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Methodological Developments in Human Development Literature

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Abstract

The present paper is a review of methodological advancements in human development literature starting from 1990 till date. While highlighting the contribution of UNDP to the concept of human development and construction of HDI it mentions that the introduced concept and method of measurement is a huge qualitative improvement over the earlier concept of growth and per capita GDP measurement. Although the human development report started with a poor methodology, thanks to the galaxy of scholars for their untiring efforts and invaluable contributions in the successive years that enabled UNDP in refining its methodology to a large extent. There is no denying fact that there is no end to refinements, the purpose for which Mahbub ul Haq struggled in his entire life has been served.

Key Words : *Methodological advancement, UNDP, HDI*

Introduction :

In the early development literature, income per capita was traditionally used to measure development with an assumption that it will directly translate into improved human well being. For decades, the economic growth paradigm dominated the national development discourse. However, in the 1980s unemployment levels escalated. The access to social services deteriorated in many countries including some industrialized nations while at the same time, economic production was expanding. High rates of economic growth did not automatically translate into improved human well-being. During the same period, some countries were registering improvement in human well-being with modest economic growth. These raised questions around the nature, distribution and quality of economic growth. People started realizing that while growth-oriented policies may increase a nation's total wealth, whether or not growth enhances human development depends on how that growth is generated and utilized. The economic growth paradigm was, thus, believed to have neglected important aspects of development, such as poverty, income inequalities, unemployment, and disparities in access to public goods and services like health, education, etc and did not capture adequately the multi-dimensionality aspects of development. For economic growth to enhance human development, it should provide an opportunity to

enhance workers' knowledge and skills along with opportunities for their efficient use, provide better job opportunities and support greater democracy at all levels of decision-making.

The critique on the use of only the GDP per capita as a proxy of development is dated back to the 1950s. In the past three decades it has been fully recognized that pure economic indicators cannot sufficiently capture the multidimensionality of human development. Many researchers have been insisting on the inadequacy of income as the sole indicator of welfare and arguing that income should be supplemented by other attributes of welfare such as health and education. The basic needs approach advocated by development economists regarded development as an improvement in an array of human needs and not just as a growth of income. Sen (1985, 1987 and 1997) defined standard of living in terms of (i) functioning, which indicates attainments of different attributes, and (ii) capability, which is the ability to attain. The capability approach emphasized what a person can do and not what he can purchase as the ultimate metric of wellbeing. An example of a functioning achievement index is the human development index (HDI) conceived by Mahbul ul Haq and introduced by UNDP in its first Human Development Report (HDR, 1990) which ever since has been published annually. HDR is one of the major contributions that reoriented the debate on the measurement of development beyond the traditional economic perspective towards a broader scheme that incorporates different aspects of life into measures of development. The report recognized development to be much more than just the expansion of income and wealth. It defined human development as 'the process of enlarging people's choices' (UNDP, 1990: 10). It also stressed that the choices available to people can be infinite and can change over time. But at all levels of development, the three essential ones are for people to lead a long and healthy life, to acquire knowledge and have command over resources for a decent standard of living. The report made its most distinctive contribution to the larger development discourse by highlighting these dimensions as being basic to human development and in asserting that all the three are essential. Based on this framework, the report constructed the HDI for 130 countries as a measure of its human development along three dimensions: life expectancy at birth as the indicator for a healthy life, adult literacy as the indicator for the knowledge, and common logarithm value of the per capita real GDP as the indicator for the standard of living. HDI was then constructed in three steps. In the first step, a measure of deprivation of a country for each dimension was estimated on a scale between 0 to 1 where 0 corresponds to the minimum, and 1 to the maximum assigned value for the corresponding indicator. Thus, for each component dimension of the HDI, individual Deprivation Indices for a given country were computed according to the formula as follows:

$$(1) \dots \dots \dots DI_{ij} = \frac{Max(X_{ij}) - X_{ij}}{Max(X_{ij}) - Min(X_{ij})}$$

In the second step an Average (arithmetic) Deprivation Index of three dimensions was determined :

$$(2).....ADI_j = \frac{1}{3} \left(\sum_{i=1}^3 I_{ij} \right)$$

The third stage was the measurement of as one minus the average deprivation index :

$$(3).....HDI_j = (1 - ADI_j)$$

For the construction of deprivation indices for different dimensions maximum and minimum values of the variables were determined from the actual values as shown in Table 1:

Table 1
Dimension Indices

Indicators	Scaling Norms for HDI	
	Maximum	Minimum
Life expectancy at birth (years)	78.4	41.8
Adult literacy rate (per cent)	100	12.3
Real GDP per capita (Log)	3.68	2.34

Although the concept and methodological aspects of human development were visualized and put into practice in the first HDR in 1990, like any other composite index, the HDI has been suffering from a number of limitations (for details see Raworth and Stewart, 2003). Among the major ones the following few are worth mentioning: (i) the number, nature and choice of selected dimension variables and their weights, (ii) choice of goal posts, (iii) lack of concern for distributive justice, (iv) the additive structure (substitutability) of index, (v) lack of theoretical justification of the formula. Besides, data availability has been posing a major challenge to capturing important dimensions such as political freedom, environmental sustainability, and degree of people's self respect. In fact the Human Development Report Office encouraged critiques and research on the HDI to help it fulfill its purpose. There have been a large number of critiques after 1990- many of which have been incorporated into the HDI by UNDP. But the struggle is on for refinements in conceptual and methodological aspects of human development and alternative policy options to create a balance between economic growth and protection of the interest of the poor and marginalized. As a result, there has been a plethora contribution in human development literature, particularly on methodology over the years. The present paper is a humble attempt to compile and document all those important methodological changes and put in one place for a better understanding of the subject.

