guided meditation is all you need to charge up your batteries, in the middle of a hectic day.

9. Yoga for better flexibility & posture. *Yoga* must become part of your daily routine to *get* a body that is strong, supple and flexible. Regular yoga practice, stretches and tones the body muscles and also makes them strong. It also helps improve your body posture when you stand, sit, sleep or walk. This would, in turn, help *relieve you of body pain* due to incorrect posture.

10. Yoga to improve intuition. *Yoga and meditation* have the power to improve your intuitive ability so that you spontaneously realize what needs to be done, when and how, to yield positive results. It does work! You only need to experience it yourself.

Remember, yoga is a continuous process. So keep practicing! The deeper you go into your ***yoga practice***, the more profound will be its benefits.

NEED OF PHYSICAL EDUCATION

"The higher your energy level. the more efficient your body. The more efficient your body, the better you feel and the more you will use your talent to produce outstanding results."

Anthony Robbins

A quality physical education program will help children....

- Improve self-esteem, self-confidence, and interpersonal skills.

- Gain a sense of belonging through teamwork.
- Prepare to embrace cooperation and competition.
- Handle adversity through winning and losing.
- Develop social skills.
- Learn discipline.
- Improve problem solving skills and increase creativity.
- Develop an understanding of the role of physical activity in promoting health.
- Reduce their tendency to risk behaviors such as use of drugs, alcohol, and tobacco, missing or dropping out of school, and getting pregnant.
- Enhance social and cognitive development and academic achievement.

"The human body was designed to walk, run, or stop; it wasn't built for coasting."

Cullen Hightower

"Movement is the medicine for creating change in a person's physical, emotional, and mental states."

Carol Welch

NEED OF YOGA

Many of the common health and social problems cannot be solved through germ theories, antibiotics, vaccines or surgeries. The fascinating diagnostic tools has started pointing to the role of mind on matter. Biochemical, psychological, neuro-physiological and immunological researchers are recognizing the role of lifestyle, stress, suppressed emotions and so on as the cause of many of the challenges faced today. Hence health professionals are forced to accept the paradigm shift in the approach of understanding human health problems.

As everyone knows, yoga involves different patterns of exercises and postures, practicing them appropriately helps to improve muscle strength, stamina, immune stability, perpectual sharpness, intelligence, memory, emotional stability and altogether maintain a positive physical & mental health.

The term yoga means the art of joining. Yoga is that which unites. In traditional terminology, "it is the union of the individual self with the pervasive, eternal and blissful state of reality". As Swami Vivekananda puts it, "It is a means of compressing one's evolution into a single life or a few months or even a few hours of one's bodily existence". In action, yoga is a special skill which makes the mind reach it subtler state.

Yoga can be broadly classified into four streams. As Swami Vivekananda puts them as Work, Worship, Philosophy and Psychic Control.

1. The path of work involves doing action with an attitude of detachment to fruits of action. This brings steadiness of mind
2. The control of emotions is the key to the path of worship. It helps to control the emotional instabilities by properly harnessing the energy involved in it.
3. The path of philosophy is for attaining the intellectual sharpness and happiness.
4. The path of Psychic Control enables us to culture our minds for achieving success in almost all endeavors of our lives. It gives a practical and easy approach to reach higher states of consciousness.

Thus these four streams of yoga helps man to develop his personality at four different levels- physical, mental, intellectual, emotional, and simultaneously brings about spiritual progress.

CONCLUSION:

The purpose of Yoga is to create harmony in the physical, vital, mental, psychological and spiritual aspects of the human being. During the whole day you may be only in one of these three postures and hence a skilful adjustment in them will effect the required harmony. "Yogasthah Kuru Karmani- Be established in Yoga and do all your duties." "Yogah karmasu Kausalam-Yoga is skill in action." Skill here means to be in tune with the nature of the Supreme Reality. Be a Yogin always, is the loving instruction of Lord Krishna. Convert life into Yoga, so that you may ensure success in all the fields of activity. By regular practice, by using your presence of mind, skill and wisdom, you can become Yogins and enjoy happiness and peace, whatever be the circumstances and conditions in which you are placed.

REFERENCE:

1. http://www.teach-nology.com/teachers/subject_matter/physical_ed/
2. http://www.sasd.k12.pa.us/AreYouPhysicallyEducated.aspx
3. http://study.com/academy/lesson/what-is-physical-education-definition-overview.html
4. https://www.artofliving.org/in-en/yoga
5. http://www.sausd.us/Page/14836
6. https://www.artofliving.org/in-en/yoga/yoga-benefits
7. https://yoga.knoji.com/need-for-yoga-in-modern-life/

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Effect of Yoga on Depression, Self Concept and Mental Health of College Normal Health Students

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Dr. Bhaskar D. Salvi : Research Supervisor (Guide)

Abstract

Objective: The main objective of the study was to assess the effect of yoga training on depression, self-concept and mental health. **Hypothesis:** Hypotheses of the study there will be difference in between control group and experimental group (Yoga Training) on the dimension of depression, self-concept and mental health.

Materials and Methods: 40 normal health students were selected. 20 Experimental group of normal health students and 20 controlled group of normal health students. Age group was between 20 to 30 years. Both group were given pretest in three dimensions, i.e., Depression, Self-concept and Mental Health. A yoga module consisting of yoga asanas, pranayama, meditation, 30 min of yoga training given daily for one month. For the both groups pre and post tests conducted.

Results: After regular practicing the positive effect of yoga to reduce depression, self-concept and mental health of normal health students. Yogic exercise can improve the depression, self-concept and mental health in experimental group

Key Word: Yoga and Behavioral Health.

INTRODUCTION:

Mental health refers to the overall well-being of an individual. It is about the balance of the social, physical, spiritual and emotional aspects of life. Our Mental Health is characterized by our personal growth, sense of purpose, self-acceptance, and positive relationship with other people. It is also highly affected by environmental factors like our family life, social life, and our life at work. Our general well-being is decreased by any negative experiences in any of these areas. Among the most common Mental Illnesses or Mental Disorders are Anxiety and Depression.

Mental Health is a concept that refers to the psychological and emotional well-being of a person. Being mentally healthy generally means that you are able to use your emotional capabilities to function well in society and go through everyday life with little or no difficulty. Some factors that can affect your mental health are your family life, social life, and life at work. Having negative experiences in any of the said areas can deteriorate the condition of your mental health.

Yoga is best known for its Poses or Asanas. These reach deep into the yogi's body, massaging important internal organs. Asanas help cleanse and maintain the nervous and circulatory systems, which automatically result in a healthier body and mind. Breathing Exercises or Pranayama can also help in keeping a person healthy by supplying a fixed amount of oxygen to the muscles and internal organs. However, Yoga should not be treated as the sole remedy for mental illnesses. You should first seek assistance from a professional if you experience any of the symptoms mentioned above. Yoga can only help facilitate the recovery from some dangerous side effects of these mental illnesses. It should always be accompanied by proper medication and psychological counseling.

Derebail Gururaja et.al. Effect of yoga on mental health: Comparative study between young and senior subjects in Japan. Conclusion Decrease in Salivary amylase activity may be due to reduction in sympathetic response. Reduction in State and Trait anxiety score signifies that yoga has both immediate as well as long-term effect on anxiety reduction. Thus yoga helps to improve the mental health in both the groups.

Balaji Bharadwaj (2012) Proof-of-concept studies in Yoga and mental health. Clinical trials of Yoga in psychiatric disorders are fraught with difficulties in standardizing the instruction of Yoga, ability to blind the allocation in a foolproof manner; defining the interventions for the control arm and the question of how much did the patient involve himself in it. A 'proof-of-concept' study based on neurophysiologic principles will be a useful foundation to larger clinical trials of Yoga in specific psychiatric disorders. It will help to match specific Yogic techniques to specific disorders. It may also warn against certain techniques that can precipitate a disorder. Such studies can also help allay doubts that the 'response' seen to a particular form of Yoga was merely due to 'expectancy effects' where the participants were expecting Yoga to be helpful and therefore there was an improvement in symptoms. Biological markers are likely to be resistant to such effects.

Jadhav S. G. Impact of yoga practices on self-concept. Research studies have proved that the practice of Yoga brings profound change in an individual. Yoga is a way of life & teaches us how best to live for the well-being of the individual and development of a healthy society. Positive changes in the life style of the individual can be brought through practicing it. Yoga develops the physical, mental, intellectual, emotional and spiritual component which helps in building up a sound personality. Self-Concept is the sum total of a person's perception, feelings and beliefs about himself. It is the basis for all motivated behaviors. The present study is an attempt to assess the impact of Yoga on Self-Concept. The sample consisted of 50 Naturopathy and Yogic Science college students (Yoga practice group) and 50 Medical Colleges (MBBS) students both male and female. Personal information schedule and Mukta Rani Rastogi's Self-Concept Scale (1979) was used as measuring tools. Statistical 'T' test & ANOVA was employed for analyses of the data. Results revealed that Naturopathy and Yogic Sciences students have better Self-Concept compared to MBBS students. Dimension wise analysis also revealed that Yoga practitioners differ on all the ten sub-dimensions and overall Self-Concept compared to non-practitioners of Yoga.

OBJECTIVE AND AIM OF THE STUDY:

The main objective of the study was to assess the effect of yoga training on depression, self-concept and mental health.

HYPOTHESIS:

There will be difference in between control group and experimental group (Yoga Training) on the dimension of depression, self-concept and mental health.

