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Editorial.....

It is heartening to note that our journal is able to sustain the enthusiasm and covering various facets of knowledge. It is our hope that IJMER would continue to live up to its fullest expectations savoring the thoughts of the intellectuals associated with its functioning .Our progress is steady and we are in a position now to receive evaluate and publish as many articles as we can. The response from the academicians and scholars is excellent and we are proud to acknowledge this stimulating aspect.

The writers with their rich research experience in the academic fields are contributing excellently and making IJMER march to progress as envisaged. The interdisciplinary topics bring in a spirit of immense participation enabling us to understand the relations in the growing competitive world. Our endeavour will be to keep IJMER as a perfect tool in making all its participants to work to unity with their thoughts and action.

The Editor thanks one and all for their input towards the growth of the **Knowledge Based Society**. All of us together are making continues efforts to make our predictions true in making IJMER, a Journal of Repute

Dr.K.Victor Babu
Editor-in-Chief

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FACTOR DOMINATION LABELING TO PATH AND CYCLE

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Abstract:

In this paper we introduced a new type of graph labeling is called a Factor Domination Labeling. Domination and Labeling are two different concepts in graph theory which are the ingredients of Factor Domination Labeling. Our aim is to find the minimum dominating set and label the vertices of the graph. Our special interest is to find a general formula to label the vertices of the graph and find the Factor Domination Labeled Number.

Key Words:

Labeling, Domination, Factor Domination Labeling, Factor Domination Number.

Introduction:

Factor Domination Labeling is defined as “A dominating set $S \subseteq V(G)$ is said to be a Factor Domination Labeling of G if the vertex labels are distinct positive integers and $f(v)$ divides $f(u)$ where $u \in S, v \in N(u)$.”

Minimum span of factor domination labeling is said to be the Factor Domination Labeled Number which is denoted by FDLN. The basic definitions and results of graph, labelling and domination are referred from [1,2,4] and [5] respectively.

Lemma: 1.1

$$\text{For } n \geq 3, \gamma(P_n) = \gamma(C_n) = \left\lceil \frac{n}{3} \right\rceil.$$

Theorem: 1.2

Let P_n and C_n ; $3 \leq n \leq 27$ and $n \equiv 0 \pmod{3}$ are respectively on path and cycle graphs having n

$$\text{vertices then } FDLN(P_n) = FDLN(C_n) = \frac{4n-3}{3}.$$

Proof:

Let $G_1 = P_n$; $3 \leq n \leq 27$ and $n \equiv 0 \pmod{3}$ be a path graph with n vertices and $n-1$ edges. The

$$\text{vertex set of } P_n \text{ is } V(P_n) = \{v_i / 1 \leq i \leq n\}.$$

The edge set

$$\text{of } P_n \text{ is } E(P_n) = \{e_i = v_i v_{i+1} / 1 \leq i \leq n-1\}.$$

$$N(v_i) = \{v_{i-1}, v_{i+1} / 1 \leq i \leq n-1\}.$$



Let $G_2 = C_n; 3 \leq n \leq 27$ and $n \equiv 0 \pmod{3}$ be a cycle graph with n vertices and n edges. The vertex set of C_n is $V(C_n) = \{v_i / 1 \leq i \leq n\}$.

The edge set of C_n is $E(C_n) = \{e_i = v_i v_{i+1}, e_n = v_1 v_n / 1 \leq i \leq n\}$.

$N(v_i) = \{v_{i-1}, v_{i+1} / 1 \leq i \leq n-1\}$, $N(v_n) = \{v_1, v_{n-1}\}$.

In G_1 and G_2 , $N(v_{3i-1}) = \{v_{3i-2}, v_{3i} / 1 \leq i \leq \frac{n}{3}\}$.

Therefore, $D(G_1) = D(G_2) = \{v_{3i-1} / 1 \leq i \leq \frac{n}{3}\}$.

By Lemma:1.1, $n \geq 3$, $\gamma(P_n) = \gamma(C_n) = \left\lceil \frac{n}{3} \right\rceil$.

Define $f : V(G) \rightarrow N$

$$f(v_{3i-1}) = \begin{cases} \frac{4n}{3} - 3i + \left\lceil \frac{3i+1}{3} \right\rceil + 1 & ; 1 \leq i \leq \frac{n}{3} & \& n \neq 27 \\ \frac{4n}{3} - 3i + \left\lceil \frac{3i+1}{3} \right\rceil + 1 & ; i \neq \left\lfloor \frac{n-1}{3} \right\rfloor & \& n = 27 \\ \left(\frac{4n}{3} - 3i + \left\lceil \frac{3i+1}{3} \right\rceil + 1 \right) + 10 & ; i = \left\lfloor \frac{n-1}{3} \right\rfloor & \& n = 27 \end{cases}$$

$$f(v_{3i-2}) = \frac{\frac{4n}{3} - 3i + \left\lceil \frac{3i+1}{3} \right\rceil + 1}{2}; 1 \leq i \leq \frac{n}{3}.$$

$$f(v_{6i-3}) = \begin{cases} \frac{\frac{4n}{3} - 4(i-1)}{4} & ; 1 \leq i \leq \left\lfloor \frac{n+3}{6} \right\rfloor & \& n \neq 24, 27 \\ \frac{\frac{4n}{3} - 4(i-1)}{4} & ; 1 \leq i < \left\lfloor \frac{n+3}{6} \right\rfloor & \& n = 24 \\ \frac{\frac{4n}{3} - 4(i-1)}{5} & ; i = \left\lfloor \frac{n+3}{6} \right\rfloor & \& n = 24 \\ \frac{\frac{4n}{3} - 4(i-1)}{4} & ; i \neq 4 & \& n = 27 \\ i & ; i = 4 & \& n = 27 \end{cases}$$

$$f(v_{6i}) = \begin{cases} i & ; 1 \leq i \leq \left\lfloor \frac{n}{6} \right\rfloor & \& n \neq 18, 24, 27 \\ i & ; i=1 & \& n=18 \\ \left\lfloor \frac{n-6i}{6} \right\rfloor + 2 & ; 1 < i \leq \left\lfloor \frac{n}{6} \right\rfloor & \& n=18 \\ 6i-1 & ; i=1 & \& n=24 \\ i-1 & ; 1 < i \leq \left\lfloor \frac{n}{6} \right\rfloor & \& n=24 \\ 5(i-1)+1 & ; 1 \leq i < \frac{n}{9} & \& n=27 \\ i-1 & ; \frac{n}{9} \leq i \leq \left\lfloor \frac{n}{6} \right\rfloor & \& n=27 \end{cases}$$

By the above labelling, $f(v_{6i}) = 1; n \neq 3$ and $f(v_{6i-3}) = 1; n = 3$ is minimum and

$f(v_{3i-1}) = \frac{4n}{3}$ is maximum for any value of i .

$$\Rightarrow FDLN(G_1) = FDLN(G_2) = \frac{4n}{3} - 1 = \frac{4n-3}{3}$$

$$\Rightarrow FDLN(P_n) = FDLN(C_n) = \frac{4n-3}{3}.$$

Hence the proof.

Theorem: 1.3

Let P_n and C_n ; $4 \leq n \leq 25$ and $n \equiv 1 \pmod{3}$ are respectively on path and cycle graphs having n

vertices then $FDLN(P_n) = FDLN(C_n) = \frac{4n-7}{3}$.

Proof:

Let $G_1 = P_n$; $4 \leq n \leq 25$ and $n \equiv 1 \pmod{3}$ be a path graph with n vertices and $n-1$ edges. The

vertex set of P_n is $V(P_n) = \{v_i / 1 \leq i \leq n\}$.

The edge set

of P_n is $E(P_n) = \{e_i = v_i v_{i+1} / 1 \leq i \leq n-1\}$.

$N(v_i) = \{v_{i-1}, v_{i+1} / 1 \leq i \leq n-1\}$.

Let $G_2 = C_n; 4 \leq n \leq 25$ and $n \equiv 1 \pmod{3}$ be a cycle graph with n vertices and n edges. The vertex set of C_n is $V(C_n) = \{v_i / 1 \leq i \leq n\}$.

The edge set of C_n is $E(C_n) = \{e_i = v_i v_{i+1}, e_n = v_1 v_n / 1 \leq i \leq n\}$.

$N(v_i) = \{v_{i-1}, v_{i+1} / 1 \leq i \leq n-1\}, N(v_n) = \{v_1, v_{n-1}\}$.

In G_1 and $G_2, N(v_{3i-1}) = \{v_{3i-2}, v_{3i} / 1 \leq i \leq \frac{n}{3}\}, N(v_{3i-1}) \neq v_n \& v_n \in N(v_{n-1})$.

Therefore, $D(G_1) = D(G_2) = \{v_{3i-1}, v_{n-1} / 1 \leq i \leq \lfloor \frac{n}{3} \rfloor\}$.

By Lemma: 1.1, $n \geq 3, \gamma(P_n) = \gamma(C_n) = \lceil \frac{n}{3} \rceil$.

Define $f : V(G) \rightarrow N$

$$f(v_{3i-1}) = \frac{4(n-1)}{3} - 3i + \left\lceil \frac{3i+1}{3} \right\rceil + 1; 1 \leq i \leq \left\lfloor \frac{n}{3} \right\rfloor$$

$$f(v_{3i-2}) = \frac{\frac{4(n-1)}{3} - 3i + \left\lceil \frac{3i+1}{3} \right\rceil + 1}{2}; 1 \leq i \leq \left\lfloor \frac{n}{3} \right\rfloor$$

$$f(v_{n-1}) = \begin{cases} n & \text{if } n = 25 \\ \left\lceil \frac{2n}{3} \right\rceil & ; \text{ otherwise} \end{cases}$$

$$f(v_n) = \begin{cases} 5 & \text{if } n = 22, 25 \\ 1 & ; \text{ otherwise} \end{cases}$$

$$f(v_{6i-3}) = \begin{cases} \frac{\frac{4(n-1)}{3} - 4(i-1)}{4} & ; 1 \leq i \leq \left\lfloor \frac{n}{6} \right\rfloor & \& n \neq 22, 25 \\ \frac{\frac{4(n-1)}{3} - 4(i-1)}{4} & ; 1 \leq i < \left\lfloor \frac{n}{6} \right\rfloor & \& n = 22, 25 \\ \frac{\frac{4(n-1)}{3} - 4(i-1)}{5} & ; i = \left\lfloor \frac{n}{6} \right\rfloor & \& n = 22, 25 \end{cases}$$

$$f(v_{6i}) = \begin{cases} \left\lfloor \frac{n}{5} \right\rfloor - \left\lfloor \frac{6i-1}{6} \right\rfloor & ; 1 \leq i \leq \left\lfloor \frac{n}{7} \right\rfloor & \& 7 < n < 19 \\ 2 - \left\lfloor \frac{n}{10} \right\rfloor + i & ; 1 \leq i \leq \left\lfloor \frac{n}{7} \right\rfloor & \& 19 \leq n \leq 22 \\ i + 2 & ; i = 1 & \& n = 25 \\ i - 1 & ; 1 < i \leq \left\lfloor \frac{n}{7} \right\rfloor & \& n = 25 \end{cases}$$

By the above labelling, $f(v_n) = 1; n \neq 22, 25$ and $f(v_{6i}) = 1; n = 22, 25$ is minimum and

$$f(v_{3i-1}) = \frac{4(n-1)}{3} \text{ is maximum for any value of } i.$$

$$\Rightarrow FDLN(G_1) = FDLN(G_2) = \frac{4(n-1)}{3} - 1 = \frac{4n-7}{3}$$

$$\Rightarrow FDLN(P_n) = FDLN(C_n) = \frac{4n-7}{3}$$

Hence the proof.

Theorem: 1.4

Let P_n and C_n ; $2 \leq n \leq 26$ and $n \equiv 2 \pmod{3}$ are respectively on path and cycle graphs having n

vertices then $FDLN(P_n) = FDLN(C_n) = \frac{4n-5}{3}$.



Proof:

Let $G_1 = P_n; 2 \leq n \leq 26$ and $n \equiv 2(\text{mod } 3)$ be a path graph with n vertices and $n-1$ edges. The vertex set of P_n is $V(P_n) = \{v_i / 1 \leq i \leq n\}$. The edge set

of P_n is $E(P_n) = \{e_i = v_i v_{i+1} / 1 \leq i \leq n-1\}$.

$N(v_i) = \{v_{i-1}, v_{i+1} / 1 \leq i \leq n-1\}$.

Let $G_2 = C_n; 2 \leq n \leq 26$ and $n \equiv 2(\text{mod } 3)$ be a cycle graph with n vertices and n edges. The vertex set of C_n is $V(C_n) = \{v_i / 1 \leq i \leq n\}$.

The edge set of C_n is $E(C_n) = \{e_i = v_i v_{i+1}, e_n = v_1 v_n / 1 \leq i \leq n\}$.

$N(v_i) = \{v_{i-1}, v_{i+1} / 1 \leq i \leq n-1\}, N(v_n) = \{v_1, v_{n-1}\}$.

In G_1 and $G_2, N(v_{3i-1}) = \{v_{3i-2}, v_{3i} / 1 \leq i \leq \lfloor \frac{n}{3} \rfloor\}$.

Therefore, $D(G_1) = D(G_2) = \{v_{3i-1} / 1 \leq i \leq \lfloor \frac{n}{3} \rfloor\}$.

By Lemma: 1.1, $n \geq 3, \gamma(P_n) = \gamma(C_n) = \lfloor \frac{n}{3} \rfloor$.

Define $f : V(G) \rightarrow N$

$$f(v_{3i-1}) = \begin{cases} \left\lfloor \frac{4(n-2)}{3} - 3(i-1) + \frac{3i+1}{3} \right\rfloor & ; 1 \leq i \leq \left\lfloor \frac{n}{3} \right\rfloor & \& n \neq 26 \\ n+1 & ; i=1 & \& n=26 \\ \left\lfloor \frac{4(n-2)}{3} - 3(i-1) + \frac{3i+1}{3} \right\rfloor & ; 1 < i < \left\lfloor \frac{n}{3} \right\rfloor & \& n=26 \\ \frac{4(n-2)}{3} + 2 & ; i = \left\lfloor \frac{n}{3} \right\rfloor & \& n=26 \end{cases}$$



$$f(v_{3i-2}) = \begin{cases} \frac{\frac{4(n-2)}{3} - 3(i-1) + \left\lceil \frac{3i+1}{3} \right\rceil}{2} & ; \quad 1 \leq i \leq \left\lfloor \frac{n}{3} \right\rfloor & \& \quad n \neq 26 \\ \frac{n+1}{3} & ; \quad i = 1 & \& \quad n = 26 \\ \frac{\frac{4(n-2)}{3} - 3(i-1) + \left\lceil \frac{3i+1}{3} \right\rceil}{2} & ; \quad 1 < i < \left\lfloor \frac{n}{3} \right\rfloor & \& \quad n = 26 \\ \frac{2(n-2)}{3} + 1 & ; \quad i = \left\lfloor \frac{n}{3} \right\rfloor & \& \quad n = 26 \end{cases}$$

$$f(v_{6i-3}) = \begin{cases} i & ; \quad 1 \leq i \leq \left\lfloor \frac{n+1}{6} \right\rfloor & \& \quad n \neq 17, 23, 26 \\ 2i-1 & ; \quad 1 \leq i < \left\lfloor \frac{n+1}{6} \right\rfloor & \& \quad n = 17 \\ i-1 & ; \quad i = \left\lfloor \frac{n+1}{6} \right\rfloor & \& \quad n = 17 \\ 5 & ; \quad i = 1 & \& \quad n = 23 \\ i-1 & ; \quad 1 < i \leq \left\lfloor \frac{n+1}{6} \right\rfloor & \& \quad n = 23 \\ 2i+1 & ; \quad i = 1, 2 & \& \quad n = 26 \\ i-2 & ; \quad 2 < i \leq \left\lfloor \frac{n+1}{6} \right\rfloor & \& \quad n = 26 \end{cases}$$

$$f(v_{6i}) = \begin{cases} \frac{\frac{4(n-2)}{3} - 4(i-1)}{4} & ; \quad 1 \leq i \leq \left\lfloor \frac{n}{6} \right\rfloor & \& \quad n \neq 23, 26 \\ \frac{\frac{4(n-2)}{3} - 4(i-1)}{4} & ; \quad 1 \leq i < \left\lfloor \frac{n}{6} \right\rfloor & \& \quad n = 23, 26 \\ \frac{\frac{4(n-2)}{3} - 4(i-1)}{5} & ; \quad i = \left\lfloor \frac{n}{6} \right\rfloor & \& \quad n = 23, 26 \end{cases}$$



By the above labelling, $f(v_{6i-3}) = 1$ is minimum and $f(v_{3i-1}) = \frac{4(n-2)}{3} + 2$ is maximum for any value of i .

$$\Rightarrow FDLN(G_1) = FDLN(G_2) = \frac{4(n-2)}{3} + 2 - 1 = \frac{4n-5}{3}$$

$$\Rightarrow FDLN(P_n) = FDLN(C_n) = \frac{4n-5}{3}$$

Hence the proof.

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NUTRITIONAL PROFILE AND ENERGY BALANCE IN SELECTED OVERWEIGHT / OBESE SCHOOL GOING STUDENTS IN MADURAI CITY OF INDIA

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ABSTRACT:

Childhood obesity is increasing rapidly worldwide and is one of the most serious public health challenges of the 21st century. The major objectives of this study are to assess the nutritional profile and to study the energy balance among selected overweight / obese school students. **METHODS:** Overweight / obese school students of 11 to 16 years of age of both the genders (n=200; 66 girls and 134 boys) were selected by random sampling method from four schools in Madurai city. For the study of food and nutrient intake and energy balance a sub samples of 25 girls and 25 boys were selected. **RESULTS:** The BMI percentile of the selected school students belonged to either overweight / obese category as all of them were in the $\geq 85^{\text{th}}$ to 94.9^{th} percentile (3.5%) or $\geq 95^{\text{th}}$ percentile (96.5%). Study on food and nutrient intake revealed unhealthy consumption pattern compared to ICMR / NIN recommendations (2011). Mean energy intake per day was 3291 k. Cal and 3531 k. Cal by the selected girls and boys (13 - 15 years) respectively. Mean energy expenditure by the selected girls and boys were only 1747 and 1774 k. Calories respectively. High positive energy balance of 1544 and 1757 k. Calories were registered by the girls and boys respectively. **CONCLUSION:** Unhealthy food choices and reduced physical activity by the selected school children had precipitated obesity. Intervention through symbiosis of school authorities and health professionals is essential for correction and prophylaxis.

KEYWORDS: Obesity, Overweight, School students.

INTRODUCTION:

Overweight and obesity are defined as abnormal or excessive fat accumulation that may impair health. Body mass index (BMI) is used to classify overweight and obesity in adults. It is a person's weight in kilograms divided by the square of his height in meters (kg / m^2). Calculated BMI greater than or equal to 25 is considered overweight; while BMI greater than or equal to 30 is considered obese (<https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>).

Obesity is a growing public health concern worldwide. The target group of obesity prevention has long been mainly adults and school children (Singh *et al.*, 2008). Over the past three decades the prevalence of overweight and obesity has increased substantially. Globally, an estimated 170 million children (aged less than 18 years) are now estimated to be overweight (https://www.who.int/dietphysicalactivity/childhood/Childhood_obesity_modified_4june_web.pdf).



The major **objectives** of the study are as follows:

- ❖ To assess the nutritional profile and
- ❖ To study the energy balance among selected overweight / obese school students

MATERIALS AND METHODS:

Selection of Areas and Subjects

Overweight / obese school students of 11 to 16 years of age of both the genders (n=200; 66 girls and 134 boys) were selected by random sampling method from four schools in Madurai city. For the study of food and nutrient intake and energy balance a sub samples of 50 volunteers (25 girls and 25 boys in each category) were selected.

Preparation of Questionnaires

Questionnaire included general details like name of the school, name of the subject, gender, age, height, weight, BMI, food frequency, food habits etc.

For the sub sample of 50 volunteers, questionnaire 1a was prepared for the study of food and nutrient intake (24 hours recall) and energy balance (energy expenditure in every 15 minutes for a period of 24 hours (<https://www.nin.res.in/downloads/DietaryGuidelinesforNINwebsite.pdf>)).

RESULTS AND DISCUSSION:

Nutritional Profile of the Selected Overweight / Obese School Students

a) Age and Gender of the Selected Overweight / Obese School Students (Table 1)

It could be seen from the table 1 that the age of the selected school students ranged between 11 and 16 years of which 66 were girls and 134 were boys. Children with overweight and / or obesity not only run an increased risk of becoming obese as adults but are also likely to develop early signs and symptoms of co - morbidities, insulin resistance and hypertension during childhood. (Doringet *al.*, 2016). Hence presence of overweight / obesity in such young age is a cause for concern and it should be addressed with great care.

Table 1
Age and Gender of the Selected Overweight / Obese School Students (n=200)

Age (Years)	Number / Per cent of Students					
	Girls (n=66)		Boys (n=134)		Total (n=200)	
	No.	%	No.	%	No.	%
11-13	52	79	77	58	129	64
14-16	14	21	57	42	71	36
Total	66	100	134	100	200	100

It is pertinent to quote here that childhood obesity is increasing rapidly worldwide and is one of the most serious public health challenges of the 21st century. The problem is steadily affecting many low - and middle - income countries, particularly in urban settings and its prevalence is increased at an alarming rate. In 2007, an estimated 22 million children under the age of 5 years were overweight throughout the world. More than 75% of overweight children live in low - and middle - income countries (Bagherian and Sadeghi, 2013).



b) Body Mass Index of the Selected Overweight / Obese School Students (Table 2)

BMI measurement programs in schools may be conducted for surveillance and screening purposes. BMI surveillance programs assess the weight status of a specific population (like students in an individual school / district / state) to identify the percentage of students who are potentially at risk for weight - related health problems. Surveillance data are typically anonymous and can be used for many purposes, including identifying population trends and monitoring the outcomes of interventions. BMI screening programs assess the weight status of individual students to identify those at risk and provide parents with information to help them take appropriate action (Nihiser *et al.*, 2007).

Table 2 gives the BMI percentile of the selected school students. Based on the CDC Growth chart (CDC - Clinical growth chart, 2017), it can be construed that all the selected school students belonged to either overweight / obese category as all of them were in the $\geq 85^{\text{th}}$ to 94.9^{th} percentile (3.5%) or $\geq 95^{\text{th}}$ percentile (96.5%).

Table 2
BMI Percentile of the Selected Overweight / Obese School Students (n=200)

BMI	Number / Per cent of Students					
	Girls (n=66)		Boys (n=134)		Total	
	No.	%	No.	%	No.	%
≥ 85 Percentile	4	6	3	2	7	3.5
≥ 95 Percentile	62	94	131	98	193	96.5
Total	66	100	134	100	200	100

Age and gender specific BMI values for children are referred as "BMI - for - age". Categories describing amount of body fat for children and teenagers are also different from the categories describing amount of body fat in adults. BMI categories used for children and teenagers include underweight, normal - weight, at risk of overweight and overweight (Bagherian and Sadeghi, 2013).

c) Mean Food Intake by the Sub Sample of Selected Overweight / Obese School Students (n= 50 – Table 3)

It is evident from the tables 3 that there was an excess consumption of cereals and cereal products (72.7% by the overweight / obese School girls and 39.2% by the boys) compared to the ICMR / NIN Recommendations (2011). A similar trend was registered in the consumption of sugars (164% more by girls and 325% more by boys) and fats and edible oils (65% more by girls and 55.5% by boys). All the above foods are caloric dense and this should be the concrete reason for these school students to be obese. It is essential that the intake of such high caloric foods are taken in quantities as per the recommendations / requirements. But awareness about the relationship between the consumption of high caloric foods and occurrence of obesity is not there among the public both in developed and developing countries.

Table 3
Mean Food Intake by the Selected Overweight / Obese School Students in Comparison with the Respective ICMR / NIN Recommendations (2011)

Food Items	Obese / Overweight School Students (13-15yrs)					
	Girls (n=25)			Boys (n=25)		
	Mean Intake (g)	ICMR RDA (g)	Percentage Deficit/ Excess	Mean Intake (g)	ICMR RDA (g)	Percentage Deficit/ Excess
Cereal grains and products	570	330	+72.7	585	420	+39.2
Pulse and legumes*	40	60	-33.3	45	75	-40
Green leafy vegetables	15	100	-85	21	100	-79
Roots and tubers	147	100	+47	142	150	-5.3
Other vegetables	53	200	-73.5	91	200	-54.5
Fruits	55	100	-45	45	100	-55
Milk and milk products	350	500	-30	425	500	-15
Sugars	66	25	+164	85	20	+325
Fats and edible Oils	66	40	+65	70	45	+55.55
			+			
Meat and Poultry*	71		-	63		-

*One portion of pulse (30g) may be exchanged with one portion (50 g) of egg / meat / chicken / fish.

Notable deficits in the intake of important food items *viz.*, pulses, green leafy vegetables, other vegetables and fruits were observed among both girls and boys. With respect to the consumption of milk and milk products, 30% and 15% deficits were recorded among the selected overweight / obese girls and boys respectively.

d) Mean Nutrient Intake by the Sub Sample of Selected Overweight / Obese School Students (n= 50 – Table 4)

As expected, the caloric intake by the selected school girls (41%) and boys (28.4%) were considerably higher than the ICMR / NIN Recommendations (2011). As discussed earlier, this could be attributed to the increased consumption of cereals, sugars and fats and oils which are all high energy foods. It was not surprising to observe much higher fat intake than the ICMR / NIN Recommendations (2011) by the selected overweight / obese girls (112.5%) and the boys (104%) because it was revealed in food frequency tables that the intake of junk foods and high caloric foods were notably high. Evidence suggests that excessive consumption of energy - dense foods high in fat, particularly saturated fat, and refined carbohydrates can lead to weight gain, obesity and pose an increased risk for NCDs (Gadirajuet *al.*, 2015).

Table 4
Mean Nutrient Intake by the Selected Overweight / Obese School Students in Comparison with the Respective ICMR / NIN Recommendations (2011)

Nutrient	Units	Obese / Overweight School Girl Students (13-15yrs)					
		Girls (n=25)			Boys (n=25)		
		Mean Intake (g)	ICMR RDA (g)	Percentage Deficit/ Excess	Mean Intake (g)	ICMR RDA (g)	Percentage Deficit/ Excess
Calories	Kcal	3291	2330	+41	3531	2750	+28
Protein	g	70	51	+37	73	55	+33
Fat	g	85	40	+113	92	45	+104
Vitamin A	µg	491	600	-18	1442	600	+140
Vitamin B1	mg	1.2	1.2	0	1.6	1.4	+14.2
Vitamin B2	mg	1.2	1.4	-14	1.3	1.6	-18.7
Vitamin C	mg	34	40	-15	63	40	+58
Calcium	mg	671	800	-16	795	800	-0.5
Iron	mg	13	27	-51.8	13	32	-59.3

Protein being the nutrient responsible for growth and body building, it is essential that school students consume sufficient proteins of good quality in order to obtain the required amino acids. In the present investigation, the protein intake was encouragingly high both among selected girls (37%) and boys (33%). Though the intake of pulses was low among the selected students, this high protein intake could have been contributed by the high intake of meat, milk and its products and also the cereals which contain about 7 - 12% protein. Even in overweight / obese students protein intake should not be compromised as it is essential for growth.

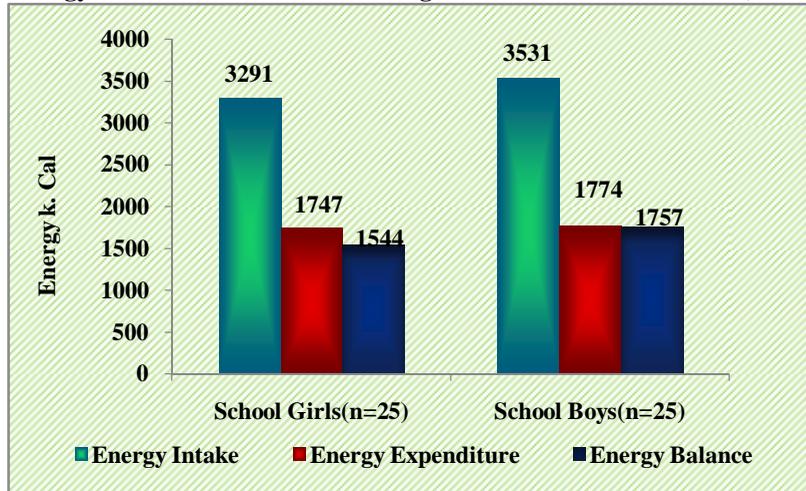
Denmark was the first country to implement stringent laws restricting the *trans* - fat content of foods. In 2003, the Danish Nutrition Council affirmed that there were substantial harmful effects of *trans* - fats on the health, with no positive effects, and that they could be eliminated from food without adverse effect on taste, price or availability of foods. Legislation was enacted limiting *trans*- fats to 2% of fats and oils content in foods destined for human consumption (Rechel and McKee, 2014).

With regard to the intake of micronutrients a mixed trend was recorded. Boys recorded an excess intake of almost all the micronutrients studied except iron. Whereas the selected girls registered deficits in the intake of vitamin B₂, C, calcium and iron. Aminet *al.* (2008) reported that higher calcium intake and more dairy servings per day were associated with reduced adiposity in children studied longitudinally.

e) Energy Balance in the Sub Sample of Selected Overweight / Obese School Students (n= 50 Figure 1)

Figure 1

Energy Balance in Selected Overweight / Obese School Students (n=50)



As seen in figure 1, the mean energy intake per day was 3291 k. Cal and 3531 k. Cal by the selected overweight / obese school girls and boys (13 - 15 years) respectively. These values were 41% and 28.4% higher than their respective ICMR / NIN Recommendations (2011). The mean energy expenditure values recorded by the selected overweight / obese school girls and boys were only 1747 and 1774 k. Calories respectively. These mean energy expenditures by the selected school students were noticeably insufficient due to the sedentary life style led by the selected children as seen in the energy expenditure chart. Hence high positive energy balance of 1544 and 1757 k. Calories were registered by the girls and boys respectively proving the reason for their overweight / obesity. According to Kurpad (2007), positive energy balance results in obesity, and dietary and physical activity patterns are the determining factors for the development of positive energy balance.

CONCLUSION:

Unhealthy food choices and reduced physical activity by the selected school children had precipitated over weight / obesity. Childhood obesity has become a problem world wide in the current decade. This epidemic can be prevented by lifestyle modifications and behavioural changes. In order to combat this epidemic, nutrition intervention programs are necessary in schools. Symbiosis of school authorities and health professionals is essential for correction and prophylaxis in this regard.



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HUMAN RIGHTS DETERMINANTS IN ANCIENT INDIA IN VARIED PERSPECTIVES

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Abstract

Human rights are vast, varied and dynamic in form. They contain so many issues relevant to everything and anything involving to human beings comes under their jurisdiction. They are, in fact, an integral part of the totality of a society. Historical experience, socio-cultural patterns, ideological underpinnings, socioeconomic structure, political system, their interrelationship and interaction are the contexts within which human rights are formulated and become operative. However, the aforesaid contexts vary to a great extent in different perspectives from the concept of human rights in general. It would, therefore, be worthwhile to take up three different perspectives viz; liberal, socialist and third world perspective. Although crimes are distinguished from all other forms of problematic or deviant behaviour by their legal character and is defined by the legislative and judicial branches of a governing political area. such as a state or the federal government. The label "Criminal" provides the justification for involving the full powers of such reactive agencies as the police, the courts, and prisons. Defining an action as criminal allows the legitimate use of force by the state against its citizens and may lead to deprivation of liberty and in some jurisdictions or life with due process of law.

Keywords: Underpin, Socio-Economic, Ideological, Vedas, Context, Inalienable, Comprehend

Introduction

In spite of the complications involve in defining human rights, attempts are made to comprehend it. To put it simply, human rights constitute those very rights which one has precisely because of being a human. To have a human right one need not to do anything special than be born a human being. In their basic meanings, human rights are claims of the individual for such conditions as are essential for the fullest realization of the innate characteristic which nature has bestowed him/herewith as a human being, they are inherent in our nature and without which we cannot live as human beings. Human rights pertain to all persons and are possessed by everybody in the world because they are human beings, they are not earned, bought or inherited nor are they created by an) contractual authority. Differences of sex, race, language and colour do not change these rights. Nor do the differences of property, social origins, political ideals or religious



beliefs. Everyone regardless of who they are and what they do or think is born with human rights. The colour of the skin may be white or black, the level of mental make-up may be high or low the way of life of people may be modern or primitive, to the core the essential reality of all belonging to the species of human race cannot be dismissed by any stretch of imagination.

The basic problem that arises concerning human rights relates to their proper enforcement and this aspect varies today from state to state. This is indeed so because the first initial step in the direction of enforcement of human rights is very much confined to the national frontiers of the state where the individual resides. It would be certainly Justified to presume that so far as the basic job of drafting the human rights is concerned, this job has been successfully accomplished by the efforts of member states of United Nations Organization but the basic problem has been the effective enforcement of human rights so as to eradicate poverty and improve standard of living of mankind, in general and the worker, in particular. Here are different perspectives discussed to study the Human Rights determinants in ancient India.

The Liberal Perspective

According to the Western Liberal thought, “man by nature is isolated and autonomous, possessing certain inherent and inalienable rights with the establishment of a civil and political society instituted through a social contract among individuals. Man gave up some of his natural rights whereas others remained inalienable. And it is the duty of the state to protect individual safety, security, his rights and property in pursuance of a just and orderly society”.¹ In addition to this autonomy of human nature, further elaborations were Made In the context of his private property. Man's consumerist attitude, passions and drives motivated him to acquire possession of property through competition and conflict with other individuals. Individual self-aggrandizement defined in terms of ownership of material objects was then added to the nature of man. Thus, private property became the pivot of a free enterprise economic system and subsequently became a fundamental human right, thereby making the approach to rights as politico-materialistic in nature. A competitive economic system and a liberal state system thus provided the institutional framework for the defence of private property and the free exercise of rights reflected in the nature of developing capitalism in the West. In this context, inalienable, individual, civil and political rights became the base of the new society.

The bourgeois that emerged out of the Industrial revolution rebelled against the constraints and control imposed by the govt. on the one hand, and demanded their rights, freedom, the free interplay of market forces and political power, on the other. Political power, in turn, was to be attained and maintained through a representative. Political system grounded in the exercise of individual civil and political rights. This kind of system subsequently resulted in gross inequality and economic imbalances in the society. To counter all those socio-economic, upheavals, a new kind of political



System called welfare state' emerged during the early". 2 century. The idea of welfare state, however, characterizes that the govt. is responsible to provide certain benefits for the unemployed, the handicapped, the aged and other disadvantaged individuals and groups in the society, which encompasses certain principles of both capitalism, individualism and of socialism. However, the principles of welfare state with individualism and capitalism as its base are found in USA and most of the western European countries where the local tradition of representative government prescribes state infringement of certain basic human rights.

The Socialist Perspective

The Socialist countries do not share the historical experiences, cultural patterns, economic systems and ideologies of the industrialized capitalist states of the West. According to the Socialist thought, human nature is largely determined by the conditions of man's material life and not as an autonomous individual in the state of nature. Engle's argued that prior to civilization; men and women lived in a state of primitive communism. It was a communal existence characterized by equality among all, an existence in which land, animals and tools were shared. The accumulation of individual wealth, private property ownership of the means of production and class differences were developed at the later stages of history, where the property owners claimed their rights and principles over others. This, according to socialists, became the very basis of capitalism.

The reality of this class structure of primitive society, which was the determinant of an individual's ability to exercise his rights and to enter into contracts with equals was ignored by the liberal political philosophers accuses of capitalists. So, they are not necessarily natural rights. Socialists strongly argue that man's realization of self fulfillment is where his abilities are to be used to the fullest extent and his expanded? are to be satisfied. They are of the opinion that man is a social being, not a competitive, atomized and self-aggrandized one. In order to achieve social good, he has to perform certain basic obligations that the society has put before him. The mutuality between rights and obligations, in fact, is the key to attain both freedom and equality. The state is the embodiment of the collective people and is responsible for the welfare of members and thereby progressive realization of economic and social rights. Keeping this in view, most of the socialist countries such as China, Hungary, Cuba and North Korea give priority to social and economic rights rather than to civil and political rights, both in theory and practice.

The Third World Perspective

After having a general idea about both liberal and socialistic perspective of human rights, it almost becomes imperative to look at the third world perspective of human rights, so as to make the study a complete one. Most of the third world countries, freed from the cluster of colonial legacy recently, have three important things to achieve, viz;



economic development, industrialization and nation-building. In due course of time, one of the most important as well as pertinent question that has made the process of development all the more difficult is the question of the rights/freedoms of man vis-a-vis state in these countries.

The third world countries are characterized by their traditional cultural patterns and ethnic social set up; they do not fully share either the intellectual heritage of the west or that of the Socialist interpretations of rights. However, the contemporary nationalist elite, having been influenced by concepts and ideologies of the west, have developed a new kind of approach to the theory and practice of human rights. The natural and individual rights of liberals and the social and economic rights of the socialists have not been incorporated in totality in the Third World perspective of human rights. Rather, they give emphasis on group rights or the rights of the minority because of their heterogeneous social set up.

They say that the concept of right of an individual has relevance in relation to the enjoyment of rights of others in the society. In other words, rights of an individual can be enjoyed with the shared value and shared experiences with other members of the society. The state is viewed as an organic whole in the sense that it is the embodiment of different groups, cultures, religions and communities. The government, as an agent of the state, is responsible to provide, protect and promote such rights and freedoms. Over the years, these countries have undertaken massive changes as far as the nation building is concerned amidst all kinds of social upheavals. For that reason, most of the third world countries in Africa, Asia, Middle East and the Latin America accord priority to economic and social rights over civil and political rights. That is why; civil, political and legal rights have little psychological meaning in comparison to social and economic rights in these countries. Nonetheless, it is desirable to have a healthy union of these two categories of rights for the third world countries on the ground that “they want to attain economic development, along with the preservation of their religious and cultural heritage.

Thus, they, at times, find themselves in a peculiar situation. Sometimes, they behave in a manner more socialistic than the socialist countries, and on the other occasions become more capitalist than capitalist countries. Perhaps, this contradiction is inherent in most third world countries, torn as they are between the two worlds - the capitalist and the socialists. The conflict between their inherited socio-political, economic infrastructure and their projected desires for development is clearly visible in their approach towards human rights.” India being a third world country derives its human rights perception from the two mentioned schools of thought i.e. liberal and socialist but is an exception to the rest of the third world nations as it also has its own perception of rights that emanates from its ancient culture and civilization. It would be worthwhile here to make an attempt to analyze the Indian perspective on human rights.



The Indian Perspective on Human Rights

The Indian thinkers are, however of the view that it is not justified to limit the origin of the concept of human rights to only western civilization. They opine that “the philosophy of human rights had already occupied a place of prime importance in ancient Indian Brahmanical society. They even claim that what the west has discovered today in the field of human rights has been an accepted principle of India s rich legacy of historical tradition and culture since time immemorial. They argue that India has a tradition to respect for human right, which finds a mention in ancient scriptures and epics”.³

The philosophy of human rights in the modern sense has taken shape in India during the course of British rule. The Indian National Congress, which was in the Vanguard of freedom struggle, took the lead in this matter. National struggle, took freedom was truly an attempt of the Indians to secure basic human rights for all the people with the result that the promulgation of the constitution by the people of India in January, 1950 ushered in the heroic development of the philosophy of human rights in India. It would be gleaned from the study that ancient Hindu civilization perennially contributed a lot to the origin of what is now known as the human rights movement. The historical account of ancient Bharat proves it beyond doubt that the Human Rights were as much visible ill the ancient Hindu and Islamic Civilizations as in the European Christian Civilizations. Ashoka, prophet Mohammed and Akbar cannot be excluded from the genealogy of human rights.

Human Rights in Ancient India

The quest for equilibrium, harmony, knowledge and truth inspired the ancient Indian minds more than their counterparts the Greeks and the Romans. About 5000 years ago, ancient Indian philosophers and thinkers expounded a theory of higher moral law over and above positive law embodying certain values of universal validity like Marina (righteousness), Artha (wealth) Kama (desires) and Moksha (Salvation) with a view to establish a harmonious social order by striking a balance between inner and outer, spiritual and material aspects of life.

The ancient Indian legal philosophers were universalists, humanists, rationalists and above all moralists who evolved a system of legal theory which was based on higher values and ideals i.e. on their conception of Dharma, which governed in an integrative manner all civil, religious and other actions of men in society be it king or his subjects. Every aspect of life was regulated by Dharma the supreme law in ancient India. The kings in India unlike the Tudor Kings or French Louis XIV were subjected to the supremacy of the law of Marina. Law of Gita or Dharma in ancient India made a bold attempt of building an organized social life wherein each individual realized his goals



within the parameters of social norms of morality. It is this supreme law which sustained individuals together in the society.

It is Dharma which has impelled men since Vedic ages to strive for 'righteousness'. The Natural law so revealed in Vedas, Puranas, Mahabharata Bhagwad Gita etc. was extolled by the mystics, saints, poets and philosophers during the Vedic age. The philosophy expounded by the saints of Vedic time is nothing but a reinstatement of Natural law with religious fervour to enthuse people towards the path of Dharma, enlightenment and unity. It is this higher law of morality, Justice and righteousness which has been continuously guiding and directing Hindu thought, spirit and action from times immemorial and would continue to mould for the realization of Dharma in a timeless fashion. The basis of ancient human rights jurisprudence was Dharma the ideal of ancient Indian legal theory was the establishment of socio legal order free from traces of conflicts, exploitations and miseries. Such a law of Dharma was a model for the universal legal order.

Theology presents the basis for a human rights philosophy stemming from a law higher than the state and whose source is the Supreme Being since the rights flow from a divine source, they are inalienable by moral authority. The natural law thinkers believed that natural was a body of higher law in the subordination to which all human laws must be made. It is a concept of merely value helping mankind to control its political destiny, liberties, human rights and fundamental freedoms from all omnipotent police states, legislatures and dictators.

The philosophers of Vedic age endeavored to define "human rights as those rights which were inherent in our nature and without which we could not live as human beings. They supported vehemently the view point human rights and fundamental freedoms allow us to fully develop and use our human qualities, our intelligence, our talents and our conscience and to satisfy our spiritual and other needs".⁴ They considered human rights as based on mankind's increasing demand for a life in which the inherent dignity and worth of each human being will receive respect and protection. They had a strong conviction that human rights are universal and apply to all persons without discrimination. There are many references in Vedas which throw light on the existence of human rights. The Vedas proclaim liberty of body (Tan), dwelling house (Skridhi) and life (Jibase). The philosophy of Vedic age enlightens us of the fact that the human rights enveloped within its fold, the constant perpetual desire of giving every man what is due to him. It is established beyond doubt that Vedic India had a strong tradition of respect for Human Rights. We find many references in Ancient Scriptures and epics to the effect that. Let everyone be happy, let everyone be free from all ills.

Hindus no less than Greeks and Romans excelled in propounding philosophical ideals and constructing scientific concepts and methods which deeply influenced the law and life of people. The Rights of man were embedded in highly developed ancient Indian civilization.



The study of Righveda reveals that there was a rich jurisprudence in ancient India, which provided an adequate framework for the king. Two norms, viz, Dharma (Values) and Dhanda (Occupation), which were necessarily influenced by the theological tenets of the Vedic Aryans, contained several features of a regulatory mechanism for religious practices.

Referring to the social responsibility of the king Manu, states: “To end lawlessness was created the institution of the king whose supreme duty was to protect his subjects against disorder and anarchy.”⁵

Detailed rules were laid down for the guidance of the king. It was his duty to uphold the law, and he was as much subject to law, and he was as much subject to law as any other person. It was obligatory upon him to enforce not only the sacred law of the texts but also the customary laws (rights and claims) of the subjects. This was possibly the human rights enforcement system in its embryonic stage.

The concept of human rights in India may be seen to have existed in crystallization of values that are the common heritage of mankind. References occur as early as in the Rig Veda to the three civil rights, that of Tana (body), Skridhi (dwelling place) and Jibhasi (life). Long before Hobbes, the Indian scriptures tell us about the importance of the freedoms of the individual (civil liberties) in state. The concept of Dharma is the supreme law, which governed the sovereign and the subjects; alike covering the basic principles involved in the theory of rights, duties and freedoms. Long before second century B.C., we boast of elective kingship and the law of nature which even kings had to obey on pain of disposition. The early Samritis (Memories) inculcate upon the king principles and policies of government involving the conception of a welfare state and that of ruler's complete identification with his subjects.

In the early times, the original state of nature was imagined to be one of total anarchy where might alone was right. When people were oppressed by the law of fishes (Matsyanyaya, according to which the bigger fish swallow the smaller ones), they made Manu, the son of Vivaswat, the king. They fixed one-sixth part of the grains and one-tenth of their goods and money as his share. Kings who received this were bound to ensure the well-being of their subject. In fact (Yogaksema) implies the idea of welfare, well-being, including the idea of prosperity, happiness and so on. That is why the Kautilya's Arthashastra asserts, “In the happiness of the subject's lies the happiness of the king and what is beneficial to the subjects is his own benefit. The Mahabharata explicitly sanctions revolt against a king who is oppressive or fails in his function of protection, saying that such a ruler or king at all, and should be killed like a mad dog. Kautilya the author of the celebrated political treatise, Arthashastra not only affirmed and elaborated the civil and legal rights first formulated by Manu but also added a number of Economic rights. He categorically ordained that the king shall provide the orphan, the aged, the infirm, the afflicted and helpless with maintenance, he shall also provide subsistence to the helpless expectant mothers also to the children they gave



birth to. It is revealed that society in Vedic India was well structured and highly organized. The traces of state socialism can be found in Arthashastra in which a positive role is envisaged for the state. On positive duties of the king Manu says, "It is the duty of the state to support education and honour and make gifts to learned people. The state should do many things for the welfare of the people."⁶

There is however witnessed a downfall in Human Rights jurisprudence in post-Vedic age. In the post Vedic period, the rise of Buddhism and Jainism were certainly a reaction against the deterioration of the moral order as against the rights of privileged class. A close scrutiny of Buddhist period reveals that people were equal in all fields of their life. Life was more human and liberal and repudiated caste distinctions. After Buddha, Ashoka protected and secured the most precious of human rights particularly right to equality, fraternity, liberty and happiness.

He successfully established a welfare state and made provisions for securing freedoms like freedom from hunger. Health care, educational facilities and certain other social amenities in Ashoka's empire were perhaps initial efforts in the direction of the realization of-social, economic and cultural rights. Ashoka was the champion of civil liberties. Even forest folk in his dominion enjoyed security of life, peace of mind and were enjoying their life on par with other people in the society. Torture and inhuman treatment of prisoners were prohibited under Ashoka's administration.

The study of Mudra-Raksha shows that dispensation of justice was considered as one of the important duties of the rulers. No leniency was shown to the criminal and the whole system worked so efficiently that Magasthenese says, "King's employed spies not only to detect violators of human rights but gathered public opinion on various important matters." Vaisaha Dutta in his 'Mudra-Raksha' has depicted Chandragupta as a deity coming right from heaven to save his countrymen. Ashoka worked day and night for the protection of human rights. His chief concern was the happiness of his subjects.

Conclusion

It is however unfortunate that human rights jurisprudence witnessed downfall with the decline of Mauryan Empire. The study discloses that since the decline of the Mauryas, India had been frequently invaded by the foreigners - the Greeks, the Partians, the Sakas and the; Yuck-chis. It was only Chandragupta II (Vikramaditya) who defeated the foreigners and united India under the sovereignty. Gupta period is called as the most glorious epoch in the history of ancient India, which the historians call the 'Elizabethan period of Indian History.' There was no forced labour; crimes were rare, king personally supervised the whole administration.

Harsha Vardhana was the last Emperor of Hindu India. His reign marks the cult of Hindu culture. He never forgot that the aim of the government was the welfare of the governed. He devoted his whole time to promote the welfare of his people. Men of merit



and ability were patronized irrespective of their castes, color and creed. It is for his commitments towards his people that he is often compared with Akbar and Ashoka. After the breakup of his empire the whole India was split up. The society, too, in general had degenerated. The philosophy of human right lost sight.

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REVIEW: ANALYSIS OF SYNTHESIS STRATEGIES FOR DESIGNING DERIVATIVES OF QUINAZOLINONES

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Abstract

With the dawn of new age of diseases, the role of medicinal chemistry and its impact on society is ever increasing. This directly means development of more efficient drug with a better pharmacokinetics and less invasive to the physiology of human health.

To design such drugs, certain precursors are required based on their receptor ability to biological molecules. Among them includes quinazolinones and its related derivatives which plays a vital role due to its binding properties to many biological enzymes and even the DNA itself. However while synthesizing these medicines it should also be noted that the path of synthesis is a greener one and have a maximum atom efficiency for the scheme selected. Along with that the choice of reactant is also very vital as it is crucial to use such reactant which is relatively safer to handle and easily available to make drug design more affordable. A series of such notable schemes for designing quinazolines and its derivatives which can be performed in laboratory are discussed under this review.

Keywords: Synthesis; Quinazolinone; Bio-Chemistry; Heterocyclic Compounds

1. Introduction

A key aspect in the recent trend of research in medicinal chemistry lies in the idea of finding new alternatives of drugs which have more efficient target isolation, higher efficiency, suitable half-life along with other structural and physiochemical properties¹. The idea which is quite traditional as well as a big forerunner in the synthesis of modern drugs is the study and modification of the known drugs and using computational tools like Merlin, Unity and many other published methods² and using this knowledge to modify the known drugs.

One of such a widely used compound in medicinal chemistry is quinazolines and its derivatives based on which several drugs having the properties of anti-viral, anti-microbial and anti-tumour have been synthesized. They are a very good choice because of their wide range of synthesis schemes available including many greener methods and the ease of forming several derivatives. Most of their derivatives show a great potential to be a very good efficient drug³. The aim of this review is to understand these molecules and have a discussion regarding the significance and synthesis of quinazolinones' derivatives, understanding some of the methods available including

their benefit and drawbacks, with major emphasis given to the availability of reactants and reaction feasibility under laboratory conditions. The primary aim of this review is to enable graduate students have an overall idea regarding the production of quinazoline and its related derivatives using easily available materials.

1.1 Significance

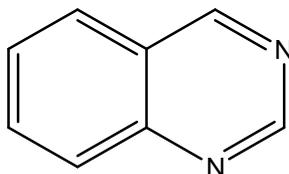


Fig.1.1a- Quinazoline

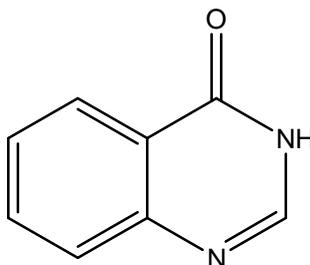


Fig. 1.1b- Quinazolinone

Both quinazoline and quinazolinone are heterocyclic compounds containing nitrogen. In organic chemistry a heterocyclic compound is a type of compound containing one or more ring structure with any atom other than carbon. Most common know heterocyclic compounds are thiopenes, furans, pyrrole to name a few⁴.

The reason of choice of quinazoline and its related derivatives is due to its nature of being an analogous to the biological components such as nucleotides of DNA which act as a building block of life⁵. Due to this reason a huge amount of research have been published on various drugs based on quinazolines and quinazolinones⁶. Another important reason which serves a potential interest of these compounds comes from the fact that they can mimic many natural compounds and can act in a varied manner, including anti-cancer, anti-viral, anti-bacterial and tubulin polymerization inhibitor. Following are few examples of natural compounds containing the quinazolines and quinazolinones moiety⁷.

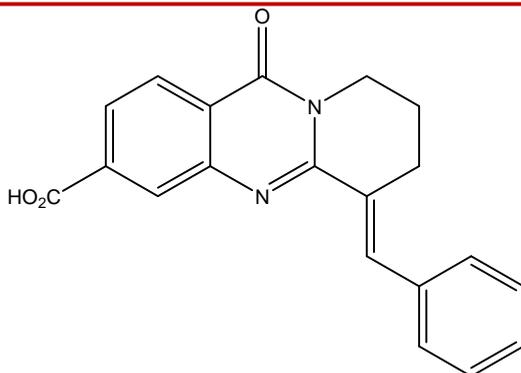


Fig. - 1.1c- Anti-ulcer and gastric secretion inhibitor

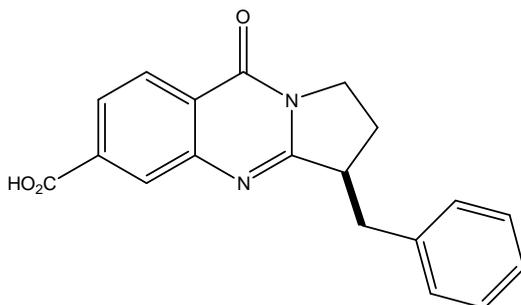


Fig.-1.1d- Isaindigotone, whose derivatives act as a telemetric G-quadruplex ligand⁸

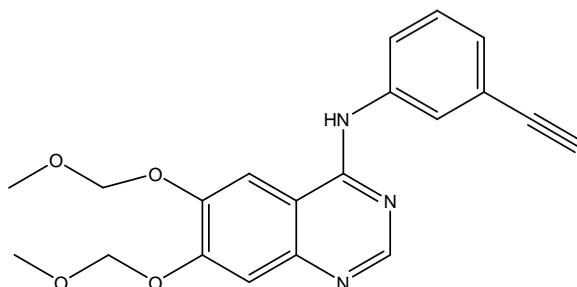


Fig.-1.1d- Gefitinib, anticancer agent⁹

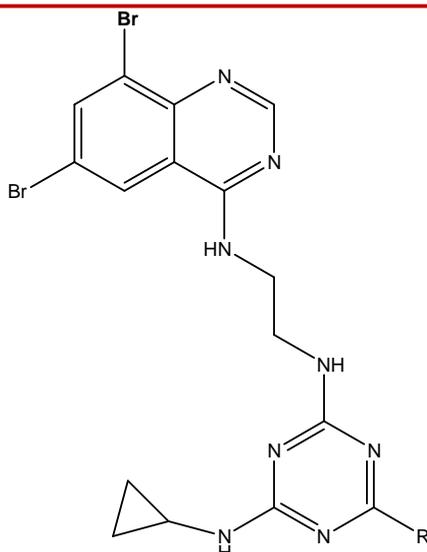


Fig.-1.1e- N-cyclopropyl-N-(2-(6, 8-dibromoquinazolin-4-ylamino) Ethyl-6-R-1, 3, 5-triazine-2, 4-diamine. It act as an anti-HIV agent¹⁰

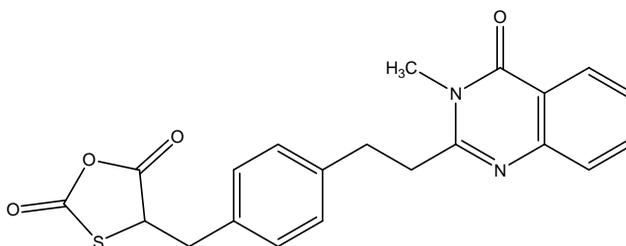
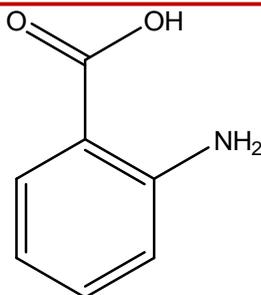


Fig. - 1.1f- Cediranib, Anti-diabetic and hypolipidemic

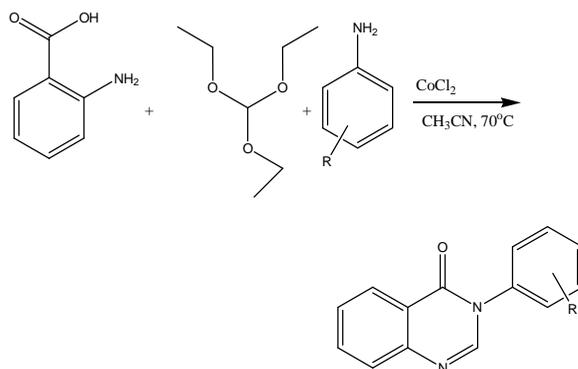
Due to so many diverse role that it plays in the world of medicinal chemistry, quinazolines and quinazolinones have been readily researched in a huge volume to develop more potent drugs for some of the major diseases that effects millions worldwide. The idea of much novel research in this field lies in the idea to design drugs using simple and greener methods of synthesis and increase its domain of activity.