Individual Authors' Contributions to Methodological Refinements :

Researches on social indicators and quality of life in the twentieth century have been split along three parallel tracks. Psychologists have been focusing on subjective wellbeing, economists on preferences, and sociologists on objective social indicators (Gasper, 2004; Chan et al., 2004; Bulmer, 1983 as quoted by Collomb, et al., 2012). Since the 1990s, stronger connections have been built between economists and psychologists working on the concept of subjective wellbeing (Sirgy et al., 2006; Kahneman and Krueger, 2006). This line of research remains limited but is growing, especially through interdisciplinary approaches (Costanza et al., 2006; Kingdon and Knight, 2006). While it is true that conventional one-dimensional measure continues to dominate development studies, scholars and policy makers are increasingly interested in multi-dimensional wellbeing (Berenger and Verdier-Chouchane, 2007; Gasper, 2004). An important element in such measures revolves around the integration of objective and subjective indicators of wellbeing (Hagerty et al., 2001; Cummins, 2005). The present paper, however, is limited to those methodologies that are directly related to construction of HDI only.

Hicks (1997) proposed a method to incorporate a concern for distributional inequalities of income, education, and longevity into the framework of HDI. He constructed Gini coefficients, for a set of 20 developing countries, measuring inequalities of income, educational attainments, and life-span attainments and combined with data from the HDI to produce an Inequality-Adjusted HDI (IAHDI). To construct (IAHDI), three steps were suggested by him:

- (1) Construction of indices in the first step for each of the three dimensions using the formula:

$$I_{ij} = \frac{X_{ij} - \text{Min}(X_{ij})}{\text{Max}(X_{ij}) - \text{Min}(X_{ij})}$$

- (2) Construction of inequality-adjusted dimension indices (IAI_{ij}) in the next step as follows:

$$IAI_{ij} = I_{ij} * \lambda(1 - G_i)$$

For each dimension, the weight is to be given to inequality-adjustment factor as λ_i.

Presumably,

$$\forall_i \left(\frac{1}{1 - G_i} > \lambda_i > 0 \right)$$

- (3) Finally, estimation of as the arithmetic average of these three indices with weights.

Although he introduced an inequality adjusted HDI, he was not very happy with the application of Gini coefficient as it is not a perfect indicator of inequality. Construction of inequality measures based on Gini coefficients is not free from conceptual as well as

empirical difficulties. According to him inequality of longevity is a difficult concept intuitively.

Sagar and Najam (1998) in their paper evaluated how well HDRs lived up to its own conceptual mandate and assessed the ability of the HDI to further the development debate. They observed that the reports had lost touch with its original vision and the index failed to capture the essence of the world it sought to portray. The index focused almost exclusively on national performance and ranking, but did not pay much attention to development from a global perspective. HDI neglected links to sustainability by failing to investigate the impact on the natural system of the activities that potentially contribute to national income and hence to HDI. They cited the examples of Brazil and Indonesia which improved their HDI by converting natural capital to income in an unsustainable manner. Their concern was about the conceptual implications of the method for folding the three component indices into a single index. They believed that the scheme of arithmetic averaging of the dimensions was counter to the notion of their being essential and, therefore, non-substitutable. Accordingly they proposed the incorporation of three simple modifications for the index as a first step to overcome those shortcomings: (1) Dimensional indices that comprised the HDI need to be multiplied instead of being arithmetically averaged. Such a treatment would, in fact, would be closer to treating each dimension as an 'essential' and non-substitutable component by controlling trade-offs between them; (2) In estimating the standard-of-living dimension, a logarithmic treatment of GDP across the whole range of global incomes will present a less unrealistic depiction of the availability of options across countries without camouflaging inter-country disparities that are all too real; and (3) For the HDI to capture the sustainability dimension of human development, it will need to incorporate some mechanism for accounting overexploitation of natural resources. While they wholeheartedly agreed with the emphasis of expanding people's options by UNDP, simultaneously cautioned to expand them in a just manner, nationally and internationally and about exercising them wisely. They used the following formulae to construct *HDI*:

$$HDI = \left(\prod_{i=1}^3 H_i \right)^{1/3} \quad \text{Where } H_1, H_2, H_3 \text{ respectively are education, health and income indices.}$$

Noorbakhsh (1998a) introduced a modified index for measuring human development based on the components of the HDI developed by UNDP. As far as income component is concerned he admitted that income beyond poverty-line income (y^*) has no contribution to the HDI as claimed in 1990 report of UNDP. The combination of introducing a cap and taking the logarithm of income was to reflect, rather sharply, the diminishing marginal contribution of income to the human development (UNDP, 1991). Subsequent reports accepted that income above (y^*) will have some effect on the HDI. This modification was to take into consideration the wider people's choice rendered

through higher income. This was reflected by using the Atkinson formulation for the utility of income $W(y)$ as :

$$W(y) = \left(\frac{1}{1-\epsilon} \right) y^{1-\epsilon} .$$

Where parameter epsilon is the elasticity of marginal utility of income and measures the extent of diminishing returns and reflects the deviation of the elasticity of the utility of income with respect to income from unity. As epsilon tends to zero (*i.e.*, $\epsilon \rightarrow 0$), fractions of income above poverty level will have a more significant effect; and for , the dollar for dollar effect would be reflected fully. As epsilon tends to one, the above mentioned equation of utility of income is reduced to $W(y) = \log(y)$. Accordingly income above y^* was divided into selected intervals. Keeping these points in view and in order to consider further variations in income he divided the income range above y^* into more subsets and assumed different values for ϵ as shown in Table 2 :

Table 2
Range of Income, and Elasticity

Value of ϵ	Range of Income (y)	Elasticity	Value of ϵ	Range of Income (y)	Elasticity
0.0	$y \leq y^*$	1.0	0.5	$3.0y^* < y \leq 3.5y^*$	0.5
0.1	$y^* < y \leq 1.5y^*$	0.9	0.6	$3.5y^* < y \leq 4.0y^*$	0.4
0.2	$1.5y^* < y \leq 2.0y^*$	0.8	0.7	$4.0y^* < y \leq 4.5y^*$	0.3
0.3	$2.0y^* < y \leq 2.5y^*$	0.7	0.8	$4.5y^* < y \leq 5.0y^*$	0.2
0.4	$2.5y^* < y \leq 3.0y^*$	0.6	-	-	-