Materials and Methods: 40 normal health students were selected. 20 Experimental group of normal health students and 20 controlled group of normal health students. Age group was between 20 to 30 years. Both groups were given pretest in three dimensions, i.e., Depression, Self-concept and Mental Health. A yoga module consisting of yoga asanas, pranayama, meditation, 30 min of yoga training given daily for one month. For the both groups pre and post tests conducted.

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TOOLS:

1) **Depression Scale:** Depression scale develops and standardized by **Dr. Shamim Kareem & Dr. Rama Tiwari (1986).**
2) **Self-Concept Scale:** Self-concept scale develops and standardized by **Dr. Raj Kumar Saraswat.**
3) **Mental Health Inventory:** Mental Health Inventory develops and standardized by **Dr. C. G. Deshpande.**

VARIABLES:

Independent Variable: **Groups:** a) Experimental b) Controlled

Dependent Variable: **Personality characteristics**

1. Depression
2. Self-Concept
3. Mental Health

STATISTICAL ANALYSIS AND DISCUSSION:

Table No. 01

Dimensions	Pretest of Experimental group		Posttest of Experimental group			
	Mean	SD	Mean	SD	DF	t
Depression	148.71	21.03	109.93	19.85	18	5.99**
Self-Concept	98.58	15.49	134.69	18.03	18	6.81**
Mental Health	27.38	8.21	41.83	6.68	18	6.10**

Table No. 01. Shows pre-test experimental group of normal health students and post-test experimental group of normal health students the difference between the two mean is highly significant ('t'= 5.99, df =18, P < 0.01) dimension of depression.

Both groups difference between the two mean is highly significant ('t'= 6.81, df =18, P < 0.01) dimension of self-concept.

Both difference between the two mean is highly significant ('t'= 6.10, df =18, P < 0.01) dimension of mental health.

Table No. 02

Dimensions	Pretest of Controlled group		Posttest of Controlled group			
	Mean	SD	Mean	SD	DF	t
Depression	158.10	9.28	163.30	10.10	18	0.55
Self-Concept	125.29	11.41	118.20	6.88	18	0.80
Mental Health	26.13	4.62	28.29	5.71	18	1.31

Table No. 02. Shows pre-test Controlled group of normal health students and post-test Controlled group of normal health students the No difference between the two mean is ('t'= 0.55, df =18, P < NS) dimension of depression.

Both groups difference between the two mean is No difference between the two mean is ('t'= 0.80, df =18, P < NS) dimension of self-concept.

Both difference between the two mean is No difference between the two mean is ('t'= 1.31, df =18, P < NS) dimension of mental health.

Results:

Positive Effect of Yogic Exercise shown on depression, self-concept and mental health of normal health students. Yogic exercise can improve the depression, self-concept and mental health in experimental group.

REFERENCE:

1. Bharadwaj B. Proof-of-concept studies in Yoga and mental health. Int J Yoga [serial online] 2012 [cited 2012 Jul 28];5:74.
2. Derebail Gururaja et.al. Effect of yoga on mental health: Comparative study between young and senior subjects in Japan. DOI: 10.4103/0973-6131.78173 PMID: 21654969.
3. Feuerstein, Georg (1996). *The Shambhala Guide to Yoga. 1st ed.*. Boston & London: Shambhala Publications.
4. Khalsa, Sat Bir S. et al. Evaluation of a Residential Kundalini Yoga Lifestyle Pilot Program for Addiction in India. Journal of Ethnicity in Substance Abuse. 2008, Volume 7 Issue 1. p67-79.
5. Streeter, Chris C. et al. "Effects of Yoga Versus Walking on Mood, Anxiety, and Brain GABA Levels: A Randomized Controlled MRS Study." Journal of Alternative & Complementary Medicine. Nov 2010, Volume 16 Issue 11, p1145-115

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Risk Management…the What, Why, and How

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Abstract:

We survey and analyze risk management goals, policies, and perceptions of risk managers in businesses and organizations around the world. With more than 1,100 responses and a global scope, we ask specific questions about risk management behaviour in six risk areas: interest rate, foreign exchange, commodity, energy, credit, and geopolitical risk. We question risk managers about their firm's exposures to these risks areas as well as their financial and operational methods used to in risk management. In addition, we pose specific questions about the interaction between risk management and the firm's investing and financing policies as well as the impact of recent and possible changes to derivatives market regulation on the firm's derivative usage. As some questions in the survey are drawn directly from earlier surveys we are also able to assess changes in policy and practice over time. Finally, we link the personal characteristics of risk managers to their practices. For example, we are able to determine whether a manager's personal risk aversion is linked to the risk management policy that manager oversees. Overall the results suggest that in the post global financial crisis world, risk management is an important part of corporate activities and that best practice in risk management policy and behaviour has become global.

Keywords: Corporate risk management, Global survey, Projects, Problems.

What Is Risk Management?

Risk Management is the process of identifying, analyzing and responding to risk factors throughout the life of a project and in the best interests of its objectives. Proper risk management implies control of possible future events and is proactive rather than reactive.

For example*:* An activity in a network requires that a new technology be developed. The schedule indicates six months for this activity, but the technical employees think that nine months is closer to the truth. If the project manager is proactive, the project team will develop a contingency plan right now. They will develop solutions to the problem of time before the project due date. However, if the project manager is reactive, then the team will do nothing until the problem actually occurs. The project will approach its six month deadline, many tasks will still be uncompleted and the project manager will react rapidly to the crisis, causing the team to lose valuable time.

Proper risk management will reduce not only the likelihood of an event occurring, but also the magnitude of its impact. I was working on the installation of an Interactive Voice Response system into a large telecommunications company. The coding department refused to estimate total duration estimation for their portion of the project work of less than 3 weeks. My approach to task duration estimation is that the lowest level task on a project whose total duration is 3 months or more should be no more than 5 days. So… this 3 week duration estimation was outside my boundaries. Nevertheless, the project team accepted it. It appeared an unrealistic timeline for the amount of work to be done but they were convinced that this would work. No risk assessment was conducted to determine what might go wrong. Unfortunately, this prevented their ability to successfully complete their tasks on time. When the 3 weeks deadline approached and it appeared that the work wouldn't be completed, crisis management became the mode of operation.

Risk Management Systems

Risk Management Systems are designed to do more than just identify the risk. The system must also be able to quantify the risk and predict the impact of the risk on the project. The outcome is therefore a risk that is either acceptable or unacceptable. The acceptance or non-acceptance of a risk is usually dependent on the project manager's tolerance level for risk.

If risk management is set up as a continuous, disciplined process of problem identification and resolution, then the system will easily supplement other systems. This includes; organization, planning and budgeting, and cost control. Surprises will be diminished because emphasis will now be on proactive rather than reactive management.

Risk Management…A Continuous Process

Once the Project Team identifies all of the possible risks that might jeopardize the success of the project, they must choose those which are the most likely to occur. They would base their judgment upon past experience regarding the likelihood of occurrence, gut feel, lessons learned, historical data, etc.

Early in the project there is more at risk then as the project moves towards its close. Risk management should therefore be done early on in the life cycle of the project as well as on an on-going basis.

The significance is that opportunity and risk generally remain relatively high during project planning (beginning of the project life cycle) but because of the relatively low level of investment to this point, the amount at stake remains low. In contrast, during project execution, risk progressively falls to lower levels as remaining unknowns are translated into knowns. At the same time, the amount at stake steadily rises as the necessary resources are progressively invested to complete the project.

Risk Response

Risk Response generally includes:

- Avoidance…eliminating a specific threat, usually by eliminating the cause.
- Mitigation…reducing the expected monetary value of a risk event by reducing the probability of occurrence.
- Acceptance…accepting the consequences of the risk. This is often accomplished by developing a contingency plan to execute should the risk event occur.

In developing Contingency Plans, the Project Team engages in a problem solving process. The end result will be a plan that can be put in place on a moment's notice.

Why do Risk Management? The purpose of risk management is to:

- Identify possible risks.
- Reduce or allocate risks.
- Provide a rational basis for better decision making in regards to all risks.
- Plan.

Assessing and managing risks is the best weapon you have against project catastrophes. By evaluating your plan for potential problems and developing strategies to address them, you'll improve your chances of a successful, if not perfect, project. Additionally, continuous risk management will: Ensure that high priority risks are aggressively managed and that all risks are cost-effectively managed throughout the project.

- Provide management at all levels with the information required to make informed decisions on issues critical to project success.

If you don't actively attack risks, they will actively attack you!!

How to Do Risk Management

First we need to look at the various sources of risks. There are many sources and this list is not meant to be inclusive, but rather, a guide for the initial brainstorming of all risks. By referencing this list, it helps the team determine all possible sources of risk.