1.2 Anthranilic acid and its restricted use

Anthranilic acid, also known as 2-aminobenzoic acid is an aromatic compound with the following structure.



Theoretically speaking this is a great starting material for synthesis of quinazolinones because it can easily give a 3-substituted product once reacted with an aromatic aniline,



such a scheme is as follows¹¹:

Anthranilamide is added to acetonitrile and triethyl orthoformate, finally the desired aniline is added in presence of cobalt chloride which act as a catalyst at 70°C. The reaction is set under reflux and the time required is completely depended on the aniline used. After the end of the reaction, it is quenched by using sodium bi-carbonate and brine solution. It can be extracted using ethyl acetate and dried using sodium sulphate. However there are some restrictions applied when using this reaction, the first one is the use of cobalt chloride which should be in anhydrous condition and in that state it is highly carcinogenic and is highly toxic in nature¹². The second and the most important obstacle in this scheme is that anthranilic acid is banned in India by the Narcotics control bureau, Government of India as they are listed under precursor substances used for the making of illegal drugs drafted by the United Nation in 1988¹³.

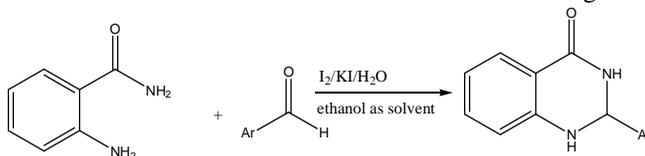
2. Materials and Methods

Over the years many synthetic schemes for the synthesis of quinazolines and quinazolinones along with their derivatives have been synthesised, including one-pot

methods and multi-pot synthesis. Some of the most prominent schemes are discussed below.

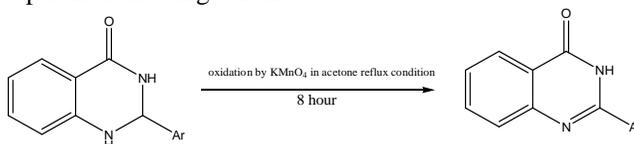
Scheme 1: Green heterocyclic one pot synthesis of quinazolines

In the modern times, our environment is getting compromised by each passing day and the chemical community doesn't want to add to its burden and hence several greener methods of synthesis are currently being developed. Quinazolin-4(3H)-ones are a very important class of compounds due to highly broad spectrum of uses including inhibition of humane erythrocyte purine nucleoside phosphorylase¹⁴, anti-microbial and many more. In the following synthesis water is deployed as the medium to reduce the impact on the environment and anthranilamide is used as the starting material.



Amount of anthranilamide should be 1 equivalent to 1.1 equivalent of the aldehyde and stoichiometric amount of iodine is required for the reaction to proceed. It is highly important that the solution of KI in water is saturated. Another important aspect of this green method is that it proceeds at room temperature and only requires a constant stirring which can be obtained by using a magnetic stirrer. The time required for the reaction to proceed depends on the aldehyde used¹⁵.

A selective oxidation can be done to remove two vicinal hydrogen to form an unsaturation as per the following scheme¹⁶:



The final product obtained is a 2-aryl-quinazolin-4(3H) one derivative and depending on the substituent of aryl component many biologically important compounds can be obtained.

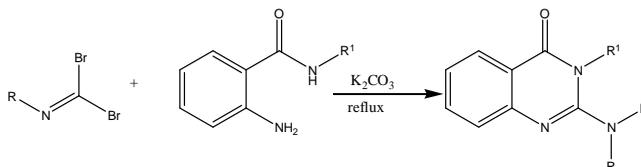
Scheme 2: Synthesis of 2-Amino-Substituted-4(3H)-Quinazolinones

This method follows an energy efficient way for the synthesis of quinazolinones at room temperature¹⁷. It is a one pot two step synthesis scheme. However the starting material used is an isocyanide and they are highly toxic in nature and should be handled with proper care and knowledge of the corresponding material safety data sheet. The general scheme of the reaction is as follows:

Step 1: Generation of dibromo isocyanide



Step 2: Reaction of aldehyde

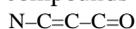


The yield depends on the substituent at R and R¹. Some general conditions involved in this scheme is as follows:

1. The first step should run at room temperature for 10 minutes
2. Isocyanide an bromine should be 1mmol and potassium carbonate should be of 2.5 m. mol
3. Reflux in second step should continue for 8 hours.

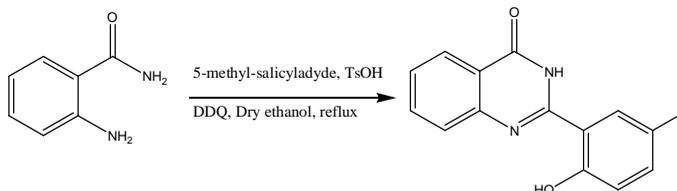
Scheme 3: Synthesis of 2-(2'-hydroxyphenyl) quinazolin-4(3H)-one derived

This scheme is aimed to design enamino derivatives of quinazolines. They are compounds containing following functional group.¹⁸⁻¹⁹

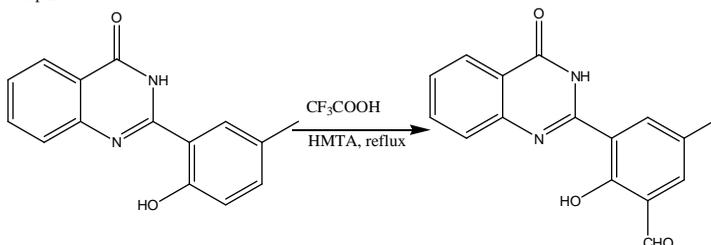


They act as precursors to imidazopyridones and imidazopyridines which are useful drugs in medicinal chemistry. The reaction pathway is as follows:

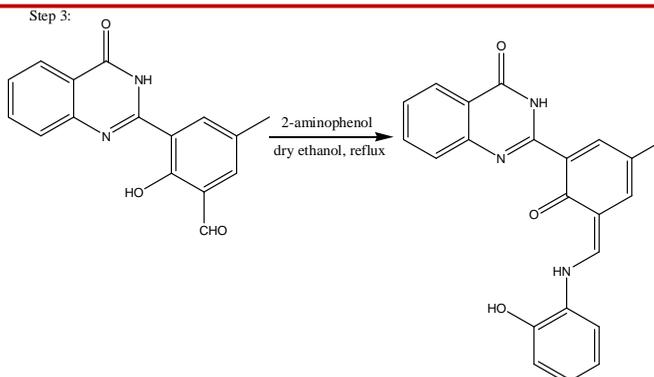
Step 1:



Step 2:



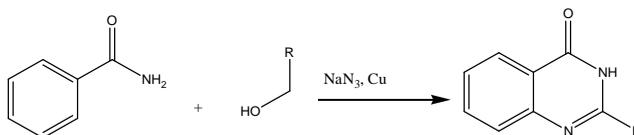
It can be further converted into a quinazolinone based probe to detect Palladium metal ions present in water source or living cells.



The reflux time depends on the completion of the reaction which has to be constantly monitored through analytical methods. Ideally the reactions in each step should be allowed to run for at least 10 minutes before beginning the analytical tests.

Scheme 4: Synthesis quinazolinones based multistep pathway

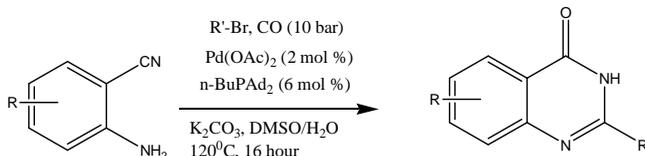
The reaction is initiated from 2-bromobenzamide and is a copper catalysed multistep reaction via an aromatic substitution reaction. A working example of such a scheme is as follows:



The reaction can be modified by changing the copper metal catalyst to copper iodide or copper (II) oxide. In the above reaction the setup was done in open air in presence of oxygen as oxidant, however other oxidant such as di-tert-butyl peroxide or TEMPO or manganese oxide as oxidant. The solvent used is most commonly DMF and the yield for this reaction can be made up to 68% by taking suitable reagents.

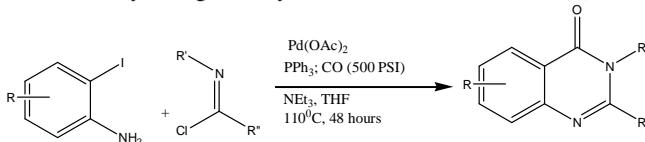
Scheme 5: Using transition metal complexes as catalysts

The reaction follows a carbonylation method using various transition metal complexes as catalyst, with most common example being palladium based catalyst²⁰⁻²¹. The benefit of this scheme is it helps to create some novel quinazolinones' derivatives and the amount of palladium required is also very small. The general reaction scheme is as follows:



Pd(OAc)₂ should be of 2 mol% and n-BuPAD₂ should be of 6 mol%.

It is one of the many available schemes for the synthesis of the reaction, however several of such reactions can be designed based on the idea of carboxylation. Another such scheme is by using imidoyl chlorides as the reactants (shown below):

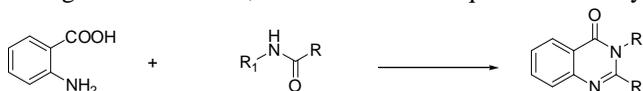


$\text{Pd}(\text{OAc})_2$ should be of 3 mol % and PPh_3 should be of 13.5 mol%. This second scheme gives more diversity to the final product as the nitrogen to the para position of carbonyl group can also be substituted.

Scheme 6: From other derivatives of Anthranilic acid

Anthranilic acid is very difficult to often because of government restriction as discussed above in this review. So to overcome this difficulty, certain derivatives of Anthranilic acid are used. Earlier the use of anthranilamide is already shows, some other methods are discussed here.

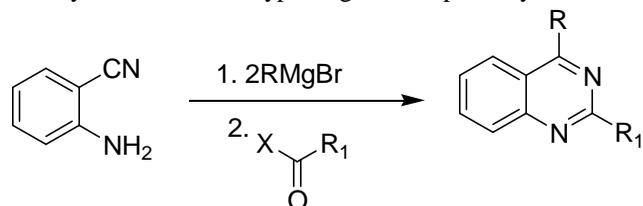
However it is crucial to mention a very important and one of the first known synthesis of quinazolinone using anthranilic acid; the Niementowski quinazolinone synthesis.^{21, 22}



Some alternatives using derivatives of anthranilic acid other than anthranilamide is discussed as under:

Scheme 6.1: Synthesis from anthranilonitrile using Grignard reagent

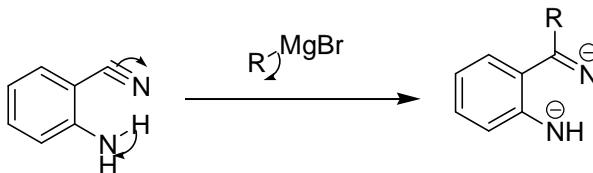
This method is a very unique to the synthesis of quinazolinone derivatives as it allows for a 2, 4 di-substitution product²⁴. The mechanism follows a nucleophilic addition in its first step followed by a condensation type ring closure pathway.



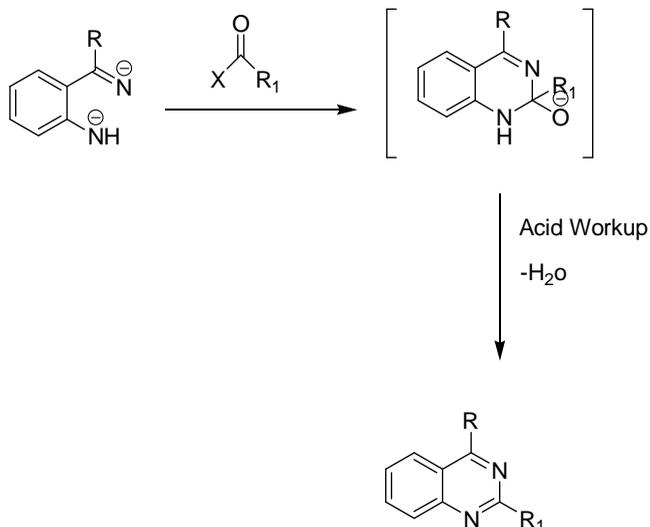
Initially two equivalent of Grignard reagent is treated to the anthranilonitrile giving an amine-imine intermediate. Thereby it is treated with acyl halide followed by a slightly

acidic workup to remove water molecule giving the final desired di-substituted quinazolinone. The mechanism is as follows:

STEP 1



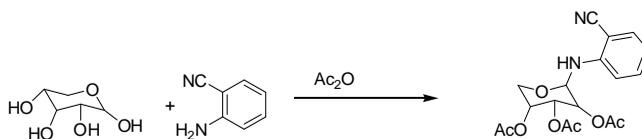
STEP 2



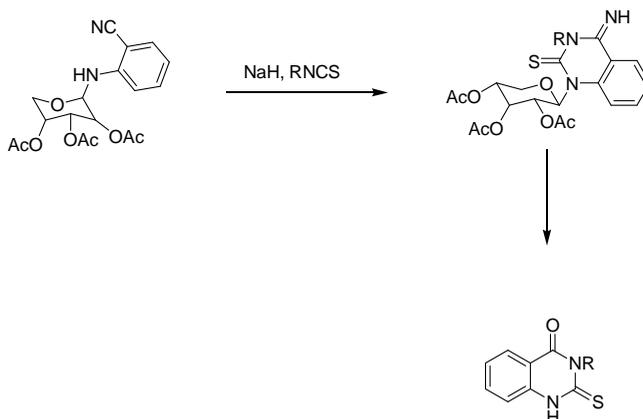
Scheme 6.2: Synthesis from ribose sugar and anthranilonitrile

A very important aspect of quinazolinone is its various application in biological reactions. This particular type of reaction shows one such significance. When treated with ribose sugar anthranilonitrile can give quinazoline nucleosides. The reaction scheme is as follows²⁵:

STEP 1:



STEP 2



Such kind of reactions shows that quinazolinone based drugs can be used as inhibiting reagents and is a primary source in chemotherapeutic cancer treatment.

Conclusion

The schemes discussed in this review are few selected ones of the many available options based on their ease of synthesis and greener mode of reaction. The schemes are designed to create the desired quinazolinones and its derivative in a more versatile manner, giving the chemist a far better options for designing drugs based on need. All the schemes discussed in this review are feasible in laboratory condition and can serve a guideline for designing necessary pathways for simplified laboratory quinazolinone synthesis.

Among the available heterocyclic molecules, quinazolines and its various derivatives plays a very vital role in medicinal chemistry due to its wide variety of application ranging from antimicrobial, antifungal, anticancer etc., thereby making it a very important molecule. New novel synthesis for various new derivatives of quinazolines along with greener methods are reported quite often and there is huge demand for research in this field. One such novel synthesis was reported in 2018 containing indole²⁶ to show antibacterial property.

The science of heterocyclic chemistry and its application in the world of medical science is enormous and quinazolinones plays a vital role in it. Thus future research can be paved into this domain to make better schemes for the synthesis of more diverse class of quinazolinones and make the reactions involved greener. This way we can make better medicines to combat the new and more resistive diseases and at the same time we can reduce the impact on the environment.



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I would like to acknowledge my M.Sc project guide, Dr. Devashish Sengupta, Asst. Professor, Department of chemistry for his guidelines and crucial suggestions during the preparation of this guidelines.

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THE STUDY OF THE RELATIONSHIP AND DIFFERENCE BETWEEN SELF ESTEEM, ANXIETY AND DEPRESSION AMONG COLLEGE STUDENTS:

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ABSTRACT:

The purpose of the present study was to analyse the correlation between anxiety, self-esteem and depression among college students and also to examine any significant difference between study variables among college students in terms of gender. Two hundred (n=200) samples have been selected by the method of convenient sampling technique. All participants were assessed by using Hamilton Anxiety Rating Scale (HAM-A), Rosenberg Self-esteem Scale and Beck's Depression Inventory II. Pearson's correlation and ANOVA was done in this study. The results were stated that the positive correlation was found between anxiety and depression ($r = .425^{**}$); there exists no correlation between self-esteem and anxiety ($r = .131$); and there exists no correlation between self-esteem and depression ($r = .091$). The result of using ANOVA implies that there is no significant gender difference between groups of study variables such as anxiety, depression and self-esteem.

Keywords: Self-Esteem, Anxiety, Depression, Gender, College Students.

INTRODUCTION:

College students are always having a desire to achieve self-esteem at this period. Some students are suffered from anxiety and depression and these mental illnesses affect their self-esteem. "Anxiety is an internal origin that causes a feeling of fear, tension, worry, nervousness and avoidance of some situations which cause them to severe emotional response". "Depression is a complex mood disorder that causes persistent feelings of low self-worth/ guilt, sadness and anhedonia; that can affect how you feel, think and behave". Self-esteem is a positive or negative estimation of feelings or beliefs about himself/herself to be capable, sufficient and worthy". A person with low self-esteem is not practically referred as a mental illness; it can unquestionably appear in the shadow of one. Also it is known that suffering with low self-esteem associated and sticks with other mental conditions such as anxiety and depression. Someone who lives with a mental illness are suffered from low self-esteem and also someone who lives without a mental illness are having high self-esteem. Many studies have conducted on the relationship, association and comparison between self-esteem, anxiety and depression. A cross sectional analysis on low self-esteem and its association with anxiety, depression and suicidal ideation in Vietnamese secondary school research reported that it affects the student's quality of life and also it linked in suicidal ideation. (Dat Tan Nguyen., E.Pamela et al., 2019); A research on the role of self-esteem



in the development of psychiatric problems: a three year prospective study in a clinical sample of adolescents reported by using 201 samples of adolescents who has aged 13-18 resulted that the self-esteem affect the persistent outcome of both anxiety, depression symptoms and attention problems among adolescents.(Henriksen et al.,2017);A meta analytical studies have reported that the relations with self-esteem, anxiety and depression and also it studies the effect of low self-esteem which affects the strong and holds across different sample and design characteristics of studies and it also shows if future research aimed at increasing self-esteem might be useful in reducing the risk of depression and might not reduce the short term effects of depression but it also affect and reduce the long term effects of depression (Julia FriederikeSowisko and Ulrich Orth.,2013);A pearson's correlational analysis is conducted with the samples of 314 dental students from Udaipur has resulted in negative correlation among students with low self-esteem and depression and also explains that the students with high self-esteem had a lower level of depression (Nilesh Bhanawat et al.,2017);A research on the the self-esteem and anxiety levels of students of the Technological Educational Institute of Athens proposed that by using the sample of 763 students of the institute have moreover a statistically significant negative correlation between self esteem and anxiety with students with having high higher anxiety scores tending to present lower self-esteem scores, and vice versa(Sofia Ntensia et al.,2017)

METHODOLOGY

AIM

To find out the relationship and difference between Self-esteem, Anxiety and Depression among College students

OBJECTIVE

1. To assess the level of Self-esteem, Anxiety and Depression among College students
2. To determine the relationship between Self-esteem, Anxiety and Depression among College students
3. To find out the gender difference in the levels of Self-esteem, Anxiety and Depression between male and female college students

HYPOTHESIS

- There is a significant relationship between Self-esteem, Anxiety and Depression among College students
- There is a significant gender difference Self-esteem, Anxiety and Depression among College students

SAMPLE:

A sample of 100 college students (50 males and 50 females) was taken as the sample group. The sample was collected using the convenient sampling method. The inclusion criteria of this study were the college students, both male and female students, age limit 18-23 years old. The students with any health problems and unwillingness to participate were excluded from this study.



TOOLS:

SOCIO DEMOGRAPHIC DATA SHEET

It is used to collect the name, age, gender, birth order, siblings, socio-economic status, marital status, education, qualification and residence.

HAMILTON ANXIETY RATING SCALE (HAM-A)

It is a self-report measure of anxiety. The scale was developed by Max Hamilton, in 1959. It consists of 14 statements in question form demanding information for each in a 5 points likert scale. Its reliability of internal consistency of Cronbach's alpha = 0.77 to 0.92 and also its validity is compared with other measures as Covi anxiety scale and clinical assessment.

ROSENBERG SELF-ESTEEM SCALE

It is a self-report measure of self-esteem. The scale was developed by Morris Rosenberg, in 1965. It consists of 10 statements in question form demanding information for each in a 4 points likert scale. It has a criterion validity = 0.55 and construct validity which is correlated with anxiety = -0.64 and correlated with depression = -0.54 and also it has an internal consistency = 0.77.

BECK'S DEPRESSION INVENTORY II

It is a self-report measure of depression. The scale was developed by Aaron T. Beck in 1961. It consist of 21 statements in question form demanding information for each in a four points scales and each question had a set of at least four possible responses, ranging in intensity. It has an internal consistency was described as around 0.9 and the test-retest reliability ranged from 0.73 to 0.96. Its content validity is ensured because most of its items are equivalent to the DSM – IV criteria for depression. Its construct validity has also been tested with other measurements as MMPI and Hamilton depression inventory successfully.

DISCUSSION AND RESULTS:

Correlational analysis and ANOVA were used for data analysis through SPSS software.

TABLE 1 SHOWS THE FREQUENCIES AND PERCENTAGES OF THE DEMOGRAPHIC VARIABLES AMONG COLLEGE STUDENTS

Variables	Category	Frequency	Percentage
Age	19-20	12	5.9%
	20-21	40	19.8%
	21-22	108	53.5%
	22-23	28	13.9%
	23-24	2	1.0%
	24-25	10	5.0%
Gender	Male	100	50.0%
	Female	100	50.0%



Number of siblings	0	10	6.0%
	1	136	67.3%
	2	44	21.8%
	3	10	5.0%
Birth Order	1	108	53.5%
	2	70	34.7%
	3	18	8.9%
	4	4	2.0%
Marital Status	Unmarried	198	99.0%
	Married	2	1.0%
Education	Under-graduate	112	55.4%
	Post-graduate	88	43.6%
Residence	Rural	54	26.9
	Urban	146	73.1
Socio-economic status	Lower	8	4.0%
	Middle	180	89.1%
	Upper	12	5.9%

Table 1 shows the frequencies and percentages of the demographic variables among college students.

In variables the age group shows that the 12(5.9%) samples between of 19-20 years of age, 40(19.8%) samples between of 20-21 years of age, 108(53.5%) samples between of 21-22 years of age, 28(13.9%) samples between of 22-23 years of age, 2(1.0%) samples between of 23-24 years of age, 10(5.0%) samples between of 24-25 years of age; The gender group shows that the 100(50.0%) samples were male and 100(50%) samples were female; The number of siblings of the sample group shows that the 10(4.0%) samples had no siblings, 136(67.3%) samples had one sibling, 44(21.8%) samples had two siblings, 10(5.0%) samples had three siblings; In variables the birth order of the sample group shows that the 108(53.5%) samples were first born child, 70(34.7%) samples were second born child, 18(8.9%) samples were third born child, 4(2.0%) samples were forth born child; The marital status of the sample group shows that the 198(99.0%) samples were unmarried and 2(1.0%) samples were married; The education level of the sample group shows that 112(55.4%) samples were under-graduate students and 88(43.6%) samples were post-graduate students. The residence sample group shows that the 54(25.75%) samples were in rural areas and 146(71.3%) samples were in urban areas. The socio-economic status of the sample group shows that 8(4.0%) samples were from lower class, 180(89.1%) samples were from middle class, 12(5.9%) samples were from upperclass.



TABLE 2 SHOWS THE FREQUENCIES AND PERCENTAGES OF THE

Study Variables	Category	Frequency	Percentage (%)
ANXIETY	Mild severity	168	83.2%
	Mild to moderate	16	7.9
	Moderate to severe	16	7.9
DEPRESSION	Minimal range	88	44.6%
	Mild	66	32.7%
	Moderate	46	22.8%
SELF-ESTEEM	Low	2	1.0%
	Normal	192	96.0%
	High	6	3.0%

STUDY VARIABLES

Table 2 shows the frequencies and percentages of the study variables of the anxiety, self-esteem and depression.

In anxiety the samples were belonged to the category of mild severity are in a frequency of 168 that constitutes 83.2%, the subjects were belonged to the category of mild to moderate are in a frequency of 16 that constitutes 7.9%, the samples were belonged to the category of moderate to severe are in a frequency of 16 that constitutes 7.9%. These data represents that most of the samples are comes under the category of Mild severity level in anxiety.

In depression, the samples were belonged to the category of minimal range of depression are in the frequency of 88 that constitutes 44.6%, the samples were belonged to the category of mild level of depression are in the frequency of 66 that constitutes 32.7% and the other samples are belonged to the category of moderate level of depression are in the frequency of 46 that constitutes 22.8%. These data represents that most of the samples are in category of minimal range level depression.

In self-esteem, the samples were belonged to the category of low level of self-esteem are in the frequency of 2 that constitutes 1.0%, the samples were belonged to the category of normal level of self-esteem are in the frequency of 192 that constitutes 96.0%, and the other samples were belonged to the category of high level of self-esteem are in the frequency of 6 that constitutes 3.0%. Here these data represents that most of the samples are in the category of Normal level of self-esteem.

TABLE 3 SHOWS THE PEARSON’S CORRELATIONAL ANALYSIS OF THE STUDY VARIABLES

Study Variables	Anxiety	Self-esteem	Depression
Anxiety	1	.131	.425**
Self-esteem	.131	1	.091
Depression	.425**	.091	1

Table 3 shows the Pearson’s correlational analysis of study variables



The results of the Pearson's correlational analysis suggested a significant relationship between anxiety and depression; there is no significant relationship between anxiety and self-esteem; there is no significant relationship between depression and self-esteem and vice versa. There exists a significant relationship between anxiety and depression with a positive correlation of $r = .425^{**}$ at significance level of 0.01. This shows that if anxiety increase the depression will also increase and vice versa. This explains that the students with higher level of anxiety had higher level of depression. There exists no significant relationship between anxiety and self-esteem with a correlation of $r = .131$. This shows that there is no relation between anxiety and self-esteem. This explains that the students are having high or low level of anxiety that is not affected his/her self-esteem and vice versa. There exists no significant relationship between depression and self-esteem with a correlation of $r = .091$. This shows that there is no relation between depression and self-esteem. This explains that the students are having high/low level of depression that is not affected his/her self-esteem and vice versa.

TABLE 4 SHOWS THE ANALYSIS OF VARIANCE IN STUDY VARIABLES

Study variable (Between Groups)	Mean Square	F	Sig.
Anxiety	69.978	1.289	.259
Self-esteem	2.375	.305	.582
Depression	10.156	.183	.669

The table 4 shows the analysis of variance in study variables

- i) The F ratio of the anxiety between groups is 1.289 and its significance (p) value is .259 provided in SPSS output, is greater than alpha (.05) the results are not statistically significant.
- ii) The F ratio of the self-esteem between groups is .305 and its significance (p) value is .582 provided in SPSS output, is greater than alpha (.05) the results are not statistically significant.
- iii) The F ratio of the depression between groups is .183 and its significance (p) value is .669 provided in SPSS output, is greater than alpha (.05) the results are not statistically significant.

Therefore there are no significant gender differences between the male and female college students in their levels of anxiety, self-esteem and depression.

CONCLUSION AND LIMITATIONS:

There exist a significant relationship between anxiety and depression and there exist no significant relationship between anxiety and self-esteem and also between depression and self-esteem by the result of Pearson's correlational analysis. This results represents that the college students with high /low self-esteem doesn't affected by



his/her anxiety and depression. There exist no significant gender differences between the male and female college students in their levels of anxiety, self-esteem and depression.

The present findings of this study have to be seen in light of some limitations that this research is done with a smaller group of samples so the research needs to conduct for a larger group of population to achieve more accurate values and results in future studies. The second limitation concerns that the data's are collected through online platform so it might have limits the researcher's ability to conduct a thorough analysis of the results.

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A STUDY ON CLOUD ACCOUNTING AND THE STRATEGIES TO UP FIGHT THE CHALLENGES

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Abstract:

Cloud Computing is getting more and more popularity day by day. The reason behind is the gradual growth of the companies which are in need of the place to store their data. Therefore, companies are in competition to provide large space to store data along with the various features and quality service. It has been found that Cloud Computing is a model for enabling ubiquitous, convenient, on-demand network access the computing resources. Cloud accounting. Cloud accounting software utilizes the Cloud to store accounting data. It makes financial information accessible to owners and employees anywhere with an Internet connection. Every day, more and more businesses are turning to cloud computing. From connected appliances to Internet-based education programs, people all over the world are utilizing the cloud as a way of connecting with customers and making their own business practices more effective. One business practice than an increasing number of businesses are turning to Internet-based technology for is accounting. Today, small businesses across the globe are taking advantage of the cloud when it comes to managing their finances and fewer and fewer startups now depend on a hard drive to store and access their accounting data.

cloud hosting provides many benefits to businesses. It's cost-effective, can save you money, it's highly reliable and it provides the scalability, flexibility, agility, high performance and security businesses need from their IT systems.

Key Words: Cloud Accounting, Cloud Provider, Cloud Storage, Online Accounting, Hybrid Cloud

Introduction:

Cloud Computing is getting more and more popularity day by day. The reason behind is the gradual growth of the companies which are in need of the place to store their data. Therefore, companies are in competition to provide large space to store data along with the various features and quality service. It has been found that Cloud Computing is a model for enabling ubiquitous, convenient, on-demand network access the computing resources. Cloud accounting.

Cloud computing accounting software is accounting software that is hosted on remote servers. It provides accounting capabilities to businesses in a fashion similar to the SaaS (Software as a Service) business model. Data is sent into "the cloud," where it is processed and returned to the user. All application functions are performed off-site, not on the user's desktop.



In cloud computing, users access software applications remotely through the Internet or other network via a cloud application service provider. Using cloud computing accounting software frees the business from having to install and maintain software on individual desktop computers. It also allows employees in remote or branch offices to access the same data and the same version of the software.

Review of literature:

1. Elzbieta Wyslocka and Dorota Jelonek (2015) highlights that Small business does not need expensive software to lead the general ledger and perform basic accounting tasks. Simple accounting applications in the cloud are created to help small business owners to organize and manage their IT operations. Since cloud accounting is an online accounting service, one can access business data anywhere on a mobile phone or a desktop PC and his data is safe because there are backups. Cloud Computing in accounting for small and medium-sized enterprises are emerging recently "in the clouds" accounting offices, which are modern accounting solutions available anywhere.

2. Inaki Bildosola et al., (2015) concludes that, Cloud accounting is now a reality, but it is also a fact that a large number of companies, especially SMEs, are not yet aware of either the existence of cloud technology or its benefits for the business sector. They further concluded saying that cloud computing is especially beneficial for startup companies, SMEs, entrepreneurs and companies that need to make new investments or do not have a stable infrastructure.

3. Otilia Dimitriu and Marian Matei (2014) concludes that Yet, the most outstanding concept, that has reshaped the traditional way of providing accounting tools, is cloud computing. The world of bookkeeping is shifting towards online products. The numerous benefits of the cloud services have proven that a technological revolution is undoubtedly necessary for companies' accounting department. The new manner of designing, managing and providing financial packages introduces accounting in the "cloud computing era". Benefits of using a cloud accounting solution are considerable and enterprises should do their best to explore all opportunities and learn from the continuously changing market. Moving to the Cloud is inevitable for most businesses – in many cases the only question that arises is "When?"

4. Katherine Kinkela (2010) highlights that Cloud computing is now an accepted part of the array of technology available to accountants. Cloud computing can offer efficiency and cost cutting benefits. Before using cloud technology, however companies should understand the risks and security issues inherent in this new technology. By taking a systematic approach to risk assessment, including creating effective policies for cloud usage and a risk response plan, companies can take advantage of this new technology to increase operational efficiency.

5. Serkanozdemir and Cemalilitaş (2015) concludes that the establishments that provide accounting systems services utilizing the cloud computing facilities in accounting sector

must build the necessary infrastructure and models by foreseeing the general risks of cloud computing technology and the structure in the country in order to run the system without failure and to store the digital financial data of the establishments in a secure environment.

Objectives of the study:

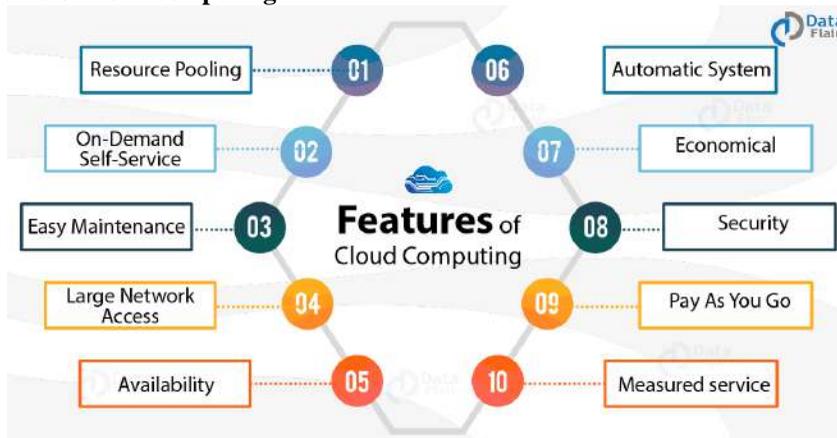
1. To know the knowledge of cloud accounting
2. To study the benefits of cloud accounting to the businesses.
3. To analyze the challenges faced by the cloud accounting
4. To suggest to upbeat the challenges of cloud accounting

Scope of the study:

The study is based on cloud accounting an information technological revolution in accounting; it covers the concepts, features, benefits to the business, challenges faced by the concerns and most possible solution to encounter it.

Most application providers typically charge based on usage – compared to site license fees associated with traditional accounting software deployments. Accounting data backup and disaster recovery is often a part of your cloud computing accounting software account.

Features of cloud computing:



Following are the characteristics of Cloud Computing:

1. Resources Pooling

It means that the **Cloud provider** pulled the computing resources to provide services to multiple customers with the help of a multi-tenant model. There are different physical and virtual resources assigned and reassigned which depends on the demand of the customer. The customer generally has no control or information over the location of the provided resources but is able to specify location at a higher level of abstraction.

2. On-Demand Self-Service

It is one of the important and valuable features of Cloud Computing as the user can continuously monitor the server uptime, capabilities, and allotted network storage. With this feature, the user can also monitor the computing capabilities.



3. Easy Maintenance

The servers are easily maintained and the downtime is very low and even in some cases, there is no downtime. Cloud Computing comes up with an update every time by gradually making it better. The updates are more compatible with the devices and perform faster than older ones along with the bugs which are fixed.

4. Large Network Access

The user can access the data of the cloud or upload the data to the cloud from anywhere just with the help of a device and an internet connection. These capabilities are available all over the network and accessed with the help of internet.

5. Availability

The capabilities of the Cloud can be modified as per the use and can be extended a lot. It analyzes the storage usage and allows the user to buy extra **Cloud storage** if needed for a very small amount.

6. Automatic System

Cloud computing automatically analyzes the data needed and supports a metering capability at some level of services. We can monitor, control, and report the usage. It will provide transparency for the host as well as the customer.

7. Economical

It is the one-time investment as the company (host) has to buy the storage and a small part of it can be provided to the many companies which save the host from monthly or yearly costs. Only the amount which is spent is on the basic maintenance and a few more expenses which are very less.

8. Security

Cloud Security, is one of the best features of cloud computing. It creates a snapshot of the data stored so that the data may not get lost even if one of the servers gets damaged. The data is stored within the storage devices, which cannot be hacked and utilized by any other person. The storage service is quick and reliable.

9. Pay as you go

In cloud computing, the user has to pay only for the service or the space they have utilized. There is no hidden or extra charge which is to be paid. The service is economical and most of the time some space is allotted for free.

10. Measured Service

Cloud computing resources used to monitor and the company uses it for recording. This resource utilization is analyzed by supporting charge-per-use capabilities. This means that the resource usages which can be either virtual server instances that are running in the cloud are getting monitored measured and reported by the service provider. The model pay as you go is variable based on actual consumption of the manufacturing organization.

Based on a service the cloud model is offering, we are speaking of either:

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



- or, Storage, Database, Information, Process, Application, Integration, Security, Management, Testing-as-a-service.

The Benefits of Cloud Accounting:

1. Mobile access at any time.

With cloud accounting, you can access your accounts and key financial figures at any time, from anywhere.

When you use an old-fashioned, desktop-based system, you are effectively tied to the office. Your software, your data and your accounts are all sat on a local drive. And that limits the access you can have to your financial information.

Cloud-based accounting frees you up from this restriction. Your data and records are all safely encrypted and stored on a cloud server, and there is no software application for you to download – you log in and work from your web browser, wherever you have Wi-Fi and an Internet connection.

So, wherever you are, you can always check on the status of your business.

2. A cost and time-effective solution.

Working online reduces your IT costs and saves you time by keeping you constantly connected to the business.

Desktop-based systems require an investment in IT hardware, plus the maintenance of that hardware. You require a server to house the application software and the related data. And it will need to pay an IT expert to maintain both the server and the office network – that can be an expensive overhead.

3. Watertight security and no time-consuming back-ups.

When you are cloud-based, your accounts and records are all saved and backed up with military levels of encryption.

If you have used desktop accounting, you will be aware of the need to back-up your work at the end of each day. And you will also know about the need for updates each time your provider brings out a new version of the software.

On a cloud platform, back-ups and software updates become a thing of the past. You're always logged in to the most up-to-date version of the software, with all the latest functions, tax rates and necessary returns. Also your work is saved automatically as you go, so you save both time and money on tedious back-up procedures.

Security is another area where cloud accounting trumps a desktop system. Your data is no longer sat on a physical server in the office, or languishing on the hard drive of your laptop. All your accounting information is encrypted at source and saved to the cloud. So the only person who can access your confidential information is you, plus selected members of your team and advisers.

4. Share and collaborate with ease.

Working with colleagues, and sharing data with your advisers, is an extremely straightforward process when you're based in the cloud.



Using the old, desktop approach, you had limited access to your accounts – and that made collaboration with colleagues and advisers difficult. If your accountant needed specific numbers, they would need to be emailed back and forth, or saved to USB memory stick and couriered directly to their office.

With a system like Xero online accounting (our choice of cloud accounting), you, your colleagues, your management team and your advisers can all access the same numbers – instantly, from any geographical location. So collaboration is as easy as picking up the phone and logging in to Xero, with the key numbers in front of you.

5. Reduces paperwork and is more sustainable.

Using cloud accounting can deliver the dream of having a paperless office.

With traditional accounting, dealing with paperwork, data-entry and financial admin can start to eat into your business time. Everything must be printed out and dealt with in hard copy, and this is slow, ineffective and bad for the environment.

With an online accounting system, you can significantly reduce your reliance on paperwork. Invoices can be emailed out directly to clients, removing the costs of printing and postage – and speeding up the payment process. Incoming bills and receipts can be scanned and saved directly with the associated transactions in your accounting software and because your documents are all digitized and stored in the cloud, there is no need to keep the paper originals – saving on filing space and storage costs.

6. Better control of your financial processes.

The efficiencies of cloud online accounting software give you greatly improved control of your core financial processes.

7. Business owners can access their data anytime from anywhere.

Business owners are always on the move and are increasingly using tablets and smart phones to access latest financial data. With cloud accounting, they can see the business account balances, outstanding invoices, overall cash position and much more from anywhere 24/7 as long as they can access an internet connection.

8. Cost of ownership is lower as compared to traditional accounting software.

There is nothing to install and maintain. Software updates automatically without user intervention. This results in overall reduction in cost. This enables small business owners to focus on the core business activities.

9. Cloud Accounting is secure.

Normally, proper security measures are not implemented by small businesses to protect their financial data. Cloud Accounting softwares like ProfitBooks maintain high security standards. Backups are taken at regular intervals, servers are scanned for vulnerabilities and data is transferred over the encrypted connection.



10. **Online Accounting Softwares are integrated with other services.**
For example, ProfitBooks can be integrated with popular file sharing applications to store and share files. There are endless possibilities to extend the functionality by connecting with other online software.
 11. **It brings the entire team together.** Cloud accounting enables business owners and accountants to work on the same file simultaneously eliminating the need of data transfer and physical meetings. Time is money.
 12. **Speedy processing of information and relatively easy access to information:** we now live in a world where speed is everything. Decision makers rely on information that is produced on timely basis. Cloud accounting serves the need of managers in this regards. With the right tool and an internet connection, a manager quickly process information from any part of the world.
 13. **Reduction in overhead cost:** accounting as a service function adds to the overhead of running a business. The main cost here is the cost of hiring someone with the right skillsets. When outsourced to internet accounting vendor, this cost that would otherwise be spent on hiring and training accountant will be saved.
 14. **Reduced licencing fees:** some traditional accounting software entails making periodic payments. This expenditure will be avoided if the accounting function is outsourced to a cloud accounting vendor.
 15. **Access to the best talent:** as experts, cloud accounting companies are a able to pool the brightest minds together. You won't be wrong if you tap into this pool knowledge.
 16. **Pay as you use:** you don't have to worry about buying that expensive accounting software if you engage the service of a vendor. All that is required of you is to pay for the amount of time you have used the service.
 17. **Benefits from the use of advanced features:** small and medium sized businesses will struggle to afford paying to get full version of financial processing software. Because the financial service provider will have many clients that subscribe to their services, the cost of getting a full fledged accounting software will not be felt by their customers.
 18. **Access to real-time accounting information:** having accounting software in the office sometimes restricts new generation managers from acting as swiftly as they would love to. It is now common practice for people to work from home and providing this access would be too cumbersome and expensive for a small company
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to provide. By Subscribing to the service of any company of your choice, you will be giving your company the invaluable chance of surviving in this ever competitive business environment.

19. **Automatic upgrade:** using the service of a cloud accounting service in your business will remove the burden of having to keep your accounting software up to date. This is really handy when it comes to installing patches that is required to keep your accounting information system safe. Also, the time that would have been invested in designing and implementing software change policy can be used in performing other management functions.
20. **It improves overall efficiency:** the overall efficiency of a company will be improved if all the above benefits are taken. Fast decision making combined with reduced overhead for example will no doubt increase the productivity and efficiency of a company.

Challenges of cloud accounting:

Most of the potential drawbacks of cloud accounting comes from the fact that small businesses might not been ready to handle the consequence of over reliance on business technology. Below are some of the most common disadvantages of implementing an accounting system on the cloud.

1. **Potential Loss of sensitive data:** one danger of cloud accounting is the fact that control is technically lost. Control is lost in the sense that as a company, you have no control over your data that is in the cloud. The good news is that there are good practices that when followed can significantly reduce the risk of losing your data in the cloud. At the very least, due diligence should be carried out before entrusting your accounting data to the care of a cloud vendor.
2. **You can potentially be frustrated if anything happens to your internet connection:** I sometimes imagine what would happen to us if anything should go wrong with the internet. From the perspective of a business that relies on cloud accounting, it will affect the smooth running of operations if there happens to be an issue with getting the network to work.
3. **Still characterised with lots of myths:** considering the fact that cloud computing, the technology that cloud accounting is based upon is relatively new, there are still grey areas where people still have half-baked knowledge on.
4. **Laws and legislations can be broken:** most accounting vendors in the cloud operate from jurisdiction where the laws are significantly different from the one that operates in the home country of the client company. The danger here is that uninformed managers or business owners could potentially act in a way that violates the laws of the country where they operate. This problem can easily be overcome by engaging the service of a lawyer who is experienced in the company's industry.



5. Network Connection Dependency

In order to reap the benefits of cloud computing, your business must always have an internet connection. Unfortunately, there is no way to get around this fact. You need a network in order to send files to the cloud and retrieve them.

You need a network to be able to use your virtual machines even if you opt for an IaaS, Infrastructure-as-a-Service. If you lose your network connection because of a storm or an outage, you may experience some downtime. However, a good Hosted Services provider will help you develop a business continuity plan, as well as the promise to deliver an SLA of more than 95% uptime.

6. Limited Features

Not all cloud providers are created equally. When you use cloud computing for storage and backup, you should ideally be working with a provider who offers the value of unlimited bandwidth. You may also experience limited storage space or accessibility. SaaS offerings may usually begin with a free package, but you will be charged for premium offerings and extra space. Can your business afford the costs as your business needs grow?

The answer to the concern of limited features is to partner with a Hosted Services provider who can meet your cloud storage, virtualization, and backup needs both now and in the future when your business grows. Ideally, you will want to work with a provider who will offer you a Hosted Services package at the highest value for the features and space your business needs.

7. Loss of Control

You are, essentially, trusting another party to take care of your data. You are trusting that they will maintain their data centers and servers with the same care as you would, if not more. You have to trust that your provider's data centers are compliant and secured both physically and online. Some find the lack of in-house control of the server unnerving.

If this is one of your concerns, work with a partner with local contacts. Speak one-on-one with a representative who can address your access concerns, and learn about the measures that the Hosted Services company takes to ensure the integrity and safety of their cloud servers.

8. Security

Cloud hacking cases as recent as the past few months have shown that not all cloud providers are as secure as they claim to be. As a business, you can't afford to have sensitive information about your company or your clients fall victim to hackers. One of cloud computing's greatest disadvantages is that you don't always know which providers you can trust.

This cloud computing disadvantage is more prevalent in SaaS providers than with Hosted providers. Because of the popularity of SaaS providers, they get targeted more frequently, and more easily, than a Hosted provider.

9. Technical Issues

If you experience any technical issues, you have no choice but to call your hosted provider's technical support for help. You cannot fix your cloud computing problems in-house, and some providers do not offer around-the-clock technical support.



10. Downtime

Downtime is often cited as one of the biggest disadvantages of cloud computing. Since cloud computing systems are internet-based, service outages are always an unfortunate possibility and can occur for any reason.

11. Security and privacy

Although cloud service providers implement the best security standards and industry certifications, storing data and important files on external service providers always opens up risks. Any discussion involving data must address security and privacy, especially when it comes to managing sensitive data.

12. Vulnerability to attack

In cloud computing, every component is online, which exposes potential vulnerabilities. Even the best teams suffer severe attacks and security breaches from time to time. Since cloud computing is built as a public service, it's easy to run before you learn to walk. After all, no one at a cloud vendor checks your administration skills before granting you an account: all it takes to get started is generally a valid credit card.

13. Limited control and flexibility

Since the cloud infrastructure is entirely owned, managed, and monitored by the service provider, it transfers minimal control over to the customer.

To varying degrees (depending on the particular service), cloud users may find they have less control over the function and execution of services within a cloud-hosted infrastructure. A cloud provider's end-user license agreement (EULA) and management policies might impose limits on what customers can do with their deployments. Customers retain control of their applications, data, and services, but may not have the same level of control over their backend infrastructure.

14. Vendor lock-in

Vendor lock-in is another perceived disadvantage of cloud computing. Easy switching between cloud services is a service that hasn't yet completely evolved, and organizations may find it difficult to migrate their services from one vendor to another. Differences between vendor platforms may create difficulties in migrating from one cloud platform to another, which could equate to additional costs and configuration complexities. Gaps or compromises made during migration could also expose your data to additional security and privacy vulnerabilities.

15. Cost concerns

Adopting cloud solutions on a small scale and for short-term projects can be perceived as being expensive. However, the most significant cloud computing benefit is in terms of IT cost savings. Pay-as-you-go cloud services can provide more flexibility and lower hardware costs, but the overall price tag could end up being higher than you expected. Until you are sure of what will work best for you, it's a good idea to experiment with a variety of offerings.



Cloud computing methods:

Cloud computing services fall into 4 categories: infrastructure as a service (IaaS), platform as a service (PaaS), software as a service (SaaS) and FaaS (functions as a service). These are sometimes called the cloud computing stack, because they build on top of one another.

Cloud computing has been credited with increasing competitiveness through cost reduction, greater flexibility, elasticity and optimal resource utilization. Here are a few situations where cloud computing is used to enhance the ability to achieve business goals.

1. Infrastructure as a service (IaaS) and platform as a service (PaaS)

When it comes to IaaS, using an existing infrastructure on a pay-per-use scheme seems to be an obvious choice for companies saving on the cost of investing to acquire, manage and maintain an IT infrastructure. There are also instances where organizations turn to PaaS for the same reasons while also seeking to increase the speed of development on a ready-to-use platform to deploy applications.

2. Private cloud and hybrid cloud

Among the many incentives for using cloud, there are two situations where organizations are looking into ways to assess some of the applications they intend to deploy into their environment through the use of a cloud (specifically a public cloud). While in the case of test and development it may be limited in time, adopting a hybrid cloud approach allows for testing application workloads, therefore providing the comfort of an environment without the initial investment that might have been rendered useless should the workload testing fail.

Another use of hybrid cloud is also the ability to expand during periods of limited peak usage, which is often preferable to hosting a large infrastructure that might seldom be of use. An organization would seek to have the additional capacity and availability of an environment when needed on a pay-as you-go basis.

3. Test and development

Probably the best scenario for the use of a cloud is a test and development environment. This entails securing a budget, setting up your environment through physical assets, significant manpower and time. Then comes the installation and configuration of your platform. All this can often extend the time it takes for a project to be completed and stretch your milestones.

With cloud computing, there are now readily available environments tailored for your needs at your fingertips. This often combines, but is not limited to, automated provisioning of physical and virtualized resources.

4. Big data analytics

One of the aspects offered by leveraging cloud computing is the ability to tap into vast quantities of both structured and unstructured data to harness the benefit of extracting business value.

Retailers and suppliers are now extracting information derived from consumers' buying patterns to target their advertising and marketing campaigns to a particular segment of the population. Social networking platforms are now providing the basis for analytics on behavioral patterns that organizations are using to derive meaningful information.

5. File storage



Cloud can offer you the possibility of storing your files and accessing, storing and retrieving them from any web-enabled interface. The web services interfaces are usually simple. At any time and place you have high availability, speed, scalability and security for your environment. In this scenario, organizations are only paying for the amount of cloud storage they are actually consuming, and do so without the worries of overseeing the daily maintenance of the storage infrastructure.

There is also the possibility to store the data either on or off premises depending on the regulatory compliance requirements. Data is stored in virtualized pools of storage hosted by a third party based on the customer specification requirements.

6. Disaster recovery

This is yet another benefit derived from using cloud based on the cost effectiveness of a disaster recovery (DR) solution that provides for a faster recovery from a mesh of different physical locations at a much lower cost than the traditional DR site with fixed assets, rigid procedures and a much higher cost.

7. Backup

Backing up data has always been a complex and time-consuming operation. This included maintaining a set of tapes or drives, manually collecting them and dispatching them to a backup facility with all the inherent problems that might happen in between the originating and the backup site. This way of ensuring a backup is performed is not immune to problems such as running out of backup media, and there is also time to load the backup devices for a restore operation, which takes time and is prone to malfunctions and human errors.

Cloud-based backup, while not being the panacea, is certainly a far cry from what it used to be. You can now automatically dispatch data to any location across the wire with the assurance that neither security, availability nor capacity are issues.

While the list of the above uses of cloud computing is not exhaustive, it certainly gives an incentive to use the cloud when comparing to more traditional alternatives to increase IT infrastructure flexibility, as well as leverage on big data analytics and mobile computing.

Suggestions:

Best practices for minimizing planned downtime in a cloud environment

- Design services with high availability and disaster recovery in mind. Leverage the multi-availability zones provided by cloud vendors in your infrastructure.
- If your services have a low tolerance for failure, consider multi-region deployments with automated failover to ensure the best business continuity possible.
- Define and implement a disaster recovery plan in line with your business objectives that provide the lowest possible recovery time (RTO) and recovery point objectives (RPO).
- Consider implementing dedicated connectivity such as AWS Direct Connect, Azure ExpressRoute, or Google Cloud's Dedicated Interconnect or Partner Interconnect. These services provide a dedicated network connection between you and the cloud service point of presence. This can reduce exposure to the risk of business interruption from the public internet.



- Read the fine print on your Service Level Agreement (SLA). Are you guaranteed 99.9% uptime or even better? That 0.1% downtime equals about 45 minutes per month or around eight hours per year.

Best practices to help you reduce cloud attacks

- Make security a core aspect of all IT operations.
- Keep ALL your teams up-to-date with cloud security best practices.
- Ensure security policies and procedures are regularly checked and reviewed.
- Proactively classify information and apply access control.
- Use cloud services such as AWS Inspector, AWS CloudWatch, AWS CloudTrail, and AWS Config to automate compliance controls.
- Prevent data exfiltration.
- Integrate prevention and response strategies into security operations.
- Discover rogue projects with audits.
- Remove password access from accounts that do not need to log in to services.
- Review and rotate access keys and credentials.
- Follow security blogs and announcements to be aware of known attacks.
- Apply security best practices for any open source software that you are using.
- Again, use encryption whenever and wherever possible.

These practices will help your organization monitor for the exposure and movement of critical data, defend crucial systems from attack and compromise, and authenticate access to infrastructure and data to protect against further risks.

Best practices for maintaining control and flexibility

- Consider using a cloud provider partner to help with implementing, running, and supporting cloud services.
- Understand your responsibilities and the responsibilities of the cloud vendor in the shared responsibility model to reduce the chance of omission or error.
- Make time to understand your cloud service provider's basic level of support. Will this service level meet your support requirements? Most cloud providers offer additional support tiers over and above the basic support for an additional cost.
- Make sure you understand the SLA concerning the infrastructure and services you're going to use and how that will impact your agreements with your customers.

Best practices to decrease dependency

- Design with cloud architecture best practices in mind. All cloud services provide the opportunity to improve availability and performance, decouple layers, and reduce performance bottlenecks. If you have built your services using cloud architecture best practices, you are less likely to have issues porting from one cloud platform to another.
- Properly understand what your vendors are selling to help avoid lock-in challenges.
- Employ a multi-cloud strategy to avoid vendor lock-in. While this may add both development and operational complexity to your deployments, it doesn't have to be a deal breaker. Training can help prepare teams to architect and select best-fit services and technologies.



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- Build in flexibility as a matter of strategy when designing applications to ensure portability now and in the future.
 - Build your applications with services that offer cloud-first advantages, such as modularity and portability of microservices and code. Think containers and Kubernetes.