He further argued that the principle of diminishing returns also applies to educational attainments. Under similar conditions the early units of educational attainments to a country should be of much higher value than the last ones. In the context of policy-making in a country with 30 per cent adult literacy, improvements in literacy are of far greater urgency than the same for a country with 90 per cent adult literacy (Noorbakhsh 1998 a: 519). To reflect the diminishing returns he found a set of weights ($w = e^x$ where $-\infty \leq x = 0$, resulting in $0 \leq e^x = 1$) reflecting the descending value of the ascending consecutive fractions of educational indicators. These weights are suitable for re-scaling the k^{th} consecutive fraction of education indicator ρ for country $i(A_{k,\rho})$ as follows:

$$\sum_{k=1}^K A_{k,\rho} e^x \text{ for } \rho = 1,2$$

The formula used to construct the modified human development index (MHDI) is as follows :

$$MHDI_i = 1 - \frac{d_i}{\bar{d} + 2s_d}$$

Where : d_i is the length of the distance vector from the best country; \bar{d} and s_d are the mean and standard deviations of distances for all countries from the ideal country; and d_i is defined as:

$$d_i = \left(\sum_{j=1}^3 (Z_{ij} - Z_{0j})^2 \right)^{1/2}$$

Where : Z_{0j} is the standardized score on component j for the ideal country.

Noorbakhsh (1998b) compared several different methods such as Arithmetic Mean, Principal Component Analysis (PCA), and Borda method of arriving at a composite index and found the ranks for all the methods to be very similar. This provided a justification for the current HDI specification.

On two grounds, Human Development Report appeared to be confusing to Palazzi and Lauri (1998): one is that of substitutability between dimension indices, and another is of equal weighting. From the theoretical standpoint, the solution to overcome the confusions lies in introducing a concept of balanced and sustainable human development in which the three aspects are not only indispensable but also reciprocally self-reinforcing- A sort of three legged stool in which balance and sustainability depend on the legs being equal in length. They represented their approach graphically by a cloud of country points in three dimensional coordinate axes representing three dimensions of HDI. The line starting from the origin and running equidistant from the three axes (i.e., all the points within the cone) represent the balanced and sustainable development (BSD) as shown in Fig.1. The points outside the cone, conversely, represent states of unbalanced, unsustainable development (USD).

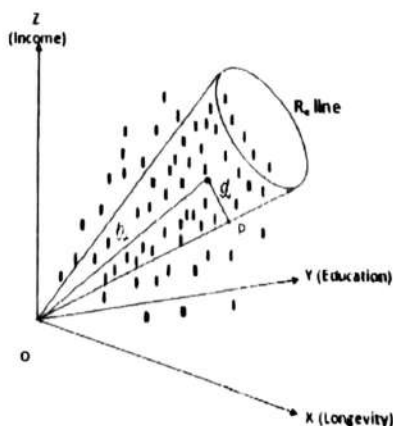


Fig. 1: Cone of Balanced and Sustainable Development

The purpose of defining BSD in the space of sustainability was to devise a mechanism for correcting the values of human development for countries situated outside the area of sustainability. The solution they suggested was to 'penalize' states of human development that fall outside the cone area in proportion to their relative distance from the surface of the cone. To propose an index of BSD, they :

1. First defined a disequilibrium index 'e', which measures the relative distance of the country-point from the objective point on the equilibrium line R_c as follows:

$$e_i = \frac{d_i}{h_i}$$

Where d_i indicates the absolute distance of the country-point from the perfect-equilibrium line R_c (i.e., the absolute level of country i 's disequilibrium) and h_i is the distance between the origin and the objective-point along the perfect-equilibrium line (i.e., country i 's HDI score). This ratio is equivalent to the tangent of the angle between the perfect equilibrium objective line R_c and the line joining the origin to point of the country-point P_i . The lowest acceptable level of balance and sustainability is designated by them as e^* .

2. In the second step they estimated the correction coefficient as:

$$k_i = 1 - \frac{\hat{E}_i - \hat{E}^*}{\max(\hat{E}_i) - \hat{E}^*} = \frac{\max(\hat{E}_i) - \hat{E}_i}{\max(\hat{E}_i) - \hat{E}^*}$$

Where \hat{E}_i is the angle between R_i (the line joining the origin to P_i); \hat{E}^* is the angle of rotation of the cone; and $\max(\hat{E}_i)$ is angle between R_c and each of the coordinate axes $\{\max(\hat{E}_i) = 54.78^\circ\}$.

3. In the final step they computed equilibrium-adjusted human development index (EHDI) as:

$$EHDI_i = k_i(HDI_i)$$

If $e_i \leq e^*$ then $k_i = 1$, and $EHDI_i = HDI_i$

If $e_i > e^*$ then $0 \leq k_i < 1$, and $EHDI_i < HDI_i$

If one the variables is negative then $K_i = 0$, and $EHDI_i = 0$.

The most important conclusion of their work was the recommendation for dropping the assumptions of full substitutability and equal weighting in the construction of the HDI.

Biswas and Caliendo (2001) used the PCA method to arrive at nearly equal weights for the three components: Life Expectancy Index (34%), Education Index (34%); GDP Index (32%) and concluded that :

Despite the simplistic methodology, it appears that the HDI is a good method of combining the component indexes and should be viewed, perhaps, with less skepticism... [L]ittle is lost in the simplistic method, and much is gained in terms of straightforwardness. Indeed, while the strength of the HDI appears to lie in its easy comprehension, the weights used therein are consistent with multivariate techniques that generate weights optimally.