Various sources of risk include:

- **Project Management**
  - Top management not recognizing this activity as a project
  - Too many projects going on at one time
  - Impossible schedule commitments
  - No functional input into the planning phase
  - No one person responsible for the total project
  - Poor control of design changes
  - Problems with team members.
  - Poor control of customer changes
  - Poor understanding of the project manager's job
  - Wrong person assigned as project manager
  - No integrated planning and control
  - Organization's resources are overcommitted
  - Unrealistic planning and scheduling
  - No project cost accounting ability
  - Conflicting project priorities
  - Poorly organized project office
- **External**
  - **Unpredictable;** Unforeseen regulatory requirements ,Natural disasters, Vandalism, sabotage or unpredicted side effects
  - **Predictable;** Market or operational risk, Social, Environmental, Inflation, and Currency rate fluctuations, Media.
  - **Technical;** Technology changes, Risks stemming from design process
  - **Legal ;**Violating trademarks and licenses, Sued for breach of contract Labor or workplace problem ,Litigation due to tort law, Legislation

The Risk Analysis Process

The Risk Analysis Process is essentially a quality problem solving process. Quality and assessment tools are used to determine and prioritize risks for assessment and resolution. The risk analysis process is as follows:

- **Identify the Risk**
  - This step is brainstorming. Reviewing the lists of possible risk sources as well as the project team's experiences and knowledge, all potential risks are identified.
  - Using an assessment instrument, risks are then categorized and prioritized. The number of risks identified usually exceeds the time capacity of the project team to analyze and develop contingencies. The process of prioritization helps them to manage those risks that have both a high impact and a high probability of occurrence.

- **Assess the Risk**
  - Traditional problem solving often moves from problem identification to problem solution. However, before trying to determine how best to manage risks, the project team must identify the root causes of the identified risks.
    The project team asks questions including:
    - What would cause this risk?
    - How will this risk impact the project?
- **Develop Responses to the Risk**
  - Now the project team is ready to begin the process of assessing possible remedies to manage the risk or possibly, prevent the risk from occurring. Questions the team will ask include:
    - What can be done to reduce the likelihood of this risk?
    - What can be done to manage the risk, should it occur?
- **Develop a Contingency Plan or Preventative Measures for the Risk**
  - The project team will convert into tasks, those ideas that were identified to reduce or eliminate risk likelihood.
  - Those tasks identified to manage the risk, should it occur, are developed into short contingency plans that can be put aside. Should the risk occur, they can be brought forward and quickly put into action, thereby reducing the need to manage the risk by crisis.

Conclusion:

The critical point is that Risk Management is a continuous process and as such must not only be done at the very beginning of the project, but continuously throughout the life of the project. For example, if a project's total duration was estimated at 3 months, a risk assessment should be done at least at the end of month 1 and month 2. At each stage of the project's life, new risks will be identified, quantified and managed. What a Project Team would want to achieve is an ability to deal with blockages and barriers to their successful completion of the project on time and/or on budget. Contingency plans will help to ensure that they can quickly deal with most problems as they arise. Once developed, they can just pull out the contingency plan and put it into place.

References :

1. How Risky is it really? By David Ropeik, Jared Wade freelance writer and former editor of the Risk Management Monitor and senior editor of Risk Management Magazine.
2. http/Riskwise.biz,
3. Tame Messy and Wicked Risk Leadership
4, Creating the Risk Intelligent Enterprise" by Frederick Funston and Stephen Wagner (Wiley Press, c 2010).
5. Risk Management.com

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A Study to Assess the Knowledge & Attitude of Secondary School Teachers Regarding First Aid Management of Selected Emergencies among School Children, at Selected Secondary Schools at Ghataprabha, In View to Prepare Information Booklet.

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ABSTRACT

Background and Objectives

"There is nothing more precious to a parent than a child and nothing more important to our future than the safety of our children."

Bill Clinton.

First aid and emergency care should be provided by the teachers in situations like accidents, vomiting, convulsions, injuries etc. Teacher should have adequate training regarding first aid and emergency measures since teachers act as a pivot in the school health services.

The objectives of the study were

1. To assess the knowledge of secondary school teachers related to First aid management of secondary school children, in selected emergencies.
2. To identify the attitude of secondary school teachers regarding selected emergencies & First aid management, in secondary school children.
3. To find the association between knowledge & of secondary school teachers with selected demographic variables.
4. To find out the correlation between knowledge & attitude of secondary school teachers regarding selected emergencies & First aid management, in secondary school children.
5. To prepare Information booklet based on selected First aid emergencies management for secondary school teachers.

Methods

A descriptive approach with descriptive correlation design was used for 50 secondary school teachers drawn through purposive sampling technique in a selected high school at Ghataprabha. The conceptual framework for the study was developed from the Orem's self care theory. Incorporated with modified model. The hypotheses formulated were that there will be an association between knowledge & selected demographic variables. The content validity and reliability of the tools were established. The pilot study was conducted using a structured knowledge questionnaire and likert five point scale. Each participant observation of the attitudes of teachers with help of five point likert scale, questionnaire was administered which was collected on the same day. An average of 4-5 observation was done per day following which the knowledge questionnaire was administered to participant.

Results

The collected data was analyzed by using descriptive and inferential statistics.

The study findings revealed that Majority (48 %) of teachers had poor knowledge & (36%) of teachers had average knowledge & only (16 %) teachers had a good knowledge.

Age is associated with the level of knowledge of school teachers ($\chi2$ = 14.92 P>0.05.) & Experience is associated with the level of knowledge of school teachers ($\chi2$ = 12.99 P>0.05). It was also found that there is positive correlation between knowledge & attitude of school teachers regarding first aid management of emergencies. The 'r' value computed was 0.72.

Interpretation And Conclusion

Majority (48 %) of teachers had poor knowledge of first & emergency management of selected emergencies.& (36%) of teachers had average knowledge & only (16 %) teachers had a good knowledge. Majority of 15 female respondents have poor knowledge of First aid management of selected emergencies; whereas 9 Male has poor knowledge of first aid management. Only Six Male & two female have good knowledge. Age is associated with the level of knowledge of school teachers ($\chi2$ = 14.92 P>0.05.) & Experience is associated with the level of knowledge of school teachers ($\chi2$ = 12.99 P>0.05).

Keywords

First aid management; Emergencies; knowledge; Attitude; secondary school teachers

INTRODUCTION

Timely first aid saves more lives than heroic surgeries!!!

By Dr.Dabangshu Dam.

Knowledge of first aid, which constitutes life saving treatments for injuries or unexpected illness, is important for every individual at every age. First aid and basic life support are so important that teaching basic First aid should be compulsory in all schools.

"The children of today are the citizens of tomorrow." A child's world centers around the home, school and the local community every year over 5 million children of age group 0 to 14 are dying mainly in the developing countries. About 3 millions children are dying of unintentional injuries (accidents) resulting from domestic accidents, school accidents, from falls, fire, drawning and poisoning. Accidents are sudden cause of death or emergency in children.[1]

The goal of First aid is to save life prevents an injury or illness from worsening or to help speedy recovery. First aid and basic life support are so important that teaching basic first aid should be compulsory in all school. As in the school campus majority of people including teaching faculty are available during school timing & children while playing or any other circumstances are prone to have minor accidents. So it is important for school teacher to know First aid & how to utilize it in a proper manner without any delay as a First aid save person's life so it is always better as it is said that "Preparedness is a key element of First aid".[2]

NEED FOR STUDY:

"There is nothing more precious to a parent than a child and nothing more important to our future than the safety of our children."

Bill Clinton.

The teachers act as a pivot in the school health services. They are actively involved in both objectives of school health programme and they impart health education in the academic sense, play a major role in influencing the daily behavior of their student and intervene directly and indirectly in minor and major health problem. Since school teacher are influential member of the community they create a short bridge between student parents and professional medical services. The teachers are also involved in health of school children. They act as a first point of detection and referral.[6]

The purpose of first aid is

1) To save life
2) Prevent further injury
3) To minimize or prevent infection.

The knowledge of first aid when properly applied can mean the difference between temporary or permanent injury, rapid recovery or long term disability and difference between life and death.[11]

OBJECTIVES

OBJECTIVES OF THE STUDY

1. To assess the knowledge of secondary school teachers related to First aid management of secondary school children, in selected emergencies.
2. To identify the attitude of secondary school teachers regarding selected emergencies & First aid management, in secondary school children.
3. To find the association between knowledge & of secondary school teachers with selected demographic variables.
4. To find out the correlation between knowledge & attitude of secondary school teachers regarding selected emergencies & First aid management, in secondary school children.
5. To prepare Information booklet based on selected First aid emergencies management for secondary school teachers.

METHODOLOGY

Research approach:

The study undertaken is descriptive in nature, which is non-experimental and further it describe knowledge and attitude of secondary school teacher's regarding first aid management of selected emergencies among school children as assessed by a structured questionnaire and Likert scale specifically designed for the study.