Best practices to reduce costs

- Try not to over provision your services, but rather look into using auto-scaling services.
- Ensure you have the option to scale DOWN as well as UP.
- Pre-pay and take advantage of reserved instances if you have a known minimum usage.
- Automate the process to start/stop your instances to save money when they are not being used.
- Create alerts to track cloud spending.

Conclusion:

Cloud accounting software utilizes the Cloud to store accounting data. It makes financial information accessible to owners and employees anywhere with an Internet connection. Every day, more and more businesses are turning to cloud computing. From connected appliances to Internet-based education programs, people all over the world are utilizing the cloud as a way of connecting with customers and making their own business practices more effective. One business practice than an increasing number of businesses are turning to Internet-based technology for is accounting. Today, small businesses across the globe are taking advantage of the cloud when it comes to managing their finances and fewer and fewer startups now depend on a hard drive to store and access their accounting data.

cloud hosting provides many benefits to businesses. It's cost-effective, can save you money, it's highly reliable and it provides the scalability, flexibility, agility, high performance and security businesses need from their IT systems.

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WHAT IS BEING RIDICULED?'- A STUDY OF HUMOUR BASED PROGRAMS ON PRIVATE FM RADIO STATIONS

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Abstract

Humour has always played a very important role in the build-up of any cultural or societal structure. As a part of entertainment it has a long ranging tradition. However, the need for humour as a dominant component of entertainment seems to have emerged in our culture. The evidence for such dominance is often reflected through the content of popular media like Radio. The views, jokes or ideas showcased on radio disseminate in the popular culture.

Triangulation methodology was adopted for this research it used qualitative analysis as a foreground method and quantitative as background method; as it combined the advantages of quantitative content analyses with more in-depth and less standardized qualitative research approaches. The qualitative content analysis attempted to find out details about the sender of the message and possible effects for the receiver.

This study tried to reveal interesting and important insights about the way humour is formed and portrayed in humour based programs on radio in both quantitative and qualitative way. Study tried to understand the salient features of programmed humour on radio, in terms of its form, social reference it makes and values it indicates. It gives qualitative description of various socio-cultural references in humour on radio and describes the subjects and issues around which the humour is woven.

Keywords: Radio, Humour, Popular culture, Qualitative analysis, Content Analysis

1. Introduction

Radio is resurrecting itself as a Mass Communication vehicle. Today Radio is one of the most dominant mass communication medium. The total number of private FM radio stations in India has increased to 146; with three new FM stations got commissioned in March and April 2017¹ the success of Radio lies in changed format of content and programming and also the technological advancements.

The content on Radio is overwhelmed by Bollywood (songs and gossip) and humour based programs. Generally the humour on radio can be seen at two places; humour created by RJs during their general talk and as the humour based programs. A careful study of such content is likely to reveal interesting and important insight about the way humour is formed and portrayed. The reasons for such a dominance of humorous content may also tell us more about the constant need of humour and the directions and origin thereof. Today the programs on Radio in a way represent popular culture. The views, jokes or ideas showcased on radio disseminate in the popular culture. Thus there

¹(IMRC Survey,2017)



is a need to go beyond just listening Radio and simply celebrating its content, one should take a critical look at the systems and various values that it is providing people to make sense of the world. Therefore humour on Radio and its appeal is definitely a subject worth studying.

2. Review of Literature

Humour is a phenomenon researchers of many disciplines such as philosophy, psychology, and linguistics or communication studies have been interested in for a long time. The basis of humour, a happy and relaxed state of mind, is the capability of human beings to laugh and to perceive and process funny, unexpected or paradox situations (Hehl, 2004)² Humour and laughter play an important role in society, which can be seen from the fact that comedy shows and sitcoms are shown during prime time hours every day and are viewed by millions of people.

As predicted by Goldstein & McGhee (1972)³ humour has become more acceptable as an area of academic study, generating a great deal of attention and research in recent years. International conferences highlighting the importance of humour studies began with the first conference held by the international society of humour studies in 1976 and the inceptions of humour: the international journal of humour research, devoted to the publication of scholarly articles in the area of humour research.

Research in the area of humour has focused on a variety of issues such as the development of tests to measure factors related to humour (Craik, Lampert, & Neilson, 1996⁴; Kolhar & Ruch, 1996⁵; Thorson & Powell 2002)⁶ humour production and humour appreciation (Ruch & Heil, 1986⁷; Ziv, 1998)⁸, ratings of various types of humour, the function of humour through various stages of adult development (Goldstein & McGhee, 1972)⁹; Bizi, Hallami 1987)¹⁰ and humour as a mechanism coping with stress (Martin & Lefcourt, 1983; Overholser, 1992)¹¹

To date many aspects of humour have been examined, yet the concept itself remains relatively poorly defined and difficult to understand (Berger, 1996)¹² although humour may be defined operationally as a rating on a particular scale, or behaviorally as a

²Hehl F.J. (2004) Humour in Therapy and Consultation, Heidelberg, Kroaning: Asanger.

³ Goldstein & McGhee (1972) the psychology of humour theoretical perspectives and empirical issues New York: Academic Press, Inc.

⁴ Craik, Lampert, & Neilson, (1996) sense of humour and styles of everyday humorous conduct, Humour: international journal of humour research, 9, 273-302

⁵ Kolhar & Ruch, (1996) Sources of Variance in Current Sense of humour Inventories: how much substance how much variance? Humour: international journal of humour research, 9, 232-264

⁶ Thorson & Powell (2002) Measurement Of Sense Of Humour, Psychological reports, 89, 687-712

⁷ Ruch & Heil, (1986) conservatism as a predicate of responses to humour-I The Location Of Senses Of Humour In A Compressive Attitude space, Personality and individual differences, 9, 989-998

⁸ Ziv, (1998) National Style of Humour. New York: Greenwood Press.

⁹ Ibid 4

¹⁰ Bizi, Hallami (1987) humour and coping with stress.: a test under real life conditions. Personality and Differences, 9, 965-978.

¹¹ Martin & Lefcourt, Overholser, (1992) sense of humour as a moderator of the relations between stressors and moods, journal of personality and social psychology, 45, 1312-1423

¹² Berger (1996) Manufacturing Desire: Media, Popular Culture and Everyday Life. New Brunswick: Transaction Publication.



stimulus that results in a response to the laughter, no widely accepted definition of humour exists. In spite of the research generated over the past two decades the function of humour in everyday life has not been adequately addressed (Chapman, 1998)¹³. One factor contributing to the lack of inquiry into humours' function in everyday life involves the tradition and expectations for research to follow a carefully controlled experimental design. Although useful in many areas of investigation, important information is forfeited within the rigid constraints of such research paradigms (Chapman, 1998)¹⁴

Even though the power and importance of humour are widely acknowledged, further study must examine the use of humour in everyday life as suggested by Berger (1995)¹⁵, the use of humour in popular culture provides a fundamental understanding of the issue faced in contemporary society. However, a theoretical foundation must guide this examination.

3. Research Methodology

Triangulation methodology (Wimmer & Dominick, 2011)¹⁶ has been adopted for this research. Triangulation is the application and combination of several research methodologies in the study of the same phenomenon by combining multiple observers, theories, methods, and empirical materials, researchers can hope to overcome the weakness or intrinsic biases and the problems that come from single method, single-observer and single-theory studies.

The purpose of triangulation in qualitative research is to increase the credibility and validity of the results. Several scholars have aimed to define triangulation throughout the years. Cohen and Manion (1986)¹⁷ define triangulation as an "attempt to map out, or explain more fully, the richness and complexity of human behavior by studying it from more than one standpoint"

The study uses qualitative analysis as a foreground method and quantitative as background method. The qualitative content analysis attempts to find out details about the sender of the message and possible effects for the receiver. Initially data was analyzed for the quantitative characters. The unit of analysis for this content analysis was one episode of humour based program. Then the data was analyzed for qualitative characters the details of the Quantitative scheme of analysis are given in table 3.1 During the Qualitative analysis the data was analyzed and following themes (codes) were identified for further discussion.

- 1) Gender and humour
- 2) Intertextuality within the humour
- 3) Humour and Cultural subgroups
- 4) Humour and contemporary social issues

¹³ Chapman, 1998) Humour and Laughter in Social Interaction and Some Implications for the Future Research. In Handbook of Research, P.E. McGhee and J.H. Goldstein. New York: Spinger-Verlag, Pp. 35-58

¹⁴ Ibid 14

¹⁵ (Berger, 1995) Cultural Criticism, Thousands Oak: Sage

¹⁶Wimmer, R. D., & Dominick, J. R. (2011). Mass media research: An introduction (9th ed.). Boston, MA: Wadsworth Cengage Learning.

¹⁷Cohen and Manion (1986) Introduction to Research Methods, Sage publication.



- 5) Humour and relationships
- 6) Humour as a normative body
- 7) Ridiculing people and systems

3.1 Data Collection

For data collection, radio programs of on the three private radio stations in Pune i.e.

- 1) Radio City (91.1 FM)
- 2) Radio One (94.3FM)
- 3) Radio Mirachi (98.3 FM)

Were recorded for 30 days (i.e. from February 16th to march 17th) by the researcher. For the recording purpose four I-pods with FM recording facilities were used. This data of about 960 hours* was then separated for humour based programs. As a part of this filtration; songs, RJ talk and advertisement on the Radio were deleted.

The audio files of recorded radio programs were edited using audio editing software's like Sound Forge 5.0, Sound Forge 6.0, and NCH Wavepad Sound Editor. Such separated audio samples were checked for the repetitions and repeated segments were deleted.

Finally 140 different segments of programmed humour were obtained. This was the universe which was sampled further. The segregation of the universe is given in Table I in appendix

3.2 Sampling issue in the research

Sampling method used was **Proportionate stratified random sampling method**

Procedure followed is as follows

- a) Initially out of universe (i.e. 144 segments) 100 segments were decided to select. ($[100 \div 144] = 0.69$)
- b) According to proportionate stratified random sampling method each strata then was calibrated to 69.44% to obtain the 100 units of equal stratification

The details of stratifications are given in Table II in appendix. Thus 100 units were selected (Final units were strictly selected using lottery method).

4. Results

This study tried to reveal interesting and important insights about the way humour is formed and portrayed in humour based programs on radio. Following inferences were drawn from the analysis of humour based data.

Humour on radio is primarily theme based (46%) The reasons for this are theme helps to develop a rapport with the audiences; it can be extended easily which ultimately helps the process of continual content creation. Secondly humour on radio has very low frequency and duration as compared to other program format on radio. The average time for any humour based programme is 68 seconds. The primary language of the humour on radio is Hindi (69%) the reason for this can be the presence of heterogeneous audiences. After Hindi remaining programs are in Marathi. English words are quite often used in humour based programs but there is no program in English exclusively. Out of all the segments of programs maximum programs (11 out of 13) have anchors. And mostly they are young (25-35 years). Surprisingly there are no women anchors which in a way support the stereotypes that women are humourless entities.



Among the types of humour satire is the most common type found. The humour on radio primarily ridicules the systems and individual and communities. Among the individuals men were ridiculed to great extent than that of women. Among the systems films were primary target of ridicule. Various people from film industry apart from actors like lyricists, directors were also the subject of ridicule. After film it was cultural subgroups which were ridiculed. Rural people, folk arts, south Indian identities and Sardarji's were target of humour. This supports the fact that minorities are portrayed negatively in the mediated content.

Qualitative analysis showcases the similar findings as that of quantitative. Qualitative research focus on the "Shrinking of Intertextuality" as well as dominance of "consumption culture". Shrinking of Intertextuality can be observed in the repetition of themes and codes used to create humour. The most frequently appearing relationship within the humour based program was, consumer and service provider. Frequent occurrence of relationship like this, indicates the influence of consumption culture on our lives.

Humour based programs acts as a normative body as Fowles (1996)¹⁸ discussed the important ability of popular culture to "normalize" our experiences. Through popular culture we are able to deal with experiences that produce strong emotional reactions while developing ways to fill areas of emotional deficiency, often through the use of humour within popular culture. Additionally, humour found within popular culture provides external normalization, influencing individuals to behave in accordance with socially acceptable norms, beliefs, and values.

Scope for future research

An ongoing, longitudinal study that tracks the trends uncovered in this study and how they change over time and with social and cultural issues would be an interesting study to carry out.

One main limitation of the study is its focus on particular one particular set of humour i.e. Programmed humour. Due to this focus other areas like advertisements on the radio, unplanned content i.e. spontaneous RJ talks can also be studied and analyzed. This study also can reveal some more issues and their correlation with popular culture.

Same way there is a scope to study audience perception. This will be an effect study; which is likely to reveal effect of mediated content on the audiences. Such studies are always appreciated in the academics and have a long tradition in the arena of Communication studies.

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Table I:

Serial Number	Title of the program	Number of Segments
Radio city (91.1)		
1	Babbadsher	04
S FM (93.5)		
2	Kavi kikalpana	10
3	Kalicharan	08
4	Excuse me	07
5	Bolna	12
6	Dada Laksha	06
7	Bollywood tamasha	07
8	prayas	06
Radio One (94.3)		
9	Fatafat films	06
10	Ghantasingh	36
Radio Mirachi (98.3)		
11	Sudd	25
12	Kho –Kho Patil	11
13	Pappu-raj	06

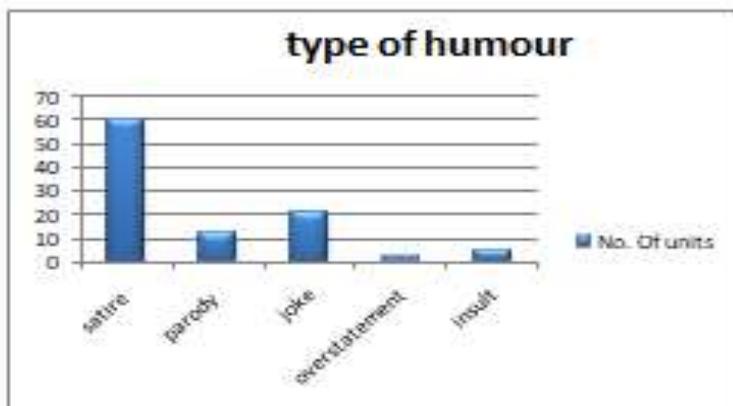
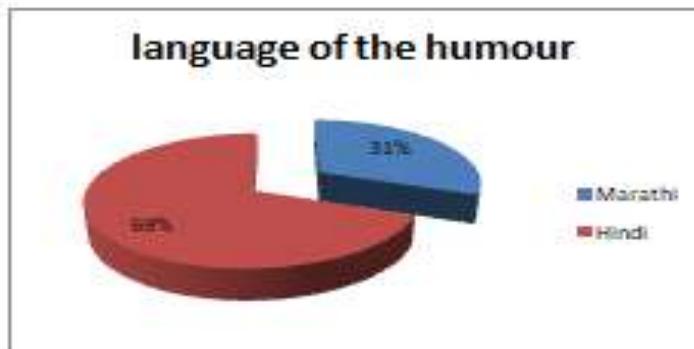
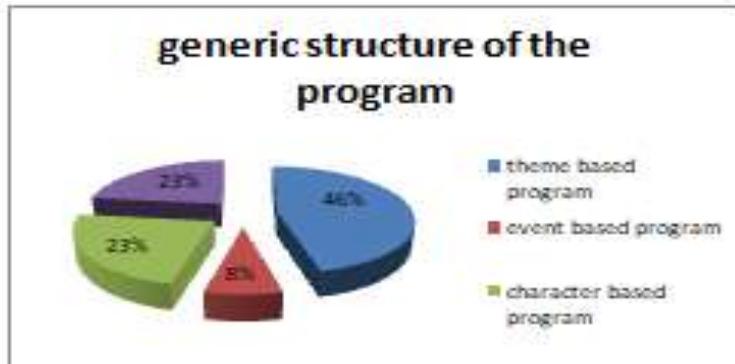
Table II

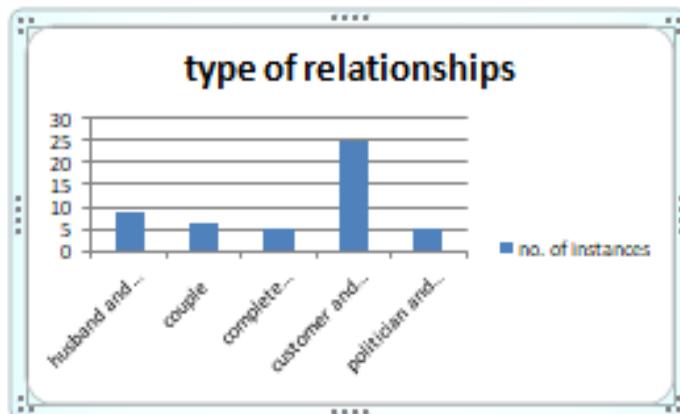
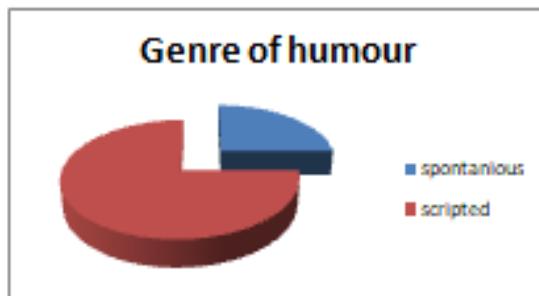
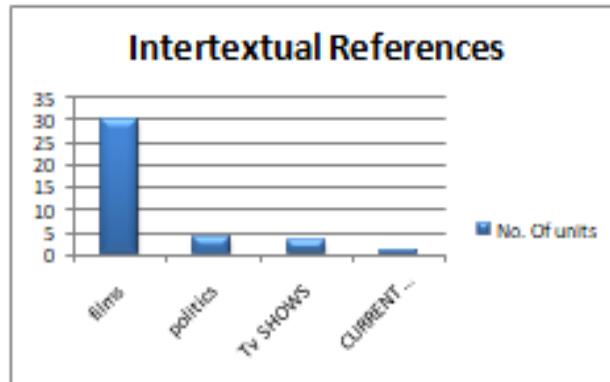
Serial Number	Title of program	Number of Segments	Proportionate stratification	Total	Final units
Radio city (91.1)					
1	Babbad sher	04	04×0.69	2.76	3.0
S FM (93.5)					
2	Kavi ki kalpana	10	10×0.69	6.9	7.0
3	Kalicharan	08	08×0.69	5.52	6.0
4	Excuse me	07	07×0.69	4.83	5.0
5	Bol na	12	12×0.69	8.28	8.0
6	Dada Laksha	06	06×0.69	4.14	4.0
7	Bollywood tamasha	07	07×0.69	4.83	5.0
8	Pravas	06	06×0.69	4.14	4.0
Radio One (94.3)					
9	Fatafat films	06	06×0.69	4.14	4.0
10	Ghantasingh	36	36×0.69	24.84	25.0
Radio Mirachi (98.3)					
11	Sudd	25	25×0.69	17.25	17.0
12	Kho –Kho Patil	11	11×0.69	7.59	8.0
13	Pappu-raj	06	06×0.69	4.14	4.0

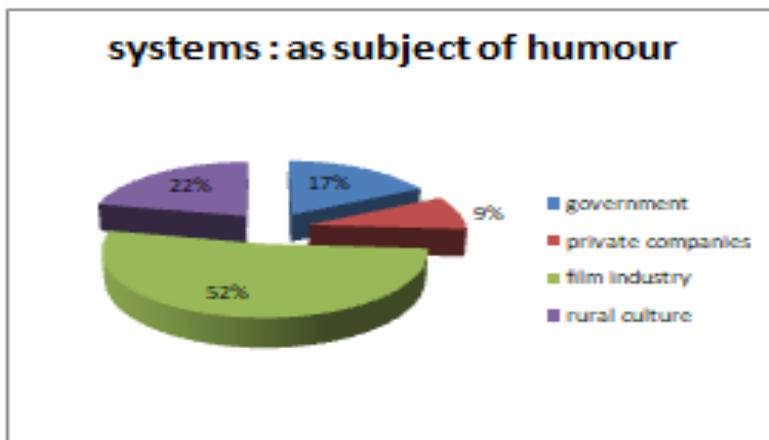
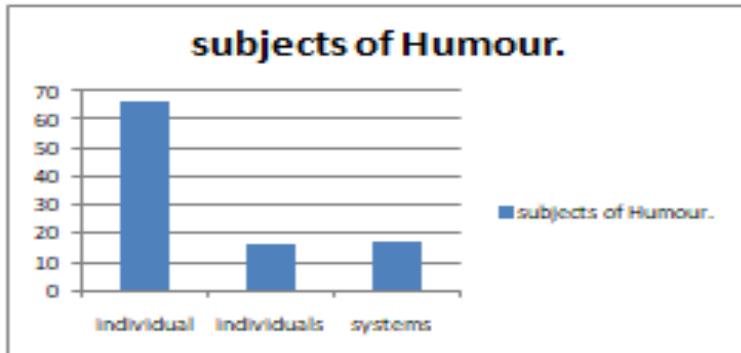
Table III

Macro analysis	
1) Generic structure:	Character based humour Theme based/event based/ Combination/Standalone/other
2) Average time of the program	
3) Frequency of the program	
4) Language of the humour	
5) Age of the clown	
6) All programs are anchored by one male	
7) Anchored by one individual	
8) Average time	
9) Range (10 sec to 1 min)	
Micro analysis	
1) Type of humour	Satire/sarcastic/word based/mimic Slapstick/ Other theme for the humour
2) Subject of humour/ridicule	Work/ education/relationship/sex other
Individual	1) Gender a) male single b) female single c) Eunuch d) FM e) FF f) MM g) Other 2) Profession: 3) Age:
Non Individual	Systems Place where humour takes place Relationship showcased Perpetrator of the humour Scripted /spontaneous humour

Graphs and charts









METHODS OF TEACHING ENGLISH AS A SECOND LANGUAGE

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Abstract

English is not only the language of getting education but also for getting an employment. In India if a person is highly educated and having a many degrees but if he does not able to speak English language, he/she will be considered not fit for working in multinational companies. Due to incompetence over English language his all qualification will become vain. The heights of English language is not limited to corporate sector, English has been inducted in the examination of government services. It is very necessary to qualify examination of English grammar to get a government job in India. Undoubtedly it can be said that a student whether willing to become a part of government sector or cooperate sector, he/she will have to learn English language to be selected and to open the doors for making their career bright. Students those who belong to Hindi medium background and want to make their career in technical, management and medical field they have to make lot of efforts to learn English language comparatively those who belong to English medium background. As English has been inducted in school level education and students those who belong to Hindi medium background have an opportunity to learn English as a compulsory subject. Even then students take admission in technical or management courses feel inferior when it comes to speak, read, write and Listen English language .This paper discusses English language teaching techniques to teach English as a Second language in collegiate education in India.

Keywords- English language teaching, Methods, Communication Skills

Internationally English has acquired the status of medium of communication when two people from different background or culture come to communicate and they have different language, at that movement English can become the medium of communication. It is only because of English language they can have smooth communication. The significance of English language can be understood that it is being taught across the globe not only in school education but also in collegiate education. In the era of globalization many companies from different countries are working globally and they need a language by which they can communicate easily. Suppose an engineer from Russia needs to communicate to an engineer of china, for that kind of communication they must have at least one language which is common only then the communication process between them will take place. It is only because of English language the around seventy percent of world's population is bilingual or multilingual. Non native speaker of English language are working a lot over English language and qualifying some examination of English language like international English language



testing system (IELTS) and test of English as a foreign language (ToEFL) for getting education from the abroad universities and colleges.

By looking at the scenario of English language education and global market, it can be said that, it is the only language in the world which can provide quality education and can bring people from different languages and culture at a one global platform to make a relationship stronger for the betterment of humankind, global education and business world.

Methods for teaching English language;

Grammar translation: in the year of 1840s to the 1940s it played a significant role in European and foreign language teaching. In this method students are taught grammar rules very emphatically like tenses, modals, preposition etc. by the name of this method we can understand that the translation from one language to another language. Learners of this method write or given a paragraph in their first language and they translate into the second language which they want to learn.

- Reading and writing are the concern areas; hardly emphasis given over speaking and listening.
- Words, grammar rules and paragraph are presented and suggested to cram.
- This method is completely based sentences while translating sentences rules must be followed strictly.
- First language of the learner is the medium of learning the desired language; all the instructions are given in student's native language.
- Students are expected to attain the high level of word to word and sentence to sentence translations.

The Reform movement

In the year of 1886 the international phonetic association was founded and it was designed to enable the sound of any language to be accurately transcribed. Following suggestions were advocated by this association.

- It emphasized the study of spoken language
- For removing mother tongue influence or incorrect pronunciation, training of phonetics should be imparted.
- The use of conversational phrases and idioms should be encouraged.
- For teaching grammar an inductive approach should be used.
- Teaching meaning for improving targeted language rather than native language.

In the year of (1845-1912), **Henry sweet** argued that after the scientific analysis of language and study of psychology, sound methodological principles should be implemented. In his book the practical study of language (1899), He introduces principles for the development of teaching method. He advocated.

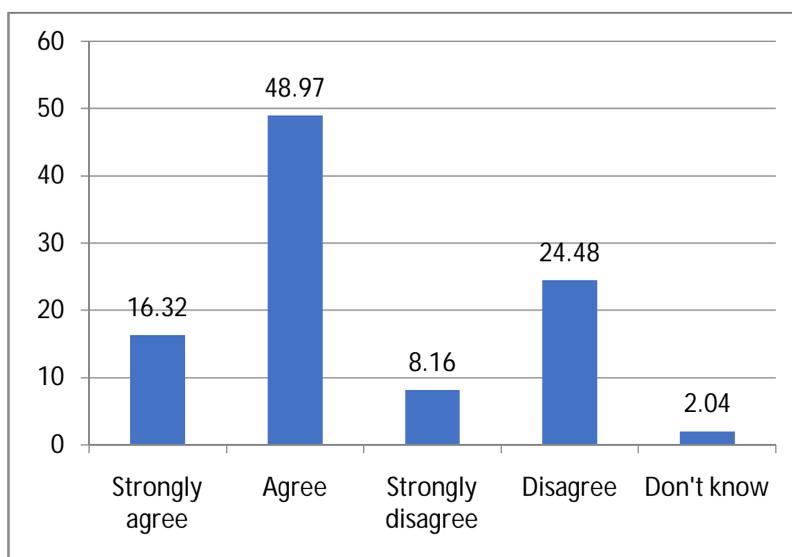
- Selection should be careful for teaching language.
- Arrangement must be there for teaching four skills of listening, speaking, reading, and writing.

In the late of nineteenth century, **Victor, Sweet**, and other reformers advocated for teaching a language. They believe that

- Oral based methodology should be adopted for learning spoken language.
- Teacher and students both should be given the training of phonetics

- It is very necessary for a learner to hear the language first before seeing.
- Grammar must be taught by giving examples, if students have learnt grammar points in context, then only rules of the grammar should be taught.
- Translation should not be used, for learning or explaining the new words native language should be used.

The following statistics were taken by visiting the different government and private colleges of Madhya Pradesh from the teachers of English Q-Grammar translation method is effective for teaching English language.



Graphical presentation of the above question based on percentage method

The Oral Approach and Situational Language teaching: Only a few language teachers are aware about the concept of this approach, this approach was introduced by British applied linguists from the 1930s to the 1960s. Hubbard, Jones, Thornton and Wheeler's comment in 1983 still seems true today: It was introduced with the work of British applied linguistics in the year of 1920s and 1930s. From the 1920s onward palmer, Hornby, and other British applied linguistics developed an approach to methodology that involved systematic principles of selection (selection of lexical and grammatical concept) and presentation (techniques used for presentation and practice of items in a course).

This approach was accepted as a British approach to English language teaching by the 1950s.

The main characteristics of the approach are as follows:

- 1) Before the presentation of a written material it should be taught orally, it means spoken language should be taught before writing.
- 2) It is limited to the language of the classroom



- 3) New language is introduced based on situations.
- 4) The principle of teaching the simple one first and teaching of complex one should be later is followed

After the sufficient teaching material of lexical and grammar, reading and writing are introduced

Silent Way: this method is based on the phenomena of 'silent' which means teacher should be silent as much as possible in the classroom and students must be encouraged and given the chance to speak as much as possible. If student speak more in the classroom they will develop the linguistics ability and will feel confident when it comes to speak in English. If teacher speak more in classroom and student do not get a chance so that students never be able to develop English language competence because an English language can be learnt by speaking not only by listening and writing. It could be more effectively implement into the classroom if following points are followed:

- 1) All Students should be encouraged equally to speak from their seat and/ or from podium.
- 2) Once the student started speaking teacher should not interrupt until he/she completes
- 3) Weak students should be called first to speak.
- 4) Speaking skills of the students must be praised by teacher
- 5) Special attention should not be given to good students only.
- 6) Teacher should listen more than speaking in the classroom.
- 7) Teacher should try to find out the mistakes of the students when they speak in English.
- 8) After the completion of their speech, students must be informed about their mistakes by teacher.
- 9) Students should be assigned some cases to study and to find out the solution of the problems.
- 10) Teacher should focus to increase the intellectual potency of the students.

Communication skills: Communication can be defined as when two or more people communicate in same language is called communication. There are different kinds of communication like verbal communication and non verbal communication. Not only man possesses a language to communicate but animals too have a language to communicate but the language of animals cannot be understood by men. Since men have developed different languages to communicate it has become the only way to express our thoughts, feelings and emotions. If we take it more slightly, communication is the process by which feelings, emotions, facts and figures are exchanged by using common set of symbols. In a society every human being share their thoughts, feelings and emotion by using at least on language and that is common otherwise the process of communication will not take place and it will hinder the process of communication

Neurolinguistic Programming-- John Grindler and Richard Bandler in the mid-1970s introduced Neurolinguistic Programming. grindler was a psychologist and Bandler was a student of linguistics they both were interested to know they both wanted to know how successful communicator can achieve the success. They studied successful therapist and



concluded that they “followed common patterns to their clients and same in the language they used, and that they all held same beliefs about themselves and what they were going to do” they together developed a NLP to establish a good relation and rapport with clients. The main objective to develop the NLP is to motivate people to achieve their desired goals. So that they can live their life happily, The principle of NLP have been applied in various fields like live management training program, teaching communication skills, promoting sales and marketing, and language teaching. It motivates people psychologically, towards the attitude of their life and identifies their skills, goals, and makes them aware about self discovery. In a language class if it is implemented then students will feel confidence and will take further steps to learn English language.

Four key principles lie at the heart of NLP (O’Connor and McDermott 1996 ;)

- Outcomes: “you should know whatever you want to do in your life”
- Rapport: “Establish a good rapport with yourself and then after with others.” This is completely based on correct saying, if you are not with yourself then who will be. It is very necessary to have a good relationship with yourself then others.
- Sensory acuity: observing what other person trying to communicate, by using sensory receptors like looking, listening and feeling.
- Flexibility: “Keep changing, until you achieve whatever you want in life.” Changing into your skill until you achieve your goal, it based on correct saying.

Suggestions and Findings:

- English language classroom teaching should be activities based to improve communication skill in real life situation
- English language courses should be based on business English so that students can handle any situation related to professional life in future
- A teacher of English language needs to be connected with the corporate trainer of soft skills for student development.
- Group/individual presentation should be assigned to students so that every student gets familiar to speak from podium.
- Remedial classes should be conducted for below average students

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LAWS LIFTING SOVEREIGN IMMUNITY

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Introduction

Sovereign means to present a particular Scenario that is being filed against the state representatives. The Sovereign is that term that can save all the policies that are made by different types of countries. The main thing is to understand the Sovereign immunity in which Sovereign means ruler. Immunity means resistance; this is those basic terms that are being used when any of the rules was going wrong. The Sovereign environment mainly protects all the Governmental Bodies associated with the Municipalities. Various types of situations are being presented in the case of the Sovereign. The immunity of Sovereign mainly enters when east India Company is taken into considerations.

Some legislative laws are being passed when existing courts have found some of the issues that can be rejected in the Court. In Article 361 have passed a Constitution of India in which the legal actions are to be taken against the presidents to hold the Current position. There are some of the laws that are being found, which mainly include with Code of Civil procedures, the Diploma relation Act. Some laws are being related may include Law of reaffirming Cuba destiny. The helms Burton act,

Laws of Lifting Sovereign Immunity

Helms Burton act (1966)

This law is first declared in law no.80 in which various dignities and the term sovereignty is being declared. The Helms-Burton Act is released in the year of 1966 in which the Country of US may go against the Country of Cuba that is found to be illegal. The government of the US has adopted some sorts of measurements to protect all the foreign types of investments in Cuba (Shames, 2019). According to Article 12, there are some of the laws that mainly provide some sorts of measurements by taking personal injuries into considerations. These May result in the actions in which various types of authorities have decided to own the rasp; responsibilities of US. It may allow all the citizen of US to provide some of the opportunities that are related with the; purchasing of property and some joint ventures. The factors are affected in which some fundamental actions are to be taken against Venezuela and the Country of Nicaragua. Many claims are to be done to any of the incidents by which the operations are valid. According to Cubans, there are some national properties authorized which can defense the Interest and resolve the by extended some governmental properties.

There were some of the Implications are associated with the future of helms Burton in which some laws and regulations are being analyzed. The Foreign assistance act is also being followed by including all the properties that are related to some exception.



Judiciary Act (2012)

This act was first to be launched in the Country of Iran in which there is many cases of Civil against the government who rule in Foreign. The legal persons who are associated with lifting the Sovereign Immunity can prevent many types of Violations (Aragon and Acheson, 2016). The Courts mainly used some Judgments that are based on some sorts of investigations made on certain claims as well as issues. The Ministry of some of the members should maintain all the lists of foreign types of Governments associated with countermeasures. This is the law of Iran in which the Iran Sovereign Community will subject all the different matters. The Court has given some Judgments that can help to determine all the damages that are according to the various judgments (Elias, 2018). These Judgments are made by the Governments in which the degree of some of the damages is according to the Judgments that are being issued. The public, as well as the revolutionary court, may judiciary all the personal cases that are associated with the national victims. There are some of the Documentations based on various types of general in which all the documents are collected all the types of references related to the Act of judiciary.

Laws Intensifying Countermeasures (1989)

This law comes into action in the year 1989, where all sorts of terrorist activities have to estates that can relate to the purpose. These purposes will be related to various types of measurements being carried out by US Governments (Bagwig, 2017). The Judicial courts mainly state that the nations who are plot against all the subjected that is carried out in the laws. The citizen of the US deals with various types of agents that can cooperate with the Interests of Iranian. The US presidents mainly empowered all the acts that are against the nationals of Iranian the sovereign is associate to control all these matters.

Domestic Legislation (2003)

The law of domestic type of legislation mainly occurred in the year 2003, which is associated with Tehran courts in which nearly half of the Dollars are used to damage the business of Iranian. This mainly covers all the Customs that are related to the officer of Bahamas (Chen, 2018). The Businessman has charged under the US sanction that was nearly against Libya. Based on US jail in which nearly four months have been used to successfully cope up with all the Court measures. This law is mainly used when any kind of false impairment is being used to abuse any kind of physical as well as psychological injuries that can relate to various damages.

Some other kinds of development can lift the Sovereign immunities mainly include the entire Islamic agency as well as broadcasting any types of news agencies (Odintsova *et al.* 2018). These laws relate to the Sovereign that mainly deals with all types of problems related to the Corruptions.

Indian Perspective

Jurisprudence act on Section 86

The law that is under section 86 deals with the case of Alimirza in which the Fight is against the republic ministry of all the economies. There are various types of suppliers that are imported with many departmental republics. This act may also be used to cope with the condition of Breach of the Contract (Coombes, 2018). The Court firstly



discussed all the types of issues that are being originated in India. The types of various types of questions were being discussed under section 86. These discussions may require different types of recognitions that are related to Sovereign Immunity. According to the Indian types of the legislature, the Court used to hold all kind of provisions that come under the section 86. The Indian perspective of the government has responded to every application that mainly requires some principles. This Jurisprudence act can follow all the types of principles that are related to natural justices (Orrantia, 2019). The Court used to further recognize all the orders that use to come under section 86. There are some of the issues also seen in the foreign states which deal with all kind of objections that are related to the questions being followed in every final stage. In the jurisprudence act, which is under section 86, can take all kind of opportunities to examine the same kind of problem if exist in the Future.

Air Act (1986)

This act mainly observed all the issues that are related to Consumer protections act that is launched in the year 1986. The Civil Code is further being observed in the year 1929, which mainly affect many types of implications that are related to the Court Order. There are mainly two kinds of foods that are associated with the Central Government. The Central Government has already this act under the same section that is section 86. These mainly affect all the kinds of peoples who are being associated with Ethiopians airlines. These mainly deal with various kinds of transactions that are commercial and can make the Sovereign Immunity capable. Thus, this act is for the prevention of air-related legal disputes and promotion of the level-best airline services of the UK.

Sovereign Immunity under the Indian Constitutions

According to Article 300, some laws can make a distinction between the term of Sovereign and Non-Sovereign. Some principles are associated with the Immunity of the Government. The article 300 originated differently from two different sections includes with Section 176, this may be mainly liable in every international world and also in India (Sharma, 2017). The Government have released some of the activities that are related to Consumer protection can mainly be seen with the East India Company. It has also been seen that some enactment is also being involved in succeeding the East Indian Company. The article 300 has read some of the basic points that can be issued the name of the union of India as well as International. According to the Indian Constitution, the legislature of the particular states should consider virtue all the powers of the Constitution. It may relate to various types of points. These basic points that come under article 30 should include some basic points like the legal proceeding that are deemed with the law of consumer.

In the Indian Constitution, Article 32 as well as article 226 of the Constitution by taking the case of rural shah in the v. state of District in Bihar. Same the Brim vow Rajasthan have also detected some of the petitions relate with the wrong type of arrest as well as detentions. There were some of the principles that took under the law that is Virtue with Manteca Gandhi (Sheen, 2018). The Gandhi family has ruled in India as well as in some areas of International countries. Article 21 related to the Concepts of sovereign Immunity in which all the constitutional provision relate several types of claims against the fundamental rights.



The cases that come Under Sovereign immunity should need some sort of justifications that are further related to some petition that the High court will handle under Article 226.

The Doctrine of Sovereign

The doctrine of the sovereign has some of the Immunity power that is related to the British law that is found to be common. Holmes states are doing some observations that any kind of reason that is being fostered with the wide range of power may help to solve the problems of Sovereign Immunity. There are some basic rights of the people who are adjusting in the Society protect themselves by applying these laws (Van diver, 2017). This law is applicable only if the British nationals. In this law, it is stated that sovereign or the governmental levels are requested for not commitment of legal wrongdoings and provide the effective levels of immunity from the prosecution of civil or the cases of criminal aspects

State Immunity Act (1978)

This is that type of activity that can proceed under the laws of that can provide some judgments to make some new types of provisions in respects to the Immunities. It is instituted and proceeds with some of the agreements that are related to various types of purposes. The head of the State diplomatic missions deals with that type of persons who can perform various types of functions. These are related to some financial obligations that are in between the states as well as the Individuals. This act is for the effectiveness of the commercial transactions occurring within states

Challenges before legislatures Lifting Sovereign Immunity

International humanitarian's law

It is one of the important challenges that can deal with several types of challenges that can be established with various types of circumstances. The court has permitted some International laws that are related to the national prosecutions (Vazquez, 2016). The tasks are so complicated that it can also increase the International crimes. The main scope is to cope up with all the challenges. The Court has taken some universal judiciaries that have unfortunately increased all the challenges. There are several types of recent cases are mainly found that become a challenging factor for the court. This Challenge may further result in a restriction that is being controlled in the Belgian nations. However, these challenges may further exercise various types of principles associated with Sovereign Immunity. There are many numbers of Immunity rationed that may follow al the types of relations that are associated with the Crimes.

The Youth Doctrine is also the challenge for all types of laws that mainly deals with the Sovereign Immunity that can be recognized to rule the sham (Wagner, 2016). There are various types of challenges that the Doctrine has to face in which the courts are taking some attempts. Courts have maintained all its judgments by giving a chance to those peoples who are unable to work.

State Immunity Disputes

There are some State immunity disputes mainly seen in the surrounding. If the Following law of sovereign immunity is not launched, then there are many different types of problem have to face by the Consumers (Walker, 2017). There are some issues seen in the building relationships with the employees to that of the State Immunity. This



mainly includes all kinds of public as well as private employees. The national systems have usually allocated different types of rights that can further be maintained. After a few days, this cannot be followed, and the situation remains the same. There are some sorts of limitations also made by the Court as well as police and the Criminal Justice order Act is being released. This act is launched in the year 1994 in which some of the rules are under the act of Prison. Thus, the criminal Justice Act provides the platform for the prevention of job dissatisfaction and motivation of the employees at their respective workplaces

Social Institutions

The word social institution is mainly used in many social forms are reproduce where all the groups of families and humans were grouped together to cope up with many types of problems. Thus, social institutions are important for social development and welfare programs to promote the effective levels of sustainable development categories. Importance of CSR activities is considered as the most important and valuable aspects for social development programs. Thus sustainable development is achieved by the functional levels of social institutions. (uknowledge.uky.edu, 2018)

Health cares: In the hospitals, there are some of the legal liabilities, which are normally called immunities. Many poor people are faced with different types of immunities and issues that need to care further on in the Social Institutions. Charitable immunity mainly shields different types of profit hospitals that can cut sharply. The Sovereign immunity is that term in which there is some negligence seen in the treatment. These mainly focus on various types of legislative branches that are based on the Tort Claiming act. Some government's discretion is being related to the Sovereign Immunity in which all the rules are shields with different types of policies. The Court has produced its main concern on different types of policies. The government has to analyses as well as a claim in the policy that is being developed. When in the unit of health care, the Food and Drug Administration's are being played a most challenging role by releasing all the kind of vaccines. This may be helpful for the social institutions of health care to judge with various steps of rules. In this case, the Court also recognized some portal services that can arise some sorts of warning to all the peoples. (loc.gov, 2016)

Medical judgments are to be made when the doctors have suggested some sorts of malpractices that can make reliable to the conditions that may occur. The decisions may also affect some of the care in the quality of the patients. It can be later on be managed by different types of entities who are involved in the department of caring.

Intellectual Property

This may reflect various types of assets that are involved with the case of Intellectual property. The owner of an intellectual property main uses some of the rights that may include various types of properties that are being violated and create a domain power in an institution. The state government has used some purposes that can discuss all the types of arguments and related to the Constitutional structure. Intellectual property may advocate all the stress that is related to tangible property. When problematic situations exist, then the Consumer will suggest some rights that can help to protect the risks that are taken by the Government. Intellectual properties have some sorts of the protections dates that are found to be theft and required some laws that maintain the property. There



are many different types of American based institute that are based on English systems in which practices and rules are maintained. The Sovereign laws are being applied in every aspect of the social institution in which some of the families are ruin to some extent. These families are applied to some laws of sovereignty to save themselves.

Conclusion

The report is being concluded by taking into considerations all the laws that are related to the laws of Lifting Sovereign Immunity. There are some of the laws that are being used in many of the Countries and are related to the laws of Sovereign. These may deal with some of the rights that can be followed in every part of the state to solve the Current problem. These activities may be included with the Helms act, Judiciary Act and some of the laws. These laws mainly involved with the Intensifying committee and Domestic legislations. It is also based on some sorts of Indian perspectives that are followed by jurisprudence act under section 86. The Sovereign Community was played under the act of an Indian institution in which Doctrine of the sovereign is taken into consideration. Some challenges are to be maintained in which humanitarians are being followed. It is to analyze that some social institutions are also being analyzed in various types of countries. Thus it is being concluded that all the laws can properly be followed in every part of the country and every social institution.

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CORONAVIRUS DISEASE 2019 (COVID-19), IT'S ORIGIN, TRANSMISSION, CLINICAL MANAGEMENT WITH HOMOEOPATHIC APPROACH.

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Abstract

On 30th January 2020, WHO declared COVID-19 to be a Global Health Emergency of International trouble presents a high risk to countries with unsafe health system. COVID-19 caused by novel coronavirus in 2019 spread china through all over the world. The Severe Acute Respiratory Syndrome-Coronavirus in 2002 and Middle East Respiratory Syndrome-Coronavirus in 2012 and the third introduce of the severe pathogenic and epidemic coronavirus into human population. SARS-CoV-2 belong to β -coronavirus identical genome bat coronavirus, represent the bat as the natural host. Novel coronavirus spread through the respiratory tract and show the human to human transmission. The incubation period of virus is 2 to 14 days. No any vaccine or curative treatment develop for this COVID-19. Some anti-viral drug and anti-malarial treatment used for this crisis. Homoeopathic management as prophylaxis of this crisis used. In this article, summarize the research progress of the epidemiology, pathogenesis and clinical characteristic of COVID-19 and discussed with Modern medicine, homoeopathic approach to novel coronavirus.

Key words: Coronavirus disease (COVID-19), clinical characteristic, Homoeopathy, anti- viral drugs.

Introduction

Human virus infection may affect all ages and assume any degree of severity. They may be acute or chronic be recurrent or elicit life-long immunity. They are acquired through various routes via contact with human, animal or the environment.¹ They present as various syndromes involving fever, rash, arthralgia/myalgia, respiratory or gastrointestinal disorder and occasionally serious organ malformation with death from pneumonia, cardiac, liver or kidney failure or encephalitis.¹ They have to be rapidly distinguished from bacteriological and other infection and non-infectious diagnosis if he appropriate clinical management is to be given.²

The respiratory viruses are well established as agent capable of nasolacrimal transmission. They are specially well suited for many reasons. They are highly



infectious with reproduction rate of 5-15:1 can spread by both droplet and aerosol routes.¹

In December 2019, a cluster of pneumonia with obscure etiology showed up in Wuhan city, Hubei region of China. A few of the underlying patients visited a wet fish market where other natural life species were likewise sold. Subsequent virus isolation from human patients and molecular analysis showed that pathogen was a new coronavirus (CoV) first named 2019-nCoV and subsequently this disease was renamed by WHO as COVID-19.²

This new CoV is now the 7th member of coronaviridae known to infect human with explosive increase of confirmed cases the WHO declared this outbreak a global health emergency of international concern on January 30, 2020.³ CoVs are a class of genetically diverse viruses found in a wide range of host species including birds and mammals. Many CoVs cause intestinal and respiratory infections in animals and humans.⁴

The global health emergency of COVID-19 pandemic disease caused by severe acute respiratory syndrome coronavirus-2 (will be referred as SARS-CoV-2) has been unfolding rapidly that emerged in Wuhan, China and has now spread to at least 180 countries.⁵

Emergency committee statement that the spread of COVID-19 may be interrupted by rapid identification, segregation, immediate treatment and the execution of a strong system to trace contacts.⁶ Other important objectives include means to find out clinical severity, the extent of transmission and optimizing treatment options.⁶

Epidemiology

As of 28 April 2020, a total of 31,46,651 confirmed cases globally of COVID-19 occurring in at least 180 countries and territories were reported with 2,21,436 deaths have been reported WHO.⁵

In general, the majority of confirmed cases are aged 45-80-year-old.

Mostly COVID-19 patients are presently febrile with mild pneumonia.⁶ Moreover, while this pathogen has been extraordinarily contagious, no deaths have occurred in mild or severe cases.⁸

Incubation Period

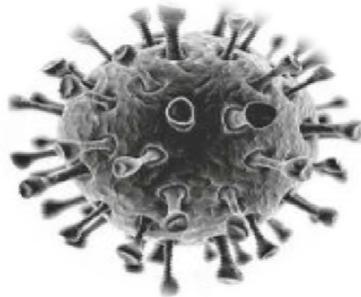
Incubation period is 2 to 14 days represents the current official estimated range for the Novel Coronavirus COVID-19.⁶⁻⁹ However, a case with an incubation period of 27 days has been reported by government of China on Feb. 22. Incubation period can change among patients.⁹

Structure

The name Corona virus 'Latin corona (crown) derives from the large spike-like surface projection found on surface of these viruses which are suggestive of a crown.

Figure:1 Structure of Coronavirus (CoV)

CoV is a large family of viruses that cause cough, cold and fever as well as more serious respiratory illness. There are six known human coronavirus which were first



identified in the 1960s, patients with common cold.¹⁰ The transmission of coronavirus is reported through respiratory droplets, human contact and faecal-oral route.^{10,11}

It is comprised of a single-stranded (RNA) structure that belongs to the (Subgenus sarbecovirus, orthocoronavirinae subfamily, part of the Coronaviridae family). Arrangement examination of COVID-19 has shown a structure typical to that of other coronaviruses and its genome has been likened to a previously identified coronavirus strain that caused the 2003 SARS outbreak.¹¹⁻¹³ Structurally, the SARS coronavirus has a well-defined composition comprising 14 binding residues that directly attached with human (ACE-2) Angiotensin converting enzyme-2. Of these amino acids-8 have been conserved in COVID-19.¹⁴

Coronavirus (CoV) divided into four types genera, including α , β , γ , δ types coronaviruses (CoV). The α and β types coronavirus is capable to infect mammals, while γ and δ types coronavirus tend to infect Bird. COVID-19 is a β coronavirus. There are two beta coronavirus MERS-CoV and SARS-CoV lead to severe and potentially fatal respiratory tract infection.¹⁵ Based on virus genome sequencing result and evaluator analysis, BAT has been suspected as natural host of virus origin and SARS-CoV-2 might be transmitted from BAT'S via unknown intermediate hosts to infect humans.¹⁵⁻¹⁶ Although the exact pathophysiological mechanism underlying the emergence of COVID-19 are unknown genome similarities to SARS-CoV could help the resulting inflammatory response that may lead to onset of severe pneumonia.¹⁵⁻¹⁶

Composition

Coronavirus particles within contagious cells have a diameter of approximately 85nm in thin sections of contagious cells and are seen within the Golgi or endoplasmic reticulum. There is usually no budding from plasma membrane are obviously those disgorge from cytoplasmic vesicles.¹

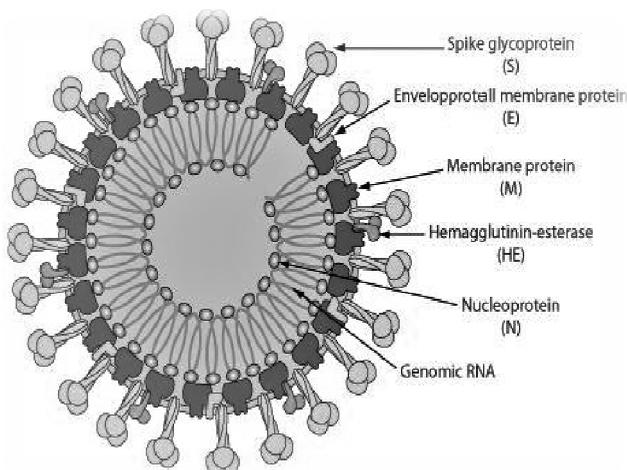


Figure:2 Composition of Coronavirus

Coronaviruses contain an envelope spike (S) glycoprotein, a smaller integral membrane glycoprotein (M) largely embedded in the virus envelope and small amount of a third membrane-associated non-glycosylated protein (E) envelope and a (N) nucleocapsid protein that surrounds these genomes. Some group coronaviruses have an HE protein.¹⁶ (S) protein of coronavirus is a type I glycoprotein which forms mono to trimeric complexes for receptor binding and membrane fusion. The membrane-spanning region is near the C-terminus, the actual C-terminus being within the lumen of the virion.¹⁶

The S protein is highly glycosylated (N-linked glycans) and might be proteolytically processed into S1 (N-terminal) and S2 subunits.¹⁶

Entry Mechanism of Human Coronavirus

Coronavirus contain specific gene in ORF-1 downstream regions that encode protein for viral replication, nucleocapsid and spikes formation.^{17,18} The receptor-binding domain (RBD) is loosely attached among virus, therefore the virus may infect multiple hosts.^{19,20} Coronavirus mostly recognize aminopeptidases or carbohydrate as a key receptor for entry to human cell while SARS-CoV and MERS-CoV recognize exopeptidase.²¹

The entry mechanism of a coronavirus depends upon cellular proteases which include, human airway trypsin-like protease (HAT), cathepsins and transmembrane protease serine 2 (TMPRSS2) that slit the protein and establish further penetration changes.²² MERS-CoV employs dipeptidyl peptidase-4 (DPP4), While HCoV-NL63 and SARS-CoV require angiotensin-converting enzyme-2 (ACE-2) as a key receptor.^{23,24} SARS-CoV-2 possesses the typical coronavirus structure with spike protein and also expressed other polymerase, 3-chymotrypsin-like protease, papain-like protease, helicase, glycoprotein and accessory proteins.^{24,25,26}

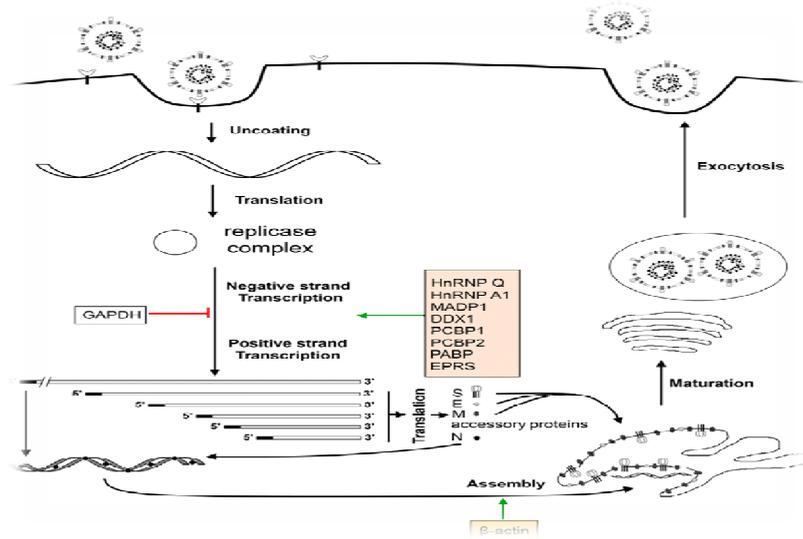


Figure :3 Mechanism of entry of CoV

Diagnosis

Clinical features of COVID-19 include dry cough, fever, diarrhoea, dyspnoea, vomiting, mylesia.²⁷

In some cases, patient complaint fatigue, productive cough, headache, haemoptysis, shortness of breath.²⁸ Individuals with multipleco-morbidities are prone to sever infection and may also present with acute kidney dysfunction and feature of ARDS.²⁹

Patient may also experience headache, confusion, nausea, pleurisy, sore throat, sneezing, rhinorrhoea and nasal congestion.³⁰

Figure :4 Clinical feature of (SARS-CoV-2)

SARS-COV-2

RESPIRATORY SYMPTOMS
COMMON

- COUGH
- SHORTNESS OF BREATH

LESS COMMON

- RHINORRHOEA
- SORE THROAT



CHEST X RAY

1. MULTIPLE GGOS
2. PATCHY SHADOWING
3. INTERSTITIAL ABNORMALITIES
4. SEPTAL THICKENING
5. CRAZY PAVING PATTERN

GASTROINTESTINAL
LESS COMMON

1. NAUSEA
2. HYPOSOMIA
3. HYPOGEUSIA

BLOOD TEST

1. WBC COUNT
2. LYMPHOCYTES
3. PLETELETS
4. CRP

OTHER SYMPTOMS
COMMON TO LESS COMMON

1. FEVER
2. MYALGIA
3. WEAKNESS
4. HEADACHE
5. CONFUSION

DIAGNOSTIC

1. RT-PCR
2. IGM ELISA



Haematological Investigation

Hemogram show abnormal WBC: lymphocytopenia >80% in patients and is probably the most useful lab test in distinguishing COVID-19 from other causes of respiratory infection.²⁸

Nonspecific laboratory abnormalities include increase range of LDH, AST, ALT and D-dimer.²⁹

RT-PCR nucleic acid test nCov nucleic acid test was shown positive, sensitivity in the sputum sample. Troponin and C-reactive protein may be a predictor of mortality and sever illness and should be considered patient who are going to be admitted.