Mahlberg and Obersteiner (2001) made two basic arguments: (a) human development of a country should be benchmarked against best practice countries; and (b) the weights of the component indices should be directly derived from the data. To achieve this, they proposed application of Data Envelopment Analysis (DEA) for computing HDI of different countries. DEA is a leading non-parametric technique for measuring the relative efficiency of decision-making units (DMU) on the basis of multiple inputs and outputs. Any group of entities that receives the same set of inputs and produces the same set of outputs could be designated as a DMU: it could be a group of people, schools, hospitals, companies, industries, and in the present context, it is a group of countries. To determine the relative efficiency of each country in the group, DEA collapses inputs and outputs (human development indicators) into a ratio of a single meta-input and meta-output, and uses methods of linear programming to calculate the efficiency score for each country. The efficiency of a country is the weighted sum of its outputs divided by a weighted sum of its inputs and it is measured on a bounded ratio scale. The weights for inputs and outputs are estimated by a linear program in the best advantage for each country so as to maximize its relative efficiency. The highest-ranking country is considered relatively efficient and assigned a perfect score of 1, while the rest of the countries in the sample are considered to be relatively inefficient with scores varying between 0 and 1. A relatively efficient country cannot improve its levels of output any further while relying on a given level of inputs, while the relatively inefficient countries could. To illustrate the model let us assume that there are N numbers of DMUs of which one of the DMUs, say the one, whose efficiency is to be maximized is as follows:

$$\text{Max}(E_m) = \sum_{j=1}^J V_{jm} Y_{jm}$$

$$\text{Subject to: } \sum_{i=1}^I U_{im} X_{im} = 1 \quad \& \quad \sum_{j=1}^J V_{jm} Y_{jn} - \sum_{i=1}^I U_{im} X_{in} \leq 0 : n = 1, 2, K, N$$

$$\text{Where } V_{jm}, U_{im} \geq 0; \quad j = 1, 2, K, J; \quad \& \quad i = 1, 2, K, I$$

And E_m is the efficiency of the m^{th} is the j^{th} output of the m^{th} DMU; V_{jm} is the weight of that output; X_{im} is the i^{th} input of the m^{th} DMU; U_{im} is the weight of that input; Y_{jm} and X_{im} are the j^{th} and i^{th} inputs respectively of the DMU, $n = 1, 2, \dots, N$.

Vega and Urrutia (2001) drew up a framework for pollution-sensitive human development index, which they called as HDPI. The novelty lies in the incorporation into

HDI of an environmental factor measured in terms of CO₂ emissions from industrial processes. HDPI penalizes those countries which have obtained growth in income at the expense of damaging the environment. The method adopted to construct HDPI is very much similar to that of UNDP method but with few exceptions. They did not bring any change in the formula and variables for the construction of health and education indices. But in case of income index, it was taken as the harmonic average of two indices, namely GDP index and Environment Behavior Index (EBI). The EBI was defined as the difference between unity and CO₂ index. The maximum and minimum values (goal posts) were taken as (60, 0) tonnes per capita per annum based on global data for 30 years. The HDPI was then constructed for 165 countries as the arithmetic average of three dimension indices such as education index (H₁), health index (H₂), and pollution adjusted GDP index (H₃P) as follows:

$$HDPI = \frac{1}{3}(H_1 + H_2 + H_3P)$$

$$\text{where } H_3P = \left[\frac{(H_3)^{1-\varepsilon} + (EBI)^{1-\varepsilon}}{2} \right]^{\frac{1}{1-\varepsilon}} \text{ and } EBI = 1 - CO_2I$$

To take care of inequality in GDP and pollution, they adopted Atkinson formula where ε stands for degree of aversion to inequality. When $\varepsilon = 0$, there is no penalty and the result is the simple arithmetic average. As ε grows, pollution-sensitive income decreases and the inequality between the levels of the two indicators is increasingly punished. In their calculation they gave a value of 2 to ε , implying adoption of harmonic mean of GDP and EBI Indices for the construction of pollution adjusted GDP index. However, at the concluding remarks they suggested that the future researchers should make attempts to incorporate other pollutant emissions covering air, water and soil pollution, and other environmental indicators such as deforestation, energy consumption, the exhausting of physical resources, etc.

According to Neumayer (2001) a country's human development is potentially unsustainable if the net depreciation of its manufactured and natural capital (resource) stock is bigger than its investment; and this can be judged from the magnitude of genuine saving (net saving minus depreciation of natural capital) by examining whether it is positive or negative. In order to measure depreciation of the natural resource stock, though there is no universally agreed method, he preferred to use the El Serafy (1991) method. He said that theoretically it is possible to improve literacy and educational enrolment as well as life expectancy with an unsustainable income stream and indeed with falling income levels if only more and more of the income is spent on health and education. But in the long run these cannot be sustainable unless income is sustainable. For this reason he proposed to link the HDI with sustainability of income but not with environment as attempted by many

other academicians including Vega and Urrutia (2001). The proposal was based on the line of thinking of HDR (1998) which demanded consumption to be sustainable. Making an analysis for 155 countries he concluded that the indicated human development of 42 countries were potentially unsustainable. Most of these countries had a low HDI, which means that even this low achievement is not sustainable in the future.

Cahill (2002) while supporting the concavity assumption of UNDP stated that achieving a respectable level of human development does not require unlimited income. The essential idea is that increases in income for poor countries add more to human development than increases for wealthy ones. For example, at low income levels, a \$100 increase in average income may typically buy a higher level of nutrition or education, while at high income levels an extra \$100 may typically buy extra computer memory or snacks. However, some authors were opposed to the concavity assumption (Srinivasan, 1994; Sen, 1981). To settle this issue he made an empirical investigation by estimating the correlation coefficients between income (GDP, the square of GDP and natural logarithm of GDP) and other dimension variables of HDI. The findings revealed that correlation coefficients were largest and statistically significant with logarithm of GDP as compared to GDP and the square of GDP implying the fact that higher levels of GDP are associated with greater levels of development, but at a decreasing rate. This proved concavity assumption and thus justified the application of natural logarithm to GDP for constructing HDI.