Research design:-

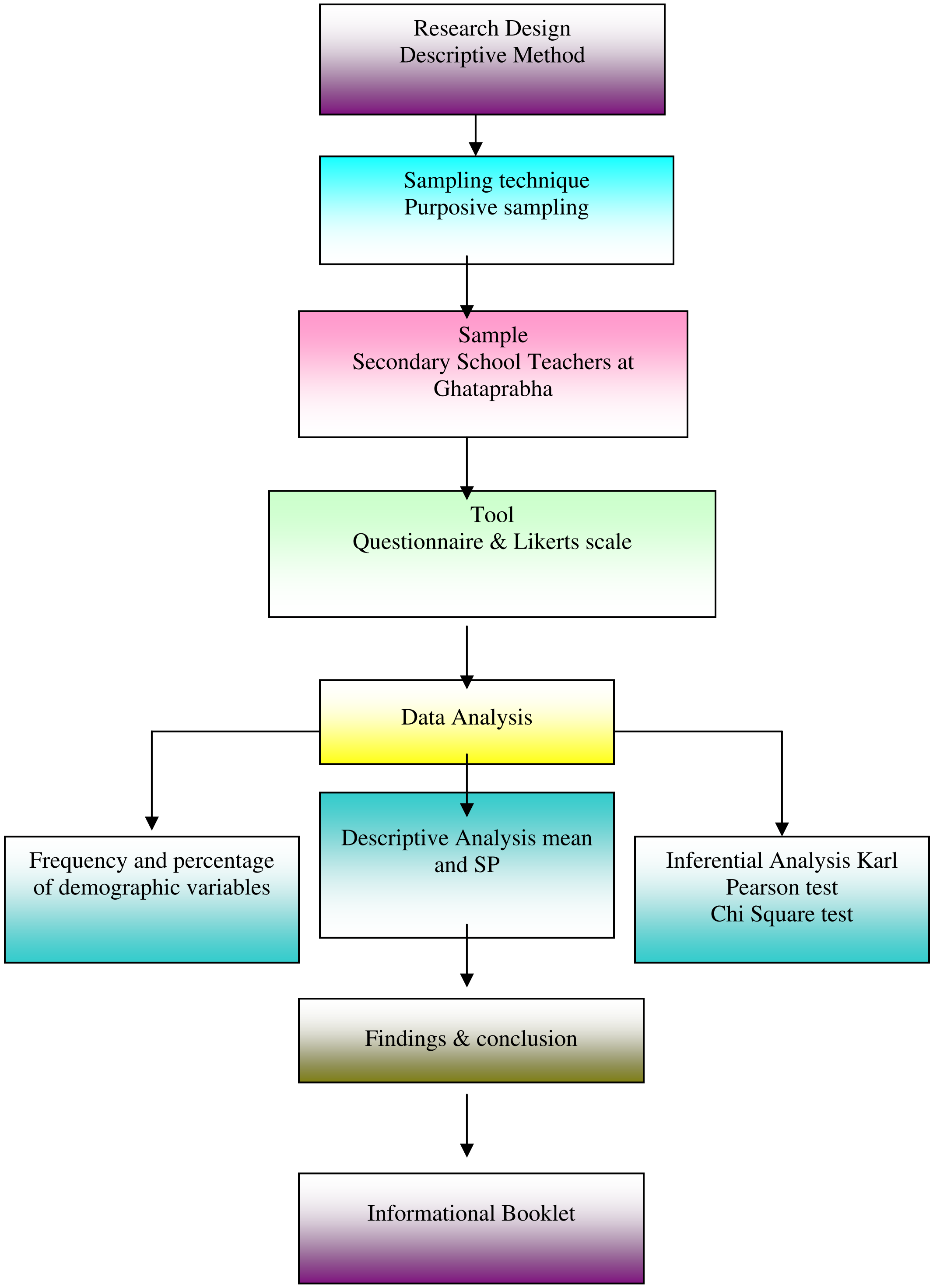
The research design is conceptual structure within which research is conducted. It constitutes the blue print for the collection, measurement and analysis of data.

Development of tool and planned to assess the knowledge and attitude by structured questionnaire and Likerts scale.

The following steps were taken before the development of the tool.

1. Review of literature in the areas related to selected emergencies and first aid management. Knowledge and attitude of teachers regarding first aid management were taken.
2. Opinion of different experts in nursing field was taken.
3. Personal experience of the investigator also taken into consideration.

Research Design



Variables:

Variables are the qualities, properties or characteristics of persons, things or situation that change or vary. Two types of variables are used in this study they are:

1. Dependent variables

2. Extraneous variables

Dependent variables:

It is the outcome variable of interest that is hypothesized to depend on or be caused by another variable that is independent variable.[61]

Extraneous variables:

A variable that confounds the relationship between the independent and dependent variable and that needs to be controlled either in the research design or through statistical procedure.[61]

In the present study, dependent variable knowledge and attitude of secondary school teachers regarding first aid management among school children are measured by structured questionnaires and Likerts scale. The extraneous variables are age in year, general education, gender, and teaching experiences was collected in sociodemographic data.

Setting of the study:

The study was conducted at secondary schools at Ghataprabha. Which are reputed and well equipped with modern facility. The researcher selected this setting for the following reasons.

1) Availability of the samples
2) Familiarity with settings
3) Economic feasibility for conducting the study.

Population, sample and sampling techniques.

Population:

Population includes all possible elements that could be included in research.[61]

In this study the population was secondary school teacher from oriental English Medium Schools and others schools at Ghataprabha. The total population in the study includes 80 teachers.

Sample:

Sample is a small portion of population selected for observation and analysis.[61]

The sample for the present study composed 50 teachers.

Sampling Technique:

Sampling technique is the procedure, which the researcher adopts in selecting the samples for the study.[61]

To purposive sampling, subjects were selected from the sampling frame. According to the sampling criteria. Purpose sampling technique was adopted and 50 teachers were selected.

Data collection technique:

since the purpose of study was to assess the knowledge and attitude of secondary school teacher among first aid management. Self administered knowledge questionnaire and Likerts scale were found to be appropriate.

Data collection Process:

The data collection process involves the precise, systematic gathering of information relevant to the research purpose, questions, or hypothesis of a study.[68]

The data collection period extended from 4/4/2011 to 30/5/2011. The teachers were taken by purposive sampling. After the participant observation of the attitudes of teachers with help of five point likert scale, questionnaire was administered which was collected on the same day. An average of 4-5 observation was done per day following which the knowledge questionnaire was administered to participant. The data collection process was terminated after thanking participants for their participation and co-operation.

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Plan data analysis:

Analysis is the systematic organization and synthesis of research data and testing of the research hypothesis using the data.[69]

It was decided to analyze the data by both descriptive and inferential statistics on basis of objectives and hypothesis of the study. Master data sheet (Annexure XIII) was be prepared by investigator to analyze the data. The data will be analyzed in terms of descriptive (frequency and percentage) and inferential statistics (Chi-square and Karl Pearson co-relation)

The data will be presented under the following headings.

SECTION - I : Description of sample characteristics:-

Baseline data containing sample characteristics would be analyzed using frequency and percentage.

SECTION - II : Level of knowledge of first aid management:-

Level of knowledge regarding first aid management would be analyze using frequency, percentage and mean percentage.

SECTION - III: Level of attitude:-

Level of attitudes towards first aid management would be analyzed using frequency, percentage and mean percentage.

SECTION - IV: Association between level of knowledge and selected demographic proforma.

It would be analyzed by using the Chi-Square method.

SECTION - V: Correlation between knowledge and attitude toward first aid management.

It would be analyzed by using Karl Pearson correlation.

RESULTS

1. Age distribution of secondary school teachers

Majority (32 %) of teachers were within the age group of 31-40 years,

26 % of teachers were within 21 -30 years. 24% of teachers were within 41-50 years & only 18 % teachers were in the age group of 51 & above.

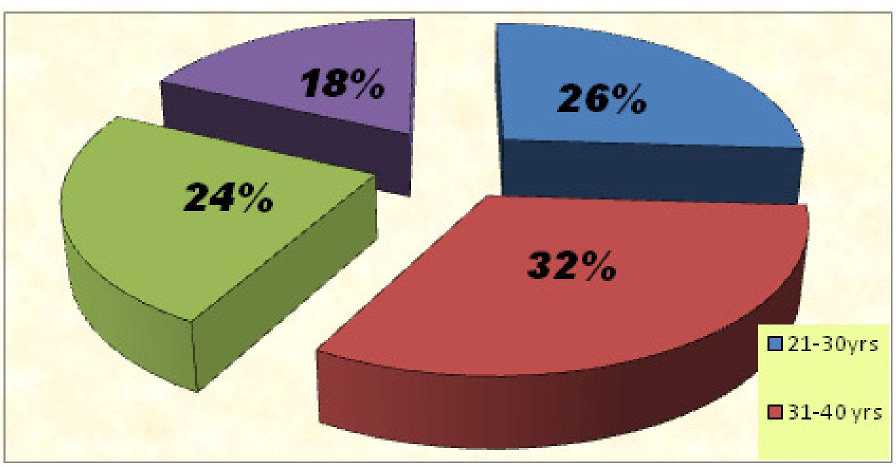

Fig.4: Pie diagram showing the age distribution of school teachers

1. Distribution o school teachers according to their gender.

Majority (58 %) of school teachers were Female & (42 %) of school teachers were Male

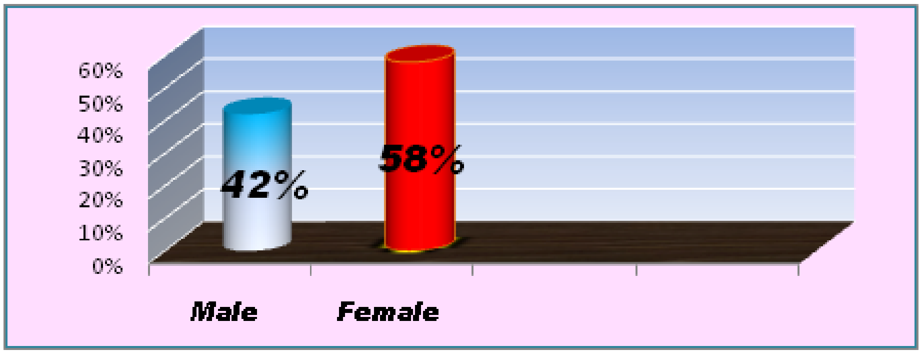

Fig -5: Cylindrical diagram showing the gender of teachers

Distributions of school teachers according to educational qualification.

Majority (38%) of school teachers educational qualification were D.Ed.& equal number (22%) of B.Ed & M.Ed teachers. 8 % were from B.P.Ed, & 10 % from others qualification.