Radiological Investigation

CHEST X-RAY: The typical Chest X-ray findings are a bilateral interstitial pattern/ground glass opacity with isolated focal infiltrate making the diagnosis less likely.²⁸

CT Scan: is more accurate than Chest X-ray has been use as a screening tool, however our expert dose not recommended screening with CT unless swabs are unavailable or lab reporting is delayed in patients who are ill enough to be admitted to hospital.²⁹⁻³⁰

Prevention

The WHO prevention has issued advice on preventing for further spread of COVID-19.^{31,32}

Some preventive rules to outbreak COVID-19³³

1. Repeatedly clean hand by using soap with water and hand rub (alcohol-based).
2. When coughing and sneezing cover mouth and nose with flexed elbow or tissue paper after that throw tissue paper quickly and hand wash.
3. encourage social distancing.
4. Avoid communication with anyone who has cough and fever.
5. If you have cough, difficulty breathing and fever explore medical care early.
6. Share in previous travel history with your health care provider.

Treatment of Covid-19

At present no effective treatment or vaccine is available for COVID-19. However, a randomized multicentre controlled clinical trial is currently under way to assess the efficacy and safety and efficacy of the patient with COVID-19.

First line treatment for pyrexia include antipyretic therapy such as paracetamol and expectorants may be used for a non-productive cough.³⁴

Patients with severe acute respiratory infection, respiratory distress, hypoxaemia or shock require the management of immediate oxygen therapy. This should be at 5L/min to reach SpO₂ targets of $\geq 90\%$ in non-pregnant, adults and children and $\geq 92-95\%$ in pregnant women.³⁵⁻³⁷

In the absence of shock-intravenous fluids should be carefully administered.³⁸

Renal replacement therapy (RRT) should be initiated for patients with an acute kidney dysfunction. Renal function and fluid balance should be used to identify patients that may require RRT.³⁹



Plasma therapy must be use in critical patient.

Broad spectrum antibiotic therapy should also be administered within one hour of initial assessment for sepsis.^{40,41}

Must be use multivitamin especially vitamin-C.

Drugs for Covid-19 That Have Shown In-Vitro Benefit

1. Chloroquine
2. Hydroxychloroquine
3. Lopinavir/Ritonavir
4. Remdesivir
5. Tocilizumab

Homoeopathic Approach

Homoeopathy system is called the second most commonly used system of healing in the globe. For that reason alone, it deserves serious attention from the scientific community.⁴² Homoeopathy can work wonders in take action to reduce or prevent corona crisis. COVID-19 infection which can be life-threatening caused coronavirus (CoV).

On 30th January 2020 the WHO Global cases 28th April 2020, a total of 31,46,651 confirmed cases globally 2,18,178 deaths.⁴³

In cases of COVID-19 it is not advisable to deviate from the recommended treatment regimens with conventional medicines. However, treatment of epidemic disease is being forced to constantly evolve due to the growing incidence of resistant drugs. In Morden medicine drug hydroxychloroquine is becoming effective in treatment of COVID-19. As health services over all world struggle with the concept of drug resistance is more important to consider homoeopathic intervention as a time tested, effective and safe line of treatment.^{44,45}

The homoeopathic management of COVID-19 as a prophylaxis has been benefit the patient. Homoeopathic treatment has shown to be effective acrosswide range of infectious conditions⁴⁵ both in clinical and laboratory study without damaging the immune system.⁴⁶

In ultrahigh dilution research in homoeopathy medicine work show genetic expression in different different cellular level in-vitro and in-vivo study and show to significantly lower risk of developing infection when used prophylactically before viral exposure.⁴⁷

Homoeopathy management effective in the life-threatening infection when used conventional management in (ICU)Intensive Care Unit with definitely improved acute and long-term benefit and in homoeopathy has found to be effective in many public health situations treating a range of both infectious⁴⁸⁻⁴⁹ and non-infectious condition. Homoeopathic treatment indicates viral modulating effect in multiple human pathogenic respiratory virus strains in-vitro, altering patterns of both pro and anti-inflammatory cytokines, suggesting that it may lower the risk of 'cytokine storms' while maintaining the ecology of the human microbiome.⁵⁰

Homoeopathic medicines have been used to treat and prevent epidemic and pandemic disease around the world: remarkably less viral loads, improving lymphocyte counts and providing physical, neurological, immunological benefits along with improved quality of life and increased survival in HIV/AIDS⁵¹



Historically homoeopathy has reported prevention during the epidemic of cholera, Spanish influenza, yellow fever, scarlet fever, diphtheria, typhoid fever etc.⁵²

Though there is some indications that homoeopathic medicine is often found to correspond to the symptoms of patients affected by the COVID-19. It is always important to approach each case without preconceptions in order to find the medicine most suited for the patient symptoms. If a particular medicine appears repeatedly in a set of disease is also found useful clinically that particular medicine can be called 'Genus Epidemicus' and can be used as a prophylactic medicine.⁵³

This concept was described by

Dr. Samuel Hahnemann in Organon of medicine and philosophy:

Hahnemann indicate observing many cases in order to paint 'whole picture of disease', 'analysis of haematological and radiological investigation', 'totality of symptoms.'

The Genus Epidemicus is recognise through observation of several cases of an epidemic disease and analysed the symptomatology of those cases for the most indicated medicine. This medicine is the preventive medicine for the ongoing epidemic of that disease.⁵⁵

It was reported that during recent past genus Epidemicus had been utilized during different sickness episode for preventing the spreading of diseases like Chikungunya, Dengue Fever, Japanese Encephalitis and Cholera with great outcomes.⁵⁴

The homoeopathic approach which supports the immune system-microbiome axis, must be fully evaluated and contemplated as one of the viable and environmentally sound solutions to this crisis.⁵⁵

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"Epidemics of intermittent fever, in situations where none are endemic, are of the nature of chronic diseases, composed of single acute paroxysms; each single epidemic is of a peculiar, uniform character common to all the individuals attacked, and when this character is found in the totality of the symptoms common to all, it guides us to the discovery of the homoeopathic (specific) remedy suitable for all the cases, which is almost universally serviceable in those patients who enjoyed tolerable health before the occurrence of the epidemic, that is to say, who were not chronic sufferers from developed psora".

DR. SAMUEL HAHNEMANN

According to homeopathic Materia medica

"Arsenic album considered remedy in many cases. It covers the Acute stage of viral symptoms. As the mental state of panic associated with the outbreak of any such a any crisis. The remedy covers the mental fear (fear of any hazard from disease or death) and anxiety in the circumstances."⁵⁶



The following homoeopathic medicines have very usefully to as a prophylaxis of COVID-19 patient as a symptomatology:

- Arsenicum album
- Bryonia alba
- China officinalis
- Eupatorium perfoliatum
- Gelsemium sempervirens
- Camaphora
- Ferrumphosphoricum
- Nux vomica
- Stannummetalicum
- Kali muriaticum

Methodology-

All these data, information collected from the various journals, articles, databases, books for the formulation of matter.

Conclusion

In this article, we present an overview of the current state of knowledge of SARS-CoV-2 and COVID-19 pandemic. The outbreak spared across the all over the world. No any curative treatment developed for this crisis and no any vaccine developed against coronavirus.

Firstly, we summarized the current knowledge of the coronavirus with include the epidemiology, structure and mode of entry of SARS-CoV-2. Secondly, diagnosis and management of crisis. Thirdly we also summarized homoeopathic management as a prophylaxis of COVID-19.

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THE LANGUAGE AND DIALECT

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The importance of such traits as land, language, culture and environment in nurturing the personality of a writer has become an interesting topic for studies and research in recent years. There is no doubt that it is the unique traits regarding a writer's land, culture and language that make him/her distinct in his/her writing from others. All of these factors have as much importance as the writer's literary vision itself. The land and language that a writer has become acquainted with during his/her childhood can profoundly influence his/her writing. However, there is no reason for the land of birth of a writer to be the writer's preferred writing locations; a writer may accept any place that influenced him/her to be the setting of his/her creative efforts. Likewise, a writer may not become a particular land's writer just because he/she was born there. In short, the concept of localization that influences a writer is as intricate as it is complex.

The questions raised by M Mukundan, who had stated that it would be apt to say that he is a writer who has two souls and a body, such as what is his home land today—Is it Mahe where he has not lived even for a year completely or Delhi where he has been living for thirty-five years?, shed light on the doubts so as to define the concept of localization that emerges from a writer's creations. It would be impossible for a writer to be not influenced by the land where he/she was born and the childhood that was spent there. It is on the basis of the inquiries that we conduct as to how much influence of a writer's home land, culture, language and geography can be found on his/her works that we define and consider them the writers of a particular land and culture. Timelines have a profound role in the formation of a writer's creative personality as it is on the basis of a timeline that a story can be told. John Ruskin points that beyond as a backdrop, timelines have important role in a story just as its characters have.

A literary work need not have a particular cultural stamp just because a writer has been born onto a particular place and culture. The distinctions of a physical place and the one that a writer experiences internally come relevant here. Even though Mukundan was about 3000 kilometers away from Mahe, the stories that he wrote brimmed with the culture and semantic uniqueness of the place. When OV Vijayan was writing '*Khasakkinte Ithihasam*', he was one with the world of Thasarak emotionally, too. One can say that Thakazhi and MT are the writers who have been mostly associated with works filled with localized writing aspects. It is based on the local symbols that can be seen in their works that Thakazhi is described as the Writer of Kuttanad and MT as the Writer of Koodallur. In truth, the soul of their writing is the local cultural uniqueness that one can emote with clearly within their writings. Kovilan who wrote about Kandaanassery and UA Khader who wrote stories about Koodallur, both come as the



spokespersons of the localization of literary creations. On the other hand, it is really interesting that one cannot discover any such local cultural and linguistic elements and features in the books of K Surendran who was born into Ochira which is a village in Onattukara that is a culturally vivid, vibrant and diverse place. We cannot also ignore the fact that the cultural specialties and uniqueness of Onattukara can constantly be seen in the literary works of VP Shivakumar who was actually born at Pallarimangalam in Mavelikkara and lives in Trivandrum. All of these hint that just by the virtue of birth, a writer may not use the place of birth in their literary works in any manner. ONV opines that like a lamb that circles back to the comfort and care of its mother, a writer's mind can travel back to the pastures of their childhood memories. Thus, only those writers who carry their childhood and its pastures can become a writer of a particular land through their literature.

In a story, a place or a location comes as a background for the story to take place. In every literary work, especially in novels, time and place have markedly huge roles to play as the setting of the narrative. It is through the mediums of time and place that a writer interlaces the distinctive features of one's local culture. We can never define the narrative layout of a story just considering the geographical seams. Within the creative paraphernalia that a writer uses to form a narrative, a writer needs time and space equally and not just characters. Most of the times, a writer may utilize a socio-cultural setting that he/she is familiar with as the ground for their literary work. The society that functions as the backdrop for the story, the characters, and the events is also recounted to the land for a fixed duration of time. One of the benefits of the creation of this social background is that it helps make the characters relatable and more believable all the while leaving them coherent for the audience. Dr. George Irumbayam observes that a novel's social background will be centered on a world where parallels or roots of the real world can be found. One can see here that the narrative ground of a story will mostly be a place that is familiar to the writer, as well. The narrative place has huge significance as the location where a story takes place. For any story, description of the place where the story takes place is really important even in small quantities. The place where a story happens has significant role in the expansion and progression of its narrative revolution in both lucid and abstract manners. Such a story, along with being a narration of both experience and imagination, become a story of the place, as well. This irrefutable role of a place in writing is what is postulated by the American critic, Hillis Miller through the concept of Topography. A combination of the Greek word '*topos*' meaning place and '*-graphia*' meaning writing, topography signifies the idea of writing about a place. As such, a place that appears in and becomes an integral part of a story's narrative growth and its cultural uniqueness and relation to the story and everything complement each other, says Miller.

The role of a place in shaping the form of a literary work cannot be denied, at all. Most of the times, more than just being a background for the story to take place, place can assume a central role that decided the narrative growth of the story itself. It is based on a particular place which becomes the backdrop of a story that the social conducts, cultural



specialties, and the way characters behave and converse take shape. Michael Bakhtin, who says that the influence of time and place cannot be undermined, explains this through the concept of Chronotope. The word 'chrono' denotes time and 'trope' denotes time. The word, Chronotope which is birthed by the combination of these two words brings forth the idea of writing integrated with time and place. Here too, a unique and particular place is asserted to be an integral part of storytelling.

By articulating a place or a land, a writer not just creates a background for him/her storytelling. The regulatory force that forms the culture, language, and identity of a place is the biodiversity of the place. The cornerstone of any cultural elements and specialties of a place is definitely its environment. In the book, *The Echo Criticism Reader*, written by Sheryl Glofauty and Harold Frome, addressing the relationship between literature and nature, they talk about the role of nature (place) that acts as the background in determining a narrative for the story. Creating a place in a story is not just a geographical exercise, instead, it relates and closely tethers to the language, dialects, nationality and culture as well as the narrative styles of the story. As such, the place and time used in a story, which is connected to many other things, have numerous roles to bear in any story. Bakhtin believes that all such elements as the local dialect, local beliefs and cultural distinctions, experience of living in such a place, the scars that nature has emboldened on the people, knowledge, value concepts and local arts must be the fundamental factors that must form the structure of the narrative in a story.

Every literary work is defined (read) being connected to the background that it takes place. There is no doubt that a writer's understanding of the nature can be observed thoroughly through his own writing. PK Rajendran says that it is through the realization and the efforts to define ourselves as a singular community that the sense of nationality is born. He observes that the sense of place that comes with writing is thus a manifestation of one's own land and community.

It is impossible for a literary work to exist without the support of a background place or space. The presence of place can always be felt clearly or abstractly in a literary work. In some stories, the role of a location can be readily seen as the ground where the entire narrative exists. In some other stories, a location becomes an anonymous element that controls the progression and directions that a story takes on. As such, no matter in any form, the role of location or place in a story as the maker of a culture is as important in establishing the narrative as the time period when the story takes place. Reading or interpreting a story or literary work as the narrative of a place is a part of a concept known as Eco-Aesthetics. The influences exerted by the unique features of the narrative ground in making a story such as the major components of the studies involved in natural criticisms. Neil Eventern says the role of literature is to help humanity create an identity through the creations of human life based on the stories that are told with diverse locations as its background. It is the influence that a place exerts on creating the identity of the reader as well as the writer himself/herself. Human mind cannot be controlled by anyone and the dimensions of the mind largely depend on the nature that surrounds a person. Christopher Mans says that influence of places can be seen like



these as given in the Fukovian theory, which states that the identity of human beings is on a constant flux due to the impact of circumstances and interests.

A place has profound role in a literary work as the source of a culture. The thoughts, actions, ways of communication and such traits of the characters in a story are the representations of the uniqueness of the culture that they are a part of. It is the narrative ground that makes it possible to use all these cultural nuances and specialties an integral part of the story. It is also the vision and understanding of writer about a culture that helps create the culture of the place which determines the unique socio-cultural ideologies that can be seen in a story. The nature of cultural criticism is to appraise the value of a literary work based on the cultural elements and features displayed through these stories. Neelanjana Gupta states that studying literary works and its complex relationships with the socio-cultural background against which these are written is one of the models for learning about cultures. Learning cultures put forth the idea that every creative work is the result of the physical dimension where it exists. This is one of the most interesting modern ideas—everything happens at a particular place and time. As such, nothing continues to exist without any change beyond time or space forever; or in history. By saying this, CianMaccoy also emphasizes the importance of time and place in helping a literary work create its own unique identity through its own unique social, cultural and linguistic ideologies.

Eastern poets have observed the changes that can birth in stories when the narrative ground undergoes changes. In reality, it is only after the American biologist Rachel Carson has published her nature study book, *Silent Spring*, and the concept of 'Deep Ecology' was advocated by the Norwegian philosopher Arne Næss, that the Western world has started learning about and seriously considering the concept of Eco Aesthetics. It is only after 1970s that they have started to formulate diverse thought models about the changes that a particular place and time can bring into the cultural, linguistic and philosophical aspects of a literary work. However, the Eastern literary thinkers have tried to learn and understand about numerous complex mysteries related to the essence of time and place such as the writing depending on a particular country, the unique writing elements that influence the writing patterns of a writer, the influence that a place exerts on diverse dimensions of a story and the nuances of a place's cultural heritage. Even before centuries, the concept of time and place in literature has made our literary thinkers impressed and think. The examples of these can be found in many Sanskrit writing—the *Reethi Concept*—and in Dravidian literature which is the *Thina Concept*. Through these concepts, our literary thinkers have tried to study deeply about the place that becomes the platform for writing and the macro and micro influences that the place exerts on writing. Through the '*Reethi Concept*', Vaamanacharya brings forth a unique beauty to entire piece of story writing via creation of singular wordings. By singular wordings, the distinctions brought to the narrative are meant. The base for this distinction is certainly the place, called the narrative ground. The 'Reethi' theory has been born from the concepts that Sage Bharatha, the author of *Natyasasthra*, has spoken about the actions such as *Avanthi*, *Dakshinathya*, *Panjali*, and *Udramagni*. In addition,



Vamana has also spoken about the same—he says that there are three poetic manners such as Vaidarbhi, Goudi, and Panjali and he says that *Reethi* is a location-based concept of writing.

In ‘*Tholkapiyam*’, a poetry work written before BC 400, the concept regarding ‘*Ainthanam*’ talks deeply about the relationship between place and writing. Perhaps, it is impossible to find a book that connects the essence of a place as the background for a literary work this beautifully. In this book which interprets life, the dimensions of life, the behaviour and human relations against the place where a person lives, the relationship between a literary work and the place where it takes place has been narrated in the most beautiful way possible.

On the other hand, the book *Poruladhikaaram*, brings forth a comprehensive concept that connects a story with the micro elements of the place that acts as the setting for the narrative to take place. Here, the nature of geography is based on the environment; further, the nature of time, topology, and mental essence form the literary basics of *Poruladhikaaram*. Here, it is the comprehensive vision that becomes the platform for writing that is put forth by the concept of *Thina* or Environment. Dr.PKRajashekhar opines that the concept of *Vattara Novel* or regional literature in the modern Tamil literature also emphasizes on writing stories that give importance to local cultural elements and linguistic specialties, which in turn talks about the undeniable relationship between a story and the environment where it takes place.

The writers who conjure a place to their writing articulates their own identity. Thus, the writing about one’s own land become a medium through which the writer creates a profound self-awareness about one’s own cultural and social legacies and heritages. It is through the efforts to realize one’s own community and define the same that the seed of nationality takes shape. As such, only a writer who understands the uniqueness of one’s land can reflect the same through their writing and such a writer evolves to be a land’s writer. Celebrated writers such as P Padmarajan, Parapurathu and ThoppilBahassi are some of the important figures that created a unique identity using the unique cultural elements of Onattukara as their narrative ground.

Here, novel, which is a medium that has profound possibilities to represent time and place, and theatrical play, which has tremendous possibilities for the vivid usage of language, are taken for studies here. The novels of P Padmarajan and Parapurathu have been selected based on the fact that they represent the myriads of cultural and societal poses of Onattukara. On the other hand, ThoppilBhassi has been selected to be studied as he is the most powerful user of the dialect of Onattukara language.

In determining the identity of a writer, just like nation, the language also has an important role to play. Here, when we say language, the dialects of many languages are considered. Even though language is a common asset of the people that use it, based on



the locational, cultural and racial uniqueness, there exist many distinctions in a common language. These distinctions are known as dialects.

There is no doubt that a person's character is established through the way one uses his/her language. The communication style of a person is the result of many factors such as his/her county, culture, race and education. The dialects are formed by the combination of similar, personal conversational styles. The opinions that individual linguistic styles within a dialect are similar than the same in a language denote the fact that despite the language being a common asset, the dialects have more personal elements, too. There are studies that state that within a community using a common language, there can be many dialects and individual linguistic varieties emerging based on diverse cultural elements and local characteristics. In a place, the spoken language may not be the same from one end to the other. Since the differences in a spoken language can immensely help scientifically assess the diverse forms that exist in a language, the studies about dialects have become prominent in linguistical studies due to the realization that they must also be given immense role.

Even in Malayalam, one can observe the emergence of numerous dialects that have been formed on the basis of local linguistic specialties. In addition to the broader dialects in Malayalam such as Travancore Malayalam, Mid-Travancore Malayalam and North Malayalam, there are a wide variety of smaller Malayalam dialects identified by linguists in Kerala based on trivial local language features. The opinion that Malayalam has been divided into three different arms just like Kerala was, before Kerala's unification in 1956, divided into three different political areas such as Malabar, Kochi and Travancore points toward the distinctions that took shape in Malayalam based on the nuances and specialties of local borders. It was the Department of Linguistics of the University of Kerala that first carried out an authoritative study of dialects in Malayalam. Though the linguistic study was carried out based on such castes as Thiyya and Ezhava, the study can be considered one about the diverse dialects that can be found in Malayalam. Based on the study carried out, Kerala can be divided into twelve different verticals based on the local linguistic traits.

South Travancore
Middle-Travancore
Western Vembanad
North Travancore
Kochi
Sothern Malabar
South-East Palakkad
North-West Palakkad
Middle-Malabar
Wayanad
Northern Malabar
Peak Language Variety



Here in this, Middle-Travancore consists of such areas as Alapuzha, Northern parts of Kollam and some areas of Kottayam. We can consider Onakkattur language as a dialect that is a part of the Middle-Travancore. I wonder what mean when they say it is northerner's language as they hear the language of Travancore. I think sometimes, whether they know how many different types of language can be found in Travancore. The ideas about such dialects as Northern Paravoor language, Kottayam language, Onattukara language, Kollam language, Trivandrum language and Southern Travancore language brings to light the many subdivisions that can be found at such places at South Travancore and Middle Travancore. Even then, there is doubt whether all of these native dialects have been considered significantly by the researchers. Travancore language through the study of CV Raman Pilla's novel languages and Valluvanad language through the studies of MT's novels have been researched upon numerous times. I would like to carry out a profound study about the unique traits of the language of Onattukara that has been able to create a distinct identity through the writings of a variety of highly talented and proficient writers. The selected literary works of such literary legends as ThoppilBhassi, Padmarajan and Parapurathu have been decided as the means for the study. The continued journey is to understand the influence that local language varieties have been able to exert to help their writings create a unique identify, naturality and individuality.

A language definitely represents the unique characteristics of the place where it has been used for communication. A language also reflects a bevy of elements such as the geographical features of a place, the relationships between different sections in a society and many others. Many socio-linguistic scientists who studied about language in associations with the society that predominantly uses the language have observed that language often tries to fix and shape the culture of the people who uses it. In a nutshell, it means that a language helps shape the attitude towards the world and tethers a man within the influences of the language that one speaks.

There have been many studies and researches that happened about the undeniable and unbreakable relationship between a language and the culture of the people who use a language. Language and culture are two unique elements that are complement each other in a myriad of ways. Each society tries to treasure its unique cultural features. What is demonstrated via the usage of a language are the cultural specialities and characteristics of the society that uses the language. A unique amalgamation of such elements as religion, caste, culture, place and occupation and their interventions is what give birth to diverse dialects and local slangs. When a society, which has unique cultural identities and specialties, accepts a common language and considers a different system of language their own, a linguistic society and dialect is born. One can find such factors as the geography of a place, its history, the culture of the people to be the reasons behind the differences that can be found in a language. The fact that one may be able to get a unique sound, which cannot be found in the broader language, from the dialect asserts the importance of studying all dialects and slangs of a language. This also indicates the important role that diverse dialects have in the growth and expansion of



any language. By submitting itself to various dialects and individual slangs without changing its fundamental structure, a language presents itself to the changes and renovations as needed by the dynamics of time. Likewise, Malayalam, when accepted as the common broad language, one can observe a variety of dialects and slangs in Kerala. Many linguistic researchers and scholars state that *Flexible Stability* of a language is highly integral to the development and embellishment of any language. The ability of a language to submit itself to the speech systems and methods of individuals and societies all the while maintaining the unity between them keeping its fundamental structures intact is what is coined by the terms *Flexible Stability*.

All of the dialects and slangs that one can find in Malayalam are the representatives of the many diverse cultural elements and features.

Travancore, Kochi and Malabar were all under different kingdoms before India has gained her independence in 1947. Before that, even though Venad, Deshingad, Vadakkankoor and Thekkankoor, Vettathunadu, Kochikode, Kannur and Nileshwaram were all adjacent to each other, they were distant in their cultures and mentalities. The people of these places have always tries to keep their uniqueness and specialities as much as they could. The idea that most of the dialects and slangs one can find in Malayalam are a reminder of the borders of these places is really relevant about the many dialects that exist today.

There are numerous internal and external reasons for dialects and slangs to take birth in a language. The internal factors can be the changes happening to the letters and transformations of a language while external factors can be the acceptance of words from other languages, geographical distancing, migration and sociological differences. As such, local dialects based on a particular place and social dialects that form based on religion, occupation, economic stature and education can be seen every language. Hence, a language is a mixture of a variety of dialects and slangs thus formed. Even Malayalam that has been used within Kerala and outside is also an amalgamation of such numerous local and social dialects of the language. All of these dialects have been formed based on the many internal and external factors that we talked about earlier. The Malayalam talked in Travancore, Kochi and Malabar also has numerous changes to itself. Even in these places, if we consider the language spoken in different areas, there are numerous changes that one can observe in pronunciation and formulation of words. We can consider that many geographical, racial and caste social sectors sustain these dialects as part of their social identity.

Language is one of the many means for communication in any society. However, it is not just ideas that are conveyed through a language—it is also a communication device for a culture as well. In a general society that accepts a language as its primary means of communication, diverse types of speech manners also come based on the differences that come due to the specialities of the place and the nature of the culture that they are a part of. As such, creating dialects and slangs is a common process that happens with



every other language that is out there. When we say that the reality of a language and its creative spirit both lie in its dialects, it is the linguistic process that is being made clear over and over again. It is the dialogue differences which happen to these subgroups as the result of hierarchical differences of the relation between caste, religion and occupation, which give birth to these dialects. The changes that happen to a language based on societal hierarchies are observed by William Lambove. He says that as per the changes happening to these hierarchies, the pronunciation and the attitude of the language also change considerably. When, along with these hierarchical changes, the seams of localization are added, the birth of dialects happens even faster. Each of these dialects that thus formed due to the cultural and social reasons within a language ensures the fare cultural representation of each of the linguistic communities. Due to the geographical changes that can happen to a language, there can be local variations of the language as well—they are Northern language, Southern language and Middle-Kerala language. When we say that even these have subdivisions, we are acknowledging the sub-cultures that exist. Many linguistic scholars and researchers emphasize saying that a language represents a culture while dialects represent the many sub-cultures that exist. When we say that a culture can be represented effectively only by a language that has been born out of it and without language human culture could have been under darkness, we mean the interaction existing between a language and a culture.

A spoken language in a place may not be used in the form across the place. In addition, such instances can happen as a person living on end of the place may need to describe the meaning of a word to another person who lives on the other end. There are also chances for misunderstandings to arise about the meaning of a word between people living on two ends of the same place even when they use the same spoken language. All of these are the indications of the healthy growth of a living language. When Himes Bell says that a language emerges through the clear instances of social relations, he talks about this unique social nature of the language, as well. We can hence observe that a language is the culmination of numerous dialects formed from the local and cultural reasons.

We can also see that Malayalam, the spoken language of Kerala, is also the summation of numerous dialects that were formed locally. Each of these local dialects also represents the cultural streams that one can find in Kerala. There are numerous distinctions that can be observed in Malayalam, which is the spoken language from one end to the other end of Kerala. Situations can arise when South Travancore person has to explain the meaning of certain words to a North Malabar person when they talk to each other. It is also interesting to observe that even in Travancore, the differences one can observe in the ways the language is spoken in such places as Trivandrum and Middle Travancore are really impressive. There is no doubt that Onattukara dialect takes prominent place among the many dialects emerged in Malayalam that clearly sustains the most important aspect of any living language, Flexible Stability. However, the distinctions between the dialects have started to become lesser and lesser. Due to the pressures of various physical conditions, dialects have been subjected constantly to



'standardization'. In these times when the seams of local cultures and places are disappearing, the symbols of cultural uniqueness have also been disappearing quickly than we realize. We may give up the local symbols of communication to communicate better to others, knowingly or unknowingly. We must remember the observation that changes will happen in our languages just like changes happening in our eating and drinking habits.

Even from spoken language, local linguistic elements have been disappearing. Our societies that focus on globalization have no much interest in these things either. Localization has quickly been moving away from language in pace that makes it impossible to undo it even if we try to. The emergences of long-distance vehicles and trains, job transfers and marriages have also been responsible to fill the large gaps that existed in between the dialects of a language. Above all that, the competition between the dailies and other magazines to attract the attention of audiences has also made the change even faster. As a result, many localized dialects have converged and formed a common language. These opinions also state about the challenges faced by many dialects that face today.

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EFFECTS OF IMAGERY TRAINING ON SELECTED PSYCHO- PHYSIOLOGICAL AND OVERALL PLAYING ABILITY OF VOLLEYBALL PLAYERS

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Abstract:

The present study is mainly concerned with volleyball players participating in high level competitions. Nowadays, the game volleyball is becoming a professional sport rather than a competitive sport. So the competitiveness among the volleyball players is growing up day by day with a different colour. Reasons for such competitiveness arises naturally among the players, because of pressures such as equal competition, and concern about fulfilling the expectation of their teachers, coaches, parents, peer group and personal needs. It leads to mental and physical stress. In high level stress, the player's vision may have to be narrow and they are unable to understand the things around them. Hence under high level stress, players are unable to show their real effort in matches though they are having the needed physical and mental resources. The study consisted of 30 male volleyball players selected from PSG College of Arts & Science, Coimbatore. Their age ranged from 18 to 25 years. Subjects were randomly assigned Group I underwent imagery training group and Group II control group. The subjects of imagery training for about six weeks in addition to their physical training traditionally they practiced, whereas in the case of subjects of control group, they were allowed to practice only physical training practiced traditionally. The following variables were selected for the present study of finding the magnitude of effects of imagery training on the performance of physiological systems due to psychological impacts on aspects and skill performance of volleyball players. As psychophysiological variables, psychologically the chosen variables were cognitive anxiety, somatic anxiety, self confidence, and physiologically systolic blood pressure, diastolic blood pressure, resting heart rate and overall playing ability. The present study pays attention mainly to test the mean difference of two groups, (Experimental and Control Group) and secondarily deals with the increase of means in each group, from baseline to post treatment for various measures. The means gains recorded by the Experimental and Control Group groups in the pre-test and post-test were tested for significance by applying paired 't' test. To determine whether the training programmes produced significantly different improvements in selected variables after six weeks of training, the analysis of co-variance was used. The result of the study reveals that there was significant difference in 0.05 levels.

Keywords: Imagery Training, Competitive anxiety, Blood pressure, Resting heart rate and Overall playing ability.



Introduction

The present study is mainly concerned with volleyball players who participated in the high level competition. Now days, the game volleyball is becoming as a professional sport rather than the competitive sport. So the competitiveness among the volleyball players is growing up day by day with different color. Reason for such competitiveness is arise naturally among the players, because of pressures such as equal competition, concern about fulfilling the expectation of their teachers, coaches, parents and peer group and personal needs. It leads to mental and physical stress. In high level stress, the player's vision may have to be narrow and could not understand the things around them. Hence having the high level stress, players are unable to show their real effort in matches though they are having the needed physical and mental resources. Hence the physical education teachers and coaches are in need to study the means and methods needed to face such competitive pressures whereby they can equip their players to perform well. As far as means and methods for high performance in sports are concerned, they are varied with the nature and type of competition such as low level competition and high level competition. In high level competition, sport is demanding high level mental toughness. Mental toughness of a player can be strengthened only through the implication of cognitive based training. Cognitive based training helps them to realize the nature of internal and external pressures whereby they can easily face the competitive pressures and to show their talents in time. Having this thirst, the investigator has impelled to study.

Methods

The purpose of the study was to find out the effects of imagery training on selected psycho-physiological variables of male volleyball players. To achieve the purpose of the study twenty four male volleyball players were selected from PSG College of Arts and Science, Coimbatore. Their age was ranged from 18 to 25 years. The purpose of the present study was explained to them clearly where by their consent to serve as samples were obtained. The present study is an experimental one and to test the effects of varied forms of intervening strategies, the care was taken in distributing the samples to each experimental group. For this, the selected samples (N=30) were divided into two equal groups. Subjects were randomly assigned Group I underwent imagery training group and Group II control group. The subjects of Imagery Training Group for about six weeks in addition to their physical training traditionally they practiced, whereas in the case of subjects of control group, they were allowed to practice only physical training practiced traditionally.

Research Instrument

Tool Used in the Study: *Competitive Sport Anxiety Inventory - 2*

Competitive state anxiety was assessed by using the Competitive State Anxiety Inventory - 2 (CSAI-2, Martens et al. 1990) which is a self report, psychometric state anxiety inventory, consisting of 27 items. The CSAI-2 normally takes less than five minutes to complete and was administered ten minutes before competition and practice session. Before allowing subjects to begin completing the CSAI-2, instructions were



explained, and researchers ensured that all instructions were completely understood. State anxiety was measured by the Competitive State Anxiety Inventory - 2 (CSAI - 2) (Martens et al 1990). The CSAI – 2 assess two components of state anxiety, cognitive worry and somatic anxiety, and a related constricts self-confidence.

The CSAI - 2 contains 9 items that represent each sub - scale. Thus, each sub - scale has a range from 9 to 36. Higher scores on cognitive and somatic anxiety indicate higher levels of anxiety whereas higher scores on self – confidence sub – scale correspond to higher levels of self-confidence (Martens et al. 1990 and McKay et al. 1997).

Resting Heart Rate

Stethoscope reading was used to measure the rate of the heart-beat per minute. The equipments used for this were stethoscope, score sheet and stop Watch. For the sake of accuracy, in this study, the resting heart rate was measured in the morning. The stopwatch was used to count the seconds for starting and ending the heart-beat counts. After every minute, when the stopwatch was stopped, both the subjects and investigator called out the number of beats counted by them simultaneously. There were five repetitions of such one-minute counts and the highest count was recorded as the subject's resting heart rate.

Blood Pressure

The method used to measure the systolic and diastolic blood pressure was relatively simple. The cuff of the sphygmomanometer was wrapped around the forearm above the elbow, with earphones of the stethoscope in the tester's ears. The bell of the stethoscope was placed on the brachial artery just above the hollow of the elbow. The cuff was pumped up until the artery collapses that was no pulse beat could be heard. Pressure was then slowly released as the tester watched the gauge or mercury column. When the first sound of the pulse was heard, the reading in millimeters of mercury at that instant was recorded as systolic pressure. The tester continues to release slowly pressure until a very dull, weak beat was noted. At that instant the pressure in millimeters of mercury was noted as diastolic pressure. The measure was recorded with the systolic pressure first and the diastolic pressure next.

Overall Playing Ability

The skill performance variables were assessed by a panel of three experts with great experience in the game of volleyball as judges for the rating of the skills. The average of the three scores was taken and recorded. The mean scores of the experts for each subject were recommended to determine the skill performance. During the play, all the skills were identified, and marks were given for overall performance with a maximum of ten marks. The three judges rating were collected to assess the average score as over all playing ability score.

Training Program

The imagery training programme was administered for thirty minutes each day before participation in their regular physical training during the morning session.



Control group was not engaged in any type of psychological skills training other than regular training for volleyball game practice and fitness. The imagery training involved meeting with the volleyball players to provide the training. The imagery training sessions were conducted six days a week six weeks in total.

Imagery Training

Imagery can be defined as a process by which sensory experiences are stored in memory and internally recalled and performed in the absence of external stimuli. The level of vividness defines imagery ability, and the controllability athletes have over their imagery. Vividness refers to the clarity and reality in the athlete's imagery. Control liability refers to the athlete's ability to influence the content of the image.

Construction and Execution of Imagery Script

For the imagery intervention, the imagery script was carefully prepared in English and Tamil. Ten minutes general imagery and fifteen minutes specific imagery script, relevant to each skill, were prepared under the supervision of the guide and the other experts with utmost care, taking into consideration the maximum inputs from the subjects. Attempts were made to make the script simple, clear and relevant as far as possible. Sequentially and systematically prepared script was recorded and the audio script was played to the subjects.

Subjects were asked to be in a comfortable position with eyes closed, and follow their breath in and out of their nose and allow their body to become very relaxed. After instruction and relaxation for 2 to 3 minutes, systematically recorded script was played to the subjects. The imagery training, by using imagery script, was played repeatedly five times, with short period of relaxation in between. Later, the subjects were asked to open their eyes and relax.

Imagery Script

Now, in order to begin, one needs to become very relaxed. Be in a comfortable lying position. Take three deep, slow breaths that will fill the lungs and chest with air, breath in..... and breath out..... breathe in..... breath out..... good, the mind was relaxed now, and ready to start our imagery session.

Visualize the routine in the dressing room and in the court. See the uniform folded on the chair. Imagine changing into warm ups. can the smell of the clean jersey be felt....., hear the talk and noise of team mates....., and feel of pulling up kneepads and tying shoes. Visualize and feel on jogging with team around the court, stretching and ball handling. Create the images of shared on-court hitting the ball and then of each team attacking as a unit..... then leaving the court, changing into team uniform, and coming back to the bench..... then two minutes of serving, and hear the announcement of line ups and final instructions from the coach. Finally, on the end line, hear the head official blow the whistle blow and feel moving onto the court..... Image the down referee checking the positions of the teams and the server holding the ball to begin the match.

Ending Note

The possible situations in the game of volleyball are unlimited. Each of the skills described above could have had many variations. The imaging methods written here have been used with volleyball players who have a solid understanding of the game of



volleyball and the techniques used to make it successful. Hopefully, by practicing these imagery techniques one will become a better player in both physical and mental arenas.

Statistical Analysis

The present study pays attention mainly to test the mean difference of two groups, (Experimental and Control Group) and secondarily deals with the increase of means in each group, from baseline to post treatment for various measures. The means gains recorded by the Experimental and Control Group groups in the pre-test and post-test were tested for significance by applying paired ‘t’ test. To determine whether the training programmes produced significantly different improvements in selected variables after 6 weeks of training, the analysis of co-variance was used.

Results

The study was designed to find out the effects of imagery training on selected psycho-physiological variables of male volleyball players. The test the objective framed in the present study the data collected on variables cognitive anxiety, somatic anxiety, self confidence. resting heart rate, systolic blood pressure, diastolic blood pressure and overall playing ability. As one of the objectives of the present study was to test the effects of imagery training the initial test means and final test means was tested treatment wise by using the paired sample t-test.

Table 1
 SIGNIFICANCE OF MEAN GAINS/ LOSSES BETWEEN PRE AND POST TEST OF IMAGERY TRAINING GROUP ON SELECTED PSYCHO-PHYSIOLOGICAL AND OVERALL PLAYING ABILITY OF VOLLEYBALL PLAYERS

Variables	Pre test (Mean and ±S.D)	Post test (Mean and ±S.D)	MD	SE	‘t’ ratio
Cognitive anxiety	21.47 ±1.30	18.33 ±2.43	3.14	.616	5.09*
Somatic anxiety	20.73 ±1.48	17.60 ±2.35	3.13	.722	4.34*
Self confidence	21.60 ±2.47	25.00 ±2.24	3.40	.660	5.15*
Resting heart rate	70.46 ±2.41	67.40 ±3.24	3.06	.520	5.89*
Systolic blood pressure	123.66 ±4.70	120.00 ±4.25	3.66	.708	5.18*
Diastolic blood pressure	83.40 ±3.99	80.20 ±4.31	3.20	.459	6.96*
Overall Playing Ability	4.80 ±1.37	7.73 ±1.83	2.93	.228	12.86*

*significant at 0.05 level (2.14)



Table 1 indicates the obtained 't' values on variables for the imagery training: 5.09 (cognitive anxiety), 4.34 (somatic anxiety), 5.15 (self confidence), 5.89 (resting heart rate), 5.18 (systolic blood pressure), 6.96 (diastolic blood pressure and 12.86 (overall playing ability). The obtained t- values to be significant at 0.05 level for degree of freedom 1, 14 the required critical value was 2.14. Thus the observed t- values on variables were found to be higher than the required critical value. It was concluded that the Imagery Training Group produced significant improvement in cognitive anxiety (+3.14 P<0.05), somatic anxiety (+3.14 P<0.05), self confidence (-3.40 P<0.05), resting heart rate (+3.06 P<0.05), systolic blood pressure (+3.66 P<0.05), diastolic blood pressure (+3.20 P< 0.05) and overall playing ability (-2.93 P<0.05), statistically significant and explained its effect positively.

Table - 2
SIGNIFICANCE OF MEAN GAINS/ LOSSES BETWEEN PRE AND POST TEST OF CONTROL GROUP ON SELECTED PSYCHO-PHYSIOLOGICAL AND OVERALL PLAYING ABILITY OF VOLLEYBALL PLAYERS

Variables	Pre test (Mean and ±S.D)	Post test (Mean and ±S.D)	MD	SE	't' ratio
Cognitive anxiety	21.26 ±1.22	20.93 ±1.16	.33	.210	1.58
Somatic anxiety	20.93 ±1.75	20.73 ±1.98	.20	.106	1.87
Self confidence	21.13 ±2.23	21.40 ±2.66	.26	.153	1.74
Resting heart rate	71.00 ±1.30	70.60 ±0.98	.40	.213	1.87
Systolic blood pressure	124.80 ±1.78	124.40 ±2.16	.40	.335	1.19
Diastolic blood pressure	83.60 ±2.19	83.46 ±2.06	.13	.090	1.47
Overall Playing Ability	4.66 ±2.02	4.73 ±1.83	.06	.181	0.37

*significant at 0.05 level (2.14)



Table 2 indicates the obtained 't' values on variables: 1.58 (cognitive anxiety), 1.87 (somatic anxiety), 1.74 (self confidence), 1.87 (resting heart rate), 1.19 (systolic blood pressure), 1.47 (diastolic blood pressure), and 0.37 (overall playing ability). The obtained t- values to be significant at 0.05 level for degree of freedom 1, 14 the required critical value was 2.14. Hence the obtained t-values on the variables were failed to reach the significant level. It was concluded that the changes made from pre-test to post test was statistically not significant.

Table 3
ANALYSIS OF CO-VARIANCE ON SELECTED PSYCHO-PHYSIOLOGICAL VARIABLES AND OVERALL PLAYING ABILITY OF VOLLEYBALL PLAYERS

Variables	Source of variation	Sum of Squares	Degrees of freedom	Mean Squares	F-ratio
Cognitive anxiety	Between sets	55.50	1	55.50	17.94*
	Within sets	83.52	27	3.09	
Somatic anxiety	Between sets	67.48	1	67.48	17.78*
	Within sets	102.45	27	3.79	
Self confidence	Between sets	78.72	1	78.72	24.82*
	Within sets	85.64	27	3.17	
Resting heart rate	Between sets	53.37	1	53.37	21.76*
	Within sets	66.24	27	2.45	
Systolic blood pressure	Between sets	90.87	1	90.87	22.28*
	Within sets	110.40	27	4.07	
Diastolic blood pressure	Between sets	70.73	1	70.73	41.63*
	Within sets	45.87	27	1.69	
Overall playing ability	Between sets	61.80	1	61.80	94.34*
	Within sets	17.88	27	0.65	

***significant at 0.05 level (4.21)**

In testing the adjusted means among the imagery training group and control group on criterion variables, the obtained F-ratios were: 17.94 (cognitive anxiety), 17.78 (somatic anxiety), 24.82 (self confidence), 21.76 (resting heart rate), 22.28 (systolic blood pressure), 41.63 (diastolic blood pressure), and 94.34 (overall playing ability). The obtained F- ratios on the above said criterion variables among the three groups were



significant at 0.05 level as they exceed the required critical value (4.21 df 1, 27). Thus, the obtained results on adjusted means statistically confirm that differences exist after completion of treatment period on criterion variables among the two different groups namely PSTG and CG. It was concluded that the psycho-physiological variables and skill performance variables influenced by the treatments used in the present study.

Discussion and Findings

In training and competition, players require specialized psychological skills to overcome the psychological barriers such as mental fatigue, lack of motivation, motor and sensory retardation. When players are alert but relaxed, they can make better, quicker decisions during a match, whereas being an over anxious; player would often make incorrect decisions. Athletes when they realize that they can control their anxiety and free to play at their top level. Thus the need of today sports participants is acquiring the psychological skills. Having this thirst, the present study was formed to find out the effect of imagery training on selected psycho physiological and overall playing ability of volleyball players. For this collected data on psycho-physiological and skill performance variables from the volleyball players of both imagery training and traditional training group before and after training period were tested by analysis of covariance as the present study was underlie the pre-post randomized experiment design.

The results on comparative effects derived from the analysis of covariance corroborate the effects of imagery training positively over to the volleyball players of traditional training group on selected psycho physiological and skill performance variables such as cognitive anxiety, somatic anxiety and self confidence, heart rate, systolic blood pressure and diastolic blood pressure and overall playing ability. The source for such a significant changes on variables used in the study might have been the salient features of modules include in the psychological skill training used in the present study. The modules used in the psychological skill training are imagery training and progressive muscle relaxation training. Each one has its own entity in developing the psychological aspects of subjects. The influence of these on psycho-physiological variables and overall playing ability variables individually and collectively are discussed based on the theoretical and empirical constructs and presented as follows.

The effectiveness of mental imagery in improving the skill performance may be attributed to the following reasons: mental imagery can aid performance by enhancing the learning and execution of physical skills. Mental imagery reinforces nerve pathways that will be used during training and competition. Effectiveness of mental imagery on performance enhancement has been found in studies by Hall, Rodgers, and Barr, 1990; Mamassis and Doganis, 2004; and Bakker and Kayser, 1994; Blair et al, 1993). In case of beginners or novice sportspersons, mental imagery can aid in learning skills by helping to develop the appropriate mental blueprint of the skill. Imagery may strengthen muscle memory, for a task, by having the muscles fire in the correct sequence for a movement, without actually executing that movement (Martin et al, 1999).

The results suggest that the three weeks mental imagery training was effective in both elite and novice volleyball players in improving their skill performance as compared to control groups. These results are in consonance with the previous results obtained by Savoy and Beitel, 2006; Blair, Hall, and Leyshon, 1993) The results of the



study with respect to the hypothesis that there would be significant effect for the imagery intervention programmes for all skills for the total duration of twelve weeks on selected skill performances variables namely, serve, pass and overall playing ability of volleyball players indicated the following results: In case of serve, pass and overall playing ability; the psychological skills training group showed significantly better performance as compared to both the control groups. However, there was significant difference in serve, passing and overall playing ability between the experimental groups after the mental imagery programme.

Conclusions

The following conclusions were drawn from the results of the study:-

1. Results on individualized effect confirms positively and significantly the effect of imagery training on psycho-physiological and skill performance variables of volleyball players who practiced with psychological skills training, in addition to their traditional physical training, and
2. From the results of comparative effects, it was observed that imagery training, used in the study, made desirable changes on psycho-physiological variables, compared to the volleyball players of Control Group. By this, it was concluded that the desirable changes observed on cognitive anxiety, somatic anxiety, self-confidence (psychological), systolic blood pressure, diastolic blood pressure and resting heart rate would be significant sources for performing better on skill performance variables as compared to the players of Control Group.

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STUDENTS' PERCEPTION ON ONLINE LEARNING DURING COVID-19 LOCKDOWN

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Abstract

The world is fighting COVID-19 and economies over the globe have announced a period of lockdown thus making Work from home (WFH) as a new normal. Adhering to the government regulations, all over the country, all non-essential organisations are undergoing a slow down and lockdown. Among them are the educational institutions, trying their best to reach out to the student community with the online mode of learning. The need for reaching the students at their homes is of dire need, thus paving way for Online classes at home. Thus, they had to find new alternatives to academic delivery, and virtual classes as the way forward. This paper attempts to achieve the objective of analysing the effectiveness of online teaching and learning among the students. The study focusses on students' perception towards online teaching and learning based on the Faculty. The survey focussed on aspects such as: (i) Personalised Learning (ii) Expert Help (iii) Comfortable (iv) No time limits (v) Easy and quick assessments. The findings of the paper highlighted that Personalised Learning were the most suitable during online teaching and learning towards academic achievement among the students and No time limit was found to be the least preferred among them.

Keywords: Perception, Online Teaching and Learning, Personalised Learning.

Introduction: The 2019–20 coronavirus pandemic has affected educational systems worldwide, leading to the near-total closures of schools, universities and colleges. At the middle of April 2020, approximately 1.723 billion learners have been affected due to school closures in response to the pandemic. According to UNESCO monitoring, 191 countries have implemented nationwide closures and 5 have implemented local closures, impacting about 98.4 percent of the world's student population. Educational institutions' closures impact not only students, teachers, and families, but have far-reaching economic and societal consequences. Educational institutions' closures in response to COVID-19 have shed light on various social and economic issues, including student debt, digital learning, internet. The impact was more severe for disadvantaged children and their families, causing interrupted learning and consequent economic cost to families who could not work. In response to school closures, Universities recommended the use of distance learning programs and open educational applications and platforms that schools and teachers can use to reach learners remotely and limit the disruption of education. The Corona pandemic has made a global impact in the past weeks and continues to hit most of the sectors, with education being one of the most affected. A major factor that frames student life is a set



routine comprising school, homework, coaching or tuition classes, co-curricular activities, and more. But this routine has completely been disrupted - the boundaries between study time, play time and me-time having merged these days, owing to the governmental regulations. Establishing a routine becomes crucial for children, especially while staying indoors the entire day, to which they are not used to. A routine will keep the child engaged and the discipline to follow that routine has to come from parents. The online environment offers unprecedented opportunities for people who would otherwise have limited access to education, as well as a new paradigm for educators in planning an online curriculum.

An effective online teaching and learning aims at:

Online learning is catalyzing a pedagogical shift in how we teach and learn. There is a shift away from top-down lecturing and passive students to a more interactive, collaborative approach in which students and instructor co-create the learning process. The Instructor's role is changing from the "sage on the stage" to "the guide on the side."

Constructivism: This point of view maintains that people actively construct new knowledge as they interact with their environment. This is a student-centered approach in which students "co-create" their learning experience.

Constructionism: Constructionism asserts that learning is particularly effective when constructing something for others to experience. This can be anything from a spoken sentence or an internet posting, to more complex things like a painting or a presentation.

Collaboration: The teachers focus on the experiences that would best generate learning from the learner's point of view, rather than just publishing and assessing the information you think they need to know.

This paper attempts to achieve the objective:

1. To analyse the students perception on online teaching and learning during the period of lockdown
 - Based on the academic faculty (Science/ Arts/Commerce)

Literature Review:

Harvey Richard (2000) suggests educators at all grade levels and all content areas to implement a holistic learning program that seamlessly integrates learning styles and multiple intelligences into instruction, curriculum, and assessment. It is designed to help educators' process ideas and analyze their current practices; and planning templates for designing integrated lessons, assessments, and curriculum instruments. It also assists teachers in helping students become more reflective, self-aware learners and identify their own style and intelligence profiles.

McKay, Annette (2000) sought to improve student motivation in order to increase academic performance among eighth graders in an urban community incorporating a variety of cooperative learning and social skill activities. The findings were:

- Post-intervention data indicated an overall improvement in areas such as interest in class content, and academic achievement.
- The incorporation of cooperative learning and multiple intelligence lessons strengthened student motivational levels and academic achievement.



David (2008) focuses our attention on the varying approaches to learning by the students in order to cope with the assessment tasks. The findings of the study were:

- Students' approach to learning at the beginning of the course seems to have a higher impact on the extent to which they change their approach to learning than how students perceive the demands of the assessment within the course.
- The results also indicated that students did not change their approach to learning towards a more deep approach. On the contrary, students seem to develop more surface approaches to learning during the course. These results point us to the complexity of the relationship between the learning environment, the students' perceptions of assessment demands, and students' approaches to learning.

The above researches aimed at different teaching learning processes for academic achievement and this could be done through different assessment methods.

Research Methodology:

To analyse the perception of students on online teaching and learning a survey was conducted on 524 students,

Based on academic faculty of which

(184) were from Science faculty,

(168) were from Arts faculty,

(172) were from Commerce faculty.

The students were asked to rank their perception based on online teaching and learning preferred as effective towards academic achievement. Each aspect on teaching and learning is given a range from 1 to 5 of which 1 being the least preferred and 5 being the most preferred. The online teaching and learning method used in the survey

(i) Personalised learning (ii) Expert Help (iii) Comfortable (iv) No time limits (v) Easy and quick assessments. The data collected was analysed using statistical technique. The mean value for each of the assessment methods were analysed. Further it was analysed based on the faculty and the different age groups.

To determine the relative ranking of the assessment methods, the score of the students are transformed to RII values using equation (Tam et,al,2000):

$$RII = \frac{\sum w}{AN}$$

where w is the weightage given to each assessment by the student teacher ranging from 1 to 5, A is the highest weight (i.e. 5 for this study), N is the total number of samples, and RII is the relative important index, $0 \leq RII \leq 1$.

Results and Discussion:

The mean value and RII values and ranking of all online teaching and learning methods are shown below.



Table 1: The Mean and RII values of Online teaching and learning.

Online Teaching and Learning	Science		Arts		Commerce	
	RII	Ranking	RII	Ranking	RII	Ranking
(i) Comfortable	0.68	IV	0.52	IV	0.56	IV
(ii) Expert Help	0.76	III	0.66	III	0.70	III
(iii) Easy and quick assessment	0.88	II	0.82	II	0.78	II
(iv) Personalised learning	0.94	I	0.82	I	0.87	I
(v) No time limit	0.44	V	0.52	V	0.48	V

The Mean value and RII values of Online teaching and learning are indicated in the above table. The RII values were used to rank the objectives of Online based on their preference towards academic achievement and enhanced understanding. Personalised Learning through questions method was ranked First and No time limit was ranked Fifth. Easy and quick assessment was ranked Second, Expert Help was ranked Third and Comfortable achieved was ranked Fourth. There are few myths about online education. The misconceptions range from students not smart enough for a traditional college or university, being lazy, to no proper doubt solving sessions.