Panigrahi and Sivramkrishna (2002) stated that HDI is sensitive to the change of the choice of limits. Any change of maximum and minimum values (goal posts) brought out in any dimension variable not only change absolute values of HDI of different countries but also their rankings. To overcome this problem they proposed to construct an adjusted HDI, called as AHDI through five steps:

Step 1: First construct dimension indices of health, education and income (i.e., LEB, EDN and GDP) of different nations using UNDP method;

Step 2: Define ε

$l = L_n - L_k$, where L_n is the maximum actual LEB index value, say, is of country h, and L_k is the minimum actual LEB index value, say, of country k;

$e = E_m - E_n$, where E_m is the maximum actual EDN index value, say, of country m, and E_n is the minimum actual EDN index value, say, of country n;

$g = G_p - G_q$, where G_p is the maximum actual GDP index value, say, of country p, and G_q is the minimum actual GDP index value, say, of country q.

Step 3: Choose the minimum of . Let us suppose that is the minimum value among these.

Then convert e and g into $e^* = \frac{l}{e}$ and $g^* = \frac{l}{g}$

Step 4 : Since l is found to be minimum, compute adjusted L_j , E_j and G_j as follows:

$$aL_j = L_j; \quad aE_j = e^* E_j; \quad aG_j = g^* G_j$$

Step 5 : Finally construct adjusted human development index as:

$$AHDI = \frac{(aL_j + aE_j + aG_j)}{3}$$

Chakravarty (2003) developed a generalized HDI through an axiomatic approach that satisfies three properties, namely, normalization (NOM), consistency in aggregation (CIA), and symmetry (SYM) across attributes. Instead of taking three usual dimensions he proposed estimation of HDI based on 'k' no. of dimensions/attributes as follows:

$$I_r = \frac{1}{k} \sum_{i=1}^k \left(\frac{x_i - m_i}{M_i - m_i} \right)^r, \quad 0 < r < 1 \quad \text{where } I_r \text{ decreases with } r.$$

For $r = 1$, I_r becomes $I_1 = \frac{1}{k} \sum_{i=1}^k \left(\frac{x_i - m_i}{M_i - m_i} \right) = \text{HDI as suggested by UNDP for 'k' attributes.}$

The properties of the index are stated as follows:

NOM : For any $z \in [0, 1]$ $I(z, \dots, z) = z$;

CIA : For any $a, b \in [0, 1]^k$, $I(a_1 + b_1, a_2 + b_2, \dots, a_k + b_k) = I(a_1, a_2, \dots, a_k) + I(b_1, b_2, \dots, b_k)$;

SYM : For all $a \in [0, 1]^k$, $I(a) = I(aP)$ where P is any $k \times k$ permutation matrix.

The above mentioned properties permit us to determine the percentage contributions made by the attributes to overall achievement. These contributions once determined can in turn be used to separate the attributes according to their degrees of sensitivity to wellbeing. The less susceptible attributes would need policy attention to improve their contributions since all quality-of-life attributes should carry approximately equal weights to achieve an ideal standard of living.

A new measure of human development was proposed by Despotis (2004) on the line of Mahlberg and Obersteiner (2001) in a two-phase process. They kept all the assumptions underlying the HDI except that of the equal-weights scheme for the three major indicators. In the first phase, an ideal value of the composite HDI was estimated for each country by a DEA like index-maximizing model. Then in the second stage, a goal programming model was solved to obtain global estimates of human development, based on optimal common weights for the component indicators. They claimed that their new measure of human development is comparable and highly correlated with the HDI. The

superiority of the new measure is that the weights assumed for the component indicators, as a result of an optimization process, are less arbitrary and contestable.

Baliamoune-Lutz (2004) proposed a framework to measure HDI and individual components of human well-being (HWB) using fuzzy-set theory in consistence with Sen's Capability Approach. In HWB he included a wide array of seven components: the first three were UNDP's health index, education index, and GDP index, the fourth one was the ICT index, fifth and sixth were the political and civil liberty indices of Freedom House and the last index was based on infant mortality, under-five mortality, access to urban sanitation and improved water source. The results indicate that the methodology adopted by UNDP and the Fuzzy Set Theory yielded different rankings of countries in terms of HDI. The same conclusion was equally valid for different component indices of HWB.

Jha and Bhanumurthy (2004) mentioned in their paper that in the pristine natural state there is no entropy, and hence, no degradation or disorganization of the state of the world (which the present author does not agree). Increase in entropy accelerates due to unwarranted human activity, be it production or consumption. They supported the view of other scholars that global environmental degradation which has direct bearing on overall human development is not only caused by the factors related to production/income (Grossman & Krueger, 1992, 1994; Radetzki, 1992; Panayotou, 1997; Grossman, 1995) but also by consumption (Ehrlich and Holdren, 1971). Their basic hypothesis is that excessive and lop-sided consumption patterns are the most fundamental cause of entropy. Therefore, it is important to identify and measure their contribution to global environmental degradation. According to them production-based approaches do not capture the degradation that is caused directly by consumption in terms of vehicular pollution, excessive use of water resources, energy, paper, etc. While consumption is a derivative of income, there is reason to believe that consumption may nonetheless be a better measure than income in relation to the impact on environmental degradation. Thus as an alternative to UNDP's income-based human development index, they developed a consumption-based HDI.

The measurement of human well-being is not only limited to economic indicators but also social, institutional and ecological ones. "As a typical example ... one can cite Prescott-Allen's (2001) human wellbeing index ... and ecosystem well-being index (EWI), integrating two indices with social-economical and environmental dimensions" (Zaim, 2005: 1). He also stated that HDI not only fails to measure performance comparisons across time but also dependent on artificially assigned weights. To overcome these limitations he proposed a framework for incorporating environmental indicators to the measurement of human well-being. Furthermore he proposed an improvement index which alleviates the well-known deficiency of across-time comparison of the deprivation index. The advantage of the proposed index is that it does not require normative judgment in the selection of weights to aggregate over constituent indices. Rather, within an activity analysis framework,

optimally chosen weights are determined by the data. In developing the index, due emphasis was put on production with negative externalities, and directional distance functions.

Lee et al. (2006) also criticized the arbitrary system of equal weighting of component indices in the construction of HDI. To determine the optimal weights of component indices and to assess the relative performance of the countries in human development based on optimal weights they presented a fuzzy multiple-objective DEA model.