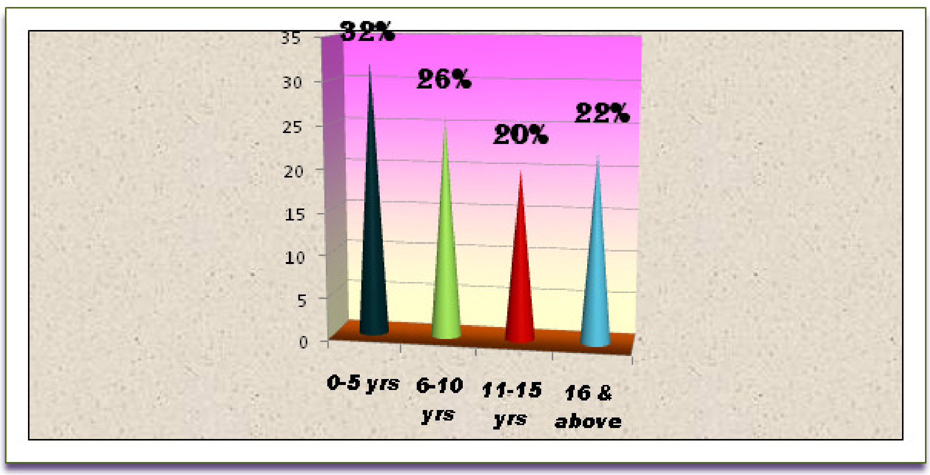

Fig -7: cone diagram showing number of experience of teachers.

SECTION II: Level of knowledge on First aid management

Majority (48 %) of teachers had poor knowledge & (36%) of teachers had average knowledge & only (16 %) teachers had a good knowledge.

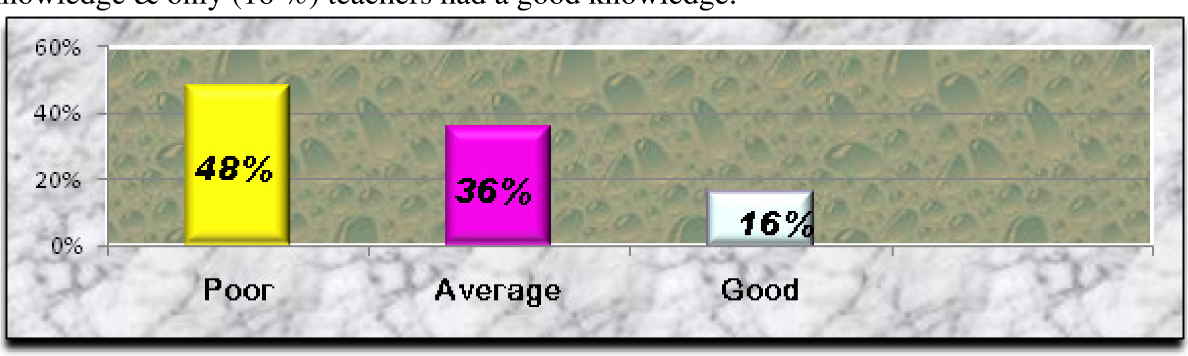

Fig 10 : – Bar diagram indicating the level of knowledge of school teachers regarding First aid management.

Level of knowledge comparing to the experience of a school teachers

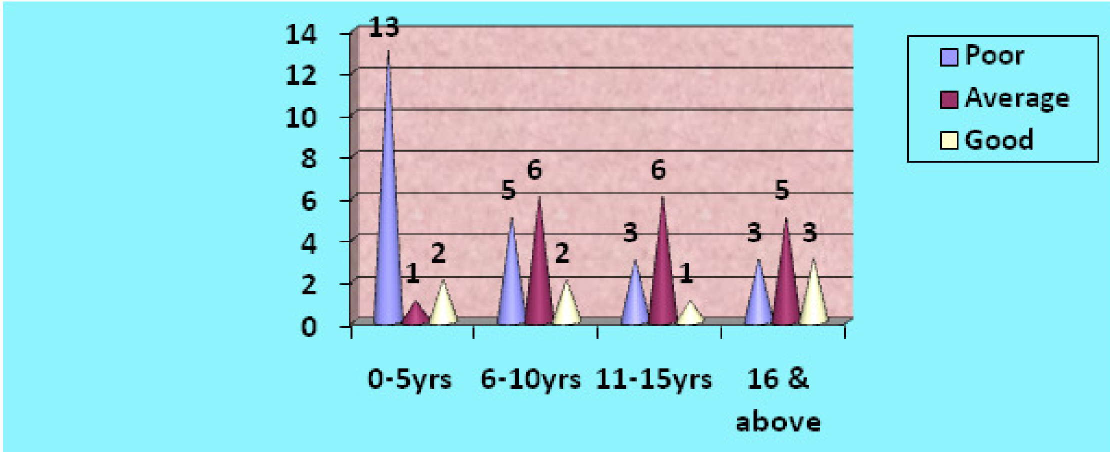

Fig - 13: Cone diagram showing Level of knowledge comparing to the experience of a school teachers.

Data presented in the figure shows that the respondents in 0-5 yrs have majority poor knowledge compare to other group of experience of years. In all years of experience have average knowledge of first aid management.

Area wise distribution of mean percentage knowledge:

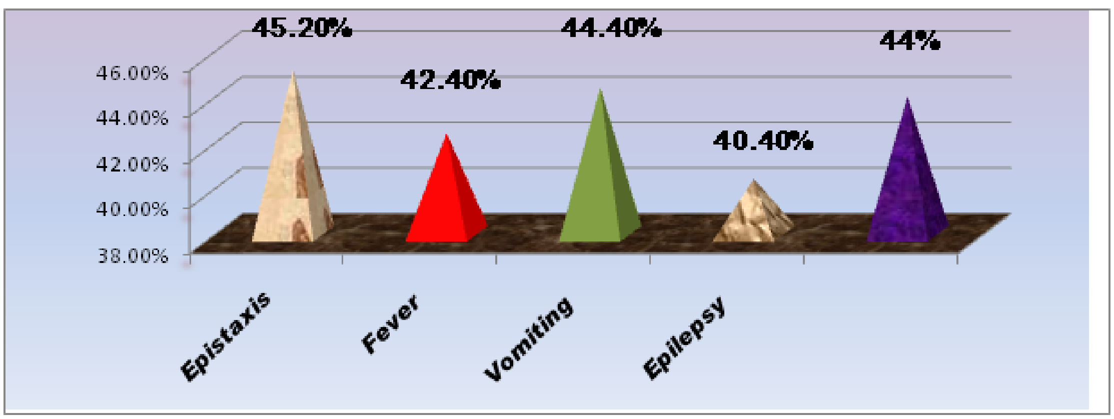

Fig – 14: pyramidal diagram showing Area wise distribution of mean percentage knowledge:

Data presented in the figure shows that the school teachers exhibited a high knowledge score (45.20%) in the area of first aid management of Epistaxis compare to other area.

SECTION IV: ASSOCIATION BETWEEN KNOWLEDGE & SELECTED DEMOGRAPHIC VARIABLES.

This section deals with the analysis of association between level of knowledge of secondary school teachers regarding first aid management of selected emergencies among school children & age of teachers. Gender & level of experience. Using chi-square test.

In order to find out the association between levels of knowledge of secondary school teachers regarding first aid management of selected emergencies among school children & age of teachers. Gender & level of experience.

1) Association between level of knowledge & year of teachers

The following null hypothesis was formulated.& alternative hypothesis

Ho: - There will be no association between level of knowledge of secondary school teachers & age of teachers.

H_1 : There will be association between level of knowledge of secondary school teachers & age of teachers.

The chi- square test was computed in order to determine the significance of association between levels of knowledge of secondary school teachers regarding first aid management of selected emergencies among school children & age of teachers.

Table 7: Association between level of knowledge of secondary school teachers & age of teachers.

Selected variable	Knowledge			Chi-square	d. f.
Age in yrs	Poor	average	Good		
21-30	10	1	2	14.76	6
31-40	9	4	3		
41-50	2	9	1		
51 & above	3	4	2		

χ^2 =12.59 P > 0.05

Referring χ^2 table for 6 df. χ^2= 0.05, 12.59; calculated χ^2 ie. Higher than $\chi^2_{0.05}$ hence the null hypothesis is rejected & alternative **H_1** hypothesis is accepted

From the table No 7 it is seen that the calculated chi. Square value is $\chi 2$ = 14.92 P>0.05. is more than table value

This indicates age is associated with the level of knowledge of school teachers.

SECTION V) correlation between knowledge & attitude of secondary school teacher regarding first aid management of emergencies

This section deals with the analysis of co-relation between level of knowledge & attitude of secondary school teacher regarding first aid management of emergencies.

Table 10: Correlation between knowledge & attitude of school teachers regarding first aid management of emergencies

Selected variables	Co- efficient of correlation	d. f.
Level of knowledge and Attitude	0.72	48

The findings in the table No. 10 show that there is correlation between knowledge. Attitude of school teachers regarding first aid management of emergencies

The 'r' value computed was 0.72 hence, it is interpreted that there is positive correlation between knowledge & attitude of school teachers regarding first aid management of emergencies.