Personalised Learning:

Students in traditional classrooms may not get the personalized attention they need to have concepts clarified. This increases the chances of a student performing well due to the time their instructors give them. This also enhances their problem-solving and communication skills, as well as knowing how to defend their arguments to superiors if needed. Online learning offers better opportunities to concentrate by not being around other people. You can dedicate one room for quiet study, or if you're shy, you don't have to worry about interacting with other students. Skill development and enhancement is key to career growth in competitive times we live in. Various online education platforms have made it easy for students to develop new skills while continuing with a regular course at a college/university. Online education is the key and perhaps the best path to upskilling. Adapting to an online learning environment will make students familiar with the future of work and required competencies.

Comfortable working environment: Online learning provides a comfortable working environment as there are no physical class sessions. Learning materials are sent to the student electronically. They just need to read them and complete the assignments and again, send it back electronically. In a traditional classroom setting, class meeting times are set, and the student has no power over this, forcing them to work their schedules around these dates. Most people who choose online learning tend to have other commitments, and prefer this mode of learning as it gives them power over how they will delegate their time towards their different projects.



Easy and Quick assessment: Most of the online learning technologies combine the online quizzes and other tools to evaluate the pace of learning rapidly. Feedback is also received within a span of seconds. Doubts can be clarified through a direct chat with the instructors. Online learning materials are visually stimulating, concise, and more interactive combined with features like surveys or polls, quizzes, etc. As a result, online classes increase student engagement. The classes with multimedia content are easily accessible on any device and give control to students over how they take in the material. Online classes have enabled the teachers to quickly assess the learning of students as and when they teach. Unlike in the traditional classrooms, tech-enabled classes allow the teachers to post a quiz of 2-3 questions after every 10 minutes or after every concept or conduct a fact-finding poll. The performance and learning ability of students is easily trackable in online classes. In online mode, data of every student is individually stored and digitally trackable. While digital tools enable teachers to easily track students with online learning, the same cannot be done with face-to-face learning. The analytic tools provide detailed reports about every student's performance and progress. This helps the teachers to create online classes according to the learning patterns of students.

Expert Help: An online college education might give students access to specialized degree courses that may not be available in an easily accessible or local institution of learning. Online classes allow the sharing of expertise that helps more people have access to education that is not readily available in certain geographic locations. Another great thing about online classes is that assessment is an ongoing process. There is increased student engagement as there is no peer distraction. Away from the competition and dominant students, there is increased involvement of students in asking doubts and initiating an interaction. Moreover, some concepts are better taught online. For instance, there are various tools and techniques in engineering which, with the support of visual effects are being taught better than before.

No time limit:

Most of our education scenario yet it has managed to have had a great impact on the students, especially college students. Quite a large number of college students have opened up to the concept of online learning in order to enhance their skills and build a strong resume to succeed in the competitive job markets of today. Interestingly, even the traditional educational institutions such as college and universities have incorporated various aspects of online education in their academic curriculums. Online education has opened up doors of education even for the students who for some unavoidable reasons are unable to attend regular colleges. The biggest advantage of an online course is that your classroom and instructor (theoretically) are available 24 hours a day, seven days a week. You can get announcements, access notes, review assignments, take practice quizzes, discuss questions, chat with fellow students and study any time you want. Other than certain due dates, you make your own schedule for completing the requirements of the course. Sometimes that lesson is learned the hard way in the form of poor performance



on an exam or assignment. That self-realization propels your success in an online course. The motivation to study in an online course comes from you. It focuses on student-centered or active learning. The online student takes responsibility for their course of studies and matures into an individual for whom learning and accomplishment are highly valued.

Recommendations:

This type of education has grown over the last few years and has experienced mainstream acceptance. With an online class, you get to control your learning environment, which ultimately helps you develop a deeper understanding of your degree course. New models of learning are always springing up in the market, providing students with varied opportunities to fashion their education into something that fits them, not the other way round. It also provides individuals an opportunity to finish a degree they might have started and were unable to continue with for one reason or another. The future of online degree education looks promising, and opens up education to a larger section of the population than ever before:

- Encourage students to adapt to collaborative forms of learning, engage in group activities, comprising of the right blend of groups (based on faculty) this will help in peer mentoring and a care-share approach.
- Encourage students to build an ownership of learning this can be enhanced when we help student teachers to construct their own knowledge based on the learning experiences and the learning environment.
- Developing high order thinking skills that enrich the students potential in learning to a great extent and develop a sense of discernment which hold importance in all spheres of their lives - academic, personal and social.
- Encourage students to be involved in note taking and note making thereby improve their study skills.

Conclusion:

A survey of the perception of students on Online teaching and learning during this period of lockdown has been conducted under the categories based on Faculty. The relative important index (RII) and the overall mean values of all groups under each category was estimated. From the results it has been found out that the Personalised learning was the most effective method from the students point of view towards academic achievement. The least preferred was No Time limits. Recommendation are provided to improve the effectiveness of online teaching and learning.

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EQUAL ACCESS TO ACADEMIC INSTRUCTION AND SOCIAL OPPORTUNITIES: INCLUSIVE EDUCATION

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Abstract

Inclusion enhances learning for students, both with and without special needs. Students learn, and use their learning differently; the goal is to provide all students with the instruction they need, to succeed as learners and achieve high standards, alongside their friends and neighbours. Proponents of mainstreaming hold that students with special needs be placed in the general education setting solely when they can meet traditional academic expectations with minimal assistance. Simply placing students with special needs in the regular classroom is not enough to impact learning. Teachers in an inclusive school need to vary their teaching styles to meet the learning styles of a diverse population of students. Only then can the individual needs of all our students be met. Schools of the future need to ensure that each student receives the individual attention, accommodations, and supports that will result in meaningful learning. Inclusion is an educational approach and philosophy that provides all students with community membership and greater opportunities for academic and social achievement. Inclusion is about making sure that each and every student feels welcome and that their unique needs and learning styles are attended to and valued. Research shows that most students learn and perform better when exposed to the richness of the general education curriculum, as long as the appropriate strategies and accommodations are in place.

Key Words: Inclusive Education, Teachers, Philosophy, Policy Makers.

Introduction

Inclusive in education is an approach to educate students with special educational needs. Under the inclusion model, students with special needs spend most or all of their time with non-disabled students. Implementation of these practices varies. Schools, most frequently use them for selected students with mild to severe special needs. Inclusion can be organized in several ways and on different levels, but essentially, it is the team of teachers who has to deal with an increasing diversity of student needs within their school and classes, and has to adapt or prepare the curriculum in such a way that the needs of all students are contented.

The current context in which teachers are working is one of rapid change. All areas of education have changed during the past decades, with major changes to the role of teachers, together with the introduction of new approaches to the curriculum and assessment. It is clear that teachers are crucial in building more inclusive schools.



Today it is widely accepted that inclusion maximizes the potential of the vast majority of students, ensures their rights, and is the preferred educational approach for the 21st century. Unfortunately, the philosophy has not always been widely held. Our thinking and acceptance has evolved rapidly over the last century, and continues to evolve, in response to federal and state law, along with our changing social and political beliefs. As we strive to meet these challenges, the involvement and cooperation of educators, parents, and community leaders is vital for the creation of better and more inclusive schools.

Practice of Inclusion

Inclusion is both a practice and a basic underpinning of modern educational philosophy. The practice of inclusion in public schools is based on the legal concept of Least Restrictive Environment (LRE). Least Restrictive Environment has come to be known, through legal challenges and due process, as that educational experience that is most like that received by non-disabled students. Schools are expected to offer a full spectrum of placements in the best interest of children, from full inclusion, which means receiving all instruction in the general education setting, to residential treatment, when it is in the best interest of the child, and all alternate levels of restrictions have been exhausted.

Equal Access: Inclusive Education

Inclusion is also an educational philosophy. Supported by research, it fosters belief that children with disabilities do better in general education settings with typically developing peers. It also advances the understanding, also supported by research, that best practices in special education, especially differentiation, provides the most success for general education as well as special education students. Unlike "mainstreaming" which proposed to stick students qualifying for special education in general education to "sink or swim," inclusion holds that students of broadly differing abilities can succeed with appropriate support.

As an educational practice, inclusive education obviously attempts to provide equal access to academic instruction and social opportunities for all students, regardless of ability levels. There are many different advantages to inclusion, including opportunities for social integration; ease in accessing the general curriculum; academic improvement; and positive outcomes for students with and without disabilities.

The importance of education is multifaceted and extends to the entire range of activities of the individual and society. Education is related to both the development of the individual and his/her inclusion in social and economic life. Inclusive education is now firmly established as the main educational policy for children with special educational needs and disabilities, which emerges as the mean of creating an inclusive society in which equal opportunities are provided. However, there are concerns expressed on the effect of such a change in the educational system and on how possible it is to make this a reality.

Policies on Inclusion

Philosophies regarding the education of children with learning difficulties and/or disabilities have changed dramatically over the last two decades and several countries have implemented policies that foster the integration and, more recently, inclusion of



these students into mainstream environments. Indicatively, we can mention the United Nations Convention on Human Rights of 2007, and several international conventions of UNESCO. In particular, the Warnock Report (Warnock Committee 1978) and the Salamanca Statement (1994) are considered as the most important papers written for children's rights and showed the way for the legal recognition of inclusive education. Four decades after the publication of the Warnock report, and during this period, various studies have focused on the concept, implementation, and future challenges of inclusive education.

Few Common Practices in Classrooms

Students in an inclusive classroom are generally placed with their chronological age-mates, regardless of whether the students are working above or below the typical academic level for their age. Also, to encourage a sense of belonging, emphasis is placed on the value of friendships. Teachers often nurture a relationship between a student with special needs and a same-age student without a special educational need. Another common practice is the assignment of a buddy to accompany a student with special needs at all times (for example in the cafeteria, on the playground, on the bus and so on). This is used to show students that a diverse group of people make up a community, that no one type of student is better than another, and to remove any barriers to a friendship that may occur if a student is viewed as "helpless." Such practices reduce the chance for elitism among students in later grades and encourage cooperation among groups.

Inclusive Model

In an inclusive model, general classroom teachers are the primary provider of instruction for students with disabilities. As a result, they must develop strategies to facilitate the successful inclusion of this group of students (Prater, 2003). Two methods are generally used to facilitate successful inclusion: facilitating the acceptance of the students with disabilities and providing services to support their academic success. Student with disabilities who are included in general education classrooms are not always automatically accepted by their nondisabled peers. As a result it is the teacher's responsibility to promote this acceptance. In addition to facilitating acceptance, teachers must also implement instruction strategies that can be used to support inclusion.

Examples of these include:

- Response to intervention
- Cooperative learning
- Peer supports
- Strategy instruction and
- Self-determination strategies

Classroom teachers possibly play the most important role in the success of inclusion (Hobbs & Westling, 1998). Thus, they must be able to perform many different functions, including:

1. Acting as a team member on assessment and IEP committees
2. Advocating for children with disabilities when they are in general education classroom and in special programs
3. Counseling and interacting with parents of students with disabilities
4. Individualizing instruction for students with disabilities



5. Understanding and abiding by due – process procedures required by federal and state regulations
6. Being innovative in providing equal educational opportunities for all students, including those with disabilities.

Barriers

Despite the fact that teachers generally develop positive attitudes toward inclusion, they express concerns originated from insufficient training and lack of appropriate educational material for the education of students. In addition, many teachers state that they do not have access to appropriate educational equipment in order to adequately teach students with SEN regarding their specific type of disability. Lack of training, shortage of teaching and learning materials, large number of pupils in classes, large number of periods per teacher, shortage of time per period, poor governmental and parental support, poor working environment and difficulties in supporting pupils with different disabilities especially in primary schools, poor cooperation with other teachers, special staff and generally with the various public and private entities are some of the underlined deterrent factors that could have negative impact on teachers' beliefs about inclusion of students with special needs mainstream schools. Provision of suitable teaching materials and other supporting services for teachers seem to encourage teachers to develop more positive attitudes toward inclusion of students with disabilities. Teachers in inclusive schools also need support from parents, school directors, educational stakeholders, and governmental bodies. The concerns and objections of educators toward inclusion are mainly based on the diversity of learning disabilities, the learning outcomes that could be generated by applying this practice, and the lack of confidence of teachers to teach in an inclusive environment.

Conclusion

The implementation of inclusive education is a complex process that requires, besides the proper legislation, the involvement of various factors in decision-making. In this direction, it is considered necessary to hire specialized educational and supportive staff for all school units and to increase funding for education. At the same time, it is considered necessary to remove stereotyped concepts of the past, in order to limit educational and social exclusion of disabled students.

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UNDERSTAND THE PULL AND PUSH FACTORS DETERMINING THE BUYING BEHAVIOUR THROUGH ONLINE

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ABSTRACT

In the marketing world, the modern and sophisticated buyers can compare the products that are available in the market with a click of the mouse. As a result, the researchers conducted several studies on online shopping attitudes and behavior pattern of consumers in recent years. Most of them have attempted to identify the factors influencing or contributing to online shopping attitudes and behavior. These studies have made important contributions to our understanding of the dynamics of the online shopping field. However, there is a lack of coherent understanding of the impact of relevant factors of e-consumers behaviour and an inconsistent identification of relevant independent and dependent variables. This makes comparisons of different studies difficult, applications of research findings limited, and the prospect of synthesising and integrating the empirical literature in this area elusive. The result found that there is a significant difference between acceptance towards online shopping solving many problems and the respondents push factors

Keywords: Buying Behaviour, Pull Factors, Push Factors

INTRODUCTION

The focus of the study is on the consumer's choice to shop on internet and at the traditional stores at the information gaining period. However online shopping is easier for the people and less price than the offline shopping. While making any purchase decision consumers should know the medium to purchase whether online shopping or the offline shopping. Consumers should decide the channel for them which can best suit to their need and wants and which can satisfy them. In this competitive world how, consumers can decide the particular medium for their purchase of goods is very important to understand in a managerial point of view. (Laing and Lai, 2000) said that the internet shopping is the third best and most popular activity over internet after online shopping next comes the e- mail using, instant messaging and web browsing. These are even more important than watching or getting entertain by the internet or getting any information or news, this are the two very common thought which comes to the people's mind when considering the internet users do when they are online. The behaviour of online shopping is also known as online buying behaviour and internet shopping. Buying behaviour means the purchase of good over internet using web browser. Online shopping also consists the same five steps which is related to traditional shopping behaviour. Chiang and Dholskia, 2003; Lynch, Kent, and Srinivasan 2001 they



said that in the typical way of online shopping when the consumers' needs some product or service they go through the internet and browse or search the things they need and their information. But rather than searching actively, many a times potential consumers are attracted by the information about the product they want. They see many products online and choose the best one which suits him/her. Then they purchase that product and finally the transaction takes place and post sales service provided by the online sites. Online shopping attitude and behaviour are related to the consumers. Previous studies have focused on why the products of the online shopping is different from other products. Many studies have focused that the high touch products that the consumers feel when they need to touch, smell or try the product. It requires the offline shopping at the purchasing stage because it cannot be done in the online shopping. Even with the increase in the online shopping and the recognition that online shopping is more likely to impose the pressure on offline shopping or traditional shopping. The research is very limited in this area or field. Online or e-shopping is a kind of electronic shopping which allow the consumers to purchase goods over the internet directly from the seller using a web browser.

REVIEW OF LITERATURE

Gioanas Elisabeta and Stoica Ivona (2014) in their article found that technology gives consumers the power to investigate products to label them and criticize them in equal measure and more. Further paper concluded that social networks have a role in influencing the behaviour of consumers in the virtual environment, particularly when the degree of exposure of message and the relation created between the variety of information given and the consumers who is about to make a purchase. In company's point of view, by improving the details of the product or by developing the concept of total product, the company strengthens the relationship between potential buyers who constantly follow social networks. It is further stated that there is an imbalance between respondents from rural and urban areas.

Gratauits Rimantas et al. (2014) in their article found that adoption and diffusion of information and communication technologies (ICT) between an enterprise and consumers continue to grow. The paper focused on controllable factors and reveals that sales in a virtual environment significantly differ from sales in traditional environment and it depends on various environmental factors impacting consumers behaviour (psychological, cultural, social, situational, personal or marketing). From the point of the company controllable factors attract most of the attention as these could be impacted.

Bauboniene and Guleviciute (2015) conducted a study on online buyers of Lithuania with a purpose of gaining insight into the factors influencing the online buyer for shopping through online channels. The empirical findings of this study indicated that the encouraging factors for online shopping are convenience, simplicity and better price associated with virtual shopping system. Among the benefits of system, the most beneficial factor was identified as a possibility to compare prices and buy at a lower price.

Lissitsa Sabina and KolOfrit (2016) in the paper explained that study is based on annual social survey in Israel. Study finds out that, the rate of internet access and online purchasing increased continuously in both generations. Authors used



Generational Cohort Theory as segmenting tool. Rate of internet access was higher in generation Y and the Percentage of those who bought electrical appliance, furniture or vacation online was higher in generation X. study revealed that Generation Y is more attractive population for businesses due to its hedonism, extravagance and great connectivity but it is also important to focus on Generation X as they buys more due to high income and more free time.

Ruby (2016) tried to evaluate and highlight the potential E-Retailing holds and the role it can play in context of Indian consumers and economy. She reported among the major factors behind the growth of E-tailing in India are no rent or land costs, enhanced communication with the client, global reach, effortless and joyful shopping experience, no time limitation, ease of price comparison, Internet Boom, rising living standard, Availability of wider range of products and discount offers. She concluded with a remark that for future growth of E-Tailing in India it is necessary to develop a sustainable environment.

Jaya Prabha (2017) said that online shopping has grown in popularity over the years, mainly because people find it convenient and easy to bargain shop from the comfort of their home or office. When consumers buy products from online shopping they do not touch or feel the product in a physical sense and faced lot of problems. Understanding consumer's need for online selling has become challenge for marketers. Specially understanding the consumer's attitudes towards online shopping, making improvement in the factors that influence consumers to shop online and working on factors that affect consumers to shop online will help marketers to gain the competitive edge over others.

Hemanth Kumar (2018) focused on the factors that affect the consumer's E-Commerce behaviours. The young generation are more often purchasing from online sites because of the revolution in the technology among the young population and they are able to use this technology for their well-being more than other age group category. Flipkart and Amazon are the shopping sites which are more preferably used by the youngsters. There is an increasing demand for online shopping because of the variety of options for the consumers to choose and that to at a reasonable price. E-commerce is used by the consumers more for clothing & other fashion accessories rather than for other stuff such as electronics, matrimony and banking etc.

RESEARCH METHODOLOGY

The main of the study is to know about the pull and push factors of online consumer buying behavior. The methodology adopted for this research work was descriptive in nature. Stratified random sampling was adopted to categorize the areas of study. The total area was classified into five strata. The five strata are East, West, North, South and Central Coimbatore. The researcher wanted to collect 150 samples from a stratum to give equal weightage to all the strata by adopting stratified random sampling method. The estimated total respondents were 750 for the research work. The researcher collected 155 samples from a stratum knowing that some many not be found fit enough for this level of research. When the collected samples were keyed in for analysis 18 of them were found be unsuitable for research work. To make calculation and analysis easier the number of sample respondents were rounded off as 750.



DATA COLLECTION

Primary and Secondary data were used in this study.

PRIMARY DATA

Primary Data which was collected from the study area by means of a questionnaire from the respondents.

SECONDARY DATA

Secondary data were collected from various websites of Government of Tamil Nadu and Coimbatore, websites containing database about online shopping and websites having articles, research reports on online shopping. The sources like research works, thesis, Project works, and Dissertations contributed significantly to the data source

ANALYSIS AND INTERPRETATION

A push is a strategy of promotion that is used by the company to increase the sales by involving the modes of promotion. In online marketing the organization uses strategies like pop ups, advertisements in YouTube; which can be skipped, and some cannot be skipped. On the contrary a pull strategy requires high spending on advertising and consumers promotion to construct a good base of demand by the consumers for the product. This strategy brings the consumers to the product and he is motivated to buy the product.

Table 1

Push Factors towards Preferring Website

Website	Push Factor (Per cent of respondents)										
	Fast Service	Secure mode of payment	Simple and easy to access	Wide Varsity	Better Prices	Easy to return things	Product Reviews	Easy Payment Process	Customer Support	Quality Images	Others (specify)
AMAZON	31.1	22.7	12.7	28	42	-	-	-	-	-	-
FLIPKART	20	8.1	32.1	22.7	2.3	-	2.3	12.4	0.1	-	-
EBAY	15.7	11.9	31.6	13.7		6.4	13.6	-	5.5	-	1.6
SNAPDEAL	20.3	18.1	9.7	11.6	29.5	0.1	5.3	5.3	-	-	-
MYNTRA	31.3	3.2	15.9	20.7	6.3	-	22.0	0.7	-	-	-
JABONG	7.9	23.2	11.9	11.6	10.3	2.7	11.9	17.6	3.1	-	-
SHOPCLUES	32.5	20.7	5.9	26.7	2.9	4.9	6.4	-	-	-	-
HOMESHOP18	16.3	20.0	10.7	18.7	12.7	3.3	12.9		5.5	-	-
YEBHI	24.5	18.4	17.2	16.7	-	10.3	4.3	7.9	0.1	-	0.7
INFIBEAM	14.0	19.9	6.1	21.7	5.5	8.3	18	4.3	0.7	1.6	-

Source: Analysed and computed through primary data.

Interpretation

From the above table it is inferred that the push factor related to preferring websites by the respondents. It depicts that maximum of the respondents are preferring AMAZON (42 per cent) and SNAPDEAL (29.5 per cent) for better prices with various products with the website. The respondents are preferring FLIPKART (32.1 per cent) and E-

BAY

(31.6 per cent) for simple and easy to access the website. The respondents are preferring

MYNTRA (31.3 per cent), SHOPCLUES (32.5 per cent) and YEBHI (24.5 per cent) for fastness of service provided by them. Maximum of the respondents are preferring JABONG (23.2 per cent) and HOMESHOP18 (20 per cent) for secure mode of payment towards their purchase made with the website. Maximum of the respondents are preferring INFIBEAM (21.7 per cent) for Wide Variety of products with the website.

Table 2

Pull Factor towards Preferring Website

Website	Pull Factor (Per cent of Respondents)									
	I don't get what I order	High Postal charges	Payment for return	Security on payments	Problems in goods return	Delay in Receiving	Customer care support	Packaging of products	Accessing speed of website	Mode of payment
AMAZON	17.6	14.0	2.8	42.5	2.3	5.5	2.4	-	5.9	7.1
FLIPKART	15.7	17.2	11.3	36.4	12.3	4.7	-	-	-	2.4
EBAY	24.4	33.9	10.4	3.2	7.1	14.4	4.3	-	2.4	-
SNAPDEAL	4.0	16.9	3.3	23.7	24.4	14.4	4.3	8.9	-	-
MYNTRA	7.3	18.7	5.9	3.1	15.7	25.6	10.9	-	5.5	7.3
JABONG	20	7.6	8.7	26.5	21.7	9.5	3.1	2.9	-	-
SHOPCLUES	10.4	21.6	14.3	14.7	23.7	-	15.2	0.1	-	-
HOMESHOP18	17.2	6.7	12.0	36.7	6.5	11.1	-	2.5	7.3	-
YEBHI	13.2	25.1	19.6	1.9	4.9	10.7	10.3	3.1	2.4	8.9
INFIBEAM	6.4	15.7	22.3	8.7	18.3	2.7	3.1	10.3	0.1	12.5

Source: Analysed and computed through primary data.

Interpretation

The above table shows about the pull factors leading to not preferring websites by the respondents. It depicts that maximum of the respondents are not preferring AMAZON (42.5 per cent), FLIPKART (36.4 per cent), JABONG (26.5 per cent) and HOMESHOP18 (36.7 per cent) due to lag with security on payments. Maximum of the respondents are not preferring E-BAY (33.9 per cent) and YEBHI (25.1 per cent) due to high postal charges. Maximum of the respondents do not prefer SNAPDEAL (24.4 per cent) and SHOPCLUES (23.7 per cent) due to problem in returning the goods when there is a dissatisfaction towards the purchase. Maximum of the respondents do not prefer MYNTRA (25.6 per cent) because of delay in receiving the products. Maximum



of the respondents do not prefer INFIBEAM (22.3 per cent) due to Payment for returning the products.

Table 3

Acceptance towards Online Shopping Solving Many Problems

Solving Many Problems	No. of Respondents	Per cent
Strongly agree	19	2.5
Agree	286	38.1
Neutral	207	27.6
Disagree	233	31.1
Strongly disagree	5	0.7
Total	750	100.0

Source: Analysed and computed through primary data.

Interpretation

Out of all the respondents 31.1 per cent agree towards online shopping is solving many problems, 31.1 per cent disagree, 27.6 per cent are neutral, 2.5 per cent strongly agree and only 0.7 per cent strongly disagree towards online shopping solving many problems. It depicts that maximum of the respondents agree that online shopping solving many problems.

Table 4

Acceptance of Customers towards Online Shopping having Bright Future in Coimbatore

Future in Coimbatore	No. of Respondents	Per cent
Strongly agree	89	11.9
Agree	344	45.9
Neutral	273	36.4
Disagree	44	5.9
Total	750	100.0

Source: Analysed and computed through primary data.

Interpretation

Out of all the respondents 45.9 per cent agree towards online shopping having bright future in Coimbatore, 36.4 per cent are neutral, 11.9 per cent strongly agree and only 5.9 per cent disagree towards online shopping having bright future in Coimbatore. It depicts that maximum of the respondents agree that towards online shopping is having bright future in Coimbatore.

Table 5

Reason for Online Shopping Concept having Bright Future in Coimbatore

Reason	No. of Respondents	Per cent
Cosmopolitan city	99	13.2
Higher income gain	348	46.4
Technology suave	56	7.5

Less shopping expensing and time	161	21.5
Others	86	11.5
Total	750	100.0

Source: Analysed and computed through primary data.

Interpretation

Out of all the respondents 46.4 per cent said that high income gain is the reason for online shopping concept having bright future in Coimbatore, 21.5 per cent said as less shopping expensing and time, 13.2 per cent said that Coimbatore as cosmopolitan city as a reason and 7.5 per cent said that technology suave as a reason for online shopping concept having bright future in Coimbatore. It depicts that maximum of the respondents agree that high income gain is the reason for online shopping concept having bright future in Coimbatore.

There are several compelling reasons for online shopping in Coimbatore. It is having a bright future. It is a cosmopolite city having diverse population. The population is urban and highly educated. It is an industrial hub have vast majority of people employed in textiles, engineering manufacturing and Information Technology industries hence, it might by the reason to go for an online shopping.

H₀: There is no significant association between push factors and acceptance towards online shopping solving many problems

Table 7

Comparison between Push Factors and Acceptance towards Online Shopping Solving Many Problems

Website	Online Shopping Solving Many Problems	No. Respondents	Mean	Std. Deviation	F	p-Value	S/NS
Amazon	Strongly agree	19	1.42	1.121	8.459	0.000**	S
	Agree	286	2.35	1.239			
	Neutral	207	2.87	1.560			
	Disagree	233	2.57	1.147			
	Strongly disagree	5	3.00	.000			
	Total	750	2.54	1.330			
Flipkart	Strongly agree	19	4.21	1.182	30.917	0.000**	S
	Agree	286	2.66	1.453			
	Neutral	207	3.56	2.378			
	Disagree	233	4.50	2.148			
	Strongly disagree	5	1.00	0.000			
	Total	750	3.51	2.111			
E-bay	Strongly agree	19	1.53	1.504	27.970	0.000**	S
	Agree	286	3.20	2.102			
	Neutral	207	5.11	2.726			



	Disagree	233	3.91	2.044			
	Strongly disagree	5	2.00	.000			
	Total	750	3.90	2.415			
Snapdeal	Strongly agree	19	6.47	1.504	13.681	0.000**	S
	Agree	286	3.80	2.018			
	Neutral	207	3.49	1.751			
	Disagree	233	3.26	2.124			
	Strongly disagree	5	2.00	0.000			
	Total	750	3.60	2.032			
Myntra	Strongly agree	19	1.47	1.504	11.253	0.000**	S
	Agree	286	4.11	2.663			
	Neutral	207	3.35	1.868			
	Disagree	233	3.39	1.875			
	Strongly disagree	5	1.00	0.000			
	Total	750	3.59	2.257			
Jabong	Strongly agree	19	5.63	1.012	83.553	0.000**	S
	Agree	286	6.27	2.005			
	Neutral	207	3.54	2.453			
	Disagree	233	3.27	1.929			
	Strongly disagree	5	4.00	0.000			
	Total	750	4.55	2.514			
Shopclues	Strongly agree	19	1.37	1.165	14.051	0.000**	S
	Agree	286	3.30	1.849			
	Neutral	207	2.29	1.995			
	Disagree	233	2.96	1.487			
	Strongly disagree	5	4.00	0.000			
	Total	750	2.87	1.830			
Homeshop18	Strongly agree	19	5.74	1.046	15.793	0.000**	S
	Agree	286	4.31	1.919			
	Neutral	207	4.02	2.774			
	Disagree	233	3.00	1.971			
	Strongly disagree	5	4.00	0.000			
	Total	750	3.86	2.269			
Yebhi	Strongly agree	19	1.53	1.867	5.681	0.000**	S
	Agree	286	3.18	2.361			
	Neutral	207	3.76	2.554			
	Disagree	233	3.57	1.844			
	Strongly disagree	5	4.00	0.000			
	Total	750	3.43	2.282			
Infibeam	Strongly agree	19	5.79	1.437	23.577	0.000**	S



	Agree	286	4.97	2.626			
	Neutral	207	3.12	1.853			
	Disagree	233	4.04	2.035			
	Strongly disagree	5	4.00	0.000			
	Total	750	4.18	2.350			

Source: Analysed and computed through primary data. **P<0.05

S-Significant

The above table depicts that there is a significant association between acceptance towards online shopping solving many problems and the respondents push factors in using Amazon (0.000**), Flipkart (0.000**), E-bay (0.000**), Snapdeal (0.000**), Mynta (0.000**), Jabong (0.000**), Shopclues (0.000**), Homeshop18 (0.000**), Yebhi, (0.000**) and Infibeam (0.000**) as the level of significance is less than 0.05. Hence, the hypothesis is rejected.

H₀: There is no significant association between pull factors and acceptance towards online shopping solving many problems

Table 8

Comparison between Pull Factors and Acceptance towards Online Shopping Solving Many Problems

Website	Online Shopping Solving Many Problems	No. of Respondents	Mean	Std. Deviation	F	p-Value	S/NS
Amazon	Strongly agree	19	1.26	0.733	24.620	0.000**	S
	Agree	286	3.51	2.232			
	Neutral	207	3.98	2.148			
	Disagree	233	5.19	2.946			
	Strongly disagree	5	1.00	0.000			
	Total	750	4.09	2.577			
Flipkart	Strongly agree	19	3.05	0.405	23.927	0.000**	S
	Agree	286	2.78	1.540			
	Neutral	207	3.50	2.362			
	Disagree	233	4.19	0.951			
	Strongly disagree	5	4.00	0.000			
	Total	750	3.43	1.752			
E-bay	Strongly agree	19	1.32	1.157	26.857	0.000**	S
	Agree	286	2.63	2.128			
	Neutral	207	4.25	2.326			
	Disagree	233	2.78	1.462			
	Strongly disagree	5	3.00	0.000			
	Total	750	3.09	2.114			
Snapdeal	Strongly agree	19	4.05	0.229	31.959	0.000**	S
	Agree	286	5.16	1.164			



	Neutral	207	4.84	2.152			
	Disagree	233	3.54	1.918			
	Strongly disagree	5	3.00	0.000			
	Total	750	4.53	1.853			
Myntra	Strongly agree	19	1.42	1.387	29.571	0.000**	S
	Agree	286	4.86	2.135			
	Neutral	207	6.23	3.109			
	Disagree	233	4.65	1.962			
	Strongly disagree	5	1.00	0.000			
	Total	750	5.06	2.554			
Jabong	Strongly agree	19	3.79	0.713	11.810	0.000**	S
	Agree	286	3.71	1.840			
	Neutral	207	3.25	2.070			
	Disagree	233	4.36	1.204			
	Strongly disagree	5	2.00	0.000			
	Total	750	3.78	1.867			
Shopclues	Strongly agree	19	1.42	1.121	29.221	0.000**	S
	Agree	286	4.20	1.499			
	Neutral	207	4.38	2.454			
	Disagree	233	3.04	1.293			
	Strongly disagree	5	3.00	.000			
	Total	750	3.81	1.881			
Homeshop18	Strongly agree	19	4.21	0.918	12.619	0.000**	S
	Agree	286	4.38	1.761			
	Neutral	207	4.33	2.924			
	Disagree	233	3.18	1.645			
	Strongly disagree	5	4.00	0.000			
	Total	750	3.99	2.165			
Yebhi	Strongly agree	19	4.53	1.124	7.994	0.000**	S
	Agree	286	4.73	2.638			
	Neutral	207	4.45	3.560			
	Disagree	233	3.43	2.231			
	Strongly disagree	5	6.00	0.000			
	Total	750	4.26	2.835			
Infibeam	Strongly agree	19	5.89	1.100	16.571	0.000**	S
	Agree	286	5.60	2.593			
	Neutral	207	4.63	3.280			
	Disagree	233	3.84	2.151			
	Strongly disagree	5	2.00	0.000			
	Total	750	4.77	2.757			



Source: Analysed and computed through primary data. **P<0.05 S-Significant, NS-Not Significant

The above table depicts that there is a significant association between acceptance towards online shopping solving many problems and the respondents pull factors in using Amazon (0.000**), Flipkart (0.000**), E-bay (0.000**), Snapdeal (0.000**), Myntra (0.000**), Jabong (0.000**), Shopclues (0.000**), Homeshop18 (0.000**), Yebhi, (0.000**) and Infibeam (0.000**) as the level of significance is less than 0.05. Hence, the hypothesis is rejected.

FINDINGS AND CONCLUSION

Maximum of the respondents are preferring Amazon and Snapdeal for better prices with various products with the website. The respondents are preferring Flipkart and E-bay for simple and easy to access the website. The respondents are preferring Myntra, Shopclues and Yabhi for fastness of service provided by them. Maximum of the respondents are preferring Jabong and Homeshop18 for secure mode of payment towards their purchase made with the website. Maximum of the respondents are preferring Infibeam for Wide Variety of products with the website.

There is a significant difference between acceptance towards online shopping solving many problems and the respondents push factors in using Amazon, Flipkart, E-bay, Snapdeal, Myntra, Jabong, Shopclues, Homeshop18, Yebhi, and Infibeam.

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**GAP ANALYSIS BETWEEN PERCEPTION AND EXPECTATION TOWARDS
SERVICE QUALITY OF HOSPITALS WITH SPECIAL REFERENCE TO
SELECTED MAJOR PRIVATE SECTOR HOSPITALS
(MULTI- SPECIALITY) IN COIMBATORE CITY**

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INTRODUCTION

The Health Care Industry in Coimbatore has witnessed a tremendous growth in the last decade. With the increasing demand for the best treatment and the best facilities, the Coimbatore hospitals have established themselves. Coimbatore has sophisticated large hospitals offering world class quality treatments equivalent to the best hospitals around the world.

The city has two medical colleges, one in the Government sector, i.e., Coimbatore Medical College & Hospital, and one in the private sector, i.e., PSG Medical College. The number of Coimbatore hospitals delivering health care to the masses is increasing every day. Coimbatore's charity trusts have ensured that the district has a unique place in health care industry. They have championed the cause of health and medical care in Coimbatore. Coimbatore is also well-known for its exclusive super-speciality hospitals.

SIGNIFICANCE OF THE STUDY

Hospitals should deliver quality and 'zero defect' service to their customers. Hence patient's satisfaction becomes the most important indicator, because, satisfying patients can save hospitals money by reducing the amount of time spent resolving patient complaints. To deliver quality services it is important to understand what constitutes this concept. Despite the consensus that patient satisfaction in services is important for quality assurance in medical services and hospitals , there is a dearth of empirical information on consumers' acceptance of health care practices. In particular, no comprehensive study of this subject has been conducted in India.To this end, this study represents a preliminary effort at helping to describe the factors and measures of service quality. Intertwined with the quality of health care services is patient satisfaction an important measure of performance.

OBJECTIVES OF THE STUDY

- To assess the perceived service quality and patients' satisfaction of the selected multi speciality hospitals offering medical services,
- To analyze the patients expectation on service quality of the selected multi speciality hospitals offering medical services,



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- To examine the gap between the expected services and perceived services, and
 - To offer suggestions for the enhancement of service quality and satisfaction.

Hypothesis

1. There is no significant association between the Personal factors viz., Gender, Age, Income level, Educational Qualification, Marital Status, Occupation and Perception on service quality of private hospitals,
2. There is no significant association between Personal factors and Perception towards various dimensions of service quality of private hospitals viz., Tangibility, Information, Reliability, Responsiveness, Assurance and Empathy,
3. There is no significant gap between the Perception level and Expectation level on the service quality of the hospitals.

REVIEW OF LITERATURE

Gronroos (1984) postulated two types of service quality namely technical quality (i.e., what the customers actually received from the service), and functional quality (i.e., the manner in which the service is delivered). More recently, he proposed, that service quality can be described in terms of professionalism and skills, attitudes and behaviour, accessibility and flexibility, reliability and trustworthiness, service recovery, service scope, reputation and credibility (Gronroos, 2000).

Oliver (1980:462) describes expectations as consumers' beliefs or predictions of what will happen as a result of a service transaction, while Cadotte, Woodruff and Jenkins (1987:307) consider it to be standards that consumers believe a product should offer.

Gronroos (1984) defined perceived service quality as the outcome of an evaluation process, whereby the consumer compares his expectations with the service he has received, i.e., he puts the perceived service against the expected service. The result of this process will be the perceived quality of service. According to Parasuraman *et al.* (1985), customers' perceptions of service quality are influenced by five gaps.

In 1985, Parasuraman, Zeithaml and Berry suggested the most used and famous model named SERVQUAL. At first, they suggested ten dimensions for service quality but after some initial study in 1988, they reduced it to five dimensions for service quality model.

Service quality perception has been studied during the last three decades. Zeithaml (1988) defined service quality as an assessment of customer from the overall excellence of service. It is because of service quality nature, which is intangible, heterogeneous and inseparable.

RESEARCH METHODOLOGY

Data Source : This research is descriptive and exploratory in nature. It is descriptive since data has been collected through the questionnaire that was distributed. It is also exploratory because it explores the association between perception and expectation on service quality and patient satisfaction in major private sector hospitals in Coimbatore.



Sample Size: There are 22 Major Private Sector Hospitals in Coimbatore Corporation area, inclusive of one Government Hospital and 21 private sector hospitals offering multi treatment services. Among the 21 private hospitals in private sectors, there are five corporate hospitals which cover 80% of the patient population.

The hospitals, which are highly recognized by the public and their Average Daily Patient Flow into the hospitals was (Ref: Hospital Reports)

S.No	Name of the Hospital	Avg. daily patient flow
1	Kovai Medical Center and	2,500
2	PSG Medical and Research	1,800
3	K G Hospital	1,400
4	Ramakrishna Hospital	1,600
5	Kongunadu Hospital	1,200

All the above hospitals are functioning on 24 x 7 basis. The data are obtained from the patients, who visit the hospital for treatment in the time period between 8-10 AM, 3-5 PM and 7-9 PM. 85% of the patient arrivals are in these timings. ($8500 \times 85\% = 7225$) Among this 10% of the population is chosen as sample.

The questionnaires are issued to 725 patients and they are asked to report their perception on the service quality experienced, out of which only 554 filled in questionnaires could be collected. Finally, to round off, 500 questionnaires were considered and the response rate is 70 percent.

In sampling method, a Multi-sampling Technique was used to collect sample from the total population.

Questionnaire Design: While designing the questionnaire, the various items in the SERVQUAL questionnaire developed by Parasuraman *et al.* (1985) were referred to. The questionnaires of this research, which consisted of 81 questions in six dimensions, namely, Tangibility, Information, Reliability, Responsiveness, Assurance and Empathy. Similarly, the expectations of the patients are also designed with the above similar dimension. The questionnaire contained 81 statements. A five point Likert Scale was used for the scoring from 5 to 1 as Highly Agreed, Agreed, No Opinion, Highly Disagreed, and Disagreed.

ANALYSIS AND INTERPRETATION

The analyses have been made in three sections:

1. Reliability Test ,2. Multiple Regression Analysis, 3. Gap Analysis, and

1.Reliability Test: The above table reveals that all the ten measurement scale items are reliable as the Cronbach alpha co-efficient of 0.881. It is greater than the threshold level of 0.70. It has provided good estimates of internal consistency reliability and also co-



efficient alpha values ranged from 0.862 to 0.877 for all the constructs. It is indicating that the scales used in this study are reliable

2. MULTIPLE REGRESSION ANALYSIS

Multiple regression analyses of overall opinion about service quality of hospitals (Y) was performed with variables and Tangibility (X₁), Information (X₂), Reliability (X₃), Responsiveness (X₄) and Assurance (X₅) the following multiple regression analysis model was used for this study as mostly found in many literature :

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \epsilon \quad (1)$$

$$Y (\text{OvePerc}) = \beta_1 \text{TanGib} + \beta_2 \text{InForm} + \beta_3 \text{ReLiab} + \beta_4 \text{ResPon} + \beta_5 \text{AssUra} + \beta_6 \text{EmPat} + \epsilon \quad (2)$$

where, Y = Dependent variable – overall opinion about service quality of hospitals

TanGib = Tangibility, InForm = Information, ReLiab = Reliability, ResPon = Responsiveness

AssUra = Assurance, EmPat = Empathy, α = Intercept, β_1 β_4 = Estimated Coefficients

ϵ = Error term

The co-efficient of the explanatory and controllable variable (β_1 β_5) can be estimated by the use of the multiple regression through linear regression with stepwise method. Hence for overall opinion about service quality of hospitals (Y) was performed with variables and Tangibility (X₁), Information (X₂), Reliability (X₃), Responsiveness (X₄) and Assurance (X₅).

Inter-correlation between Selected Variables with Factors Related to Overall Service Quality of Hospitals

S.No.	Factors	OvePerc	TanGib	InForm	ReLiab	ResPon	AssUra	
	OvePerc	1.000						
1	TanGib	.659**	1.000					
2	InForm	.667**	.706**	1.000				
3	ReLiab	.718**	.268**	.371**	1.000			
4	ResPon	.487**	.013	.076*	.634**	1.000		
5	AssUra	.246**	.038	.006	-.037	.060	1.000	
6	EmPat	.093*	-.011	-.048	.036	-.033	.022	1.000

Source: Primary Data **p < 0.01, *p < 0.05

Correlation analysis is done to show the existing relation among the study variables namely service quality dimensions of hospitals. It can be seen that X_1 (*TanGib* $r=0.659$, $P<0.01$), X_2 (*InForm*, $r=0.667$, $P<0.01$), X_3 (*ReLiab*, $r=0.718$, $P<0.01$), X_4 (*ResPon*, $r=0.487$, $P<0.01$), X_5 (*AssUra*, $r=0.246$, $P<0.01$) and X_6 (*EmPat*, $r=0.093$, $P<0.05$) have significant positive correlation with overall opinion about service quality of hospitals (Y).

Multiple Regression Analysis of the Selected Variables with Factors Related to Overall Service Quality of Hospitals

S.No.	Factors	Standardized Co-efficients (β)	t-value	p-value	S/NS
	(Constant)		-14.946	.000**	S
1	<i>TanGib</i>	.366	15.28	.000**	S
2	<i>InForm</i>	.243	9.73	.000**	S
3	<i>ReLiab</i>	.414	16.997	.000**	S
4	<i>ResPon</i>	.190	8.35	.000**	S
5	<i>AssUra</i>	.232	13.62	.000**	S
6	<i>EmPat</i>	.095	5.56	.000**	S
	R	0.927			
	R ²	0.859			
	Sample size (N)	500			

Source: Primary Data **p < 0.01, *p < 0.05 S-Significant NS- Not significant

The adjusted R Square value tells that the model accounts for 94.7 percent of variance – a good model and the Standardized Beta Co-efficients give a measure of the contribution of each variable to the model. A larger value indicate that a unit change in this predictor variable has a large effect on the criterion variable. The t and Sig (p) values give a rough indication of the impact of each predictor variable, namely, *TanGib* (t- 15.28, p- 0.000, p< 0.01), *InForm* (t- 9.73, p- 0.000, p< 0.01), *ReLiab* (t- 16.99, p- 0.000, p< 0.01), *ResPon* (t- 8.35, p- 0.000, p< 0.01), *AssUra* (t- 13.62, p- 0.000, p< 0.01) and *EmPat* (t- 5.56, p- 0.000, p< 0.01). It is found that p value suggests that a predictor variable is having a large impact on the criterion variable.

3. ANOVA for Overall Service Quality of Hospitals

Model	Sum of Squares	df	Mean Square	F-value	p-value	S/NS
Regression	867.952	6	144.659	502.315	.000**	S
Residual	141.976	493	.288			
Total	1009.928	499				



**p <0.01, S-Significant : From the above ANOVA Analyses, it was found that all the variables are significantly contribute to overall opinion about Service Quality of the Hospitals, as the F-value 502.32, p value 0.00 which are also statistically significant.

4. GAP ANALYSIS FOR SERVICE QUALITY DIMENSION BETWEEN CUSTOMER EXPECTATION AND CUSTOMER PERCEPTION

1. AVERAGE GAP SCORE FOR SERVICE QUALITY DIMENSION – TANGIBILITY

The highest gap between expectations and perception exists at the position of the call for help button (0.385), Hygienic conditions of the Hospital (0.241), Cleanliness of operation theatre and instruments (0.202), Comfort of Hospital bed (0.217), could be a matter of concern at service quality dimension ‘Tangibility’. The lowest gap (0.005, -0.049, -0.042, -0.044, -0.034, -0.025, -0.098 and -0.026) exists between expectations and perception about Physical facilities .

2. AVERAGE GAP SCORE FOR SERVICE QUALITY DIMENSION – INFORMATION

The highest gap between expectations and perception which exists at Information about the purpose and result of any test (0.207), Patient profiling (ethnic monitoring) takes place within the hospital for all patients (0.128) and Availability of information about rights and responsibilities as a patient (0.111). These items could be a matter of concern at service quality dimension ‘Information’. And the lowest gap is -0.331, -0.050 and -0.021, -0.044, -0.034, -0.025, -0.098 and -0.026 exists between expectations and perception about Information given to patient

3 .AVERAGE GAP SCORE FOR SERVICE QUALITY DIMENSION – RELIABILITY

The highest gap between expectations and perception which exists at Nurses communication skill (0.293), Explanation about drugs from pharmacist (0.264), Nurses perform a service right at the first time (0.190), Doctors are willing to help the patients (0.179), Cost of Drugs and Medicines (0.150)’ and Availability of pharmacists in hospital pharmacy (0.251). The lowest gap (0.176, -0.131, -0.152, -0.102, -0.060, -0.228, -0.315, -0.223 and -0.018) exists between expectations and perception about Availability of expertise and skilled doctors.

4. AVERAGE GAP SCORE FOR SERVICE QUALITY DIMENSION – RESPONSIVENESS

The highest gap between expectations and perception exists at Availability of Feedback mechanism (0.214), Doctors are punctual when conducting their ward rounds (0.093), Nurses respond to a patient’s request immediately in the case of inconvenience or pain (0.049) and nursing staff know how to cope up with all types of patients (0.041). These items could be a matter of concern at service quality dimension ‘Responsiveness’, and the lowest gap is -0.062, -0.139, -0.079, -0.100, -0.086 and -0.055 exists between expectations and perception about Availability of efficient Administrative staff to deal patients’ queries, Communication skill of Registration staff, Service process of the registration, Doctors/staff efficiently respond to the patients, Nurses visit patients at



appropriate time and Discharge of patients is handled quickly and efficiently by administrative staff.

5 AVERAGE GAP SCORE FOR SERVICE QUALITY DIMENSION – ASSURANCE

The highest gap between expectations and perception exists at Nurses provide a clear explanation before giving medical care (For example, nurses provide an instruction before giving Intravenous (IV) fluid (0.184), Nurses provide a clear explanation of home medications upon discharge (0.156), Quality of food service (0.122), and Thorough investigations of the patient (0.105), This items could be a matter of concern at service quality dimension ‘assurance’. The lowest gap (0.054, -0.277, -0.087, 0.046, -0.093, -0.183, -0.030 and -0.019) exists between expectations and perception about Providing Service by the time promised, Doctors go for expert opinion in critical cases, Accuracy in lab reports.

AVERAGE GAP SCORE FOR SERVICE QUALITY DIMENSION – EMPATHY

The highest gap between expectations and perception exists at Nurses and doctors show empathetic facial expression (0.224), i.e., Nurses and doctors show empathetic facial expression could be a matter of concern at service quality dimension ‘Empathy’. And the lowest gap is -0.025 exists between expectations and perception about Hospital put their best efforts to provide comfort to patients.

FINDINGS: ANOVA FOR OVERALL SERVICE QUALITY OF HOSPITALS

In the overall ANOVA results, the step wise multiple regression models indicated that out of the explanatory variables under study, all the Variables significantly contribute to Y (Overall Opinion about Service Quality of Hospitals) which assesses the overall significance of this model (F-value 502.32, p value- 0.00, $p < 0.01$) and also statistically significant.

GAP ANALYSES

The gap analysis has been carried out by using sum of mean square. Gap analysis indicates that the mean score and standard deviation of respondent’s expectations and perception for each of the dimensions. A positive gap indicates that the respondent’s expectation of service attribute is more than their perception, while a negative gap indicates that the respondent’s perception exceeds their expectation.

Recommendations for Implementation

1. It is recommended that the internal environment of hospital should be made more convenient especially the registration section where long queues should be discouraged as a few patients complained about this problem,
2. It is recommended that proper training should be given to staff in which they should be taught how to receive and dispense the patients.
3. To deal with the problem of staff inadequacies, hospital management should strengthen its recruitment policies and it has to recognize the need to recruit and hire senior staff members who are willing, and have the necessary experience, to take risks and come up with challenging and innovative programmes,



4. Hospitals can use administrative databases to obtain quality-of-care information; the demands for clinically relevant data are increasing and may dictate the need for an electronic medical record,
5. Patient experience and satisfaction must be routinely examined and defined, and employees must be held accountable to constantly improve it,
6. Majority of patients want to make appointments online and fill out forms prior to their visit. Simple self-serve tools via mobile and Web platforms allow people to book and change appointments, access lab results, keep track of their medications and manage chronic conditions. Providing easy and convenient access to information that helps people manage their healthcare leads to a better patient experience, a more educated community and higher HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) scores for hospital,

Conclusion

The study on patient satisfaction showed that the determination of the satisfaction is very complex. It involves trust, patient characteristics as well as their perception to physicians and interpersonal skill, together with their perception whether or not they are responding appropriately to treatment. When the providers (nurse, doctor) were trusted and respected by the patients, their behavior should support and sustain this condition, because, once people repose faith in a health service, they continue it until their faith is lost. Good understanding between the hospital staff and patient usually means active participation.