Grimm et al. (2008) following the footsteps of Sagar and Najam stated that HDI looks at average achievements only and, thus, does not take into account the distributional aspects of human development within a country. To overcome this they focused on inequality in human development across the income distribution and generated a separate HDI for different segments of income distribution.

Nathan et al. (2008) questioned the linear averaging (LA) method of constructing HDI since it assumes perfect substitutability among indices. They not only questioned the appropriateness of LA method but also proposed a new method which they called it as Displaced Ideal (DI) method. The DI method is based on the concept that the better system should have less distance from ideal. In a three-dimensional HDI space the ideal denotes full attainment on all the three dimensions of health (h), education (e), and income (y) [i.e., $h=e=y=1$]. Inverse of the normalized Euclidian distance from the ideal gives the HDI through DI method as follows :

$$HDI^{DI} = 1 - \left(\frac{\sqrt{(1-h)^2 + (1-e)^2 + (1-y)^2}}{\sqrt{3}} \right)$$

Where $\sqrt{(1-h)^2 + (1-e)^2 + (1-y)^2}$ is the Euclidian distance from the ideal and when Euclidian distance is divided by $\sqrt{3}$ it gets normalized in the three-dimensional space; further when it gets subtracted from unity gives the inverse which is known as HDI^{DI} .

According to Somarriba and Pena (2009) Principal Component Analysis as a method does not allow making cardinal inter-spatial and inter-temporary comparisons but only ordinal comparisons as opposed to DEA. The weights of partial indicators lack socio-economic interpretation. The method has a tendency to pick up the subset of highly correlated variables to make the first component and assign marginal weights to relatively poor correlated subsets of variables. Although DEA facilitates spatial and temporary comparisons and guarantee impartiality in the weights but the program could assign a zero or very low weight to a specific factor. It has the disadvantage of yielding multiple virtual solutions and the existence of restrictions causes problems of non-feasibility. It further allows some degree of arbitrariness in the model while identifying output and input variables. To overcome these deficiencies Pena (1977) proposed a composite synthetic

indicator, called as P2 Distance, which has been used in the literature to measure quality of life and human development. The formula used to estimate DP2 was :

$$DP2_i = \sum_{j=1}^m \left[\left(\frac{d_{ij}}{\sigma_j} \right) (1 - R_{j,j-1,\dots,1}^2) \right]; i = 1, 2, \dots, n$$

Where : $i = 1, 2, \dots, n$ are cases (countries/districts) and n is the number of constituent variables, X , such that $x_{ij} \in X; i = 1, 2, \dots, n; j = 1, 2, \dots, m; d_{ij} = |x_{ij} - x_{i0}|; i = 1, 2, \dots, n; j = 1, 2, \dots, m; \rho$ is the reference case pertaining to $\min(x_{ij})$; σ_j is the standard deviation of variable j ; $R_{j,j-1,\dots,1}^2$; $j > 1$; is the coefficient of determination in the regression of x_j over x_{j-2}, \dots, x_1 .

Ray (2008) constructed a Social Development Index (SDI) suitably combining ten physical indicators across 102 countries on the lines of PQLI considering development as a multidimensional phenomenon. Since physical indicators chosen for the study were highly correlated, correlation method of obtaining weights was considered by him to be the most suitable one among the host of methods. His findings revealed that correlation method applied on highly correlated variables of SDI yielded near uniform weights. Based on his findings and analysis on the indices of SDI and HDI, he asserted that SDI works better than HDI as a measure of development for an international comparison.

The additive structure of the index advocated by UNDP entails two substantial drawbacks (Herrero, et al., 2010). One is the kind of trade-offs between functioning it admits, as it assumes full substitutability among them. That implies, for instance, that no matter how bad the health state could be, it can always be compensated by furthering either education or income at a constant rate. The second drawback derives from the sensitivity of the index with respect to the way in which the constituent variables are normalized. It can easily be verified that a change in the parameters chosen to normalize the variables may affect not only the resulting magnitudes of the additive HDI but also the ranking they produce. Keeping these points in view they presented in their paper a multiplicative HDI that exhibits three key advantages over the standard additive HDI. The proposed modified HDI is a theoretically well founded measure which does not impose the restriction of a constant rate of substitution between the three dimensions of HDI and allows for the introduction of distributive considerations. The method uses geometric mean of the components in place of arithmetic mean as a way of aggregating the three selected indicators, under a suitable theoretical justification. They further proposed a new set of variables for the health and education dimensions that are intended to improve the sensitivity of those partial indicators especially for highly developed countries. Life potential (per capita) was proposed in place of life expectancy and expected years of schooling (approach followed by the American Human Development Index) in place of education which puts more weights

on literacy. Life potential index is a measure of the average life expectancy of the population, taking into account its demographic structure. The Human Mortality Database that provides both the life tables and the distribution of the population by age for almost all the countries in the OECD was used by them to construct Life Potential Index following their suggested formula:

$$LPI = \frac{1}{N} \sum_{x=0}^x N_x e_x$$

Where: N_x is the number of people of age x , e_x is the expected number of years that people of that age will live and N is the population size.

Herrero et al. (2012) further stated that the principle of 'decreasing marginal utility' is not only applicable to income but also to health and education. If we think of the HDI more as a welfare measure, it might be reasonable to keep measuring all the three variables in terms of logs. If we rather think of the HDI as an indicator that provides a summary description of the capacity of a country to grow, compete and enhance material wellbeing, as we actually do, the use of logs does not seem justified in any of its variables. Indeed, its use helps conceal the existing differences and has doubtful implications on the substitution rates. Besides, the normalization formula adopted by UNDP keeps the use of goalposts for maximum and minimum values in order to transform the original values into relative gains, by subtracting a minimum value and dividing by the range of the variable. While doing so it makes the whole construction of the HDI dependent on the arbitrary choices of the normalization parameters, in particular, on the minimum values. One can easily manipulate the ranking by changing the minimum values of a dimension variable. The way out for this problem is to convert the variable (x) into (x/x^*) where x^* could be any reference value during a period or the maximum value. To bring an improvement over HDI constructed in the 2010 report of UNDP they proposed the following changes in terms of variable, normalization process and aggregation:

- ❖ Expected years of schooling should be used instead of a combined variable of education in order to give more weight to the future capacities and to simplify the interpretation of this partial indicator; and material well-being to be measured in terms of the egalitarian equivalent per capita GNI (i.e. the amount of income that equally distributed would yield the same social welfare as the current income distribution) without logs, to avoid inconsistencies and undesired side effects, and to take distributional aspects into account in a consistent manner.
- ❖ All variables should be normalized in terms of shares of some maximum values which would ensure an easy interpretation of the normalized values and, most importantly, would make the resulting ranking of the countries, the marginal

rates of substitution, and the pair-wise comparison of relative achievements independent on the normalization parameters.