DISCUSSION:-

Major findings of the study:-

Section I: - Sample characteristics:-

1. Majority (58%) female school teachers & 42% were male teachers.
2. Main age group of school teachers (32%) was age group 31-40 yrs.
3. 38% school teachers were from D.Ed. & only 8% were from physical education.
4. Majority (32%) were having 0-5 yrs. of experience in teaching language subject.
5. 32% were having information about first aid management were from printed media.

Section - II Level of knowledge regarding first aid management:-

1. Out of 50 Secondary school teachers majority 24 school teachers (48%) had poor knowledge regarding first aid management of emergencies 18 teachers (36%) had an average knowledge. Where as only 8 teachers (16%) had good knowledge regarding first aid management of selected emergencies.
2. In comparison to demographic characteristics 18 female respondent have poor knowledge of first aid management of selected emergencies. Where as 6 male has poor knowledge of first aid management .Eight female & ten male have average knowledge among First aid & emergency management. Comparative Five Male & 3 Female has good knowledge among first aid & emergencies management of selected emergencies.
3. Majority (32%) of school teachers are from 31-40 yrs. of age out of that 18% had poor knowledge 8% had an average knowledge & only 6% had a good knowledge about first aid & emergency management
4. In area wise distribution of knowledge score of school teachers it was observed that 45.20% had knowledge in first aid management & only 40.40% had knowledge about first aid management of epilepsy. In area of the knowledge school teachers had an average knowledge.

Section III - Level of attitude toward First aid management of selected Emergencies.

1. Out of 50 school teachers only 7(14%) of school teachers have positive attitude. 15(30%) had a average attitude & majority 28(56%) had a poor attitude toward First aid management of selected Emergencies.
2. In comparison to demographic charlatanistic majority of Female (40%) have poor attitude toward first aid management of selected Emergencies where as only 18% Male had poor attitude. 8% of Male had good attitude where as only 6% of Female had a good attitude toward first aid management of selected Emergencies.
3. In area wise distribution of attitude 34.85% of General thinking 32.26% had feeling & only 31.60% had believes towards first aid management of selected Emergencies among school children.

CONCLUSION

The knowledge of first aid & emergency management is essential for secondary school teacher since teachers spend must of their time with children, teacher's knowledge of what action to take in time of minor or major injuries is crucial to student's safety first Aid training is a mandatory requirement for employee in the work place the fact that teachers are surrounded by children for a significant amount of time, some teachers may actually find themselves in situation where emergently intervention is required proper reaction to injuries could means saving a child's life.[43]

The following conclusions were drawn on the basis of the findings of the study.

- Majority (58%) of the female school teachers & 42% were male teachers.
- Main age group of school teachers (32%) was belongs to group 31-40 yrs.
- 38% school teachers were from D.Ed. & only 8% were from physical education.
- Majority (32%) were having 0-5 yrs. of experience in teaching.
- 32% teachers were teaching language subject.
- Majority 34% were having information about first aid management were from printed media.
- Out of 50 school teachers 48% teachers had poor knowledge 36% had average knowledge & only 16% school teachers had good knowledge.

In comparison to demographic charlatanistic majority female 18 respondents had poor knowledge where as only 6 Male had poor knowledge where as only

- Female respondent had good knowledge regarding first aid management of emergency.
- Out of 50 school teachers 20 respondent of Female are having poor attitude where as 9 Respondent of Male had poor attitude.
- 8% of the male had a good attitude toward first aid management. Where as only 6% of male had a good attitude toward first aid management of selected Emergencies.

Implications & Recommendations:-

The findings of the study have following implications in the area of Nursing practice, Nursing Administration, Nursing Education & Nursing Research.

Nursing Education:-

- ➢ Nurse educator has to pay more attention on training of the nursing students regarding first aid & emergencies management among school children. So that they can import appropriate knowledge to school teachers.
- ➢ More emphasis has to placed in the Curriculum on commen first & Emergencies occurring in a school.
- ➢ Student Nurses can be motivated to organized school health programmes to enhance the knowledge & attitude of school teachers toward first aid & emergency management.
- ➢ Encourage the students Nurse to participate actively in health awareness in school health & awareness campaign.

Nursing Practice:-

- ➢ Nurses must educate the school teachers on common first aid & emergencies management among school children.
- ➢ Nurses have to develop an Information booklet to educate school teachers.
- ➢ Nurses also conduct workshop, seminar on first aid & emergency management among school children.
- ➢ Student nurse can be posted in school health clinics to obtain skills in meeting the needs of the client by providing care & management.

Nursing Research:-

- ➢ A similar study can be conducted on large scale.
- ➢ An in depth study on other emergencies condition & its first aid management can be conducted.

The findings of the study shows that majority of the secondary school teachers lack of knowledge about first aid management of commen emergencies condition like epistaxsis, fever, vomiting, accidental injuries epilepsy mostly the teacher must know first aid & emergency management as they are most of the time with the school children's & teachers are next to parent to take care of children when they are in a school. Based on the finding the professional & the student nurses can conduct further studies on first aid & emergencies management in school during disaster, first aid & CPR training for school teachers,

Nursing administration:-

- ➢ Nurse administrative has to plan & organize training programme for the nursing personnel on first aid & emergency management among school children.
- ➢ Nurse administrator has to organize educational programmes in school & community settings.

- Necessary administrative support has to be provided to conduct health educational workshop in school campus with appropriate A.V. Aids, mass media, posters, role plays, drama & puppet show.

Limitations:-

1. The study was confined to a small number of subjects, which resulted in reduced power in statistical analysis.
2. The study was confined to selected secondary school of Ghataprabha limits the generalisability.
3. No standardized tools were available therefore the investigator prepared a tool for the purpose of this study.

Suggestions:-

The following suggestions are made on basis of the present study to educate the secondary school teachers regarding first aid management of emergency conditions.

1. Emphasis in general curriculum on first aid & emergency management among school children.
2. Regular demonstration classes should be included for gaining skills in providing first aid & emergency management.
3. Adequate supervision & guidance of children during school days by the school teachers.
4. Every year training of first aid & emergencies management by the professional workers to the school teachers.
5. First aid training also can be provided to the school children.
6. Suitable environment for working could be maintained through provision of adequate supplies & equipment of first aid kits in a school.

BIBLIOGRAPHY

1. Janet J. Education for school children on prevention of accidents. NNT 2010, Nov (6), 18-19.
2. First aid for the injured. St. John Ambulance association, 2008, 123-124.
3. Ghai OP, Piyush Gupta "Essential Preventive Medicine", 1st ed. New Delhi Vikas publishing 1999, P. 571-572.
4. Sakshi Khatta. First aid in schools TNN July 20, 2009 A : 3 (Col : 3)
5. Karren K.J., Hafen, B, Q, first responder a skill approach 2005 : (3) 53 ; 129-135.
6. Rana Diab. first Aid & CPR training for Teachers. The importance of knowing How to React to school Related injuries. 2009 Jul 3 ; (1) : 30-34.
7. Jena Clayton Barrett. The Journal of school Nursing 2001 Dec; 17(6) : 316 - 322.
8. Trace En & Trace JN Element of Research in Nursing St. Lousis CV mos by company 1998.
9. Rao Vishweshwara K. Bio statistics a manual of statistical methods for use in health, Nutrition & Anthropology, New Delhi Jaypee Brother, 1996.

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Date Visualization Past, Present, Future

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ABSTRACT

Data visualization is the presentation of data in a pictorial or graphical format.Data visualization is a quick, easy way to convey concepts in a universal manner – and you can experiment with different scenarios by making slight adjustments. A picture is worth a thousand words – especially when you're trying to find relationships and understand your data, which could include thousands or even millions of variables.the benefits of data visualization are undermined today by a general lack ofunderstanding. Many of the current trends in data visualization are actually producing the opposite of the intended effect,confusion rather than understanding. So in this research paper ,what is data visualization? Past, present, future trends of data visualization, how it is beneficial to organization and educational institution are discussed.