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dkfom&19 idli vls thou&'lsh eaifjorü

MWveufk xlnijh
 I g vpk; ZI ðr
 jkt dh; ckkM+Lukrdkij egkfo | ky;]
 MhMokuk

Lkj

dkfom&19 ds idli l sigys gj dkbz l qg l s "lke rd ; k fQj jkr rd viuh ikQs kuy ftUnxh ea0; Lr jgrk FkA ixfr dk iðkuk vFZ rd l hfer FkA ifjokj] nkt.r] fj "rnkj ihNs Nwrs tk jgs FkA ge viuh l gr ij Hkh de /; ku nrs FkA yfdu vc l dkjRed cnyto nqkus dks fey jgs gA Hkh rh; [kkuiku l s ylx nj gls jgs FkA ; pk ih<h dks ikjEifjd [kks dk Lokn irk ugra FkA vc mlga bl dk Lokn Hkh vkus yxkA cktkj ds [kkuiku l s t/h chekfj; k ?KVus yxhA igys dh rjg dkbz Hkh j l kbz ea tur&ply i gudj tkus l sijgst djus yxs gA gekjs uelDkj & iz kke dks i jh nfu; k us l Øe.k ?KVus ea enn xkj ekuk gA ylxka dks ifjokj dk eglo l e>us vkus yxkA , d l kfk cBdj [kks ds Hkh dbz ykHk gA l eL; kvka dks Hkh ykdj ruko jgr eu l s Hkktu xg.k djrs gA bl l s ikpu o gkeku l s t/h jlxka l scpko glerk gA dlj ksk ok; j l ds l Øe.k l s vk; pn ds ul [l s ij Hkjd k c<k gA jlx&ifrjokd {kerk c<kus ds fy, ge vk; pn dks viukus yxs gA xpxuk ikuh ihuk yxs gA ued ds xjks dj jgs gA rFk dk<k ih jgs gA nrh&ukuh ds ul [kka dks viuk jgs gA bl l s Hkfo'; ea ylxka dh l gr o jlx&ifrjokd {kerk ea l dkj gskA ykMmku ea gea idfr dks utnid l s tkus dk vol j feyrk gA ylxka ea jpulRedrk vls l dkjRedrk c<h gA mlgaus fdrka i<e; yfku , oa fp=dkjh tS s ijkus "k&ka dks nkskj l s thou dk fgl l c uk fy; k gA gekjs ?kj&ifjokj ea chrs tekus dh thou&'lsh] [kku&iku ds l ðkj Lus c<kus ds l kfk ea l grem Hkh j [krs Fis ; sQj l s thou dk fgl l c ku jgs gA dkfom&19 ds l Øe.k l s ylxka dh fnup; k fu; fer gplz gA ftu ylxka ds ikl nplu jst xkj ds dkj.k ; lx&ik.k; ke vkn ds fy, l e; ugra Fk , d s ylxka us Hkh LoLFK jgus ds fy, ; lx&ik.k; ke vkn ds viuk; k gA dkfom&19 ds idli l s fi Nys fnula gVZ vVl] cu LVkd vls nll jh bej t l h ds keys de gq gA bl dh dbz otga gks l drh gA bl ea Hkx nM+ de gkskj i ; k r uhn ysuk ifjokj ds l kfk jguk vkn gA Nk/h&Nk/h l eL; kvka dks ydj ijs kku gksus okyh ; pk ih<h dks Hkh fu; fer fnup; k l s ekul d etarh feyh gA dny orëku dks gh l c dN ekuus okys ; pkvka dks l e> ea vk x; k gsd Hkfo'; dks Hkh /; ku ea j [kuk t: jh gA bl ea ?kj ds cM≻ qk dk l kfk o l ykg Hkh dk Qh enn xkj jgh gA dbz ; pkvka dh u"ls dh yr Hkh Nw xbz gA ^{1/2}, d s ylx t s dkdect dh 0; Lrrk ds dkj.k vius vki & ikl ds ylxka dks i gpkurs ugra Fis os Hkh vc vki l h l okn djus yxk

dkfom&19 ds l dkjRed i hko %

1/2 LoLF; tkx: drk %

dkfom&19 l Øe.k dks jlx ds fy, yxk, x, ykMmku ea ylxka dh thou&'lsh ea LoLF; tkx: drk ds l kfk cM&l kekt d cnyto vk, gA jlx&ifrjokd {kerk c<kus grrq ylxka us xpxuk ikuh ihuk vkjEHK dj fn; k gA 30 feuV rd ifrfnu ; lskl u /; ku] ik.k; ke vkn djuk ikjEHK dj fn; k gA el kyka tS s gYnh] thjk /fu; k vls ygl u dk Hkktu ea iz lx djuk ikjEHK dj fn; k gA gvd] l q kP; vls i kVd Hkktu [kku ikjEHK dj fn; k gA xj'B , oa r y h&Hkph pht ka dk iz lx can dj fn; k gA 7&8 ?k.Vs ifrfnu uhn ysuk ikjEHK dj fn; k gA ylxka us ifrfnu nls ckj Luku djuk ikjEHK dj fn; k gA 0; fDrx LoPNrk ij /; ku nsuk vkjEHK dj fn; k gA ckj&ckj 20 l bl.M rd l kcu vls ikuh l sfnu ea dbz ckj gkfk /kuk vkjEHK dj fn; k gA ifjokj ds l kfk vfk d l e; ferkuk vkjEHK dj fn; ka l c bmlg xl [l syus yxs vls i e l s jgus yxkA ylxka us P; ouik" k dk l ou vkjEHK dj fn; k gA gcy pk; dk iz lx ikjEHK dj fn; k gA ryl h] nkyphuh] dkyh fep] l kb vls epu Dck l s cus dk<s dks fnu ea , d ; k nls ckj ysuk vkjEHK dj fn; k gA gYnh Mkydj nll ihuk ikjEHK dj fn; k gA ylxka us [ktj] vatj] l kcpkuk] xlp epk dh nky] tks vls l fct; ka ds l i dk vfkdkfkd iz lx djus yxs gft l s mudh bE; quVh vFk& jlx&ifrjokd {kerk c<us



yxh gA dlykuk ok; jI l s yMlus ea fOygy l cl s t : jh gS fd ge gejs 'kjhj dls okroj.k ds vuophy <kyus dk iz kl dja vc rd ylr glrh thou iztkfr; ka dk dkj.k ikdfird vki nkvla dls ekuk tkrk jgk gA tS sMk; ukd kly ds ylr gkus dk dkj.k mYdkfi m ekus tkrsgA gea ; g l e>uk glsck fd /kjrj gekjh ek gS ; gk ij foHklu izklj ds ok; jI l fgr foHklu tho&tLrj l f&e&tho i kSs vkfn l kF&l kFk tle yrs gA vlg thou 0; rhr djrs gA ; gk 'kDr' kkyh gh thfor jgsk dk fl) klr ykxw ugha gkrkA l kj ; g gS fd l d kj ijLij l kFk jguS vki l h l e) rk ds l kFk Lo; a bu l kjh ij f l Fkfr; ka ds vuophy <kyus ds fy, gA gekjh vuophy' khyrk dk l h/kl l cak l f&e&tho; ka tS scDVhfj; k vlg ok; jI l s gsrk gA ok; jI l scplo ds fy, ifrj ksh ra= etar gskuk plfg, A bl ds fy, foVkeu Mh t: jh gS tks /kii l s feyrk gA jst ulng feuV /kii ea cBuk ; k ?kuk plfg, A

dlykuk l scplo ds ifr NkV's cPpla l sydj gj oxZ ds ykxla ea tlx: drk vkbZ gA vffloknu dk rjhdk fny x; k gA dlykuk l Øe.k l s i mZ i n k .k ds ckn Hkh ylx ekld yxkdj ?kj l sckgj ugha fudyrs fny yfdu vc T; knkrj ylx ekld yxkdj ?kj l sckgj fudyrs gA gj ?kj ea l s s/kbtj dh dory utj vkus yxh gA ylx clj&ckj gkFk Hkh /kksus yxA l Øe.k l s i mZ ylx gkFk feyk dj vlg xys yxkdj vRrh; rk l s feyrs Fla vc ylx l kelftd njih dh iyuk djrs gA gkFk feykuk NkM+fn; k vc gkFk t k l e j vffloknu djrs gA

i; kbj. k&l j k k ij cy % dlykuk yxkrkj clj&ckj dg jgk gS fd fi Nys 10 g tkj l ky ea geus ftruk fodkl fd: k gS ml ea gh gejs fouk'k ds cht fNi s gA ml l s gkFk [khpuk glsckA eult; vlg eult; ds chp nks xt dh njih u j [k h tk l dS, d h ?kuih vki nh ds egkxj er cukvla tc ge ty vlg ok; qea ifjorZu dja rks i; kbj.k ea ifjorZu glsck gh D; kld ; s l c , d l m f y r p Ø ea c k dj pyrs gA x f .kr ds i es dh rjg ; g Lor% fl) vo/kj .k gS fd gok ea tc Hkh dlcu dh ek=k c<sch) i ; kbj.k ea ml dh ifr Ø; k glsckA dlcu dh ek=k c<sch rks idfr ea t g k Hkh cQZ glsck og fi ?kyxchA igkM+fi ?kyxk' Xy'k ; j fi ?kyxka rks l epz dk ty&Lrj c<schA l epz viuh gna rM+ /kjrj ij p<+vk, xk vlg xlp&egYy' uxj&nsk l c 'kuss' kus Mers tk; sA bl dk vl j /kjrj ij glsck) ufn; k&l epna dh ikuh dh l rg ij Hkh glsck vlg xHkZ ea Hkh glsckA bl dk vl j /kjrj ds uhps dh nfu; k ij Hkh glsckA Ql ya e j a h j Qy&Omy dk l d kj mtM&kl vdy glsck) rOku glsck) HndEi glsckA bruk gh ugha glsckA dlykuk dh rjg ds reke u, &vtuch j k xla dk geyk glsckA l kjs ok; jI tyok; qifjorZu dh l arkuaga tyok; qifjorZu viuh l arkuaga dls ik. kh&t x r -rd i g p r k gS vlg os u, &u, ok; jI ka ds okgd cu tkrsgA vHkh ge [kst jgs gS fd dlykuk fd l ik. kh l s gsdj gejs ikl i g p k j g h g s c h A l k j k l d k j v k t d l y k u k d h p k n j r y s d l e l j g k g r s i d l r l o j r h t k j g h g A t y v l g ok; q n k s u l a / k y & i j n j g s g A x a k v i u s m n x e l s y d j u h p s r d t S h l l Q g p Z g S o h l l Q x a k g e u s d H h u g h a n s k h F k h f g e k y ; d h p k V ; k j n j l s u t j v k u s y x h g S v l g g e k j h f [k M f d ; k a l s , d s i n h f n [k b z n u s y x s g S f t l g a g e u s y l r d h J s k h e a M k y j [k F k A ; g l c b l f y , g l s j g k g S f d g e v i u k f o d k l y d j t j k i h N s g v x , g A g e g v s r t s i d f r v i u s d k e i j y x x b z g A b l f y , u i ; k b j . k c p k u s d h t : j r g S u / k j r h A t : j r g S y k k o } s k l s H k j h v i u h t h o u & ' k y h c n y u s d h A e r y c v i u k d l c u & t k y l e v y a u s d h j l k x j a d l s N i s k v l g v k l e k u d l s A p k y k d j u s o k y k d k b z H k h d k e g e j s f g r e a f c Y d y u g h a g A i k . k h t x r v l g e u l j ; t x r v i u s v i u s n k ; j s e a n k s x t d h n j h c u l d j g h j g a D ; k l d b u d k l g t h o u ' k k g S v ' H k g S b u d k , d & n i j s e a j g u A % 2 %

doy dlykuk ok; jI gh ugha c f y d d g u k p l f g , f d g e k j h / k j r h i j o k ; j I d k ; g p l f k k c M k g e y k g A b l l s i g y s g e l k l j , p & t j , u & t v l g e l z d s g e y s H k h > y p u p s g A ; s l H k h o k ; j I t k u o j k a d s e k ; e l s e k u o " k j h j e a v k , g A b l v k / k j i j d g l d r s g S f d i d f r g e a d n b " k j k d j j g h g A " k ; n g e a f u ; l = . k e a j g u s d k l n s k n s j g h g A b l e a d k b z l a n g u g h a g s i ; k b j . k v l a r y u d k g e g h e f ; d k j . k g A g e u a g h t a y l a d l s u V f d ; k A g e H k h u e h o k y h t x g a d l s < d r s t k j g s g A g e g h t a y h t a y l a d s l d j e a ? k j g S v l g g e m l g a H k s t u d k f g l l k c u k j g s g A , d s e a g l s l d r k g S f d l e p k i ; k b j . k r a = l a r y u l F k f i r d j u s d s f y , f y g k t l s v f / k d o k ; j I N k M + j g k g A g e a b l c r d k / ; k u j [k u k p l f g , f d n f u ; k d o y f u t h / k u & v t Z u d s c k j s e a u g h a g A i j h n f u ; k , d c k t k j H k h u g h a g A g e k j s i k l i f j o k j g A g e k j s i k l n k r g S g e k j s i k l l e k t g S v l g g e m l g a y k k ; k g f u d s r i g d s l a n H k z e a m u d k e w ; k a u u g h a d j l d r s v l g ; g B h d g A g e m u d s e w ; d l s v y x & v y x r j g l s e k i r s H k h g A g e a / ; k u j [k u k p l f g , f d i d f r g e a c g r d n i n k u d j r h g A g e m l d h v i f f i d y x r d k v u e k u m l d h l o k v l a d l s [k s n u s d s v k / k j i j y x k l d r s g A f d l h H k h o l r q d h d h e r y x k d j y k k d s f y , v a k h & n k M + e l [k a d k d k e g S v l g n k k z ; l s l d k j e a , d k d n T ; k n k g h g l s j g k g A g e a l e > u k g h g l s c k f d g j p l t



dls i s ka ea ugha rlyk tk l drka ;fn ge ; g plgrs gā fd ol; thoka ds cktkj ugha yxa rls bl ds fy, fu; e cuk, A nsk cnys vls fQj nf[k, fd cktkj Hh fdl rjg l s cnysrsg vls [kn dls 0; flFkr djrs gā cgr dfBu dk; Z ugha gā egkekjh us gea bu phrka ds ckjs ea l kpus dk vol j fn; k gā cnys gkyr ea ekuo l ekt ds fy, ubz l kp ds mnHko dk l e; vk pprk gā ; g l kp Hh HkkoukRed vls ckj d : i l s dN vyx gschA n[tk tk, rls ge chrs fnuka ea ugha ykV l drā gea LFk; h txyk d f k ds cgrj mri kn vls ; krk; kr ds l kozfud l k/kuka ds ckjs ea T; knk l kpuk gsch tks t: jh ugha fd futh gā^{10/2}

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dkōM&19 ds l Øe.k l s cpus ds fy, geus vkus vki dls Bid jgus ds fy, rkth gok vls /m l s dV fy; k gsge ?kj ka eacn gls x, gā gea; kn j [kuk plfg, tkrh gok vls l j t dh jkskuh Hkxoku dh vls l s gekjs fy, nls vuely mi gkj gā vls ,/h ok; jy gā bruk gh ugha ; s nuka gekjh jlsx ifrjkd {ker dls c<kus ea egloi wkz Hkiedk fuhkr s gā ykMlMku ds n[sk ku ylx (YM “kqj] YM i skj] otu dh l el; k vls vol kn l s i hMf r glsr gā vol kn dh nj c<h gā eryc gsf ykMlMku i k/ckkly dh otg l s ylx chekj i M+ jgs gā de l s de 1@3 ylx viuh ukdjh [kus dh fpark dj jgs gā bckukRed vbl el dk dguk gs fd 30 ifr “kr Hkjr h; vkcnh viuh ukdjh [kus dh dxkj ij g, d h flFkr ea ol c vol kn l s i hMf r gls tk, xA

dkōM&19 ds l Øe.k l s i pkl h Jfedka ds l keus bl oDr cMk l dV jst xkj dk gā , d cMk l dV ; g Hh gsf d l jdkj jkj Hkys gh blga eujsk ea jst xkj nus dk iz kl fd; k tk, yfdu , d rjg l s ifjokj ka ea efgyvkā dk jst xkj Hh eujsk l s fNu x; k gā vc rd ?kj l s ckj jg jgs iq ‘k mudh txg dke ij yx x, gā efgyvkā dk jst xkj fNu x; k gā

çqā ea LokF; l EclVh l el; k; % egkekjh ds n[sk ku çqā ea dbz rjg dh l el; k; i keus vkbz gā ?kj ij vdy s jgus ds dkj. k 0; k; ke dh deh l s mudh ijkuh chekj; k vls xdkj gls tkrh gā bl fy, mlgā vyx&Fkyx u Nk/ka vls l g; l x dja ylx ka l s skrphr ugha dj i kus l s ruko] vfunk vls Hk f k ugha yxrhā budh n[Hkky ds fy, , d h izkkyh fodl r gsrkd ofe dy oDr ea vli; ylx ka l s l Eicl dj l dā

efgyvkā ij dkōM&19 dk n[f j. ke % fo”o LokF; l xBu ds vuq kj fo”o ea 70 ifr “kr LokF; dk; Zbriz efgyk, j gh gā efgyk LokF; dk; Zbriz ?kj ds dke&dkt ds n[sk ku thoul kFkh] cPka vls çqā dh n[Hkky djus okyh i k fkd n[Hkky driz Hh gsrh gā efgyk, j ?kj ij n[Hkky l s l EclV/kr v f/ckk/ k dk; Z d jrh gā vls ofe od LokF; depkfj; ka ds cgr dls cukrh gā iq ‘k ?kj ds dkeā ea mudh enn ugha djrs gā efgyk LokF; dk; Zbriz vius dk; LFky ea iq ‘ka dh ryuk ea dk; Z de djrh gā , d h vl eukur, j vDl j c<+ tkrh gā t c LokF; depkfj; ka dls ?k/ka dke djuk i Mf k gs vls t s & t s l ā k/ku de gksr tkr s gā efgyk, j egkekjh ds i Hko ds fy, fo”sk : i l s detkj gsrh gs pgs og vkt hfodk ds 0; o/kku ea gls vfuf”pr l e fku izkkyh ubz vfuf”prrvkva vls vo fud Je dk Hkjh cks> gā ?kj ka ea cPka dls Hh vrfjDr l gk; rk dh vlo”; drk gsrh gā ?kj ds dke dls l k>k djus ds fy, iq ‘ka dls l k s ky e hM; k jkj i s j r fd; k tk l drk gā ykMlMku ds n[sk ku iq ‘ka jkj ?kj ij gh jgus l s efgyvkā ij ?kjsyfgd k dh ?kVuk; a c<+ xbz gā ofe od Lrj ij ?kjsyfgd k ds ekyā es rst ofe efgyvkā vls yMfd; ka dls “kjh fjd vls HkkoukRed “ksk. k ds xrZ ea Mkyrh gā çjst xkj] ukdjh dh vl j {k vls vfuf”prdky ds fy, cn jgus sekul d ruko c<rk gsf l ds OyLo: i “kjk vls u”knyh nokva dh [kir c<+ tkrh gā Hkjr ea jkVh; efgyk vk; l x dls ?kjsyfgd k dh 123 f”kdk; rafeyh vls 4 ekpZ l s 23 ekpZ 2020 ds chp 370 dN/ vkbā

vuk plfjd vF0; oLFk ea egkekjh ds izkā dk efgyvkā ij Hkjh fouk”kdkjh i Hko i Mf k gs tks Nk/s efgyvkā ds Lokfero okys xteh. k 0; oLFk vls [k | l j {k} ekr LokF;] f”k”kqER; qnj vls Hkfo; dh i hf<+ ka ds l “kād j. k ea i x r dls vli kuh l s myV l drk gā v f/kd l eku nfu; k ds fy, dkōM&19 egkekjh l s i rk pyr k gsf d fyak; k; l fuf”pr djuk , d t: jh dke gā dls k uk ok; j l ; p k efgyvkā ds d j ; j dls Hh i Hkkr dj jgk gā oru v r j] fyak i m k g vls n[Hkky dh vi skrvka ds chp efgyk, j , d upl ku ea gā nfu; k Hk j ea yk [ka ylx ukdjh; ka dh deh l s i hMf r gā muds oru ead vks h dh tk jgh gā oru vls mUfr nuka ekeys ea efgyvkā ds fy, vius iq ‘k l g; k s x; ka dls i dMek yxHx vl Hko cuk nskA l x jsk ds n[sk ku muds c<+ ekr k f r k vls Nk/s cPps mlgā Hkqrku djus okys dke l s nj y s tkr s gā yskd l eukur] dk; LFky fu i {krk} l Hh ds fy, l j f {kr vls l eeku tud dk; LFkyā dk fuel k djus ds ; s epns dkōM&19 ds izkā ds i “pkr-mHk j dj l keus vk, gā bl l dV ds n[sk ku vius d j ; j dls tkjh j [kus ds fy, vrfjā ck/kvka dk l keuk djuk i M+ jgk gā^{10/2}



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- ¾¾ www.outlookindia.com – The Gendered Impact of corona Virus Pandemic in India.



DRIVER'S DROWSINESS DETECTION SYSTEM

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Abstract

In recent years, driver fatigue is one of the major causes of vehicle accidents in the world. A direct way of measuring driver fatigue is measuring the state of the driver i.e. drowsiness. So it is very important to detect the drowsiness of the driver to save life and property. This project is aimed towards developing a prototype of drowsiness detection system. This system is a real time system which captures image continuously and measures the state of the eye according to the desired algorithm and provides warning if required. Though there are several methods for measuring the drowsiness but this approach is completely non-intrusive which does not affect the driver in any way, hence giving the exact condition of the driver.

For detection of drowsiness, EAR (Eye Aspect Ratio) is considered. So when the EAR exceeds a certain amount then the driver is identified to be sleepy. For implementing this system several OpenCV libraries are used including NUMPY. The entire system is implemented using Raspberry-Pi.

Keywords: EAR, OpenCV, NUMPY, Raspberry Pi, etc.

Introduction

In recent years, driving has become an important part of our day-to-day life, especially in urban areas sleepiness-related accidents are occurring infrequent [1]. Road accidents are apparently a global hazard in our country. Based on the survey of the National Crime Records Bureau (NCRB) about 1,35,000 traffic-related demise happen every year in India. These factors lead to the development of Intelligent Transportation System (ITS). If the accident caused by abnormalities of the driver, it can be prevented by placing abnormality detecting system within the vehicle [2].

Tiredness can be caused by several phenomena like psychosocial factors, health factors, and physiological factors [3]. Based on the survey of National Highway Traffic Safety Administration of the United States of America (USA), police studied around 1,00,000 crashes occurred due to the drowsiness of the driver, it causes major losses like 71,000 wounds, \$12.5 billion budgetary mishap and 1,550 passing's [4]. The issues can be overcome by implementing several methods which include Support Vector Machines (SVM), fuzzy-based system, neuro-fuzzy approach and Artificial Neural Networks (ANN) [5] for detecting the drowsiness. It is difficult to correctly say about an exact



number of sleep-related accidents, but traffic research shows up to 20% of accidents happen due to fatigue of the driver [6]. Drowsiness detection can be carried out by two techniques. The first technique is intrusive and second is non-intrusive. The intrusive technique involves computation of mind wave monitoring, heart-beat rate etc.

Non-invasive techniques are appropriate to find facial appearance for tiredness detection. Mouth gaping and Eye closure are the well-known symptoms of the drowsiness detection [7]. The non-intrusive technique involves head pose, eye blinking rate, yawn detection, eye closure, etc., [8]. Another non-invasive way to detect fatigue can be divided into three scenarios: visual cues, physiological measurements, driving performance. Physiological and visual cues involve direct computation, whereas driving performance involves indirect computation [9]. It is suitable for the real-time application, because of no need for sensing electrodes. Automatic eye detection in video sequence involves several methods like motion estimation within the eye. The eye region is evaluated by sparse tracking, adaptive thresholding or by frame-to-frame intensity variation and from optical flow [10].

The driver fatigue is detected using computer vision [11]. The driver fatigue is determined by the frequency of eye blinking and head tilting and the drowsiness level is calculated by Raspberry Pi3 along with a Pi camera. The experiment is administrated on ten volunteers under different lighting conditions and that they obtain face and eye detection rate up to 99.59%. Real-time video-based vision processing method is recommended to estimate fatigue of the driver and a buzzer is used to alert the driver. Relative Areal Ratio (RAR) is used to identify facial landmarks and to calculate six landmark points between each eye. Driver fatigue is monitored by serially interfacing Raspberry Pi board loaded with Raspbian OS to Arduino Uno, and 8-megapixels digital USB camera.

Literature Review

Ovidiu Stan et.al. Says in the paper [1] “Eye-Gaze Tracking Method Driven by Raspberry PI Applicable in Automotive Traffic Safety” that This paper comes as a response to the fact that, lately, more and more accidents are caused by people who fall asleep at the wheel. Eye tracking is one of the most important aspects in driver assistance systems since human eyes hold much information regarding the driver's state, like attention level, gaze and fatigue level. The number of times the subject blinks will be taken into account for identification of the subject's drowsiness. Also the direction of where the user is looking will be estimated according to the location of the user's eye gaze. The developed algorithm was implemented on a Raspberry Pi board in order to create a portable system. The main determination of this project is to conceive an active eye tracking based system, which focuses on the drowsiness detection amongst fatigue related deficiencies in driving.

Kulkarni S. S. et.al. Says in the paper [2] “Application of raspberry pi based embedded system for real time protection against road accidents due to driver's drowsiness and/or drunk and drive cases” that Present work deals with the application of

raspberry pi CPU based sensing system to the detection of driver's lethargy and alcoholism in order to avoid the road accidents. The embedded system consists of 5-megapixel digital camera, alcohol detection sensor and the buzzer interfaced to the microcontroller. The embedded system is controlled by Raspbian operating system. The system detects real time situation of the driver's vigilance and control over the vehicle. If alcoholic and / or drowsiness tests are positive, it Page 777 switches on the alarm, (ii) turn off the vehicle's engine via microcontroller based program controlling ignition power source and (iii) sends a SMS to the person close to the driver's location.

Methodology

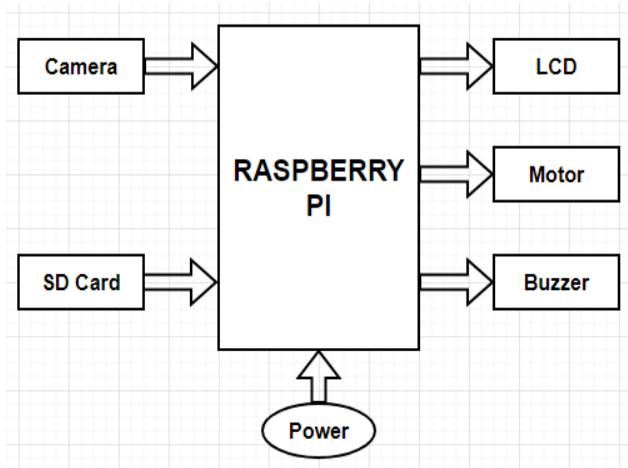


Fig 1. System Architecture

The hardware used is Raspberry Pi. So little description of the used hardware with its features and its installation and setup procedure also are described. For conducting these libraries of OpenCV is used. Different "*.xml" files of OpenCV is operated on the input and produce the desired result. The "*.xml" files written for drowsiness detection includes face and eye detection which basically done by algorithm developed by Viola-Jones. Those algorithms include numpy, Formation of integral Image, Adaboost and Cascading. Theoretical part of all those features are described briefly.

Driver drowsiness detection system is implemented using picture processing to detect drowsiness of the driver. These applications are often terribly helpful to reduce the accidents, because most accidents happen because of drowsiness of drivers. With use of this application the driver's status can be monitored while motor is ON, like yawning, fatigue, closure of eyes etc. The status of driver's face is continuously monitored using the camera. The alarm would be used to give an alert and motor will be turned OFF, if any sign of drowsiness is detected.

Results and Discussions

Hardware Implementation of the project (interfacing of camera and LCD with Raspberry Pi) is shown below:

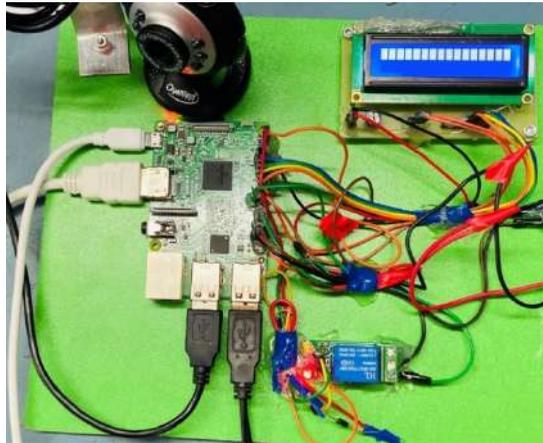


Fig 2. Interfacing of hardware

Prototype of drowsiness detection system was designed and coded in python language. It was tested with different subjects and different condition like straight and tilted head and photo copy of the output was shown below.

NUMPY Observations:

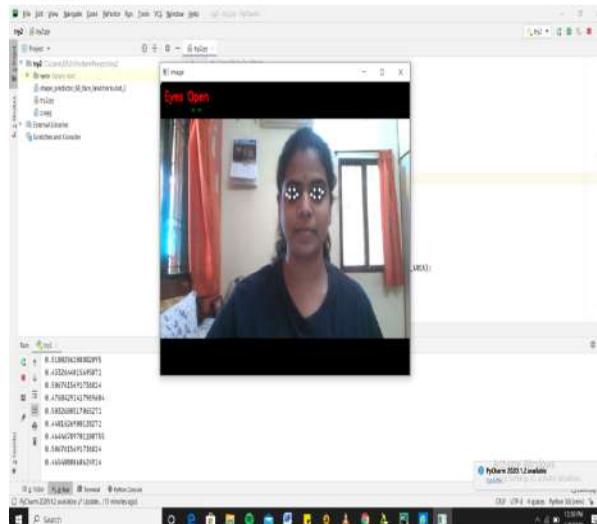


Fig 3. Eye in open state with head position= straight. Circle around the eye.

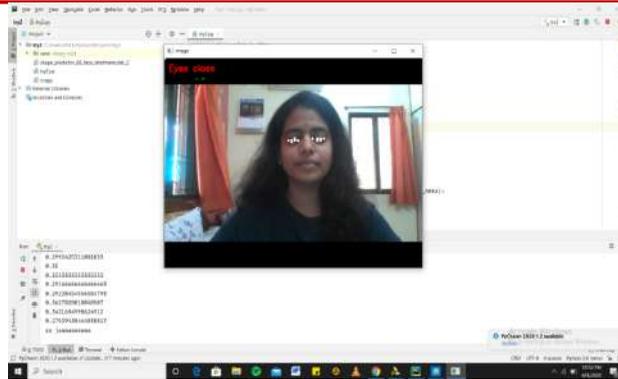


Fig 4. Eye in closed state with head position= straight. Drowsiness Detected



Fig 5. Eye in open state with head position= Tilted (left).



Fig 6. Eye in closed state with head position= Tilted (left).



Fig 7. Eye in open state with head position= Tilted (Right).

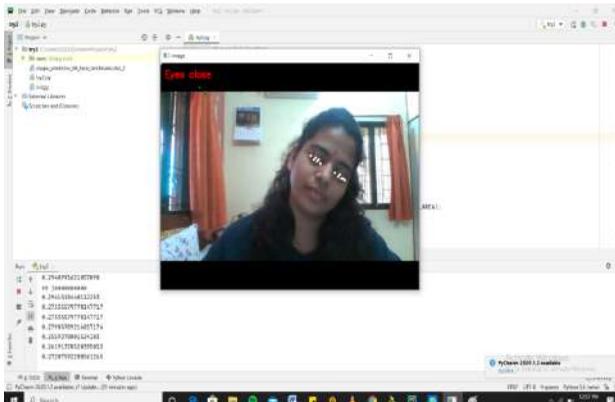


Fig 8. Eye in closed state with head position= Tilted (Right).

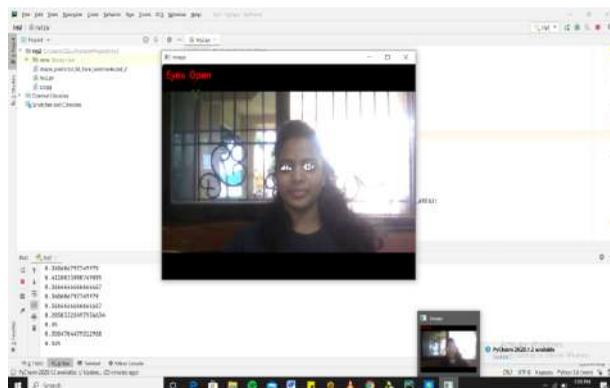


Fig 9. Eye in open state with head position= straight and excess amount of light in the background. Circle around the eye.

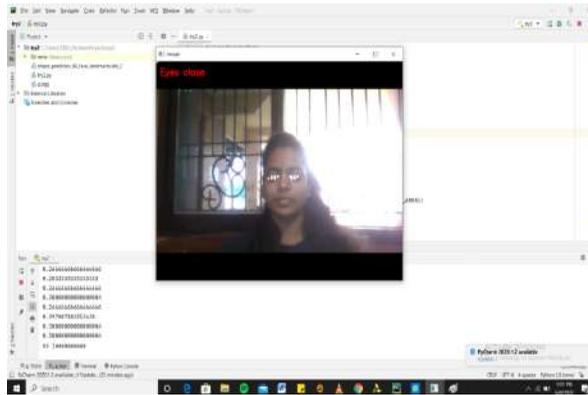


Fig 10. Eye in close state with head position= straight and excess amount of light in the background indicating Drowsiness alert.

HAAR CASCADES Observations:

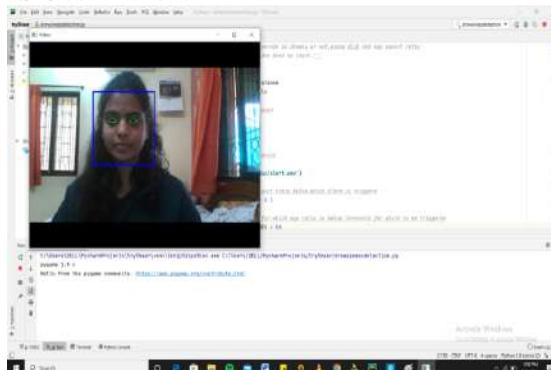


Fig 11. Eye in open state with head position= straight.

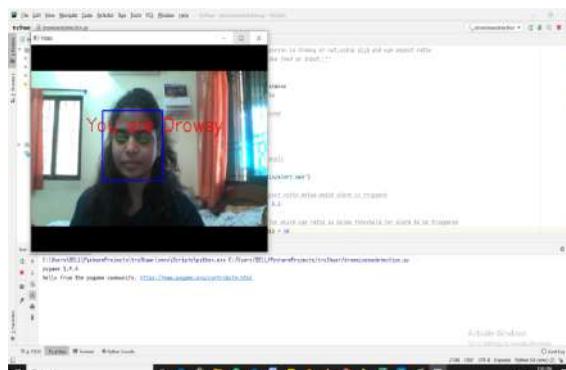


Fig 11. Eye in closed state with head position= straight. (Drowsiness Detected)

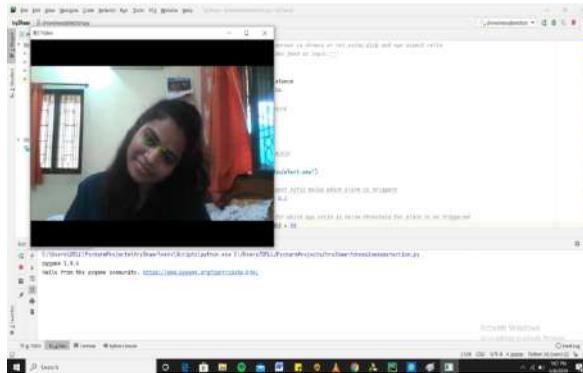


Fig 12. Eye in open state with head position= Tilted (right).

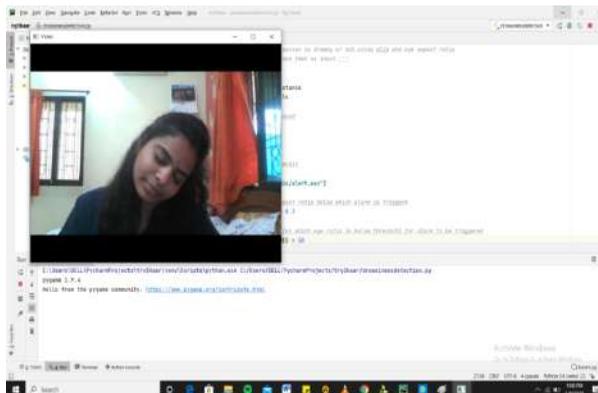


Fig 13. Eye in close state with head position= Tilted (right).

OBSERVATION TABLE:

Here,

N-1=NUMPY Algorithm

HC-1=HAARCASCADE Algorithm



Types Of Images	No. Of Images	Face Detection Accuracy (%%)		Eye Detection Accuracy (%%)		Drowsiness Detection Accuracy (%%)	
		N-1	HC-1	NC-1	HC-1	N-1	HC-1
Head straight	100	100%	100%	99%	98%	97%	97%
Tilted Head	100	100%	98%	100%	95%	99%	94%
Excess Light	100	99%	93%	97%	90%	97%	89%
Less Light	100	98%	52%	95%	51%	93%	48%
Average	-	99.25%	85.75%	97.75%	83.5%	96.5%	82%

Types Of Images	No. Of Images	Execution-Time (ms)	
		N-1	HC-1
Head Straight	100	13.08ms	27.65ms
Tilted Head	100	14.02ms	28ms
Excess Light	100	16.78ms	30.43ms
Less Light	100	20.00ms	31.23ms
Average	-	15.97ms	29.32ms

Conclusion

It is important to maintain the safety of a driver to avoid accidents. Controlling or monitoring the state of driver reduces accident rate. Therefore, the system is introduced to detect driver's drowsiness and so to reduce accidents by giving an alarm. Above table shows the comparison between N-1(NUMPY) and HC-1(HAARCASCADE) is done on the basis of accuracy and execution time.

As seen from the table, Accuracy of NUMPY algorithm is higher as compared to HAARCASCADE algorithm i.e. Drowsiness Detection Rate:



- 1) NUMPY: 96.5%
- 2) HAARCASCADE: 82.00%

Execution Time of NUMPY algorithm is less as compared to HAARCASCADE algorithm i.e. Execution Time (measured in milliseconds(ms)):

- 1) NUMPY: 15.97ms
- 2) HAARCASCADE: 29.32ms

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BRAND AND BRANDING: HELPING MANUFACTURES ACHIEVE CONSUMER PREFERENCE

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A brand is the set of expectations, memories, stories and relationships that, taken together, account for a consumer's decision to choose one product or service over another. – Seth Godin

ABSTRACT

In today's changing world, customers are verging upon modern, stylish and fashionable products. Everyday consumers make purchase decisions by selecting among large sets of related products. Different individual consumers may approach purchase decisions with diverse mind sets that can affect their purchase behavior. Hence, Brand Image has critical influence on consumer products and services preferences.

An enterprise can have a significant impact on its business through the creation of their own brand. Nowadays, Brands are everywhere- in stores, in print and electronic media, and at the internet. Everyone remembers a good brand. A company's brand is more than just its logo. It is what an organization externally projects and how the company portrays to its potential clients for what they are about, what they value, and what we can expect from their product or service.

The scope of this paper is to determine the importance and portray the main challenges that companies face in the process of managing their brands, specifically in a recessionary environment, as well as suggest strategies and possible conducts that help companies' managers to overcome the difficulties encountered. The company mainly prefers to compete by producing quality products for different market segments by building its brand. The paper will explicitly examine brands and branding, their history, how they are created and managed, what their importance is and what value do they create for customers. Brand Management is a process that encompasses every part, bit and employee of the company to arrest the true essence of the brand.

Keywords:- Brands and Branding, social Responsibility, Brand Management, Brand Communication and Brand Strategy.

INTRODUCTION

Everyone is driven by values, emotions, promises and quality hidden within the product. Collectively it can be called as a **Brand**. Brands are so much more than just a name. It has been recognised by many corporate leaders, who have adapted complex and fundamental brand management approaches to run their companies and their brands



towards success. A brand is not only something that incorporates the product, name, or logo, rather it is a concept that drives the whole organisation and thought processes associated with it in one direction. Hence, it is a combination of communication and action (**RadikaaliBrändi; Malmelin, Hakala 2008**). The main aim of this paper is to focus on how and why a company should invest time, effort and money into developing the brand and how it can create value for the company for years and decades to come. The paper also highlights how brands can be shaped into forming an emotional connection with the customer. A variety of studies that attempt to describe the factors which influence consumers and their behavior when making purchasing decisions have been conducted. The objective of the investigation of consumer behaviour is to discover patterns of consumers' attitudes in their decisions to buy or to miss a product (**Matsatsinis, Samaras, 2000**). According to Brand Experts, Brand Image is the current view of the customers about a brand. It may be described as a unique bundle of brand associations within the minds of target customers. It signifies what the brand presently stands for. However, the brand image consists of various associations in consumers' mind - benefits and attributes. Brand attributes are the functional and psychological connections that the customers have with the brand.

We can categorize the benefits of creating the brand value mainly into three sets: Functional benefits - what do you do better (than others); emotional benefits - how do you make me feel better (than others); and rational benefits/support - why do I believe you (more than others). Hence, brand attributes are the consumers' overall assessment of a brand. A brand is the emotion that people associate a business with. A brand is almost the result of how your audience feels when they come across your business. It's how your customers feel when they do business with you. It is what they take away after coming across you on Instagram, reading a blog post, receiving an email, working with you in-personal or purchasing a product. It's the words and emotions they use to describe your business to friends, family and colleagues. In short, we can say that "**Your brand is whatever your customer says it is**". Finally, the findings of the studies indicate a uniform knowledge of what the brand stands for and how it will be communicated to the general public and serve as a framework for strategic decision-making for the company management and employees.

BRAND MANAGEMENT: CREATING AND SUSTAINING SUPERIOR PERFORMANCE

Brands have a long history. It's not something that was created in the process of industrialization or the emergence of the capitalist economy. It involves differentiating the company's products or services from the existing ones through added value. Brand is generated by implementing the processes that are aligned with sustainable development, or creating customer loyalty through differentiating the products or services of the company as something different. Creating value for customers and portraying a specific image of the company is the sole responsibility of the marketing function. However, today consumers are highly conscious of what they buy and which



company they support. On the other hand, Branding is the responsibility of the marketing department, a way to increase sales for the company through the pre-selling of the product with novel ideas and mindsets.

Meanwhile, Brands have always been related to the marketing department. Taking the clock about 20 years back, most retailers did not even have a proper marketing department. Even if they did, the department was responsible for little more than regulating store-opening launch parties. But in the early 1990s, things started to change. The previous commoditization of product quality was followed by an almost equal push for making real brands. One by one the big retailers started to realize and analyze that they had an opportunity to play the branding game and that by selling more, higher quality, but particularly better-branded products, they could not only dramatically improve their margin mix, but that they could raise or promote the profile and reputation of their own brand as a whole.

As per the traditional approach, if we try understanding Brand Management. It is the backbone of the brand, central guiding idea and the “DNA” of the company. Every detail of the company has to be in line with the brand in order to deliver maximum value to the customer. Finally, *the ultimate embodiment of the brand is the central governing figure, the CEO and all the employees of the company.*

Brand alignment should be an essential factor for selecting employees for the company as well as organizing training for learning the best practices on how to provide service and communicate with customers that best portrays and delivers the brand experience. Looking at the recent developments in the world- Wal-Mart’s recent rebranding and introduction of many private labeled product lines is a sign of what’s coming up. And this development is not limited to retailer brands but is now getting common with fast moving consumer goods market. Similarly, the rapid rise of a mobile phone brand like HTC from a private (OEM) label supplier just three years ago to a major player today, as well as the very strong ascension of brands like Haier in household products and LG in the TV market show that a little bit of marketing knowledge can also go a long way to building strong brands. Hence, internal processes, communication and marketing have a crucial effect on the external brand experience, how customers think the company performs and how well they live up to their promises. Now, in a decade of 21st century, the market looks very different to just 20 years ago. The explosion and detonation of branded offerings is overwhelming and confusing consumers and causing an ever-increasing headache for the leaders of traditional brands. The average western consumer is exposed to some 3,000 brand messages a day. The new marketing kings of the 21st century will be the subject of my next column.



FIGURE 1:- Brands & Branding

Another important aspect of a successful brand strategy is the shaping and refining the customers brand experience. An imperative motivation for making a brand strategy is to conceive a plan on how to differentiate from the generic competition and how to craft such a positive emotional and mental connection with the customers that they will continue or reach to cherry-pick your company over the others-over and over again. We make decisions on a daily basis. In fact, tons of them. On average, adults make thirty-five thousand decisions each day. Whoa!! These numbers are made up of different kinds of decision we take. For example: What should I eat? What should I wear today? Which directions should I take to the office? How should I act and behave in front of people? Should I give my seat to this elderly person? What should I purchase? Which product do I need? Which one is the best for me? We are all busy. The average adult spends half of their day for work. Therefore, we crave efficiency, this includes quick decision-making. Whatever it is, even when we purchase something. That is where branding comes into play.

Brand managers agree that one of a company's most valuable assets is that you have invested not on the product itself, but more to an abstract idea placed inside your customer's mind. Brands play a bigger and important role in a customer's purchasing pattern rather than the product itself. Thus, continuous efforts of brand building of a product creates and register associations, elements, identity and its personality to our minds. Not that the product is not important, in fact, it's the core and the heart of your business but branding just accelerates the hormone secretion.



In this era, amid deep similarity amongst the products, consumers can hardly differentiate one product from another. The factor that comes out among these look-alike yet different products is the brand itself like name of the products, the projection of its benefits for example: Apple vs Samsung, Mercedes vs BMW et cetera.

An augmenting economy and the rapid opening-up of the Indian market has given rise to a group of affluent consumers who are more than eager to adopt the latest fashion trends. According to the latest Global Luxury Brands Report, approx. 35% Indians are buying luxury brands. This is the third highest percentage globally. Market performance is the result of a positive customer's mindset inherently resulting in the increased sales of the product or service. A great marketing investment is the one that utilises every available channel whether be it online or offline. If a company is not successful in reaching out to their customers frequently, the entire marketing and branding strategy falls flat. Many companies have failed in their branding process with these minor flaws in their brand strategy. If they do not frequently deliver consistent communication internally and externally, within the organization or to the external stakeholders, the charm is lost within no time. This can result in the company eventually delivering a mixed message, an obscure promise that may manifest itself in very different ways for customers and it could be potentially very harmful, which may result in brand failure. A successful marketing program investment, on the other hand, directed towards a brand extension, will provide additional opportunities for companies to add a product line or depth, thus adding on a new revenue stream.

CONCLUSION

Rome Wasn't Built in a Day, And Neither Are Great Brands

Today's consumer is unquestionably mindful of the fact that a strong brand reputation does not materialize overnight. The top-notch and the most iconic brands of today have all taken decades in the making- Rolex, BMW, Apple or Nike, to name a few.

Branding has become all the more essential part of almost every industry and business, regardless of its size and field. Without branding, not one company can endure under the current gravity of the market competition. Branding expresses your thoughts and views to the world and helps you associate with the potential clientele. A solid brand showcase can touch more and more people, and that can transfigure your efforts into greater success and growth.

Branding as a whole impacts the business as well as the consumers and their buying pattern.

- A clear branding strategy makes it easy for you to convey the brand message and image to your prospective customers, and create a better perception of your brand in their minds.
- A differentiating and appropriate brand for your business can improve the response rates, boost sales, market share and revenue.



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- When done well, branding will make your brand more recognizable by making it stand out from its competitors.
 - A branding strategy can be called successful if it increases customer's loyalty towards the product or service.
 - A strong and ideally positioned brand can help extend the life of your business by giving it the freedom to venture into other product categories.
 - A well-integrated brand image and message on all platforms will help your brand to create synergy, making it easier for people to remember.
 - A compelling brand has the capability to entice and retain outstanding employees over the years.

Not only that the brand is necessary for businesses, branding also affects the consumer's purchasing decisions

A brand is only as good as customers think about it. A clear brand message helps customers relate closely to the brand. This is what creates a brand's image. A branding message which produces a strong signal has a power to directly impact a customer's purchasing decision. Brands that have a storyline related to them, create more trust among their customers over time and customers finally end up becoming loyal to it. Certainly media presence, advertising and packaging of a brand contribute to creating a strong brand image and identity. Consumers see time-honored and dependable brands in a different light as brands create aspirations in the mind of the buyers. Sometime this one thing gives these brands the ability to charge a premium. To capitalize on the positive effects of branding on your business, it is vital to listen to your customers. Integrating their advice as well as criticism into your strategy is vital as branding unswervingly impacts the business and consumers.

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THE EMERGING DIMENSIONS OF INDIA –ISRAEL RELATIONS: WAY FORWARD

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Abstract:

India and Israel's relationship are very distinctive and exceptional. Having completed 25 years of relations in 2017, the cooperation and coordination continues to reach new heights in diverse ways. During the inception, there was absence of relations between these two states and there are many factors which contributed to their non-alignment. This paper focuses on the analysis of the changing factors which led India and Israel to open up their bilateral relations after the post-cold war period and to identify and understand the common strategies which they share in common and enabled these two states to enter into full diplomatic relations and focus on the key potential factors to expand in a very pragmatic way to boost the dimensions of relations in defense ties, Space cooperation, Cooperation in Agriculture, Counter terrorism and Educational ties which are giving a significant momentum to the bilateral set up.

Key words: Defense collaboration, Space cooperation, Cooperation in Agriculture.

Introduction:

The relations between India and Israel have become very peculiar from the Post-Cold War period but during the inception they were unpropitious. These two sovereign entities have few factors which have very common resemblance.

They are:

- Paving their way to independence from the same colonial British power.
- Partitioned on religious basis.
- Fought wars in the early days of their independence
- Border problems
- Democracies with secularism
- Victims of terrorism.

Even though they coincide with each other in the above categories these two states never shared warm relations with each other prior to 1991 especially from the side of India even when Israel was willing to take the first step. What withheld India from doing so? Initially India's Israel policy is influenced by its Pro Arab stance and there are few aspects which made India to adopt this position.



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- India being the flag bearer of the Anti-Imperialism was against the division of Palestine. She didn't want the Zionists to depend on Britain but rather wanted to resolve the issue with Arabs itself.
 - India's Israel Policy is often shaped up or seen through the lens of Islamic factor because of her Muslim population.
 - India wanted to internationalize the resolution of Kashmir problem and gain support from the Arab friends.
 - Majority of the Indian Muslims who were working in the Arab states, country's safety was also a primary /prior cause.
 - The region of west Asia was very important to India because of its Oil and Energy sources.

Even though the above factors have postured India's position towards Israel in a very adverse way. One noteworthy aspect of Israel is they are always appreciative of the fact that Jews in India were never been threatened and persecuted like in other countries. India has also lately realised that their military assistance during the 1962 war, 1971 war and kargil war for which India has to be thankful.

However it took four decades to realise the pragmatic conditions, the first sign of change in India's anti-Israel Policy is taken up by the former Prime Minister P. V. Narasimha Rao the changing International structure and the end of the Cold war and the changes in the International Geopolitical factors pushed India to enter into full pledged diplomatic relations, they are:

- The collapse of Soviet Union made India to look unto an substitute partner in terms of its arms supply.
- India never received a worthwhile backing from Arab states in the resolution of Kashmir problem and instead Organization of Islamic cooperation (OIC) has supported Pakistan on Kashmir Issue.
- The Economic liberalization taken up by India in 1991
- The Oslo peace accords signed by Israel & Palestine in 1993.

The need of the hour was taking up a pragmatic step to build up the relations and to acknowledge the ally who backed up India during hard times.

Review of Literature:

There is ample literature available on the subject of Indo-Israel Relations; so many authors have narrated on the diverse aspects. As per the literature is concerned with the past, present and the future coordinial predictions are:

Vinay Kaura(2019) Indo-Israeli relations in the Modi era: a transformative shift , Israeli Affairs, 25:2, In this paper we can see that India's relations with Israel have been exceptionally increased under PM Modi when compared to other governments.



India's Israel Policy under Modi is guided not by ideology but by practical politics. The increasing measure of diplomatic energy, strategic mastery and political boldness being channeled by PM Modi is building a new relationship with Israel is a sign of a transformative shift in India's Foreign Policy.

S. Samuel C. Rajiv (January 22, 2018) Modi and Bibi Are Brothers in Arms, IDSA: following the visit of Israeli PM Netanyahu to India, it was observed by the fact that Modi has removed the Ideological beliefs from the relationship and allowed to India to be driven by its own economic and strategic priorities and both the counterparts energy and warmth will drive the partnership to new heights.

Dr. Subhash Kapila (July 10, 2017) India's Israel Strategic Partnership 2017 : "Seizing the future" : This paper has attempted to analyze the overall significance of the Israel - India Strategic partnership in 2017 in its political and strategic dimensions, where the strategic connections tends to be strong and precise which enables both the states to seize the future.

Ashok Sharma (2015) Israel Affairs, Volume 21, Issue 4, India-Israel relations:the evolving partnership, Has mentioned that India and Israel collaborate in defense, trade, strategic, and intelligence and security-related areas and the relationship is likely to become broader and more comprehensive over the long term, encompassing research, development and co-production in the defense sector, water resource management, science and technology, bilateral trade, and the non-defense sector.

P.R.Kumarswamy (2013) The Maturation of Indo-Israeli Ties Israel in the World middle east forum, Middle East Quarterly, Spring : has stated since their establishment of relations in January 1992, Israeli-Indian relations have improved dramatically. Cooperation in the military-security area has grown, and there are widespread popular exchanges between the people of the two countries and Indo-Israeli ties seem extraordinarily robust.

Itzhak Gerberg (2008) the changing nature of Israeli-Indian Relations: 1948 – 2005 Gerberg stated that the ongoing strong and strategic bonding between Israel and India is based on the strategic interests of the two international actors. In fact, it can turn the Israeli-Indian relationship into a fruitful set of interdependent relations for the mutual benefit of both countries.

Methodology of study: Secondary sources of information were used to write this manuscript like Books, articles, research publications, PhD thesis and Newspaper articles.

Thus, the relations were taken over from neutrality to mutuality is now expanded to every field, Military cooperation being in the pinnacle.



Defence: Important leading factor to the growing India and Israel ties is the Defence Collaboration as Israel is the powerhouse for cutting edge Defence technology and World's top arms dealer.

India is the largest customer of Israeli military equipment and Israel is the largest arms supplier. Defence relations between India and Israel are longstanding. The strategic communication

Between these two countries began during the Sino-India War of 1962 when PM Nehru requested his Israeli counterpart David Ben-Gurion for shipments of arms and ammunition. In the year 1999 Israel supplied arms, laser-guided bombs, and unmanned aerial vehicles, during the 1999 Kargil War between India and Pakistan.

- The Areas of co-operation between India and Israel are in Submarine –launched cruise missiles, micro-satellite systems for surveillance, laser –guided systems and precision –guided munitions, anti-ballistic missiles systems, up-gradation of all Soviet-origin aircraft, artillery, tanks and various radars.
- India's Reliance defence systems Ltd and Israel's Rafael advanced defence system have cooperated on the production of air defence systems, Air to Air missiles and Surveillance balloons.
- India has bought advanced weapons like unmanned aircraft, Anti-tank missiles, Drones, Cannes and Radar systems, Phalcon AWACS.
- DRDO and Israel aerospace Industry have jointly developed BARAK 8.
- Israel Aerospace industries and India's Bharat electronics Limited signed a memorandum of understanding to establish a new centre for technical and maintenance support for India's air defence systems.
- In 2019 the SPICE-2000 bombs were procured to attack the targets in Balakot by the Indian Air Force.

The cooperation in this security area is huge.

Space Cooperation: The states of India and Israel led to the launch of Israeli scientific instrument TAUEX which is a telescope that will depict the sky in the Ultra- violet spectrum. The MOU was signed in 2002 between ISRO and Israeli Space agency (ISA). Other aspect in space cooperation is the Israeli Tec SAR Satellite was launched by the Indian Polar Space Launch (PSLV) – C10 from the Satish Dhawan Space Centre at the Srihari Kota range in 2008. In 2009 India launched RISAT-2 a Synthetic aperture radar imaging satellite manufactured by Israeli Aerospace Industry, An Indian satellite built with IAI in the wake of 26/11 attacks in order to boost its observance capabilities which sees through clouds and in any weather. It aimed to provide India with greater security in terms of infiltration and border concern issues. Adding to this field Bilateral agreements on Space technology were signed during the visit of Prime Minister Narendra Modi to Israel in July 2017, Space Exploration Cooperation Agreement was signed in January of 2018 during the visit of Israeli Prime Minister Benjamin Netanyahu



to India, The Agreement included a MOU between the Technion Israel Institute of Technology and the Indian Institute of Space Science and Space Technology to boost the cooperation in the field of space exploration and create joint projects and associate Israeli and Indian scientists for mutual benefit.

Agriculture Cooperation: The ties of India and Israel in the field of Agriculture are fruitful. India has chosen Israel as a strategic partner to elevate its agriculture technology. The Ministry of Agriculture, India and Israel signed a MOU under the Indo-Israel Action plan in the year 2006 which led to the arrangement of INDO- ISRAEL AGRICULTURAL PROJECT was formulated through MASHAV (Centre for International Cooperation of Israel' Ministry of Foreign Affairs) and CINADO (Centre for International Agricultural Development Cooperation of Israel's Ministry of Agriculture and Rural Development) and the Ministry of the Agriculture, India through the Centre of Excellence which provide a platform for the transfer of technology to demonstrate the integrated and scientific approach to farming.

The first step of Indo- Israel Agricultural Project (IIAP) was formulated in three phases.

- Phase - I: 2009- 2012
- Phase - II: 2012 -2015
- Phase - III:2 015 – 2018

With the success of the above phases of the project. In 2017, a Three-Year work program was extended and signed in Agriculture 2018-2020 between MASHAV and Ministry of Agriculture and Farmers Welfare of India.

The training and demonstration of Israeli experts and the dissemination of the agriculture technology enabled the Indian farmers to get benefited from the development techniques such as recycling of domestic water for irrigation, Dairy development, Integrated and scientific approach to farming, Horticulture mechanization, protected cultivation, Soil treatment, Drip Irrigation, Water conservation, Water purification, Orchard and Canopy management, Micro irrigation and post-harvest management techniques. The COE provides a viable platform of Israeli technology transfer to meet farm holders small and large offering them a wide range of agricultural practices which are implemented in the IIAP.