- ❖ Geometric mean should be used to make an average as it is justified on theoretical grounds.

Major Refinements undertaken by UNDP :

The complete list of changes in the methodology brought out by UNDP after its publication of first HDR in 1990 is presented in Table 3. It is seen that UNDP has been exceptionally receptive to all those criticisms mentioned earlier regarding poor data, incorrect choice of indicators, weighting of dimension variables, choice of goal posts, adjustment of income to inequality correction, and poor specification (Stanton, 2007). On some points, index has been changed significantly in response to its critics. Though the methodology has been modified several times over the years, the main framework has remained substantially unchanged. In particular, the three dimensions such as income, life expectancy, and literacy have not been changed, although the methods of computing these indices have been adjusted. There has also been no change in the assumption of equal weighting of the three dimensions in the construction of HDI. However, the assumption of complete substitutability among the dimension variables was changed in 2010 report. What is worrisome is that the methodology has been quite unstable and changing very frequently leading to difficulties in comparison and interpretation of indices over time. Of course, there is no such problem of comparison across countries and their rankings.

Concluding Remarks :

The contribution of UNDP to the concept of human development and construction of HDI is no doubt a huge qualitative improvement over the earlier concept of growth and per capita GDP measurement. The credit for the report's popularity and also the notoriety goes almost entirely to Mahbul ul Haq (Baru, 1998: 2275). No other report of a United Nations Agency has received as much attention or been as controversial as the HDR. It is Haq's undying faith in human endeavor, sense of purpose, optimism, and conviction which gets reflected in his book (which brings together the works of his entire life) and shaped his ideas into a philosophy leading to the evolution of the concept of human development and publication of HDR (Haq, 1995). The human development reports over the years have made its most distinctive contribution to the larger development discourse by highlighting and asserting that education, health and income are basic and essential to human development. In less than two and half decades the HDR has evolved from being merely an annual report into an agenda for action for governments and NGOs and a catalyst for new thinking in development economics. Although the report started with a poor methodology, thanks to the galaxy of scholars for their untiring efforts and invaluable

contributions in the successive years that enabled UNDP in refining its methodology to a large extent. There is no denying fact that there is no end to refinements, the purpose for which Haq struggled in his entire life, has been served.

References:

- Anand, S. and Sen, A. (1992) "Human Development Index: Methodology and Measurement", Human Development Report Office Occasional Paper No. 12, New York: UNDP.
- Balioune-Lutz, M. (2004) "On the Measurement of Human Well-being: Fuzzy Set Theory and Sen's Capability Approach", Research Paper No. 2004/16, World Institute for Development Economics Research, United Nations University.
- Baru, S. (1998) "Mahbub ul Haq and Human Development: A Tribute" *Economic and Political Weekly*, 33(35): 2275-2279.
- Berenger, V. and Verdier-Chouchane, A. (2007) "Multidimensional Measures of Well-Being: Standard of Living and Quality of Life across Countries" *World Development*, 35(7): 1259-1276.
- Bulmer, M. (1983) "The Methodology of Early Social Indicator Research: William Fielding Ogburn and Recent Social Trends, 1933", *Social Indicators Research*, 13(2): 109-130.
- Cahill, M.B. (2002) "Diminishing Returns to GDP and the Human Development Index" *Applied Economics Letters*, 9(13): 885-887.
- Chakravarty, S.R. (2003) "A Generalized Human Development Index", *Review of Development Economics*, 7(1), 99-114.
- Chan, A. C. M., Cheng, S.-T., Philipps, D. R., Chi, I. and Ho, S. S. Y. (2004) "Constructing a Quality of Life Scale for Older Chinese People in Hong Kong (HKQOLOCP)" *Social Indicators Research*, 69(3): 279-301.
- Chatterjee, S.K. (2005) "Measurement of Human Development: An Alternative Approach" *Journal of Human Development*, 6(1): 31-53.
- Collomb, J.E Alavalapati, J.R. and Fik, T. (2012) "Building a Multidimensional Wellbeing Index for Rural Populations in Northeastern Namibia" *Journal of Human Development and Capabilities*, 13(2): 227-246.
- Costanza, R., Fisher, B., Ali, S., Beer, C., Bond, L., Boumans, R., et al. (2006) "Quality of Life: An Approach Integrating Opportunities, Human Needs, and Subjective Well-Being" *Ecological Economics*, 61(2-3): 267-276.
- Cummins, R. (2005) "Moving from A Quality Of Life Concept to A Theory" *Journal of Intellectual Disability Research*, 49(10): 699-706.
- Desai, M. (1991) "Human Development: Concepts and Measurement", *European Economic Review*, 35 (2&3), 350-357.