Keywords: Data Visualization, Tools, Text, Charts, Big Data

INTRODUCTION

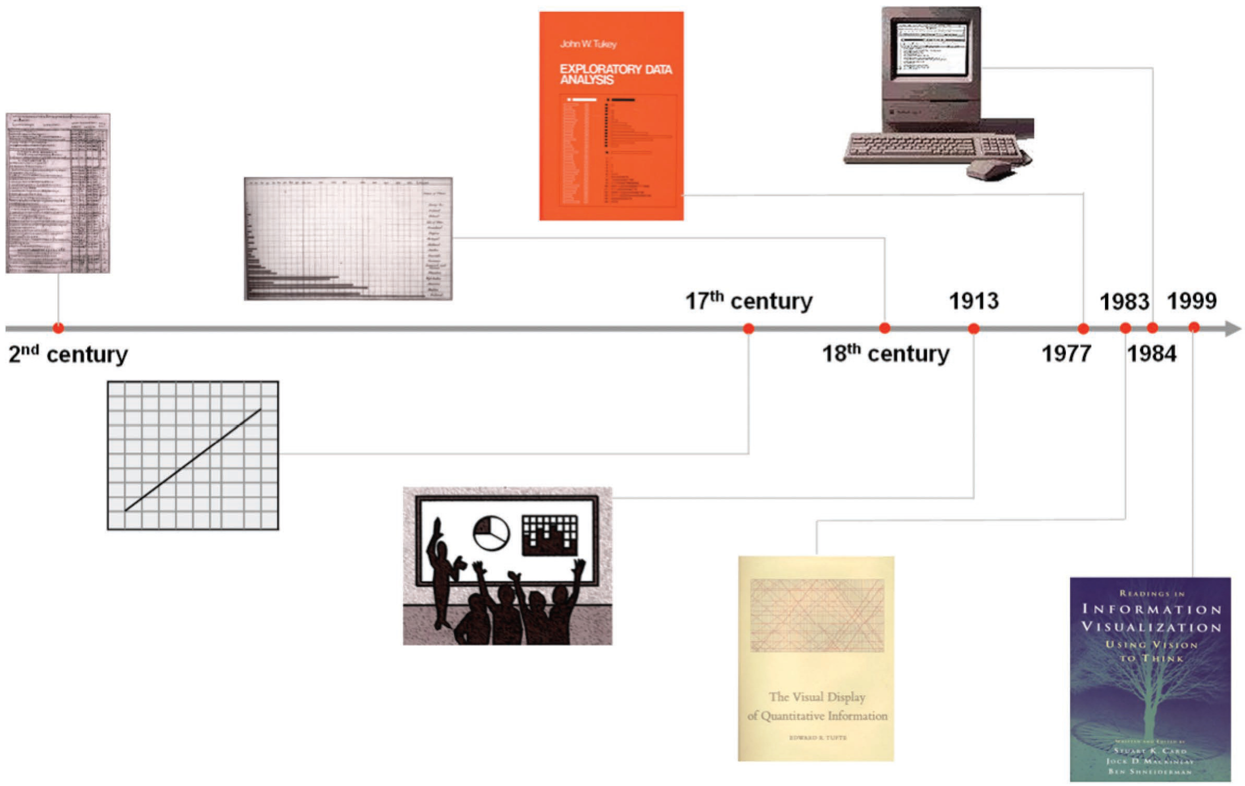
We live in times of ubiquitous presence ofcomputers.To understand current and future trends in the field of data visualization, it helps to begin with some historical context. Despite the fact that predecessors to data visualization date back to the 2nd century AD, most developments have occurred in the last two and a half centuries, predominantly during the last 30 years.

A table is primarily a textual representation of data, but it uses the visual attributes of alignment, white space, and at times rules (vertical or horizontal lines) to arrange data into columns and rows. Tables, along with graphs and diagrams, all fall into the class of data representations called charts.

The visual representation of quantitative data in relation to two-dimensional coordinate scales, the most common form of what we call graphs, didn't arise until much later, in the 17th century. Rene Descartes, the French philosopher and mathematician, invented this method of representing quantitative data originally, not for presenting data, but for performing a type of mathematics based on a system of coordinates. Later, however, this representation was recognized as an effective means to present information to others as well.

Following Descartes' innovation, it wasn't until the late 18th and early 19th centuries that many of the graphs that we usetoday, including bar charts and pie charts, were invented or dramatically improved by a Scottish social scientist namedWilliam Playfair.

LITERATURE REVIEW



Over a century passed, however, before the value of these techniques became recognized to the point that academic courses in graphing data were finally introduced, originally at Iowa State University in 1913.

In 1983 data visualization aficionado Edward Tufte published his groundbreaking book *The Visual Display of Quantitative Information*, which showed us that there were effective ways of displaying data visually and then there were the ways that most of us were doing it, which were sadly lacking in effectiveness. One year later, in 1984, while we werewatching the Super Bowl, Apple Computer introduced the first popular and affordable computer that focused on graphics as a mode of interaction and display. This paved the way for the use of data visualizations that we could view and interact with using a computer.Given the availability of affordable computers with powerful graphics, a new research specialty emerged in the academicworld, which was given the name “information visualization.”

Before the personal computer became commonplace in the workplace, if you needed to present data graphically, then it was tedious and time consuming process . But with the advent of the PC and the development of business software such as theelectronic spreadsheet, this changed. With the PC, the click of a mouse could transform a host of numbers into a graph,

RESEARCH METHODOLOGY

CURRENT TRENDS IN DATA VISUALIZATION:

One of the encouraging new trends in business intelligence is the growing recognition that the greatest benefits of data visualization will come in the form of analytics. Visual analysis software allows us to not only represent data graphically, but to also interact with those visual representations to change the nature of the display, filter out what's not relevant, drill into lower levels of detail, and highlight subsets of data across multiple graphs simultaneously.

This makes good use of our eyes and assists our brains, resulting in insights that cannot be matched by traditional approaches. Static graphs delivered on paper or electronically on a computer screen help us communicate information in a clear and enlightening way, which is a benefit that should not be undervalued, but it is from visual analytics that businesses will derive the greatest benefits.

According to IDC there will be 40 zettabytes – that's 40 trillion gigabytes – of big data by 2020. Companies will need to have a strategic approach to dealing with this much data.

Here are four ways data visualization can help your organization:

1. **Improved response times**: Data visualization puts the data into the users' hands allowing them to more quickly identify issues and improve response times.
2. **Greater Simplicity**: Using visualizations allows users to get the big picture and see the details at the same time. It simplifies the data by allowing the users to interact only with relevant data.
3. **Easier visualization of patterns**: Using visualization allows users to better absorb the data and see new paths. This enables users to identify new patterns and trends that were impossible to see using tabular data. It allows decision-makers to view data using graphical representations including charts, and heat maps.
4. **Enhanced Collaboration**: Collaboration gives teams access to the strengths and skills of everyone involved by combining the experiences of the entire group. These skills can be used to solve problems faster and improve innovation. Using advanced visualizations makes it easier for teams to collaborate. Instead of having to consume tens of thousands of lines of data, they can rely on visual representations that consolidate the data.

Visualizing Big Data

Big data brings new challenges to visualization because of the speed, size and diversity of data that must be taken into account. The cardinality of the columns you are trying to visualize should also be considered.

One of the most common definitions of big data is data that is of such volume, variety and velocity that an organization must move beyond its comfort zone technologically to derive intelligence for effective decisions.

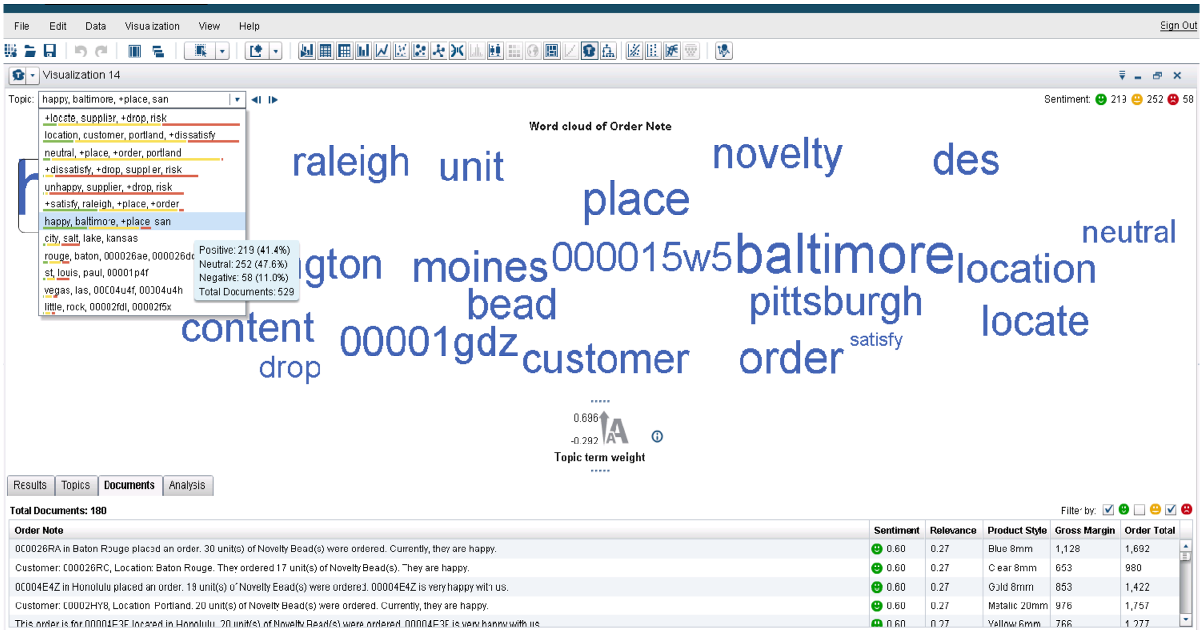
- Volume refers to the size of the data.
- Variety describes whether the data is structured, semistructured or unstructured.
- Velocity is the speed at which data pours in and how frequently it changes.

Building upon basic graphing and visualization techniques, SAS Visual Analytics has taken an innovative approach to addressing the challenges associated with visualizing big data. Using innovative, in-memory capabilities combined with SAS Analytics and data discovery, SAS provides new techniques based on core fundamentals of data analysis and the presentation of results.

Visualizing Semistructured and Unstructured Data With Word Clouds and Network Diagrams

While visualizing structured data is fairly simple, semi structured or unstructured data requires new visualization techniques, such as word clouds or network diagrams.

Word Cloud



For example, you could use the topic cloud to categorize customer comments on Twitter about your products or services and then click on a topic to drill down to see the actual comments.

With the growing amount and accessibility of data, data visualisation is becoming increasingly important. Not only does visualised data represent large quantities of data coherently, it doesn't distort what the data has to say and helps the user discern relationships in the data. According to the writers of *A Tour Through the Visualization Zoo*, "The goal of visualization is to aid our understanding of data by leveraging the human visual system's highly-tuned ability to see patterns, spot trends, and identify outliers."

In this paper we'll go through the 15 most common types of data visualisation that fall under the 2D area, temporal, multidimensional, hierarchical and network categories.