Conclusion:

Therefore, with the emergence of the above relations which are focused in this manuscript we can safely summarize that the bilateral relations have increased from the year 1992 onwards. The domestic and international factors forced India to pursue a shift in its India's Israel policy. Its crystal clear that relations became swift and vibrant only under the leadership of two right government leaders Narender Modi and Benjamin Netanyahu. Narender Modi is the first Prime Minister to visit Israel in the last



70 years breaking all the norms which was adopted by the preceding governments even though he visited before in 2006 when he was then the Chief Minister of Gujrat. The recent visits by the two counter parts indicate the parallel ways of strategic cooperation. Marking 25 years of diplomatic relations Prime Minister Modi's visit to the state of Israel was seen as significant mark and Prime minister Netanyahu broke the protocol to receive the Indian PM along with his entire cabinet. He stated 'even sky is not the limit' the official engagement included signing of Seven agreements in key areas such as Space, Water Management, Energy etc., This event was considered as ground breaking and historic visit by PM Netanyahu. The following year in January 2018 PM Netanyahu is the second Prime Minister to visit India after Ariel Sharon. This visit was land marking as it was six-day visit for Israeli PM and it was considered by Indian PM as his visit was "Special and Historic and can further cement the close friendship between these two states". PM Netanyahu was accompanied by 130 Businessmen from 102 Israeli companies and few note making agreements were signed which include Defense, Security, Cyber-Space, Trade, Agriculture and Film Production. The relations have further changed India's long adopted stand in the International platform by voting in favor of Israel at UN against Palestine Human Rights Body.

Both the states of India and Israel are developing as mature, dependable partners. As per the collected reviews and data it is been observed that there is a lot of positive and mutual exchanges are implemented by both the states with a complementary and contributory means.

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JAYAPRAKASH NARAYAN AND HIS CONTRIBUTION TO INDIAN SOCIALISM

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Abstract:

Jayaprakash Narayan was one of the profound sociologists who played critical role in freedom struggle, social development, political movement and contributed massively in Indian socialism. He was greatly influenced by the ideas of Mahatma Gandhi and Vinoba Bhave . In the post-Independence era he launched Total Revolution in the country without any glamour for power. He was more a political activist rather than a political thinker. He is known as Gandhian-Marxist. Jayaprakash Narayan was a revolutionary who fought for a new socio-economic order. He organized mass movement of students, farmers, peasants and youth. His revolutionary role and democratic humanitarian views was much acclaimed. His political ideas of Sarvodaya, party- less democracy and Total Revolution, made him global political thinker of modern era. He was one of the 'Committed Socialist' who made a dauntless fight against the forces of exploitation i.e., capitalism and landlordism in India. In his concept of Sarvodaya , he visualized new order in which the society will be class-less and stateless while the political system will replace Rajneeti to Lokniti and thus it will be 'people's socialism' to ensure freedom , equality, peace and eternity. Against this backdrop, present paper highlights the role and contribution of Jayaprakash Narayan to Indian socialism.

Key Words: Jayaprakash Narayan, Indian Socialism, Total Revolution, Socialist Thinker

Introduction

The great veteran socialist leader Jayaprakash Narayan played critical role in Indian politics during the freedom struggle and in the post independence era. Jayaprakash Narayan was a freedom fighter, social reformer, activist and political leader who is popularly called as J. P. He was born in Sitabdiara village in the Saran district of Bihar (Das, 2007). He was a bright student, and went on to complete his Graduation and Post Graduation in Politics, Sociology and Economics at the Universities of Berkeley in United States in 1922. Karl Marx and his views had a deep impact on him during his studies. The writings and views of M.N. Roy also equally impressed him. But problems at home caused him to give up his dreams of acquiring a doctorate degree. While Jayaprakash Narayan was returning to India, he got the chance to meet revolutionaries like Rajani Palme Dutt in London. He joined the Indian National Congress in 1929 on the persuasion of Pandit Jawaharlal Nehru. He was influenced by the ideology of Mahatma Gandhi and therefore, he accepted him as his mentor and guide. He was sent



to prison in 1932, while participating in the civil disobedience movement, where he met other prominent socialist leaders such as Ram Manohar Lohia, Minoo Masani, Ashok Mehta, and Yusuf Desai. It resulted in the formation of the Congress Socialist Party and himself as its General Secretary. Jayaprakash Narayan was jailed and tortured by the British forces several times during the war for independence. He played a crucial role in the Quit India Movement and earned a lot of fame and respect for this as he was again at the helm of the agitation. India got independence and also lost Mahatma Gandhi, Jayaprakash Narayan along with Acharya Narendra Dev and Basawon Singh directed the Congress Socialist Party. It was later renamed as Praja Socialist Party. In the late 1960's Jayaprakash Narayan returned to prominence in active state politics. In 1974 due to high inflation, unemployment and lack of supplies or essential commodities, Jayaprakashgave a call for a Total Revolution. He led the students' movement in the state of Bihar which gradually developed into a popular people's movement. The initial idea of socialism captivated the mind of Jayaprakash Narayan in his student days when he was engrossed in higher studies; he realised that India was being exploited by the colonial power, a Marxian thesis, which he accepted as the real analysis to the poor status of the country. Manavendra Nath Roy, another impactful personality, exercised his influence on his thoughts. He was attracted towards Russian communism also; Marx and Lenin had their own philosophical charm for him but it was Indian poverty and inequality which shaped his socialist thoughts in an effective manner (Srivastava, 2015) .

Research Methodology:

Present paper attempts to examine the political journey of Jayaprakash Narayan and his views on political and social philosophy .The present paper is based on secondary data and pertinent literature. It is analytical and descriptive in nature. The published books, papers and articles were consulted besides previous studies; reports and work were also reviewed. The collected works of Jayaprakash Narayan and various books connected with his political journey and thought were also taken into consideration to understand the contemporary socio- economic and political conditions and movements.

Evolution of Socialist Movement in India:

The socialist movement became popular in India only after the First World War and the Russian Revolution. The unprecedented economic crisis of the 1920's coupled with the capitalist and imperialist policies of the British Government created spiralling inflation and increasing unemployment among the masses. According to John Patrick Haithcox, imperialism was considered as a form of capitalist class government intended to perpetuate the slavery of the workers. The success of the Russian Revolution under the leadership of Lenin and Trotsky and the economic growth of that country inspired intellectuals and political leaders of Third World including India. A number of radical groups and youth leagues opposing the policies of the British government were born in India. A left wing was created within the Congress Party under the leadership of Jawaharlal Nehru and Subhash Chandra Bose. In November,1928, an organization



called the Independence of India League was created under the leadership of Srinivas Iyengar.

Due to large impact of the Russian Revolution, most of the left parties were formed in the Third World countries. The Communist Party of India was set up in 1925. This left party was linked with the Communist International of Moscow. Besides, many radical splinter groups were also born in different parts of India. The failure of the two civil disobedience movements and the compromising attitude of the Indian National Congress at the two Round Table Conferences made a number of young leaders disillusioned. During this time, Gandhi Ji also suspended his Satyagraha movement and started concentrating on constructive programmes. Many Congressmen considered this development as failure of Gandhi's non-violent struggle. In this environment of disillusionment an attempt was made to form the Congress Socialist Party, a Marxism oriented organization within the Congress Party in 1934. The socialist groups were also formed in Punjab, Bengal, Benaras and Kerala. In Poona the task of forming the socialist party within the Congress was entrusted to Kamaladevi Chattopadhyay, Yusuf Meherally and Purshottam Trikandas. Other leaders who were instrumental in the formation of the Congress Socialist Party were: Jayaprakash Narayan, Minoo Masani, Asoka Mehta, Achyut Patwardhan, N.G. Goray, M.L. Dantwala, Acharya Narendra Deva, Dr. Rammanohar Lohia and S.M. Joshi. While in prison, these leaders prepared the blue print for the Congress Socialist Party. Thus the Congress Socialist Party was born out of the disillusionment with the civil resistance movement, growth of constitutionalism, and anti-national role of the Communist Party of India and its alienation from the national mainstream. Some socialist critics are of the view that if the Communist Party of India had not been dominated by the conservative elements, perhaps the Congress Socialist Party would have never been born. By 1934, many socialist groups were formed in different parts of the country. It was then realised that these groups were to be brought under one socialist platform. Jayaprakash Narayan organised a conference of socialist members in Patna in May, 1934. He also revived the Bihar Socialist Party. The All India Congress Socialist Party was formed at this conference. Gandhi's decision to withdraw the civil disobedience movement and the revival of the rightist Swaraj Party precipitated the formation of the Congress Socialist Party in 1934. Gandhi's favourable attitude towards the Swarajists like B.C. Roy, K.M. Munshi, Bhulabhai Desai and others and the Indian National Congress decision to withdraw the civil disobedience movement and launch of parliamentary programmes in the forthcoming Patna meeting on 18 May 1934, made socialist forces in the Congress to create the Congress Socialist Party on May 17, 1934. Acharya Narendra Deva was made the Chairman and Jayaprakash Narayan as the Organizing Secretary of the Committee to draft the Constitution and the Programmes of the Congress Socialist Party.

The birth of the Congress Socialist Party in May, 1934 was a landmark in the history of the socialist movement of India. While assessing the programmes and policies of the Congress Socialist Party, it will be desirable to remember the contribution of the Meerut Conspiracy case in spreading the ideology of the early 1930s. Besides, the creation of the All India Kisan Sabha in 1936, and the role of the Youth League and Independence for India League can never be ignored in the growth of the socialist thought in India.



The Congress Socialist Party provided an all India platform to all the socialist groups in India. The publication of the Party and the writings of the socialist leaders inspired the youth of India in different parts of the country to take up constructive programmes for the upliftment of the downtrodden. Ashok Mehta's Democratic Socialism, and Studies in Asian Socialism, Acharya Narendra Deva's Socialism and National Revolution, Jayaprakash Narayan's Towards Struggle (1946), and Dr. Rammanohar Lohia's The Mystery of Sir Stafford Cripps (1942) played a significant role in spreading the messages of socialism in India. It was declared in the Socialist conference of 1934 that the basic objective of the Party was to work for the "complete independence in the sense of separation from the British Empire and the establishment of socialist society." The Party membership was not open to the members of the communal organisations. Its basic aim was to organise the workers and peasants for a powerful mass movement for independence. Programmes included a planned economy, socialisation of key industries and banking, elimination of the exploitation by princes and landlords and initiation of reforms in the areas of basic needs.

The Congress Socialist Party adopted the principle of democratic socialism in the Patna Convention of the party in 1949. While emphasising its ideological purity the party was more careful about its constructive activities among the peasants, poor and the working class. During 1953, the party proposed to go for an electoral alliance adjustment with the opposition parties. Nevertheless, the Party was not prepared to have any united front of coalition with any political party. In the Gaya session of the Party statements, the separate identity of the Congress Socialist Party was also emphasised. The Party was reluctant to have any electoral adjustment or coalition with the Congress, Communist or Hindu Fundamentalist Party or Organizations. However, this attitude was toned down and diluted during the General Elections of 1957 and thereafter.

In 1952, the Congress Socialist Party strongly advocated for the greater synthesis of the Gandhian ideals with socialist thought. Dr. Rammanohar Lohia as the President of the Party put emphasis on a decentralised economy based on handicrafts, cottage industries and industries based on small machines and maximum use of labour with small capital investment. During the Panchamarhi Socialist Convention in May, 1952, this line of thought of Dr. Lohia did not impress several socialist leaders of the Party. In June 1953, Ashok Mehta's thesis of the "political compulsion of a backward economy" pleaded for a greater cooperation between the Socialist and the Congress Party. As a counterpoise to Ashok Mehta's thesis, Dr. Lohia offered the "Theory of Equidistance". This theory advocated equidistance from the Congress and the Communists by the socialist parties. Because of these two streams of thought, the Congress Socialist Party was divided into two camps. Some of the members even thought of quitting the party to join the Congress.

Socialist Thought of Jayaprakash Narayan

Jayaprakash Narayan popularly known as J. P. was a confirmed Marxist in 1929. By the middle of 1940s, he got inclined towards the Gandhian ideology. Until 1952, Jayaprakash Narayan had no faith in non-violence as an instrument of social



transformation process. The transformations of the Russian society in the late 1920s had thereafter changed his outlook towards Marxism and the process of dialectical materialism. Soviet Union was no more an ideal model for him for a socialist society. The bureaucratized dictatorships with the Red Army, secret police and guns produced an inherent disliking for the Soviet pattern of development. He was convinced that it did not produce "decent, fraternal and civilised human beings". He said in 1947, "The method of violent revolution and dictatorship might conceivably lead to a socialist democracy; but in only country where it has been tried (i.e. the Soviet Union); it had led to something different, i.e. to a bureaucratic state in which democracy does not exist. I should like to take a lesson from history".

Socialism refers to a broad array of theories, ideologies, doctrines or political movements, which envisage a socio-economic system characterized by social ownership of the means of production and co-operative management of the economy, as well as methods of establishing such a systems. Socialism was a reaction against the stark inequality and misery produced by the industrial revolution and emerging capitalist economies, where those with property had political voice but those without were open to exploitation and oppression. Many Indian political thinkers have contributed a great deal to the evolution of the political thought of our country ; among them Jayaprakash Narayan and Ram Manohar Lohia were also one of the two major socialist leaders. After independence, Jayaprakash Narayan had virtually retired from active politics and shifted his focus on social movements inspired by Gandhian thoughts of Bhoodaan and Sarvodaya movement. During 1970's India saw severe unrest in various sections of the public resulting in student unrest especially in the states of Gujarat and Bihar. Jayaprakash Narayan , the veteran socialist was quite unhappy with the state of affairs and the autocratic rule of Mrs. Indira Gandhi. In a way, the government was indulging in corruption and demolishing democratic institutions. The year 1974 ushered a high degree rate of inflation, unemployment and lack of supplies or essential commodities. With the Nav Nirman movement resulted in forced resignation of Gujarat government, and the beginning of student protests in Bihar, political situation in the country became volatile. On June5, 1974, Jayaprakash addressed a large crowd of five lakh people at Gandhi Maidan in Patna and called for Total Revolution. Indira Gandhi was found guilty of violating electoral laws by the Allahabad High Court. Indira Gandhi proclaimed a national Emergency on the midnight of June25,1975. Jayaprakash Narayan along with opposition leaders were taken into custody on that very day. She responded to the opposition demands by cracking the whip. She introduced draconian laws, extinguished freedom, political arrests, severe press censorship, forced sterilization and abject surrender marked by terror of the minions and slavery of the elites that made India a fascist-type police state. After his arrest Jay Prakash was kept as at Chandigarh. As his health suddenly deteriorated he was released on November 12, 1975 and was admitted to hospital in Bombay, where he faced kidney failure. Indira Gandhi revoked the emergency on January18, 1977 and announced elections. The Janata Party, a vehicle for the broad spectrum of the opposition to Indira Gandhi, was formed under J. P.'s guidance. The non-congress alliance was voted into power and became the first non-Congress party to form a government at the Centre. Jayaprakash



Narayan had a very idealistic notion of society and it is in this endeavour, he shifted from Marxism to Socialism and later towards Sarvodaya. Jayaprakash Narayan always stood for democratic values and freedom. Jayaprakash Narayan, in his diary written in the jail, gave the new concept of Total Revolution. He defined it as a combination of seven revolutions viz., political, social, economic, cultural, ideological or intellectual, educational and spiritual and his main motive being of bringing in change in the present society which promotes principles of the Sarvodaya. Jayaprakash Narayan's total revolution had a wider appeal to different sections of the population. Its course was to remove the Indira government. As he said, he was not "interested in this or that ministry being replaced or the Assembly being dissolved". His fight was for the overhaul of the socio-economic system and "for a real people's democracy (Bhattacharjia, 1975). The concept of Sarvodaya, non-violence, truth, spiritualism, creative work and Gram Swaraj were the main components of Gandhian thought and it attracted many political thinkers including Jayaprakash Narayan. Jayaprakash Narayan used these basic concepts of Gandhian thought for social reconstruction. After withdrawing from active politics, he joined Vinoba Bhave in carrying forward the movement of Bhoodaan, Gramdan and the Sarvodaya movement.

Jayaprakash Narayan was not very rigid regarding the seven revolutions under the concept of total Revolution. He said the seven revolutions could be grouped as per demands of the social structures in a political system. He is of the view that the cultural aspect of revolution involves educational and ideological revolutions while culture in an anthropological sense may include all other revolutions." He said, "economic revolution may be split up into industrial, agricultural, technological revolutions etc. The intellectual revolutions may be classified into scientific and philosophical revolutions while spiritual revolution may comprise of moral and spiritual or it can be looked upon as part of the culture." The concept of Total Revolution got momentum in 1974 during the mass movements in Gujarat and Bihar. He was deeply disturbed by the political process of degeneration in the Indian politics of the time. During his Convocation address at the Benaras Hindu University in 1970 he opined that "politics is the greatest question mark while trends are showing that there will be political disintegration including splitting of political parties on ideological base and devaluation of ideologies may continue with frequent changes in party loyalties for personal gains, there will be buying and selling of legislatures, increase in party indiscipline, emergence of opportunistic alliance among parties and resulting in instability of governments."

Jayaprakash Narayan's Total Revolution involved the developments of peasants, workers, harijans, tribal people and indeed all weaker sections of the social structure. He was always interested in empowering and strengthening India's democratic system. He wanted the participation of people at all levels of decision-making process. He wanted that electoral representatives should be accountable to his electors, not once in five years but if he / she becomes unsuitable before the expiry of his five year term he/ she should be replaced. The political representative must be continuously accountable to the public. He wanted electoral reforms to be introduced in the political system to check the role of black money in the electoral process of the country. He is of the view that political system should be established through consultation with the public before



setting up candidature for election. This machinery should "keep a watch on their representatives and demand good and honest performance from them". Regarding the statutory provision for recalling the elected representatives, he said, "I do recognise of course that it may not be very easy to devise suitable machinery for it and that the right to recall may be occasionally misused. Nevertheless, in a democracy we do not solve problems by denying the people their basic rights. If constitutional experts apply their minds to the problem, a solution may eventually be found."

The major features of Jayaprakash Narayan's concept of Total Revolution are (1) the concept of Total Revolution is based on non violence as he had told Gandhiji that there was no need of violent social change in India; (2) the concept of Total Revolution includes his idea to maintain the democratic structure of the state ;(3) by his Total Revolution, J.P. meant a transformation in the internal life of individuals as well as in the entire social structure;(4) J.P. believed that the Total Revolution was a permanent revolution; (5) he assigned the role of leadership to the students as he felt that the students were better equipped to spearhead the revolution because they were neither swayed by power politics nor were they burdened by the day to day struggle for survival; and (6) with regard to the content of Total Revolution, he had mentioned that, at different periods total revolution might assume different forms depending on the needs of time and place and on the forces that are contending for power.

His idea of socialism found in his agricultural reforms. Land system in India is a very complicated system which is controlled by the landlords. To make a new society we need to have a total reforms for land management . The "co-operative and collective steps" would be the establishment in the socialist agriculture" (Sarkar , 2019). He advocated that Zamindari system should be abolished where no landowners take more than thirty acres and less than five acres of land of their own purpose and only villagers has right to till the land. There should be an agriculture economic unit at the village level where every villager will get their own benefits. Socialism is a process of social reconstruction. It is a reorganisation of socio-political life. Disparity and inequality in Indian society is an evil of human life. His idea of socialism is in consonance with the conferring power to the producing or working classes. The state will take positive role in making economic plan and control. The industries like steel, cotton, jute, railways, shipping, plantations, mines and bank insurance and public health will help to establish a socialist society.

Jayaprakash Narayan regarded socialism as a complete theory of socio-economic construction. He said that the inequality in society exists due to the disproportionate control of the means of production. He advocated reduction in revenue, limitation of expenditure and the nationalization of industries. In the Ramgarh session of the Congress in 1940 he advocated collective ownership and control of large-scale production, and nationalization of the heavy industries, heavy transport, shipping and mining. He made Gandhism the base of his socialism. The village should be made a self-governing and self-sufficient unit. He favoured the distribution of land to the tiller, co operative farming, and cancellation of agriculture debt. Any attempt at establishing new socio-economic order must start with the abolition of private ownership of the means of



production and establishing social ownership. That will solve the problem of accumulation of wealth in few hands and eradicate exploitation from the society. He described the process of applying socialism to both agriculture and industry. In the field of establishing 'Socialist Industry', he said, both large and small-scale industry must be democratically managed and controlled and it must be owned by the government(Mishra, 2012) .

Jayaprakash Narayan was deeply disturbed by the growth of corruption in the Indian political system. He said, "I know politics is not for saints. But politics at least under a democracy must know the limits which it may not cross." This was the focal point of Jayaprakash Narayan's Peoples Charter, which he submitted to the Parliament on 6th March, 1975. He said, "Corruption is eating into the vitals of our political life. It is disturbing development, undermining the administration and making a mockery of all laws and regulations. It is eroding people's faith and exhausting their proverbial patience." Jayaprakash Narayan wanted a network of Peoples Committees to be established at the grass roots levels to take care of the problems of the peoples and the programmes for development. He wanted the economic and the political power to be combined in the hands of the people. Analysing his economic programme he said, "A Gandhian frame laying emphasis on agricultural development, equitable land ownership, the application of appropriate technology to agriculture such as improved labour, intensive tools and gadgets. the development of domestic and rural industries and the widest possible spread of small industries".

Earlier Jayaprakash Narayan rejected Gandhian social philosophy as "impracticable" . He observed "Gandhism may be a well intentioned doctrine. I personally think it is. But even with the best of intentions, it is a dangerous doctrine. It is dangerous because it hushes up real issues and sets out to remove the ills of society by pious wishes. It thus deceives the masses and encourages the upper classes to continue their domination"(Narayan, 1998). JayaprakashNarayan advocated the theory of violence through Azad Dastas and also class struggle. But gradually he realized that democratic or peaceful method alone can solve the problems of establishing socialism in India. "The overall requirement for socialism to be achieved is the existence of a well organized powerful socialist party, supported mainly by workers ' and peasants' organizations and organizations of youth (volunteer, student, etc.) of the city"(Narayan,1998) . He described Sarvodaya plan for economic development of India as "no wishy-washy sentimentalism, but a concrete programme of basic social revolution"(Prasad, 2002) . JayaprakashNarayan again observed that the task of social reconstruction cannot succeed under the inspiration of a materialist philosophy. However, he was clear in his view that there was nothing in materialism which can lead men towards goodness. Therefore JayaprakashNarayan strongly pleaded that Gandhism should be fully utilized to develop a sound ideology for socialism in India. Jayaprakash Narayan was one of the pioneers of the socialist movement in India. Jayaprakash Narayan's "socialism in economic sphere includes abolition of capitalism and landlordism, socialization of the means of production by abolishing private property rights, co-operative farming run by gram panchayats, collective farming, large-scale industries owned by the state with workers participation and small-scale industries



organized into producers cooperatives (Mohanty, 1997). Jayaprakash Narayan's concept of democratic socialism after 1948 came nearer to Gandhian doctrine and emphasized the importance of means. According to him social reconstruction must be based on ethical means. He admitted that he was rediscovering Gandhi at his later life. Jayaprakash Narayan described Sarvodaya as the higher form of socialism and hoped that one day the two would become one. He wrote, I feel confident that if the world were ever to reach the port of peace and freedom and brotherhood, socialism must eventually merge into Sarvodaya"(Narayan, 1998).

He asserted on the fact that every social system becomes outdated and irrelevant in course of time, calling for a change. A new social order needs to be created to suit the demands of time. Hence society brings about constant changes either consciously or unconsciously. But a distinction needs to be made between reactionary changes. Hence to Jayaprakash Narayan revolution means first of all a change in the existing social system brought about primarily by the under-privileged class of the society. Such changes are not mere reforms but something more radical than reforms since mere reforms of the structures will not suffice. Only a complete transformation of society and its structures can bring about the desired change. In other words, to Jayaprakash Narayan, while revolution is different from reform, it is identical with transformation (Narayan, 1978). Jayaprakash Narayan laid emphasis on struggle another essential characteristic of a revolution. This struggle is in a way dialectical - between individual and society, authority and freedom, the elite and the masses, property and non possession, labour and capital. This atmosphere of struggle cannot be created at will. The need and the conditions for the struggle have to evolve through a historic process. Jayaprakash strongly believed that for democracy to be a lively and effective instrument there is an urgent need for a strong opposition, powerful public opinion, free and fearless press, "ideological and moral pressure from the academicians, and trade unions. He, in fact, advised the people to revise their thinking and attitude towards democratic functioning in India". The concept of sarvodaya, non-violence, truth, spiritualism, creative work and gram swaraj are the main components of Gandhian thought. The Gandhian philosophy attracted the attention of many thinkers. Jayaprakash Narayan was prominent among them. Jayaprakash Narayan used these basic concepts of Gandhian thought for social reconstruction after independence of India. The philosophy of Jayaprakash Narayan is the result of the great influence of Gandhian philosophy on him. His ideology changed from time to time in a positive direction. He gave more emphasis on social reconstruction. He was linked with Bhoodan, gramdan movement (Shah, 2002). Equality and goodwill was the base of his philosophy. However, after independence of India when Jayaprakash Narayan understood the philosophy of Mahatma Gandhi, he believed that socialism could not be established through communism and democratic socialism; it can be established only through Sarvodaya. According to Jayaprakash Narayan, the right objective and right philosophy of socialism is found in Sarvodaya (Narayan, 1998). He said, "my regret is that I did not reach this point in my life's Journey while Gandhiji was still in our midst". However, some years back it became clear to me that socialism as we understand it today cannot take humankind to the sublime goals of freedom, equality, goodwill and peace. Socialism, no



doubt, gives promise to bring humanity closer to those goals than any other competing social philosophy. "But I am persuaded that unless socialism is transformed into Sarvodaya, those goals would remain beyond its reach; and just as we had to taste the ashes of independence", so future generations may have to taste the ashes of socialism (Narayan, 1998). Jayaprakash Narayan opined that "communism, democratic socialism and Sarvodaya are the different forms of socialism. Communism is a violent movement and democratic socialism is government action but Sarvodaya is a non-violent movement in which socialism is established by ideological changes in all human beings". Therefore, Jay Prakash Narayan accepted the Sarvodaya philosophy for social reconstruction. Thus, Jayaprakash Narayan, a follower of Marxism became advocate of Sarvodaya and Gandhian thought.

Analysing his concept of an ideal state, he said in 1977 "the idea of my dream is a community in which every individual; every resource is dedicated to serving the weak, a community dedicated to Antyodaya, to the well being of the least and the weakest. It is a community in which individuals are valued for their humanity, a community in which the right of every individual to act according to his conscience is recognised and respected by all. In short, my vision is of a free, progressive and Gandhian India." Prominent socialist activist and thinker Minoo Masani said, "All through the vicissitudes and jig-jags of Jayaprakash Narayan's life, there has throughout been a non-violent means for total revolution," Jayaprakash Narayan, throughout his political career, highlighted the role of students and youth in mass public movement. He said that "revolutions are not brought about by those who are engaged in the race for power and office whether in the government or in non official organisations".

Jayaprakash Narayan was a man of action rather than a mere intellectual, he had a quest for a better path for the establishment of equality freedom, brotherhood, peace and the all round upliftment of the poor-the villagers. For this reason, he travelled through Marxian revolutionary way to democratic socialism through Gandhian techniques of non-violence and Satyagraha through the path of Bhoodan, Jeevandan, as a follower of Vinoba Bhave. Finally, being confirmed about the inability of the party-politics to help attain his goals, he gave up party politics and preached the principle of party-less democracy for the attainment of same goals for which he enumerated his theory of people's democracy. Jayaprakash made a complete break with Marxism after a three-week "self-purificatory fast" at Poona in June-July, 1952 and his new quest for goodness started, being confirmed that materialism, which he worshipped for many years could not satisfy and "provide any basis for ethical conduct and any incentive for goodness", rather conformed the party to take the place of God. "Sarvodaya is a people's socialism (Narayan, 1964). But he agreed that the idea of Sarvodaya was misconceived by most people. According to him, it was a "concrete programme of basic social revolution," and "it is the first attempt to picture concretely a new social order. it contains eighty per cent of the immediate programme of the Socialist Party, besides sharing the common ideal of a classless and casteless society. Sarvodaya world society the idea of present nation state would disappearing together while " gramdan was equitable sharing together of the lands of the village by the people of the village" and thus Bhoodan signified distribution of land to the landless, gramdan, on the other hand, meant communisation of the



land institution of community, in place of individual ownership of land. Thus the idea of Bhoodan became a total agrarian revolution, a beautiful and different type of revolution, without force or compulsion but on the basis of mutual surrender to the community, the outward social change was accompanied by inward human change. Jayaprakash found practical expression of Gandhi's vision in the activities of Vinoba Bhave's Bhoodan, Gramdan movements. It was, to him, a practical method to accomplish the social revolution and a brilliant extension and development of Gandhi's work. He found in it two-pronged method, one of conversion, a mass campaign to persuade men—all men irrespective of class, creed and other differences, to give up harmful and wrong ideas and thus creating a revolution in ideas and values, and the second, was a programme of self-help and self-government, to learn to manage their own affairs, through mutual co-operation and thus leading to a new social life free from outside interference. This was no doubt, according to Jayaprakash Narayan, a noble revolution, distinct from violent revolution or revolution made by law. Jayaprakash Narayan considered Sarvodaya to be a form of people's socialism based on peaceful revolution. His concept of participatory and party-less democracy found detailed elaboration in his pamphlet 'swaraj for the people' published in 1961. He said that Indians followed western democracy, where government is based on consent of the people without any participation in it. He wanted and advocated the participation of the people in the polity and governance this would require a thorough-going system of political as well as economic decentralization. He advocated Gandhi's view that as you proceed from the bottom level to the top each higher level should have less and less functions and powers. In such a system people of each level would have fullest opportunity to manage all the political affairs. Such a system of democracy could give the people a stake in the democracy as well as a sensation of Swaraj.

Conclusion:

Jayaprakash Narayan was a freedom fighter and political leader of India who popularly known as J. P. He played a pivotal role in the freedom movement especially during the Quit India Movement in 1942. After independence he returned to prominence in state politics in the late 1960s. With the grave socio-political and economic condition of the country, Jayaprakash spearheaded the opposition to the autocratic rule of Indira Gandhi in the 1970s. He stood against the policies of the government and saw that efforts are yielding no results against the political and administrative might of the Government. He tried to organize people and make them aware of the situations and then appealed to the leaders. He called for Total Revolution, which comprises of political, social, economic, cultural, ideological, educational and spiritual. Jayaprakash Narayan was always in pursuit of more lasting solutions to the problems of the rural poor. By 1954, Jayaprakash Narayan was attracted to Vinoba Bhave's Bhoodan Movement. He demanded that "socialism must eventually merge into Sarvodaya". He called Sarvodaya as "people's socialism" as opposed to "state socialism". He also laid emphasis on Panchayati Raj institutions. His report on Panchayat Raj is a landmark achievement. His report emphasized on the role of leadership in democratic decentralization. His social and political ideas significantly contributed in Indian socialism.



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FROM UNEMPLOYMENT TO EMPLOYMENT: AN EXPLORATION OF THE JUDICIAL PROCESS OF REOPENING OF DANCE BARS IN INDIA

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ABSTRACT

Law case analysis is an investigation conducted on law cases of any court particularly the District, High Court or the Supreme Court in India. An enrichment of the study can be extended to courts of different countries. Cases having a momentous impact are analyzed. The objective is in the appreciation of the judicial process made by the judiciary. Issue wise contentions are raised; factors analyzed in forming a contribution to the legal study enriching knowledge base of budding judges. The rationality of the decision of the court is laid down enabling the budding law judges in the conceptual significance of Judicial Progression. The author has conducted an exploratory study of the judicial process of the Indian Hotels and Restaurants Association v State of Maharashtra 2019 L.J 1427 Supreme Court of India. The challenge is to bring out realistic measures in the formation of the judgment by the court of law. The author has made an attempt to understand the practical judicial process adopted by the court in deciding the issue. The analysis of the aforesaid mentioned case will enable the law students to understand the mode of the judicial process thereby making it a precedent. The judicial process of the case is analyzed contention wise so as to enrich the knowledge base of the students.

Keywords: - Analysis, Contentions, Investigation, Judicial Process

Introduction

The 'Separation of Power' Doctrine makes the judiciary an independent organ of the state. Therefore the Judiciary along with the executives and Legislatures are independent organs of the state. The Indian Constitution casts a duty on the state to not deny to any person equality before the law or the equal protection of the laws within the territory of India. Protection is given to all the citizens, irrespective of religion, caste, sex or the place of birth.ⁱ Thereby it casts a duty even on the judiciary to provide justice by giving equal protection of laws to all the citizens.ⁱⁱ

Judicial Process is a process followed in democracy. It is the process involved in decision making followed by the judge. It is everything done by the judge in decision making. There is a diagnosis of the facts of the case and what the law ought to be. It involves a difficult process of applying the ratio or ruling of one case on another similar case with related reasoning.ⁱⁱⁱ Judges are constantly developing the law. The researcher has cited



relevant cases in which the judges have adopted such judicial process in developing the law.

Research Methodology

The current study of the case examines the pertinent facts and the judicial process followed by the judge. The case is analyzed based on the contentions raised in the courts. The various Acts and rules are studied by the author. Further the decisions made by the court, contentions wise is examined and then the judicial process is laid down. The procedure adopted in every case analysis involves comprehensive repeated reading to appreciate the subject matter of the dispute and the relevant judgment. This enables individuals to sieve out superfluous facts thereby focusing individuals' attention to the focal point or the pertinent facts. Further to identify key issues.^{iv} Elements other than current theories of judicial decision influence the judicial process.^v The law students are meticulously trained in the art of reading and applying.^{vi} Appellate courts consider those cases in which disputes are filtered out on legal point. The dynamic mental model issues raised by the advocates are explored. The reading would enable law fraternity in understanding the judicial process.

Discussion

Judiciary is the support on which the edifice of the constitution rests. They are infallible ivory tower of any country. The courts see to it that the proverb "Power Corrupts and Absolute Power Corrupts Absolutely" is not applicable with any individual, authority of the government. The judicial process revolves around 'Social Justice' by the delivery of effective solace to the victims. The main objective of the court is to see that justice is not denied due to delay in administering it. There may exist a contravention of a fundamental right of an individual or a group of individuals. The emphasis is laid on the pertinent legal points of argument so as to perceive the verdict. The information is examined and the judge evaluates the corpus of law for primary authority so as to solve context sensitive issues.^{vii}

It is observed that the party who go into appeal has its name first in the title of the case. In this case the parties are, one the appellate, the Indian Hotels and Restaurants Association versus the defendant or the second part, the State of Maharashtra. The court has resolved to the constitution, the statutes and the common law as the source of interpretation of the law.

As the decision of the case revolves around 'Dance Bars', let us understand the history behind the dance bars and also the reason to impose restriction on 'Dance Bars' in the year 2005.

'Dance Bar' is a flirtatious world of fantasy. The first dance bar was set up in Khalapur in Raigad district in Maharashtra in the 1980's. Huge amount of money is spent here by the costumers on the bar dancers.^{viii} There exists a lot of consumption of liquor and countless have destroyed their household. The year 2014 witnessed the passing of an ordinance



banning dance bars in India^x, due to which 75,000 dancers were out of work driving them to prostitution. ^x The Maharashtra State Government had imposed stringent restriction on licensing of dance bars thereby virtually difficult for the owners to run a dance bar in the state.

Earlier dance bars were permitted to be opened till midnight, but later the government changed the rule allowing it to open till 1.30 mid nights and again it changed to 12.30 am due to an incident of Rape of a minor.^{xi}

A number of notable incidents took place culminating in banning the dance bars by the government of Maharashtra. It is read that one Abdul Telgi spent Rs 9.3 Lakhs in one night at a dance bar on Grant Road, Mumbai. ^{xii} Likewise incidences led for the NCP leader, Mr. R.R Patil to close all the dance bars on the ground that the dance bars misused their license which was given for permit rooms and orchestra. In the year 2005 the Maharashtra government banned dance bars in the state of Maharashtra^{xiii} and the Mumbai High Court struck down this which was upheld by the Supreme Court.^{xiv} The question arises as to what contentions were relied upon to permit dance bars to reopen again. The main reason for the case to go to the courts was because dance performances is permitted in some big places but banned in other small places, amounting to disparity among similar businesses.^{xv} These lead to imbalances of power spectrum in the society.^{xvi}

The word 'Obscene' has been interpreted in a number of ways; in the Indian context, the society has always been a conservative one, where the purity of women/ girls has always been a priority to every household. The interpretation of the word 'Obscenity' has changed over the period of time. The word was first defined in R v Hicklin.^{xvii} The Queen's Bench defined all acts which were immoral or wicked causing perverted minds were regarded as obscene irrespective of literary or artistic merits. ^{xviii} In India since 1965 onwards various pronouncement were made. In Ranjit D Udeshi v State of Maharashtra^{xix}, where the UK judgment of R v Hicklin was adopted but such contradicted the provisions laid down under section 292 IPC as the facts were interpreted in isolation according to the test. Then followed the Aveek Sarkar v State of West Bengal^{xx}. But as of today the R v Hicklin test is no longer adopted but the 'Roth test' is adopted wherein the contemporary national standards existing in the country were to be adopted. In Ajay Goswami v Union of India^{xxi} a new concept was adopted i.e. 'Responsible Reader Test' and it instilled liability on the reader to be cautious in the epoch of technology. In the AIB Group case, still pending in the court of law, where celebs were made fun of. This case would set a precedent for the future generation. In the aforementioned case there were many contentions raised by Government of Maharashtra. The court has applied a number of legal rules to the facts of the case. These precedents mould in the decision making of the case.

Particular issues were raised by the court pertaining to the Maharashtra Prohibition of Obscene Dance in Hotels, Restaurants and Bar Rooms and Protection of Dignity of Women (Working therein) Act, 2016 (MPODHRB Act, 2016). The definition of 'Obscene' u/s 292 IPC read with Section 2(8)(i) was challenged on the ground that it



enumerates a vague meaning as the words ‘Prurient Interest’ in context of dance is very vaguely stated. The court stated that the sections clearly mean that those performances which encourage excessive interest in sexual matters are regarded as ‘Obscene’. On analysis section 2(8) (i) clearly depicts the definition as stated u/s 292 IPC, concluding the fact that the definition is not vague. Section 2(8) (i) read with Section 292 IPC also includes acts/songs which are obscene and hence punishable. The courts have upheld that section 292 IPC, has clearly defined the acts amounting to ‘Obscenity’. The judicial process is based on the observation and study of both the definition leading to the decision pertaining to the issue. One can conclude here that it is advisable for law students aspiring to become judges to study available related legislations compare with the disputed one and then strike out a decision. This is also based on Article 13(2)^{xxii} which states that no state can make law which will abridge or take away the rights conferred and any law made in contravention of the clauses shall to that extent be void. The judicial process here is “Application Based” the provisions of the statute are applied to the facts of the case. This enables the judge to decide accordingly.

The next issue under consideration was under Section 6(4) of the aforementioned Act as to ‘Discotheque’ and ‘Orchestra’. Section 6(4) of the Act prohibits grant of license for discotheque and orchestra. Analyzing it further it prevents discotheque / orchestra in dance bars. This issue violated Article 19(1)^{xxiii} of the constitution. The contention raised was that it forbids grant of license for discotheque, orchestra especially where one has obtained a license for dance bars. This provision gave an option to the parties to either procure license for dance bars or for discotheque and orchestra. Here both the set of licenses were considered separately and one could avail any one of them. The argument was on the basis that a dance bar will lose the very essence if no permission was given for discotheque and orchestra. The two are in close proximity resulting in the desired output. The judge on observing the stand and probing the matter, keeping in mind the essence of dance bars found it arbitrary and irrational to have two separate licenses for dance bars and discotheque cum orchestra. Section 6(4) of the aforesaid mentioned Act was struck down as unconstitutional thereby violating Article 19(1). The contention was that there cannot be a dance bar without orchestra and discotheque as it forms the very bedrock of every dance bar. The whole essence of dance bars is based on permission for discotheque and orchestra. Article 141^{xxiv} state that the law declared by the Supreme Court shall be binding on all the courts within the territory of India. Every law student has to have an in depth reading on the subject matter of every issue and based on analysis should deliver the decision, the outcome being in the form of precedent.

The subsequent pragmatic argument for consideration by the court was that the punishment for the same subject matter was different in two different legislation resulting in pandemonium among the parties. The legislation under consideration was the Indian Penal Code and the Maharashtra Prohibition of Obscene Dance in hotels, Restaurants and Bar Rooms and Prohibition of Dignity of Women (Working Therein) Act, 2016 (MPODHRB Act). The punishment for ‘Obscenity’ under the IPC is for 3 months imprisonment whereas under the aforesaid Act it promulgated a punishment for 3 years for



the same subject matter 'Obscene'. Now when such an issue crops up in cases, a law student to adopt the interpretation as laid down. The fundamental principle application i.e. 'Central Law of the land' was incorporated. This principle lays down the very core laws on which the judiciary to decide a subject matter when in conflict with other laws. On the basis of 'Central Law principle' it was regarded that the Indian Penal Code, being the oldest is the central law of the land and when a newly developed law contradicts the central law then the central law principle will be applicable and shall prevail. There are certain Mimamsa rules. One of them is the Matsya Nyaya know as the principle of Adjustment. This principle states that any word which has an inferior meaning when compared to the principle idea, then the meaning has to be read keeping in mind the meaning of the principle idea.^{xxv} On the very basis Section 8(2) of the MPODHRB Act, 2016 violated Article 14 of the Indian Constitution and hence unconstitutional.

Currency coins/notes are respected and are a form of Goddess Lakshmi.^{xxvi} The next argument raised was whether showering of coins/currency resulted in indecency and against the dignity of girls performing in dance bars. Section 8(4) of the aforesaid Act was challenged as it stated that such an act resulted in indecency. The Maharashtra Prohibition of Obscene Dance in Hotels, Restaurants and Bar Rooms and Protection of Dignity of Women Act, 2016 stated that "No person shall throw or shower coins, currency notes or any articles or anything which can be monetized on the stage or hand over personally to a dancer or misbehave or indecently behave with the working women or touch her in person in any place. The argument rose by the Indian Hotel and Restaurant Association contended that such resulted in a form of a 'Tip' for the performers. Analyzing the word 'Decency' of performers, the Supreme Court, decided to hand over the tip to the owners of the dance bars by adding it to the bill. The doubt raised was whether such tip would be correspondingly being handed over by the owner to the performer. The Supreme Court reiterated considering all the facts and stated that the tip can personally be handed over to the dancers rather than showering currency notes as such amounted to indecency. Therefore the court set aside the order of adding the tip to the bill. It is learnt that the bottom line of every decision of the court is based on maintaining the dignity of human beings be it men or women. The consideration of the social norms of the society is the criteria for every good decision. The social service that the judges render to the community is the removal of a sense of injustice.^{xxvii}

H.L.A Hart stated that that 'words do not have a meaning except in a context'. Rules are sometimes indeterminate in their application, due to open texture of language.^{xxviii} If the municipal law provides that, "No Vehicle should be driven in a park", does it include a child's tricycle, a perambulator, a truck carrying saplings to be planted in the park or a tractor used for re-lying a lawn in the park.^{xxix} As words have meaning only in the context, judge will have to find out the contextual meaning of the word 'vehicle'. When rules do not provide appropriate legal answer to a legal question, there is a gap and judge can use discretion to fill in the gap. Because of indeterminacy in application of rules and inadequacy of rules to a specific task, it is quite possible for a judge to use extra-legal facts.^{xxx} The term 'Good Character' was challenged under section 14 and under section



3(3) (i) of the impugned Act as the Maharashtra Prohibition of Obscene Dance in Hotels, Restaurants and Bar Rooms and Protection of Dignity of Women (Working therein) Rules, 2016 stated that no licensee shall be given to such individuals who do not possess 'Good Character' and have a 'Criminal Record' from the past 10 years. The point of contention was whether the definition of 'Good character' and 'Criminal Record' can be defined by the licensing authority to grant license or not. The court regarded it as vague definition as 'Criminal Record' could mean different in different situations. Words has meaning only with respect to the context, therefore the contextual meaning has to be found out in order to give a judgment. The word could also be defined as to filing of FIR against the individual. Therefore the court squashed the said provision and further gave liberty to the authority in issuing license. The judicial process is that one cannot exactly define certain terminology and has to be considered keeping the overall perspective. The same term could be defined differently in a different situation. It is a maxim 'Prakaran', which is similar to 'Noscitur a Sociis' a socio rule of English law, a word is known by the company it keeps.^{xxxii} It removes ambiguities from the meaning of words. Judges do make the law. The role of the judge is to fill the gaps in the law. These things cannot be learnt but is gathered from experience.^{xxxiii} In State of Gujarat v Mirzapur Moti Kureshi Kassab Jamat^{xxxiii}, the issue under consideration was whether the Bombay Animal Preservation Act, 1948 amended by the Bombay Animal Preservation (Gujarat Amendment) Act, 1994, prohibiting the slaughter of animals used for milch, breeding or agricultural purposes, was challenged by the Kureshis. The High court of Gujarat struck down the legislation as ultra vires as it violated the fundamental rights. The question before the court was whether the legislation is constitutionally valid or not? The judicial process in the case is that the ban imposed by section 5 is on a particular type of cattle and not on the profession of butchery. Wherein, butchers are free to slaughter cattle which are not banned by the Act. The judicial reasoning behind such a contention was that in order to obtain the hides, skins, and other things it is not necessary to slaughter these animals as such can be obtained even after the natural death of the animal. The court further stated that cow slaughter is not totally banned but such is done in the form of a restriction in the interest of the general public, thereby the Act not being out of the ambit of ultra vires of the constitution and thereby being constitutionally valid. The reasoning being that though these cows do not produce milk yet their excreta is still useful biogas and organic manure, thereby in public interest. The export of such products does generate revenue for the country. The villages will prosper in terms of revenue and acquiring a prominent place in the Indian Economy. Further adopting this judicial approach the government has adopted to give a unique identification number to these cattle's and open ghoshalas to rehabilitate them. In a constitutional debate the 'Banning of Cow Slaughter' is included in Directive Principles of State Policy under Article 48 of the constitution.

The adjudicators have to apply and interpret law with reference to society, necessity use of social ideologies and facts in judicial process. Many metropolitan cities in India have certain constraints; these may not exist in non metropolitan cities. Therefore the ideology is to interpret facts pertaining to the circumstances. A place like Mumbai know 'as Maya Nagari' or a place of magical charms, where 'land' is the main constraint, considering the size, availability of land in a city like Mumbai the Supreme Court allowed the following:-

- a) To allow the dance bars to be set up near educational, religious places.
- b) Unable to segregate the dance floor from the rest of the bar.

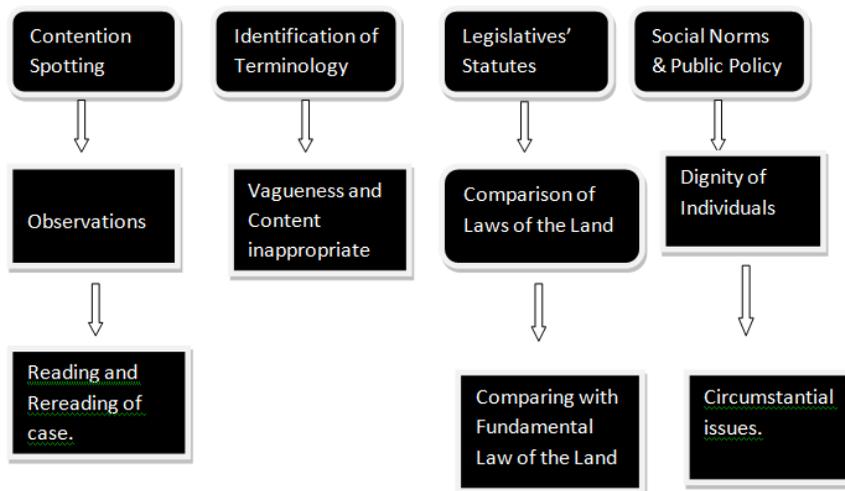
Further it allowed the dance bars to be open between 6p.m -11:30p.m.

Result

As law students one must keep in mind the circumstances affecting the case. One would conclude that at times the court lays down the rules to be followed which are in a form of legislation. The judicial process adopted in Vishaka v State of Rajasthan^{xxxiv}, where the judiciary identified a vacuum in the legislative field of sexual harassment of working women. Guidelines were laid down by the Supreme Court which was to be adhered to as law. This is a form of ad hoc legislation laid down by the Supreme Court.

Diagrammatic Representation of the Judicial Process

Based on the above analysis we can divide the Judicial Process into the following:-



Conclusions

Under this empirical study it is observed that the constitution and the common law of the land has triumphed the other legislations. Equal protection of law is the fundamental right of the citizens. Between 1950 and 1975, the Indian Supreme Court had held more than one hundred Union and State laws, in whole or in part, to be unconstitutional. The court of India had made more liberal use of the power of judicial review.^{xxxv} The Supreme Court has given commendable decision in view of the women of India in ShielaBarse v State of Maharashtra^{xxxvi} and the Triple Talaq Case.^{xxxvii} In the present case the court has yet again made use of its liberal powers of review to impugned the



Maharashtra Police (Second Amendment) Act, 2014 as violative of Article 14, 19(1) (a), 19(1) (g) and Article 21 of the Indian Constitution. The court's objective is maintaining a balance between public interest and the constitutional rights so as not to violate the right to livelihood. The court squashed the provisions of the Act which were in dispute. Further judicial process enables the Acts made in 1940, 1960 and 1872 hold good as of today with some amendments. This again depicts the judicial process wherein the judiciary eradicates those provisions of the Act which are unreasonable and unconstitutional as though being regulatory in nature. The real consequence and effect was to prohibit dance bars. Therefore the role of the state was to achieve something indirectly which it could not be achieved directly. As always the Supreme Court of India is regarded as the greatest watch dog of peoples' fundamental rights and the most assertive organ of the nation.^{xxxviii} As stated in Maneka Gandhi's case that the state's action affecting the life and liberty of a person has to be right, just, fair and reasonable and not arbitrary.^{xxxix} The judicial process helps courts to triumph in the societal change and safe guard the rights of individuals.

To sum up every law student to enrich his knowledge base by following mentioned guidelines:-

1. Pick up a leading case.
2. Read and reread it.
3. Single out the important contentions.
4. Analyze the study of the judges.
5. Layout the judicial process.

The academic excellence of law students is to understand the legal language and to interpret the decision enabling to grow in the field of law. A humble attempt has been made by the author in giving small tips to budding law students aspiring to become judges in the present publications.

Acknowledgement

Till date the Indian judiciary has decided the cases very judicially. They are in the form of precedents and enables laying down the judicial process. Different authors can have different views on the subject matter giving a rich literature for the readers.

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RECENT DEVELOPMENTS OF INDIAN RAILWAYS AND ITS LOCOMOTIVES

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Abstract:

Indian railway (IR) are the life line of India. Since 1853, it is servicing to the nation. Approximately 67000 km rail paths are exist in India and out of which 34000 km rail paths are electrified as per last report came in March 2019. In last 3 to 4 years many modernizations have been taken place in to the railway. This modernization includes locomotives, electrical power generation etc. Many new locomotives, both diesel and electrical, have been inducted to the railway fleets in recent years. IR is also transforming towards the solar power generation for the last couple of years. In this paper we have pointed out some very recent developments in the railways.

Keywords: Diesel & Electric locomotive, DLW, DFC, OHE, RDSO, Solar panel, Train-18, UIC, WAG-12B, WDAP-5, WDG-6G, WDP-4D.

Introduction:

Indian railway (IR) contain both type of locomotives i.e. diesel and electrical. Till today 50% of total 67000 km rail path i.e. approximate 33000 km is non-electrified. So for this reason IR maintains both the locomotives. In recent years due to technology up gradation, environmental pollution etc, IR introduces many new locomotives within its fleet. The locomotives are both diesel and electrical. The horse power (HP) of the new locomotives is very high than any other previous locomotive. The new locomotives are manufactured in India, under 'MAKE IN INDIA' project by the Indian companies or foreign companies or public-private partnership (PPP) basis. In present days the IR also moves towards the green or eco-friendly energy. So, the IR has started to use solar energy for its daily operation. Here we will discuss about some modern locomotives with their technical specifications and some solar power projects which are already using and constructing in the IR. This paper has been divided by two sections. First section consists of the locomotive engines & train-18 and 2nd section will be about solar projects.

i. Locomotives section:

(a) WAG-12B:

It is the highest horse power locomotive of the IR. It is 12000 hp locomotive. From the name 'W' stands for wide gauge, 'A' denotes AC power supply, 'G' indicates goods, and '12B' is the series no. of the locomotive. It is generally used for carrying coal and iron ore wagons. In the December, 2019 first commercial launching took place at

Madhepura, Bihar, where the locomotives are constructed. The first two locomotives number are 60020 & 60021 respectively. In the May, 2020, another six WAG-12Bs (60022-60027) have come out of factory at Madhepura. This locomotive is made by 'ALSTOM', a French company. This is an 'MAKE IN INDIA' initiative. This locomotive is equipped with insulated gate bipolar transistor (IGBT) propulsion system, which is fully automated control system. Regenerative braking is used to save the energy consumption. The IR sets up two maintenance depot for this locomotive. They are in Saharanpur (UP) and Nagpur (MH). This locomotive contains two cabins with loco pilot toilet facility. The cabins are fully air conditioned so that any kind of fatigue will not come to the loco pilots during a long journey. The technical specifications are given below.

Manufacturer	ALSTOM
Origin	France
Model	WAG-12B Prima 2TB
Configuration	BO-BO+BO-BO, 8 axels
Rated power and speed	9000kw (12064 hp), 120 km/h (Max)
Weight	180tones, upgraded up to 200 tones
Axel loading	22.5tones, upgraded up to 25 tones
Motors	6 PRA, 4576 D, Asynchronous, 3775 volts, 1125kw at 1750rpm, high torque, Forced ventilated.
Pinion drive transfer	2700kgs
Drive	Water cooled, IGBT drive
Traction effort	Starting TE-750kN at 22.5T/Axel
Transformer	ABB
Maintenance	Workshops at Ajni(Nagpur) and Saharanpur
Load hauling capacity	This locomotive is capable of hauling trains up to 7000tones at 75 km/h at 1:200 running gradient of EDFC (Electrified Dedicated Freight Corridor).

Table 1: Technical specification of WAG-12B



Figure 1: WAG-12B with serial number 60023



Figure 2: WAG-12B with serial number 60020

(b) WDAP-5(DUAL MODE LOCOMOTIVE):

Since 2018, India is manufacturing the dual mode i.e. this locomotive operates in both diesel and electric. Diesel Locomotive Works (DLW), Varanasi is manufactured the locomotive. From the name 'W' stands for wide gauge, 'D' is the diesel, 'A' denotes AC power supply, 'P' indicates passenger, and '5' is the series no. of the locomotive. Originally this locomotive is the modified version of WDP-4D (wide-diesel-passenger-4D series) locomotive. In the WDAP-5 locomotive, for diesel operation the rated horse power is 4500 and for electrical system it is 5000hp. The maximum speed is 135km/h for both diesel and electric performance. In WDP-4D, the fuel tank capacity was 6000 liter. But after converting into WDAP-5, the fuel tank capacity is reduced to 3000 liter. The total body of the engine is made of stainless steel instead of structural steel. In the November, 2019, this locomotive completed the successful trial under the Research Designs & Standards Organization (RDSO), a completely subsidiary under the Ministry of Railways, Govt. of India. During modification in WDP-4D a dual transformer is used. The main purpose of the transformer is to step down the OHE (Over Head Equipment) voltage i.e. 25kV and fed to the converter. This converter will convert into DC, then back to AC to supply the AC motors. The dual mode transformer has high impedance and due to this property transformer also acts as a filter for harmonics. This harmonics is produced by the converter during conversion process. The above mention works is done by the transformer during electrical mode. But the transformer has also worked during diesel operation. In the diesel locomotive part there is an alternator which is coupled with diesel engine. The alternator produces electrical power during diesel operation mode. A part of the generated electrical power has to pass through the transformer as 'Hotel Load'. This was achieved by better coupling impedance resulting in smooth operation during both modes. The 'Hotel Load' means the electrical load in the coaches for lighting, fans, air-conditioning, heating, pantry etc. The technical specifications are as follows:

Manufacturer	Diesel Locomotive Works(DLW)
Origin	Varanasi, India
Model	WDAP-5(Dual mode locomotive)
Locomotive weight	126 tones(maximum)
Nominal axel load	21 tones
Wheel diameter	1092 mm
Gear ratio	17.77 mm
Maximum operating speed	135 km/h
Starting traction effort	40.7 tones
Mode of operation	Diesel-Electric
Traction effort	Starting TE-750kN at 22.5T/Axel
Rated power	4500 hp(diesel operation) & 5000 hp(electrical operation)
Maintenance	DLW
Load hauling capacity	This locomotive is capable of hauling a passenger train of 26 coaches in 1:37 gradient.

Table 2: Technical specification of WDAP-5(Modified WDP-4D, Dual mode locomotive)



Figure 3: WDAP-5 at DLW Varanasi

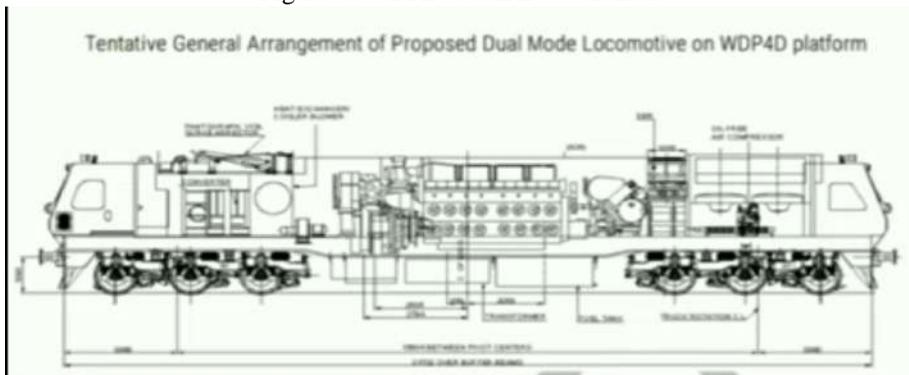


Figure 4: Design diagram of WDAP-5(Modified WDP-4D, Dual mode locomotive)



Figure 5: Dual mode locomotive transformer

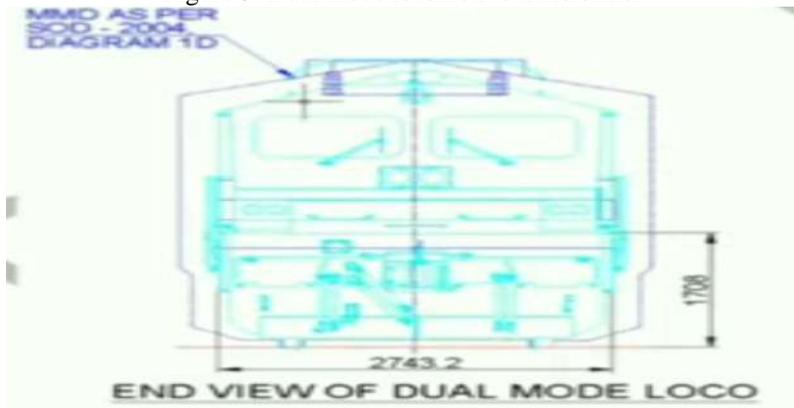


Figure 6: End view of dual mode locomotive

(c) WDG-6G:

It is the highest horse power diesel locomotive of the IR. It is rated 6000hp. This locomotive has high torque and high traction effort. From the name ‘W’ stands for wide gauge, ‘D’ is the diesel, ‘G’ indicates goods , and ‘6G’ is the series no. of the locomotive. It is designed for hauling a large no. of goods wagons through the dedicated freight corridor (DFC). This locomotive is manufactured by the General Electric (GE) Transportation, USA. Since the year of 2015, this loco comes in service to the IR. It is the India’s first UIC certified diesel locomotive. In French, the UIC stands for ‘Union Internationale Des Chemins De Fer’ (The International Union of Railways in English language). It certifies that WDG-6G is less carbon emission locomotive because of electronic fuel injection technology. The technical specification of this locomotive is given below.

Manufacturer	GE Transportation
Origin	USA/India
Model	WDG-6G
Capacity	6000 hp
Engine type	4 stroke 16 cylinders with turbo charged

Fuel injection	Electronic fuel injection type. Because of this less fuel burns and efficiency increased.
Axel control	IGBT type control system
Air brake	Microprocessor based air brake system is provided
Traction effort	570kN
Fuel tank capacity	6100 liter
Axel load	23 tones
Speed restriction	Maximum speed 65 m/h for 60 kg rail track and 60km/h for 52 kg rail track
Maintenance	Maula ali(MLY) diesel shed

Table 3: Technical specification of WDG-6G



Figure 7: WDG-6G locomotive named 'Angad' with serial no 69012

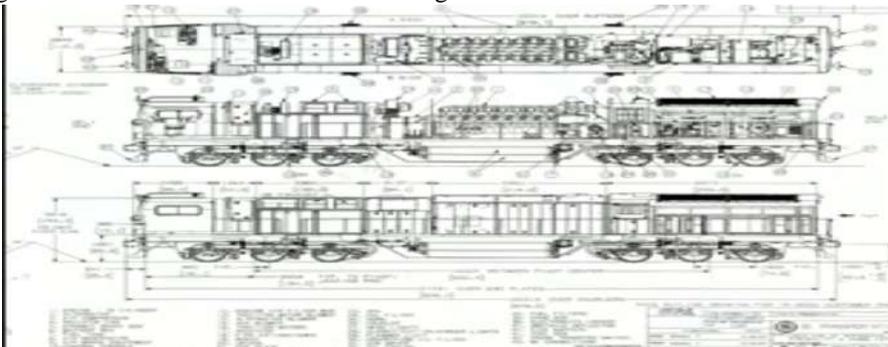


Figure 8: WDG-6G locomotive design diagram with top and side view

(c) Train-18 (Vande Bharat Express):

It is the most ambitious project of the IR under 'MAKE IN INDIA' initiative. It is made by Integral Coach Factory (ICF), Chennai. Train-18 is a semi high speed MEMU train.

Maximum speed limit is 160km/h. it is 16 coaches train within which 8 coaches are motorized. The sixteen coaches are arranged in the following manner:

DTC+MC+TC+MC+NOT+MC+TC+MC+MC+TC+MC+NOT+MC+TC+MC+DTC

8 coaches of forward part of the train 8 coaches of backward part of the train

DTC:

DTC means driver trailer coach. It consists of battery, battery charger & compressor. In DTC loco pilot seats here. Battery is used to provide power supply the control panels of the coach. Obviously charger is for battery charging purpose. Compressor is provided here to control the air brake of the train.

MC:

MC stands for motor coach. According to the coach arrangement shown in the above there are 8 motor coaches. Each motor coach contains 4 three phase induction motors (traction motors). So, the total no. of traction motors is 32. Each motor is rated 3 phase, 415 volts and 250kW. Total capacity of 32 traction motors is $32 \times 250 = 8000 \text{ kW}$ or 10723 hp (1hp=0.746 kW).

Traction converter is present in the motor coach. This converter feeds input power to the motor. This converter is totally based on power electronics. Operation of the converter is controlled by adjusting the firing angle of SCRs. By this method the output voltage of the converter is also changed as well as the input voltage of the motors. Thus speed of the motors is also controlled.

Brake chopper resistor is also provided in the motor coach. This resistor is used for regenerative braking purpose. Mainly by regenerative braking process the coaches' 'Hotel Loads' get electrical power. The regenerative braking diagram is given below:

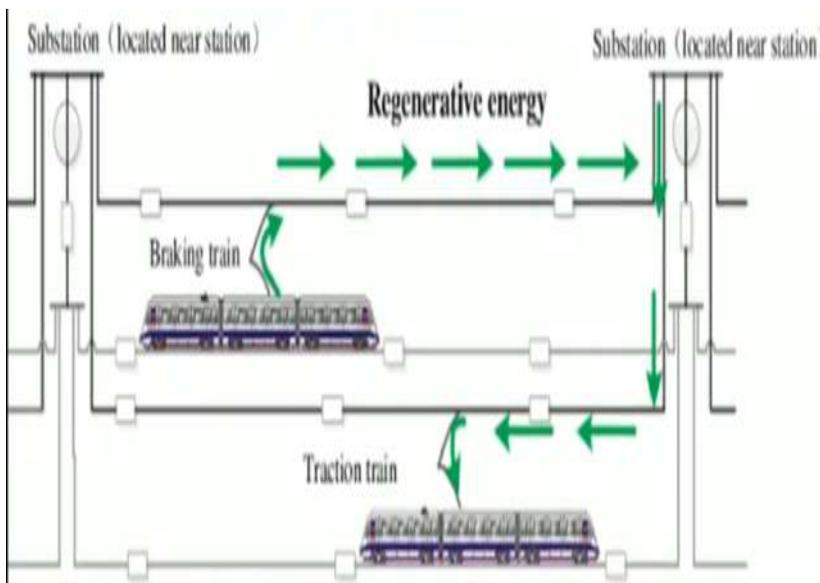


Figure 9: Regenerative braking process of the train-18

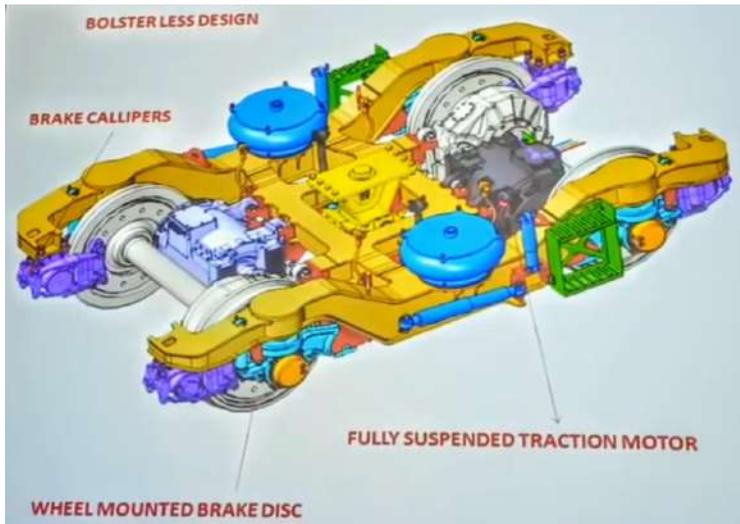


Figure 10: Mechanical design of wheel and traction motors of train-18

TC:

The full form of the TC is trailer coach. It consists of traction transformer, auxiliary converter, pantograph and vacuum circuit breaker (VCB).

According to the coaching arrangement total 4 trailer coaches are present. So total 4 transformers are in hand for the service but in practical condition only two transformers are used. It is because the transformers are very high rated. The rating of the each transformer is 2880 kVA. During trial run it is seen that two transformers are sufficient to supply the power to 32 traction motors. Similarly two pantographs are in service. Total $2880 \times 2 = 5760$ kVA power is supplied by two transformers. Rest of the two transformers are kept in standby mode.

VCB is provided here for protection purpose against short circuit.

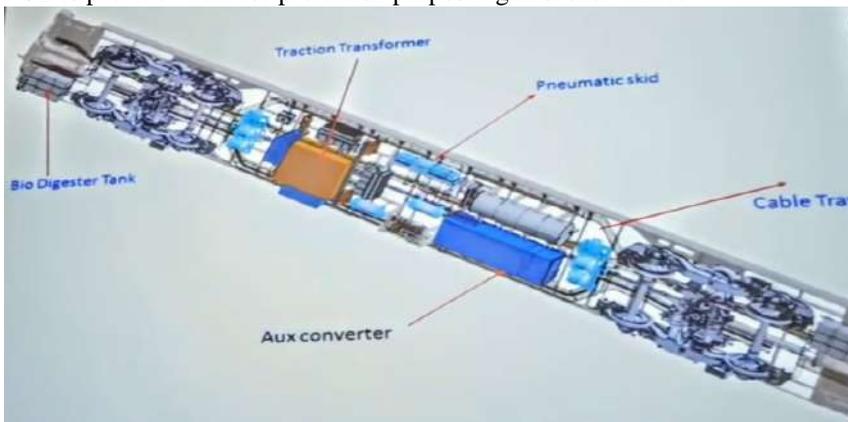


Figure 11: Top view of traction transformer and VCB of train-18



Figure 12: Train-18 at ICF, Chennai



Figure 13: Train-18 in running condition

ii. Solar project section:

The ministry of railways has decided to generate 10GW & 200MW electrical energy from the solar plants and wind mills respectively by 2031. So this section has been divided in four sub sections.

a. Solar power plants at zonal railways:

Ministry of railways has decided to set up solar power plants in all the zonal railways (17 zones). It is aimed to produce 10 GW by 2031. Within 10GW, 3-5GW will be utilized by the railway itself and rest of energy will be given to the grid or sale to the government power organizations. This zonal solar power will be utilized for train movement purpose mainly because of reducing the dependency on conventional power plants.

b. Solar panels on stations' roof tops:

IR plans to set up 500MW solar panels on the roof tops of various railway stations for generation of electricity in the financial year of 2020-21. Out of 500MW, already 96MW capacity has been installed. This solar energy will be used for daily operations of the stations.



Figure 14: Solar panels install at a station roof top

c. Sharing of load between thermal and solar power plants:

The IR plans to share load between thermal power plant and solar power plants. After set up of solar power plant, the load on the conventional power stations will reduce very much. The reduced load will be applied on the solar power plants. Thus a large amount of electrical energy will be saved. Keeping in mind this idea, the IR is developing two such solar power plants at Diwana railway station, Panipath, Haryana comes under Northern Railway zone and Bina junction, Madhya Pradesh, under West-Central Railway zone. The capacity of the solar power plants is 2MW and 1.7MW for Diwana and Bina railway stations respectively.

d. Train roof top solar panels:

All the solar projects are working under the Indian Railways Organization for Alternate Fuels (IROAF). Recently IROAF is setting up flexible solar panels along with the Li-ion batteries to supply the internal power of DEMU (Diesel Electric Multiple Unit) coaches. This organization is also targeting to install flexible solar panels along with the present batteries to 500 passenger coaches. Before few months ago, a 10 coaches train was tested by solar panel set up. Each coach contained 20 solar panels with 4.5kW power capacity. So total solar power= $20 \times 10 \times 4.5 = 900\text{kW}$ for the 10 coaches. It was a off grid system. It was found that total arrangements were sufficient to supply power to the train.



Figure 15: Train roof top solar panels



Fig 16: Li-ion batteries

Conclusion:

Beside the above mentioned projects, IR is also working on 'will run between Bullet Train' which is a high speed train. It has been decided that the Bullet train will run between Mumbai and Ahmadabad. The technology is being transferred by Japan. Japan has also given monetary loan for this project. India should also build more solar power plants to reduce dependency on conventional power plants. India is also constructing the dedicated freight corridor (DFC) for smooth transportation of the goods trains. At last it can be said that India will have one of the very modern railway system in the world in near future.

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AN ANALYTICAL PEDAGOGY ON IMPLEMENTATION OF RFID TECHNOLOGY IN RETAIL INDUSTRY

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ABSTRACT

In today's world cost optimization and better service are becoming the essential components of the retail supply chain. This article tries to contribute to the understanding of the RFID technology in the retail industry. The basic concepts and the research contribution of the various authors are briefed in the theoretical framework made for a better understanding to the readers. After gained the relevant theoretical knowledge, the interviews were conducted with the RFID expert and some retailers. The empirical data collected from the interviews and surveys are projected. With the empirical results and the relevant theoretical results, an analysis is made which explicitly gives the basis of implementation of RFID in the retail supply chain and its associated practical scenarios. Another outcome of the research is the result of the checkout analysis of the Al Falah diesel and oil trading company, and researchers try to show the potential benefit of adopting the RFID technology at item level at the point of sales, also cost estimation and savings are shown in the analysis. In a bird's eye view, this research work is a contribution to the implementation of RFID technology in the retail industry and its integration among the different entities of retail supply chain and improves the overall performance of supply chain and provide a framework for RFID implementation for the case company.

Keywords: RFID, Supply chain management, Performances, Awareness , Challenges, Implementation

INTRODUCTION

Supply chain management is the process of managing raw materials and information from the point of acquisition to the point of consumption. Most of the companies today rate supply chain management as their key priority for survival and success. The use of RFID in the retail supply chain for tracking and tracing products can lead to reduced inventory and better collaboration among different players in the supply chain. Most of the major retailers today see potential of the RFID technology to better integrate their supply chain and improve their efficiency by reducing error rates which can cut down overall cost of operations significantly.

Today top tier retailers are forcing major manufacturers to adopt RFID. However, going forward there needs to be an evolution in the marketplace where



manufacturers fully adopt this technology. This will start to push the second-tier retailers to also seek these cost savings. The process will continue throughout the retail supply chain until the full adoption of RFIF becomes a reality.

The researched company Al Falah was started in Ajman, U.A.E in 1995 by Mr.SANUSHA, Indian leading business man in U.A.E. Today they have approximately 312 employees working to provide their customers with U.A.E cheapest retail offers. Al Falah has approximately 30 stores, of which about forty are based on our convenience stores called Al Falah petroleum products. Al Falah stores are found all over the Arab country and other locations just outside the city centres, but also in city centres. The stores' selling space for Al Falah is between 1100 and 4700 square feet and number of items in the store is about 90. Selling surface of the Al Falah petroleum is between 300 and 1200 square feet with approximately 5,000 articles.

In this study, we examine the fundamental components of RFID technology in a comprehensive supply chain strategy that directly support the effectiveness and efficiency of supply chain management. We examine the appropriate business processes affected by the RFID technology, the required planning and examination for successful implementation, and many potential impacts on effectiveness and efficiency of supply chain management. We emphasize on business values and strategic advantages of RFID technology as well as the challenges and recommendations in adoption of the technology particularly when a company extends its supply chain to upstream suppliers and downstream customers, as their external integration needs to gain in capacity planning and in efficiency. Using four major supply chain processes, we highlight economic opportunities and challenges when planning and implementing RFID technology within an existing supply chain framework. We will focus on the capabilities of RFID in providing security, privacy, and integrity of supply chain processes while facilitating sharing information with upstream suppliers and downstream customers, developing alliances, establishing strategic alliances, and gaining competitive advantages.

LITERATURE REVIEW

The purpose of literature review is to manifest the scholarly ability to discover the relevant information for the scope of the work, build a supportive theoretical framework for the subject, defining the key words, definitions and terminologies, identifying previous research works and to rationalize the research topic.

According to **R. Angles(2019)¹** RFID technologies: Supply-chain applications and implementation issues, Information Systems Management, vol. 22, no. 1, pp 51-65, the applications of Radio Frequency Identification (RFID) and Electronic Product Codes (EPC) in supply chain management have vast potential in improving effectiveness and efficiencies in solving supply chain problems. EPC is the concept of storing product identification on chips no larger than a grain of sand, then placing these chips on tags, which in turn are placed on objects so they can be uniquely identified. RFID technology can track inventory more accurately in real time resulting in reduced processing time



and labour. There are many applications and possibilities for RFID/EPC as these objects in motion are traced throughout the supply chain. The complete visibility of accurate inventory data throughout the supply chain from manufacturer's shop floor to warehouses to retail stores brings opportunities for improvement and transformation in various processes of the supply chain.

According to **A. Gunasekaran and E.W.T. Ngai,(2019)²**, Build-to-order supply chain management: A literature review and framework for development, *Journal of Operations Management*, vol. 23, no. 5, pp. 423-451, 2019. RFID technology has been promising to enhance support supply chain management efforts. The future success of RFID and other mobile services will be strongly affected by the ability of businesses to offer the right products and services to consumers. RFID has the potential in other areas of operations, such as manufacturing, after-sales service support, and total product life cycle management.

According to **T.B. Karygiannis, G. Eydt, L.B. Barber, and T. Phillips(2017)³**, Guidelines for securing radio frequency identification (RFID) systems: Recommendations of the National Institute of Standards and Technology, Information Technology Laboratory, National Institute of Standards and Technology, April 2017. Every RFID system contains an RF subsystem, which is composed of tags and readers. In many RFID systems, the RF subsystem is supported by an enterprise subsystem that is composed of middleware, analytic systems, and networking services. However, in a supply chain application, a tagged product is tracked throughout its life cycle, from the manufacture to final purchase, and sometimes even afterwards (e.g., to support targeted product recalls or related service), and thus its RFID systems has to share information across organizational boundaries. Thus, the RFID systems supporting supply chain applications have also an inter-enterprise subsystem.

According to **M.C. Cooper, D.M., Lambert and J. D. Pagh(2017)⁴**, Supply chain management: More than a new name for logistics, *The International Journal of Logistics Management*, vol. 8, no. 1, pp. 1-14, 2017, RFID systems have the capability of sharing information across organizational boundaries, such as supply chain applications. Reno GmbH, one of Europe's largest shoe companies, operating more than 700 stores in 15 countries, plans to embed wireless RFID chips in shoes sold at stores across the continent. Reno has been using RFID technology to track product shipments from its factories to its stores for several years but has not yet used the technology to track individual products inside each store.

STATEMENT OF PROBLEM

AL FALAH DIESEL AND OIL TRADING is a chain of retail stores that, like many other retailers in U.A.E want to investigate the possibilities of using RFID in its various supply chain processes to enable a better and profitable flow of materials. After contacting one of Al Falah store in Ajman, U.A.E. it was decided by the researchers to work on the basis for RFID implementation for Al Falah. (DUBAI, 2016) argues that the problem with RFID is that implementations are relatively costly and that the actual efficiency improvements are often qualitative and therefore difficult to directly measure the financial values. Still it is beginning of RFID in U.A.E retail market; this research



shows generic results concluding the results after conducting interviews with the consultants in RFID and survey.

This research concentrates on the issues related to the implementation of RFID in retail market, possible benefits of RFID over barcode technology, hindrances in the implementation, main drivers, potential benefits of RFID both for the retailer and consumer sides, the current status of RFID in retail industry and also try to address the development and analysis of future scenarios where RFID technology can be used.

OBJECTIVES OF THE STUDY

- To study the awareness level of RFID technology at AL FALAH DIESEL AND OIL TRADING COMPANY.
- To analyse the benefits of replacing barcodes with RFID technology.
- To study about the major drivers for adopting RFID in retail supply chain.
- To find the areas where RFID can be used in retail supply chain.
- To study the challenges faced in adopting RFID in retail industry

SCOPE OF THE STUDY

The scope of the study is categorised with respect to the three-level decision-making hierarchy: (a) strategic decisions that meant for long-term as well as executive-level issues such as strategic alliances, facility location, technology power and capital investment; (b) tactical decisions that deal with intermediate term, mid-manager-level issues such as joint demand planning, supplier selection, and inventory planning and (c) operational decisions that deal with short term, routine issues such as tag costs, maintenance issues.

- This study opens a wide field of scope for emerging technological advancement in the field of supply chain management.
- The study provides a clear understanding about the awareness level about this technology and the view about the beneficiary in adopting RFID.
- This study aims at promoting technological tools in supply chain management.
- It provides an idea about implementation cost and also various threats associated with adoption of new technologies in logistics management.

LIMITATIONS OF THE PROBLEM

The main limitations of the study are,

The field of RFID is very deep and demanding and there is a lot of potential in it. We had not work on the coding aspect of RFID as it doesn't come under our area of work. The research has broader scope since I interviewed some representatives from U.A.E (United Arab Emirates). This is because the project initially started considering Al Falah diesel and oil trading, U.A.E, was planned to have an in-depth study in supply chain but due to some permission issues we restrict it to some extent.

One of the major limitations of this study is that we cannot collect information from common people as they were unaware about this technology. The data has to be collected from the managerial experts, there by creates a limitation in the sample size

RESEARCH METHODOLOGY

Both primary and secondary data were used for the present study. Convenient random sampling method has been used for this study. Secondary data have been collected from



Websites, Records and Journals.primarydatais collected by the researcher through conducting interviews with various company officials who had implemented RFID technology and are well aware about the technology and its drawbacks and merits. Also the researcher had collected data’s using questionnaire method for obtaining detailed knowledge about the advantages and challenges of implementing RFID technology in supply chain management. The data required for the study have been collected through the structured questionnaire. 115 respondents were deliberated for the study purpose.

TOOLS FOR ANALYSIS:

Percentage Analysis, chi-square analysis, weighted Average, Mean and Standard deviation and Pearson’s correlation

ANALYSIS AND DISCUSSION:

PERCENTAGE ANALYSIS

Table 1: Percentage Analysis

Content	Factors	Percentage(%)
Awareness status	Yes	98
	No	2
Beneficial level	Excellent	12
	Good	73
	Moderate	9
	Low	6
Primary reason of adoption	product visibility	35
	Stock outs	15
	High inventory costs	20
	Missed fulfillment	5
	Replenishment cost	4
	Inventory shrinkage	3
	Low inventory turns	18
Major drivers	Benefits	63
	Big firms mandate	9
	Decreasing price of tags and readers	18
	Security reasons	10
Challenges in adoption	Cost Issues	42
	Security issues	8
	Technical issues	28
	Compliance Issues	22
Areas of adoption	Business-to –business logistics	17
	Internal operations	43
	Business-to-customer marketing and logistics	21
	Business-to-customer after-sales service	19

Interpretation: - Out of total respondents about 98% of respondents were aware about the technology. Most of the respondents (73%) opinion is that the beneficial status in RFID adoption is good. The primary reason for AI adoption was found out to be product visibility (35%). Majority of respondents (63%) selected benefits as the major driver for RFID adoption. Among the challenging factors, cost of tags was recognized as the main challenge (42%). Based on the opinion of 43%, key area of adoption of RFID is for internal operations.

WEIGHTED AVERAGE ANALYSIS

Table 2: weighted average

Key benefits of RFID adoption

Key benefits	Mean	Rank
Improvement of quality of operations	3.32	3
Reduction of time and cost	2.70	5
Reduction of labour	2.91	4
Easiness of operation	2.85	2
Accuracy	3.48	1

Interpretation: -Among the key benefits of RFID, accuracy ranked first, whereas easiness of operation ranks second, improvement of quality turned to be in third position. Reduction of labour stood in fourth rank and reduction of time and cost was the least with fifth rank.

CHI SQUARE ANALYSIS:

To find the relationship between level of awareness and major drivers of RFID.

H₀: There is no significant association between level of awareness and major drivers of RFID.

H₁: There is significant association between level of awareness and major drivers of RFID.

Table 3: chi square analysis

Level of awareness VS major drivers of RFID

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.091 ^a	3	.003
Likelihood Ratio	15.604	3	.001
Linear-by-Linear Association	2.250	1	.124
N of Valid Cases	115		

Interpretation: -Since Value of $P < 0.05$, we reject null hypothesis and accept alternative hypothesis. So there exist a relationship between level of awareness and major drivers of RFID.

MEAN AND STANDARD DEVIATION:

This test is done to find out the mean and standard deviation of key areas of adoption of RFID.

Interpretation:-Among the key factors ,internal operations is found out to be first with a mean value of 3.337 and with variance value of 0.913.

Table :4 Mean and Standard deviation

	Mean	Std. Deviation
Business-to-business logistics	1.23	.430
Internal operations	3.37	.913
Business-to-customer marketing and logistics	1.20	.407
Business-to-customer after-sales service	3.33	.959

Pearson's correlation test:

Table : 5 Pearson's Correlation

	awareness	Level of awareness	Key areas	Challenges in adoption	Major drivers	Primary Reason	
Awareness	Pearson Correlation	1	.688**	.118	.307	.497**	-.115
	Sig (2-tailed)		.000	.534	.099	.005	.545
Level of awareness	Pearson Correlation	.688**	1	.279	.171	.444*	-.429*
	Sig (2-tailed)		.000	.136	.367	.014	.018
Key areas	Pearson Correlation	.118	.279	1	.177	.563**	.036
	Sig (2-tailed)		.534	.136	.350	.001	.852
Challenges in adoption	Pearson Correlation	.307	.171	.177	1	.426*	.013
	Sig (2-tailed)		.099	.367	.350	.019	.947
Major drivers	Pearson Correlation	.497**	.444*	.563**	.426*	1	-.066
	Sig (2-tailed)		.005	.014	.001	.019	.729

Interpretation :

- Awareness, level of awareness and major drivers are highly correlated.
- Key areas and major drivers are highly correlated to each other

FINDINGS

- Most of the respondents have awareness about AI.
- Majority of the respondents believes the beneficial status as good.



- Increased product visibility is the primary reason of adoption.
- Benefits are the major driver for AI implementation.
- High charges are the major issue in AI adoption.
- Internal operations were found out to be the major area of implementation.
- Adoption of AI in SCM is the best strategy for organisational success
- Among the key benefits of RFID, Accuracy ranked first
- There is significant relationship between awareness and drivers of RFID for organisation.
- Among the key factors, internal operations are found out to be first with a mean value of 3.37
- Awareness, level of awareness, major drivers and areas of adoptions are highly correlated to each other

SUGGESTIONS

While we compare our research with the field of RFID we would have need more time to analyse the thorough process of implementing RFID in retail sector. Further proceedings with this research work would analyse the other areas of retail stores as well, such as shelf replenishment and ordering, this further study could encourage the retail stores in UAE to focus more and think over implementing RFID and contribute for the cost effectiveness of the process and customer service. Major suggestions based on our study are

- Cost issues are one most important factor while implementing RFID and then come the lack of industry standards, technical issues and man power planning factors for implementing RFID. Proper measures should be adopted to reduce the cost issues, technical issues should be solved using technical experts and proper industry standards should be established.
- By installing low cost tags from China, the problem of largest cost in RFID implementation can be solved.
- Tracking ability of RFID can be used in effective logistical management.
- RFID can be also used for security purpose.
- The effective usage of RFID can open wide scope in internal operations of company.

CONCLUSION: -

The main objective of this research has been to contribute to the understanding of RFID implementation in the retail supply chain, how it contributes and improves the supply chain, the impact of RFID over the supply chain and about its integration among the different entities of retail supply chain. RFID is one of the major technological advancement in supply chain management. Effective handling of this technology can bring great benefits in retail supply chain. From this research work, it is concluded that implementation of RFID can bring great benefits in the field of logistics and supply



chain management. The use of RFID in the retail supply chain for tracking and tracing products can lead to reduced inventory and better collaboration among different players in the supply chain.

FUTURE RESEARCH GAP: Most of the dominant RFID benefits concentrate at the lower end of the supply chain. The potential it has on the other aspects of the supply chain are somewhat neglected. Since the benefits are not standalone they can leverage from one another to their own advantage. Also, if the benefits are well dispersed across all the entities of the supply chain it will meet the incentives of a wider range of stakeholders (suppliers, manufacturers, retailers and consumers).

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वैदिकवाङ्मयेषु शस्त्रास्त्राणि (मण्डुकप्लुत्यवलोकनमेकम्)

ड. दिलीपकुमारपण्डा

सहयोग्यध्यापकः

संस्कृतविभागः

घाटालरबीन्द्रशतवार्षिकी महाविद्यालयः

घाटालः, पश्चिममेदिनीपुरः

पश्चिमवङ्गः

भारतवर्षः

भूमिका

वेदाध्ययानात् जायते यत्, वैदिकयुगे शस्त्रस्य अस्त्रस्य च प्रयोगः प्रचलितासीत्, परन्तु शब्दद्वयस्य अर्थे एव 'आयुधः' इति शब्दप्रयोगः दृश्यते। आयुधेति शब्देन शिरस्त्राणादयस्यापि ग्रहणं भवति, येन शरीररक्षां भवति।

शस्त्रस्य अस्त्रस्य च संज्ञा – शुक्रनीतिसारानुसारेण शस्त्रस्य लक्षणं यत्, 'असिकुन्तादयं शस्त्रम्' (Weapon), परन्तु यन्त्रेण मन्त्रेण वा प्रक्षेपणयोग्यं अस्त्रम् (Missile)। अपि च अस्त्रस्तु द्विधा विभक्तम् – नालिकं तथा मान्त्रिकं दिव्यास्त्रं वा। नालिकं पुनः द्विविधम् – लघुनालिकं, वृहन्नालिकञ्चेति। एतदर्थं शुक्रनीतिसारे उक्तं यत् –

‘अस्यते क्षिप्यते यत्तु मन्त्रयन्त्राग्निभिश्च तत्।

अस्तरं तदन्यतः शस्त्रम्, असिकुन्तादिकं च यत्।।

अस्त्रं तु द्विविधं ज्ञेयं, नालिकं मान्त्रिकं तथा।’

एकेन मन्त्रेण प्रक्षिप्तम् मान्त्रिकं दिव्यास्त्रं वा, परन्तु केनापि वन्दुकादियन्त्रेण प्रक्षिप्तास्त्रं यान्त्रिकमिति कथ्यते।

अस्त्राणि

अस्त्रार्थे वेदेषु 'हेति' 'मेनि' चेति शब्दद्वयं दृश्यते – 'हेत्या हेतिरसि मेन्या मेनिरसि'।

अस्त्रं द्विविधम् – दिव्यं मानवीयञ्च।

दिव्यास्त्राणि

दिव्यगुणयुक्तास्त्रं दिव्यास्त्रम्। वज्र-अग्नि-जल-वायु इत्यादिप्राकृतिकशक्त्या जन्यास्त्रस्यास्य असाधारणप्रभावः विद्यते। देवेन ऋषिणा प्रदत्तास्त्रमपि दिव्यास्त्रमिति कथ्यते। तद्यथा – ब्रह्मास्त्रम्, आथर्वणास्त्रमिति।

क) आग्नेयास्त्रम् अग्निवाणास्त्रं वा – अनेनास्त्रेण चतुर्दिशि अग्निवर्षणं भवति। अग्निणा सह अनेनास्त्रेण धुमः अपि उथितो भवति, येन शत्रुः अज्ञानं भवति। अथर्ववेदेषु दृश्यते



यत्- आग्नेयास्त्रप्रयोगेन ज्ञानरहितशत्रोः शिरश्छेदः इन्द्रेण कृतः –‘तेषां वो अग्निमूढानाम् इन्द्रो हन्तु वरं वरम्²।’

ख) वायव्यास्त्रम् – मारुतास्त्रं अस्य नामानत्रम्। अनेन प्रयोगेन ‘आँधि’ इत्याकारं गतुशीलः वायुः प्रवहति शत्रुश्च किंकर्तव्यविमूढो भवति। मारुतेम सह सम्बन्धत्वात् मारुतास्त्रमिति कथ्यते। अस्मिन् विषये अथर्ववेदे दृश्यते –‘अग्नेर्वातस्य धाज्या तान् विषूचो वि नाशाय³।’ ‘मरुतो घनन्त्वोजसा⁴।’

ग) पाशुपतास्त्रम् – पशुपतेः शिवस्य रुद्रस्य वा अस्त्रमिदम्। ऋग्वेदेषु तथा यजुर्वेदेषु अस्यास्त्रस्य वर्णनं दृश्यते

–‘परि णो हेतो रुद्रस्य वृज्याः⁵।’ ‘परि नो रुद्रस्य हेतिर्वृणक्तु⁶।’

घ) ब्रह्मास्त्रम् – अस्यास्त्रम ब्रह्मणः शक्तिरूपेण स्वीकृतम्। अथर्ववेदेषु प्रहारकस्य प्रहारकमितिरूपेण तथा प्रखरतपसः फलरूपेण अस्यास्त्रस्य वर्णनं कृतम् –‘ब्रह्मणो हेते तपसश्च हेते। मेन्या मेनिरसि⁷।’

ङ) आथर्वणास्त्रम् – आथर्वणषिणाविष्कृतमस्त्रमिदम्। अस्त्रमिदमथर्ववेदेषु उल्लिखितम् –

‘यत् संयमो न वि यमो, वि यमो यन्न संयमः।

इन्द्रजाः सोमजा अथर्वणमसि व्याघ्रजृम्भणम्⁸।।’

अनेनास्त्रेण व्याघ्रादिहिंसकप्राणी स्थितावस्थायां विद्यते, तेषामाक्रणणशक्तिश्च अनेनास्त्रेण विदूरिता भवति।

च) वारणासं पाशास्त्रं वा – ऋग्वेदेषु यजुर्वेदेषु तथा अथर्ववेदेषु वरुणपाशास्त्रस्योल्लेखास्ति –‘उदुत्तमं वरुण पाशमस्मदवाधमं वि मध्यमं श्रथाय⁹।’ वेदेषु वरुणस्य माहात्मं तथा विद्यते तथैव तस्य पाशास्त्रस्यापि वर्णनं दृश्यते। उत्तमं, मध्यमं तथा अधमभेदेन त्रिधा विभक्तेऽपि इदमास्त्रं पुनः सामान्यं व्याम्यञ्चेति रूपेण द्विधा विभक्तमस्ति –‘यः सामान्यो वरुणो व्यामः¹⁰।’

छ) संमोहनास्त्रम् – अनेनास्त्रेण शत्रुसेनानीं वशीकृत्वा तेषां हस्तच्छेदनं क्रियते, इत्याकारं वर्णनमथर्ववेदेषु दृश्यते –‘अग्निर्नः शत्रुन् प्रतेत्यु। स सेनां मोहयतु परेषां निर्हस्तांश्च कृणवत्¹¹।’

ज) तामसास्त्रम् – वेदचतुष्टयेषु अस्त्रमिदं प्राप्यते। अर्वाचीनाश्रुग्यासतुल्यम् (Tear Gas) अस्त्रमिदम्, यस्य प्रयोगानन्तरं धुमैः परिव्याप्तं ऊवति दिगन्तम्, श्वासग्रहणाक्षमाः भवन्ति शत्रुसैन्याः। अङ्गशिथिलीकरणेऽपि अस्त्रमिदं समर्थमस्ति। एतदर्थं अथर्ववेदे दृश्यते त्रिषन्धीति सेनापतिः अनेनास्त्रेण शत्रुसेनायाः विनष्टञ्चकार –‘त्रिषन्धे तमसा त्वमित्रान् परिवारय। मामीषां मोचि कश्चन¹²।’



झ) ऐन्द्रास्त्रं वज्रो वा – इन्द्रस्य प्रमुखास्त्रमिदम्। वेदचतुष्टयेषु दृश्यते इदम्। अनेन कारणेन वज्रिन्, वद्रवाहुः इत्यादि विशेषणेन विशेषित इन्द्रः। इन्द्रार्थं त्वष्टानिर्मितमस्त्रमिदम् उत्तमकोटिलौहयुक्तम्। अस्मिन् सन्धित्रयमस्ति, इत्यनेन त्रिषन्धीति अस्य नामान्तरम्। येन वज्रेण वृत्रः हतः स सहस्रकौणिकासीत् –‘अभ्येनं वद्र आयसः सहस्रभृष्टः¹³।’ दधीचीत्यस्य अस्थिना निर्मितमिदमस्त्रम् इत्यपि दृश्यते ऋग्वेदे –‘इन्द्रो दधीचो अस्थिर्ब्रूवाणि -----जघान¹⁴।’

मानवीयास्त्राणि

ऋग्वेदेषु आयुधान् वीराणां भ्रात्रारूपेण कल्पते - ‘जामि व्रुवत आयुधम्¹⁵।’ आयुधः वीराणां प्राणतुल्यः, जीवनरक्षकत्वात्।

क) धनुषः – वेदचतुष्टयेषु शताधिकमन्त्रेषु अस्त्रास्त्रस्य वर्णनं दृश्यते। आर्याणां महानास्त्रमिदम्। धनुषा यथा शत्रुसंहारः भवति, तथाव अनेन विजयश्रीर्लाभोऽपि भवति – ‘धन्वना गा धन्वनाजिं जयेम, धनुः शत्रोरपकारं कृणोति, धन्वना सर्वाः प्रदिशो जयेम¹⁶।’ यजुर्वेदीयरुद्राध्याये शिवधनुषः नाम पिनाकेति कथितः –‘पिनाकिं विभ्रदा गहि¹⁷।’ शिवं समीपे विविधशस्त्रास्त्रीणि अपि आसीत्। संसारस्य संहारकत्वात् शिवः रुद्रेति ख्यातः। दिवि वर्षारूपेण, अन्तरिक्षे वायुरूपेण, पृथिव्याञ्च अन्नरूपेण इत्ययं रुद्रस्य वाणः त्रिलोके व्याप्तः रुद्रस्य व्याप्तत्वात्। धनुषः भिन्नाकारत्वात् कार्मुकः, कोदण्डः, द्रुणेति नाम्ना अभिधीयते इति कौटिल्येनोक्तम् –‘कार्मुक-कोदण्ड-द्रुणा धनुषि।’ ऋग्वेदात् ज्ञायते यत्, धनुषः ज्या गवां स्नायुषु निरिमिता अभवत् –‘गोभिः संनद्धा पतति प्रसूता¹⁸।’ अस्य वाणस्य प्राचीनकाले प्रचलनमासीत्। ताम्रेण पितलेन वा वाणाग्रः निर्मितो अभवति इति सिन्धुसभ्यतातः प्राप्तावशेषानुसारात् ज्ञायते। अतः सिन्धुसभ्यतामाधारीकृत्य वक्तुं शक्यते यत् स्त्रीष्टपूर्वं त्रिसहस्रः चतुसहस्रः वा समायात् धनुषेति वाणस्य प्रचलनमासीत्। शनैः शनैः शतघ्नीवाणस्य (वन्दुकादि) आगमनेन धनुषविद्यायाः हासः भवति।

ख) वाणः – वेदेषु वाणार्थं वाणः, इक्षु, शरः, शरव्या, शल्यम्, सायकः इत्यादयः शब्दाः सन्ति। विशेषतीक्ष्णवानार्थं शल्यं प्रयुज्यते। शल्यस्य सम्मुखभागं शल्यमुखं, तस्याग्रभागञ्च शल्यदन्तः कथ्यते। शल्यदन्तेन अरयः विध्यन्ते। लौहेन, गजजन्तेन इतरकठिनपदार्थेन वा शल्यदन्तं यथा निर्मितः अभवत् तथा वाणस्य गतिवृद्ध्यर्थं तेषु पक्षिपक्षः संलग्नः अभवत् यः सुपर्ण इति नाम्ना ख्यातः। सुपर्ण शब्दस्यार्थः श्यणपक्षी। अतः अनेन शब्देन ज्ञायते यत्, वाणेषु यः पक्षिपक्षः संलग्नः अभवत् सः श्यणपक्षिणः पक्षेण निर्मितः अभवत् –‘सुपर्णं वस्ते मृगो अस्या दन्तः¹⁹।’ शतशल्यादन्तयुक्तैकवाणेन सहस्रशत्रुहननमपि



अथर्ववेदे दृश्यते वाणस्य कण्टककादिमुखानुसारतः अयेमुखः, सूचीमुख विकंकतीमुखश्चेति विचित्रनामनि दृश्यन्ते –‘अयोमुखाः सूचीमुखा अथो विकंकतीमुखाः²⁰।’ विषमिश्रितवाणस्य प्रयोगः यथा वेदे अस्ति, तथा विषनिवारणप्रक्रिया अपि तत्र अस्ति। वाणः कर्णयोनीते ख्यातः कर्णपर्यन्तं ज्याऽकर्षणपूर्वकं वाणसंयोजननियमात्। पुरातात्त्विकानुसारतः वैदिककाले दशप्रकारकः वाणः आसीत्, यथा-

क)अरमुखः – अयं वाणः दन्तसदृशमुखयुक्तः।

ख)क्षुरप्रः तीक्ष्णाग्रविशिष्टवाणः।

ग)सूचीमुखः – त्रिकौणिकसूच्यग्रसदृशवाणः।

घ)भल्लः – पाश्वद्वये भल्लसदृशवाणः।

ङ)अर्धचन्द्रः – अर्धचन्द्रसदृशमुखविशिष्टवाणः।

च)गोपुच्छः – गोपुच्छसदृशः बहु धारयुक्तः वर्तुलाकारमुखयुक्तवाणः।

छ)वत्यदन्तः – गोदन्तसदृशमुखविशिष्टवाणः।

ज)द्विभल्लः – मुखद्वये तीरविशिष्टवाणः।

झ)कर्णिकः – पुष्पोद्गमस्थानसदृशवाणः।

ञ)ककतुन्दः – अड्ढपास्यकारिवाणः।

एतेषां वाणानां शत्रोः शरीरस्य विभिन्नस्थाने प्रयुक्तः भवति। तन्मध्ये यथा- अर्धचन्द्रः

कण्ठदेशनिशानाकारिवाणः। शत्रुधनुषनाशकारिवाणः वत्सदन्तः। शत्रोः

वक्षदेशविदीर्णक्रिवाणः भल्लः। शत्रोः कवचादिनाशकारिवाणः कर्णिकः इत्यादि।

अपि च विभिन्नमुद्राश्रित्य शरसन्धानं क्रतव्यं, यस्या मुद्रायाः नामविषये धनुर्वेदे दृश्यते – विशम्पदः, प्रत्यालिघः, वैशाख, सम्पादः, अलिघः, ददुक्रमः, पद्मासनम्, गरुडकर्म च। शरस्य गतिः, शक्तिः, लक्ष्यभेदः, प्रहारश्च विषये वर्णनमप्यस्तत्र।

ग)सृक् – निघण्टुदृष्ट्या सृगिति शब्दस्यार्थः वज्रः –‘सृक्, वज्रः नेमि, हेतिः, मेनिः, वद्रनामानि²¹।’ अत्र प्रयुक्तसमार्थकशब्दसमूहात् एतदुपलब्धिर्भवति यत् अस्त्रमिदं क्षेपणास्त्रम्। अस्मात् अस्त्रालंकृतत्वात् यजुर्वेदे रुद्रस्य नामान्तरं सूकाहस्ता इति। एतत्त्व्यतिरिक्तं सूकायिन्, सृगायिन्, सूकाविन्, सूकावन्त् इत्यादिशब्दाः वेदिकसंहितायां प्रयुक्ताः सन्ति।

घ)हेति, मेनि च – निघण्टुदृष्ट्या इदमपि क्षेपणास्त्रम्। ऋग्वेदे यजुर्वेदे च रुद्रस्य धनुषोपरि रक्षितवाणाय हेतीति शब्दप्रयुक्तास्ति। अग्नि-इन्द्र-वरुण-सोम-वृहस्पत्यादयदेवाः अनेनास्त्रेण शत्रुहननं कुर्वन्तीति यजुर्वेदे दृश्यते। यथा हेतीति शब्दः क्षेपणास्त्रविषये प्रयुक्तः तथैव मेनीति शब्दोऽपि। ऋग्वेदे इन्द्रस्य वज्रार्थं अस्य शब्दस्य प्योगास्ति –



‘कतरो मेनि प्रति तं मुचाते²²।’ एकत्रे शतारिमारणास्त्ररूपेण मेनीति अस्त्रस्य प्रयोगः अथर्ववेदे दृश्यते।

ड)प्रहेति – हेतीत्यस्य उत्कृष्टरूपमिदम्। प्रक्षेपणास्त्रेषु भयंकरं तथा प्रभावशाली अस्त्रं प्रहेतीति कथ्यते यजुर्वेदे।

च)अशनि – यद्यपि वद्वस्य समार्थकशब्दोऽयम्, तथापि ज्वलन्तास्त्रमिदम्, येन शत्रु भस्मीभूतो भवति। इन्द्रप वृत्रासुरयोर्मध्यो युद्धे वृत्रस्य अशन्यास्त्रस्योत्तरे इन्द्रः वज्रास्त्रस्य प्रयोगः कृतः इति ऋग्वेदो दृश्यते – ‘यद् वृत्रं तव चाशनिं वज्रेण समयोधयः²³।’परन्तु शत्रुविनाशाय इन्द्रेण प्रक्षिप्तास्त्रमिदमपि अस्ति ऋग्वेदे – शितां गभस्तिमशनिं पृतन्यसि²⁴।

छ)ऋष्टि – अस्यास्त्रस्योल्लेखः ऋग्वेदस्य वहिस्थाने दृश्यते। मरुतानां स्कन्धे विराजते भल्लरूपास्त्रमिदम्। ‘अंसेषु व ऋष्टयः²⁵।’ सप्तमरुतानां ऋष्ट्यस्त्रसप्तकं यथा उल्लिखितं तथैव इन्द्राग्निदेवैरपि प्रयुक्तं भवति अस्त्रमिदम्।

ज)रम्भिनी – इदमपि मरुतानां स्कन्धधृतास्त्रं यत् प्रक्षिप्तस्त्ररूपेणाख्यातम् वेदेषु – ‘एषामंसेषु रम्भिणीव रारभे²⁶।’

शस्त्राणि

1)असि – असीत्याख्यं शस्त्रं कृपाणिति कथ्यते। अथर्ववेदानुसारतः लौहेन निर्मितशस्त्रमिदं गृहस्थानां गृहे रक्षितं वभूव – ‘स्वायसा असयः सन्ति नो गृहे²⁷।’ अर्थशास्त्राणुसारतः त्रिप्रकारकमसि विद्यते –

क)निस्त्रिंशम् – वक्राग्रभागयुक्तशस्त्रमिदम्।

ख)मण्डलाग्रम् – वर्तुलाकाराग्रभागयुक्तशस्त्रमिदम्।

अस्य अस्त्रस्य हस्तधृतांशः गण्डारविषाणेन, महिषविषाणेन, वारणविषाणेन, दारुणा, वेणुमूलेन वा निर्मितो वभूव इत्यपि अर्थशास्त्रे दृश्यते।

2)स्वधिति – इदमपि कृपाणस्य प्रकारकमेकम्, येन शत्रुः तथा पशुः हननं अभवत्। यथा ऋग्वेदे तथैव यजुर्वेदे अस्योल्लेखमस्ति। यजुर्वेदस्य एकस्मिन् मन्त्रे क्षुद्रकृपाणं अस्य पुत्रेति कथ्यते – ‘स्वधितिस्ते पिता²⁸।’

3)परशुः – अस्य नामान्तरं कुठारः, यत् शस्त्रं तीक्ष्णाग्रविशिष्टम्। गुप्तकालपर्यन्तमं अस्योपयोगः वभूव। कौटिल्यस्य मतानुसारतः क्षुरवर्गास्यायुधमिदम्। शत्रुहननकार्ये तथा वृक्षहननकार्ये अस्योपयोगः दृश्यते वैदिके।

4)क्षुरः – तीक्ष्णताया दृष्ट्या प्रसिद्धशस्त्रमिदं क्षुद्रकृपाणतुल्यमिति ऋग्वेदे उल्लिखितम् – ‘अंसेष्वेतः पविषु क्षुरा अधि²⁹।’



- 5) वाशी – मरुतानां प्रियशस्त्रमिदं लौहेन निर्मितं परशुतुल्यञ्च दृश्यते ऋग्वेदे –‘वाशीमेको विभर्ति हस्त आयसीम्³⁰।’
- 6) कृपाणम् – ऋग्वेदे कृपाणयुद्धस्य वर्णनमस्ति। कृपाणयुद्धार्थं इन्द्रेण सैनिकाः प्रौत्साहिताः –‘चोदयो नृन् कार्पाणे शूर वज्रिवः³¹।’ वर्तमानकालिककृपाणतुल्यं शस्त्रमिदम्।
- 7) शूलः – शत्रोदरे प्रहारयोग्यं लौहेनिर्मितशस्त्रमिदम्। अभि शूलं निहतस्यावधावति इति ऋग्वेदीयवचनानुसारात् शूलस्य व्यवहारः तत्कालेऽपि दृश्यते। अस्याग्रांशः हलाग्रसदृशमिति कौटिल्येन उक्तम् –‘शूल-तोमर हलमुखानि।’
- 8) चक्रम् – ऋग्वेदे चक्रमायुधरूपेणोल्लिखितम् –‘नि चक्रेण रथ्या दुष्पदावृणम्³²।’ इदमपि लौहेनिर्मितं तीक्ष्णाग्रविशिष्टम्। शस्त्रमिदम् अङ्गुलिभिः विघूर्णनं कारयित्वा शत्रोपरि निक्षिप्तं भवति। श्रीकृष्णस्य सुदर्शनचक्रं अस्मिन् विषये प्रसिद्धोदाहरणम्।
- 9) सूना – शूलतुल्यं शस्त्रमिदम् अथर्ववेदे उल्लिखितम् –‘असिं सूनाम्³³।’
- 10) कर्तः – अथर्ववेदोक्तेन अनेन शस्त्रेण शतेरोः अङ्गहानि तथा प्रहारस्थाने क्षतः भवति।
- 11) समुद्रफेनः – वेदचतुष्टयेषु अस्य शस्त्रस्य आयुधरूपेणोल्लिखितम्। इन्द्रेण अनेन शस्त्रेण नमुचिदानवः हतः –‘अपां फेनेन नमुचेः शिरः इन्द्रोदवर्तयः³⁴।’ समुद्रस्य फेनराशिः कठिनः भूत्वा प्रस्तरतुल्यः भवति। शस्त्रमिदं प्रस्तरतुल्यं प्रक्षिप्य शत्रुहननं वभुवः।
- 12) उल्काः – ऋग्वेदेषु यजुर्वेदेषु च अस्योल्लेखः दृश्यते –‘वि सृज विष्वगुल्काः³⁵।’ ज्वलन्तलौहगोलकनिर्मितं वर्त्लाकाराग्निस्तुल्यमिदं शस्त्रं यकृत् प्रक्षेपणेन शत्रुचतुष्टयं निहन्यते।
- 13) दण्डम् – ऋग्वेदेषु यजुर्वेदेषु च शस्त्रमिदमुल्लिखितम् –‘यद् दण्डेन यदिष्वा³⁶।’ कौटिल्येनापि इदमुल्लिखितम्।
- 14) अश्मान् पाषाणम्बा – वेदेषु अस्य शस्त्रस्य उल्लेखः दृश्यते, कदापि अश्मान् रूपेण कदापि च पाषाणरूपेण। मन्ये यत् द्वयमेव एकं शस्त्रम्, केवलं नाम्ना पृथक्त्वम्, शस्त्रमिदं यन्त्रेण, हस्तेन केनाप्युपायेन वा प्रक्षेपणयोग्यम्। कौटिल्येनापि अस्य शस्त्रस्य प्रयोगयन्त्रासुरतः भिन्ननामकरणं कृतम् यद्यथा – यन्त्रपाषाणम्, गोष्फनपाषाणम्, मुष्टिपाषाणम्, रोचनी, दृषद् चेति।
- 15) धूमाक्षी – अस्य शस्त्रस्य केवलमथर्ववेदेषु उल्लिखितास्ति। शत्रोपरि अस्य प्रयोगे शत्रोः चक्षुः धुमेण पूर्णो भवति। प्रक्षेपणकाले अस्य शब्देन श्रोत्रेन्द्रियस्य शूलमपि भवति – ‘धूमाक्षी यं पततु कृधुकर्णी च क्रोषतु³⁷।’

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