2D Area

2D area types of data visualisation are usually geospatial, meaning that they relate to the relative position of things on the earth's surface.

Cartogram: A cartogram distorts the geometry or space of a map to convey the information of an alternative variable, such as population or travel time. The two main types are area and distance cartograms.

Choropleth:

A choropleth is a map with areas patterned or shaded to represent the measurement of a statistical variable, such as most visited website per country or population density by state.

Dot Distribution Map: A dot distribution or dot density map uses a dot symbol to show the presence of a feature on a map, relying on visual scatter to show spatial pattern.

Temporal

Temporal visualisations are similar to one-dimensional linear visualisations, but differ because they have a start and finish time and items that may overlap each other.

Connected Scatter Plot: A connected scatter plot is a scatter plot, a plot that displays values of two variables for a set of data, with an added line that connects the data series.

Polar Area Diagram: A polar area diagram is similar to a traditional pie chart, but sectors differ in how far they extend from the center of the circle rather than by the size of their angles.

Time Series: A time series is a sequence of data points typically consisting of successive measurements made over a time interval, such as the number of website visits over a period of several months.

Multidimensional

Multidimensional data elements are those with two or more dimensions. This category is home to many of the most common types of data visualisation.

Pie Chart: A pie or circle chart is divided into sectors to illustrate numerical proportion; the arc length and angle of each sector is proportional to the quantity it represents.

Histogram: A histogram is a data visualisation that uses rectangles with heights proportional to the count and widths equal to the "bin size" or range of small intervals.

Scatter Plot: A scatter plot displays values for two variables for a set of data as a collection of points.

Hierarchical

Hierarchical data sets are orderings of groups in which larger groups encompass sets of smaller groups.

Dendrogram: A dendrogram is a tree diagram used to illustrate an arrangement of clusters produced by hierarchical clustering.

Ring Chart: A ring or sunburst chart is a multilevel pie chart that visualises hierarchical data with concentric circles.

Tree Diagram: A tree diagram or tree structure represents the hierarchical nature of a structure in graph form. It can be visually represented from top to bottom or left to right.

Network

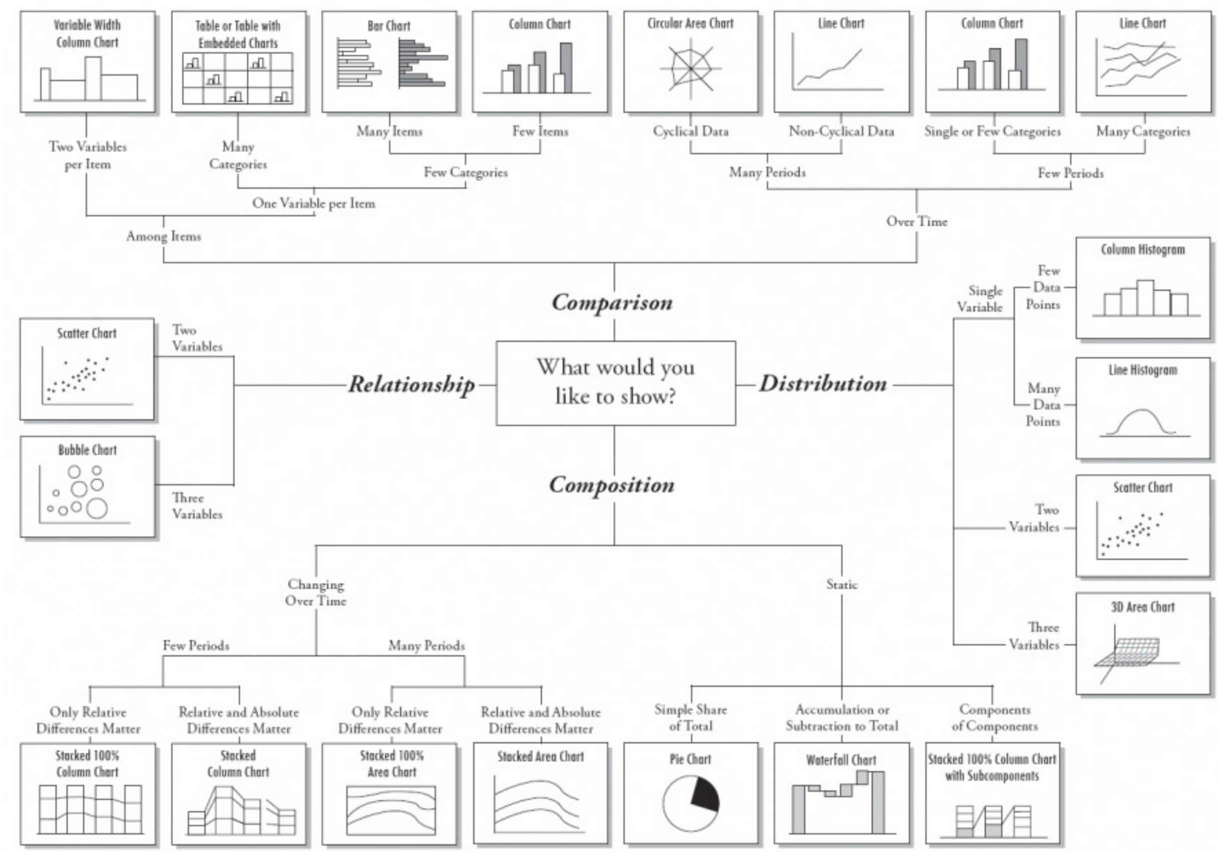
Network data visualisations show how data sets are related to one another within a network.

Alluvial Diagram: An alluvial diagram is a type of flow diagram that represents changes in network structure over time.

Node-Link Diagram: A node-link diagram represents nodes as dots and links as line segments to show how a data set is connected.

Matrix: A matrix chart or diagram shows the relationship between two, three, or four groups of information and gives information about said relationship.

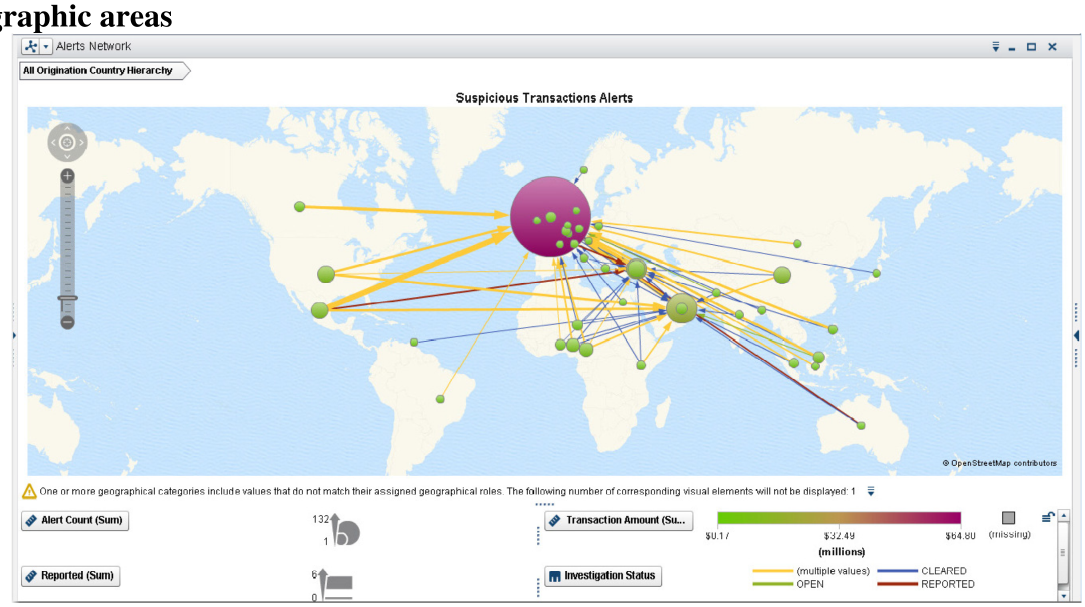
As you can see, there is a plethora of options when it comes to data visualisation, and these common types are only the tip of the iceberg.



Choosing the right type of visualisation depends on what you need to show (comparison, distribution, composition, or relationship), how much detail the audience needs, and what information the audience needs in order to be successful.

Although the amount of data visualisation options may feel overwhelming, whichever you choose will be much more comprehensible than raw numbers alone.

Network diagrams explore relationships within a data set, including connections across geographic areas



CONCLUSIONS

Visualizing your data can be both fun and challenging. It is much easier to understand information in a visual compared to a large table with lots of rows and columns. However, with the many visually exciting choices available, it is possible that the visual creator may end up presenting the information using the wrong visualization. In some cases, there are specific visuals you should use for certain data. In other instances, your audience may dictate which visualization you present.

You can choose the most appropriate visualization by understanding the data and its composition, what information you are trying to convey visually to your audience, and how viewers process visual information. And products such as SAS Visual Analytics can help provide the best, fastest visualizations possible. The solution enables you to explore all of your data using visual techniques combined with industry-leading analytics. Visualizations such as box plots and correlation matrices help you quickly understand the composition and relationships in your data.

REFERENCES

- *"The Visual Display of Quantitative Information" by Edward R.Tufte*
- *"Visualize This: The Flowing Data Guide to Design, Visualization, and Statistics" by Nathan Yau*
- *https://www.sas.com/content/dam/SAS/en_us/doc/whitepaper1/data-visualization-techniques*

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