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- Desai, M. (1995) "Greening of the HDI?" In McGillivray, A. (ed.) *Accounting for Change, The New Economics Foundation*, London, pp. 21-36.
- Despotis, D.K. (2004) "A Reassessment of the Human Development Index via Data Envelopment Analysis" *Journal of the Operational Research Society*, 56(8): 969-980.
- Doessel, D.P. and Gounder, R. (1991) "International Comparisons of the Standards of Living and the Human Development Index", *Discussion Papers in Economics No. 72*, Brisbane: Department of Economics, University of Queensland.
- Ehrlich and Holdren (1971) "Impact of Population Growth", *Science*, 171(3197): 1212-1217.
- El Serafy, S., (1991) "The Environment as Capital" In Costanza, R. (ed.) *Ecological Economics: The Science and Management of Sustainability*, New York: Columbia University Press, pp. 168-175.
- Foster, J.E., Lopez-Calva, L.F. and Szekely, M. (2005) "Measuring the Distribution of Human Development: Methodology and an Application to Mexico" *Journal of Human Development*, 6(1): 5-29.
- Gasper, D. (2004) "Conceptualizing Human Needs and Well-being", *Hanse Institute for Advanced Study*, Germany: Delmenhorst.
- Grimm, M., Harttgen, K., Klasen, S. and Misselhorn, M. (2008) "A Human Development Index by Income Groups", *World Development*, 36(12): 2527-2546.
- Grossman, G.M. (1995) "Pollution and Growth: What do we know?", in I. Goldin and L.A. Winters (eds.), *The Economics of Sustainable Development*, New York: Cambridge University Press, pp. 19-46.
- Grossman, G.M. and A. B. Krueger (1992) *Environmental Impacts of A North American Free Trade Agreement*, New Jersey: Woodrow Wilson School, Princeton.
- Grossman, G.M. and A.B. Krueger (1994) "Economic Growth and the Environment", NBER Working Paper #4634: National Bureau of Economic Research.
- Hagerty, M.R., Cummins, R.A., Ferriss, A.L., Land, K, Michalos, A.C., Peterson, M., Sharpe, A., Sirgy, J., and Vogel, J. (2001) "Quality of Life Indexes for National Policy: Review and Agenda for Research" *Social Indicators Research*, 55(1): 1-96.
- Haq, Mahbub ul (1995) *Reflections on Human Development*, New York: Oxford University Press.
- Herrero, C., Martinez, R. and Villar, A. (2010) "Improving the Measurement of Human Development", UNDP: Human Development Research Paper 2010/12.
- Herrero, C., Martinez, R. and Villar, A. (2012) "A Newer Human Development Index" *Journal of Human Development and Capabilities*, 13(2): 247-268.
- Hicks (1997) "The Inequality-Adjusted Human Development Index: A Constructive Proposal" *World Development*, 25(8): 1283-1298.

- Hicks, D.A. (1997) "The Inequality-adjusted Human Development Index: A Constructive Proposal", *World Development*, 28(8): 1283-1298.
- Hopkins, M. (1991) "Human Development Revisited: A New UNDP Report", *World Development*, 19(10): 1469-1473.
- Jha, R. and Bhanumurthy, K.V. (2004) "A Consumption Based Human Development Index and the Global Environmental Kuznets Curve". http://papers.ssrn.com/sol3/papers.cfm?abstract_id=509243
- Kahneman, D. and Krueger, A.B. (2006) "Developments in the Measurement of Subjective Wellbeing" *Journal of Economic Perspectives*, 20(1): 3-24.
- Kelly, A.C. (1991) "The Human Development Index: Handle With Care", *Population Development Review*, 17(2), 315-324.
- Kingdon, G. G. and Knight, J. (2006) "Subjective Well-Being Poverty vs. Income Poverty and Capabilities Poverty?" *Journal of Development Studies*, 42(7): 1199-1224.
- Lai, Dejian (2000) "Temporal Analysis of Human Development Indicators: Principal Component Approach" *Social Indicators Research*, 51(3): 331-366.
- Lee, Lin and Fang (2006) "A Fuzzy Multiple Objective DEA for the Human Development Index" in B. Gabrys, R.J. Howlett, and L.C. Jain (eds.): *KES 2006, Part II, LNAI 4252*, pp. 922 - 928.
- Lind, N.C. (1992) "Some thoughts on the human development index" *Social Indicators Research*, 27(1): 89-101.
- Mahlberg, B. and Obersteiner, M. (2001) "Re-measuring the HDI by Data Envelopment Analysis" *International Institute for Applied Systems Analysis (IIASA), Interim Report IR-01-069, Austria: Luxemburg.*
- McGillivray, M. (1991) "The human Development Index: Yet another Redundant Composite Development Indicator?" *World Development*, 19(10), 1461-1468.
- McGillivray, M. (1992) "Measuring Development: A Statistical Critique of the UNDP's Human Development Index", Working Paper Series No. 135, The Hague: Institute of Social Studies.
- Nathan, H.S.K., Mishra, S., and Reddy, B.S. (2008) "An Alternative Approach to Measure HDI" *Mumbai, INDIA: Indira Gandhi Institute of Development Research (IGIDR)*, pp. 1-23.
- Neumayer, E. (2001) "The Human Development Index and Sustainability- A Constructive Proposal" *Ecological Economics*, 39(1): 101-114.
- Noorbakhsh, F. (1998a) "A Modified Human Development Index", *World Development*, 26(3): 517-528.

Methodological Developments in Human Development Literature

- Noorbakhsh, F. (1998b) "The Human Development Indices: Some Technical Issues and Alternative Indices" *Journal of International Development*, 10(5): 589-605.
- Palazzi, P. and Lauri, A. (1998) "The Human Development Index: Suggested Corrections." *Banca Nazionale del Lavoro (BNP) Quarterly Review*, 51(205): 193-221.
- Panayotou, T. (1997) "Demystifying the Environmental Kuznets Curve: Turning a Black Box into a Policy Tool", *Environment and Development Economics*, 2(4): 465-484.
- Panigrahi, R. and Sivramkrishna, S. (2002) "An Adjusted Human Development Index: Robust Country Rankings with Respect to the Choice of Fixed Maximum and Minimum Indicator Values" *Journal of Human Development*, 3(2): 301-311.
- Pena, J.B. (1977) "Problemas de la medición del bienestar y conceptos afines" (Una aplicación al caso español). Madrid: Instituto Nacional de Estadística.
- Prescott-Allen, R. (2001) *The Wellbeing of Nations: A Country-by-Country Index of Quality of Life and the Environment*. Covell, CA: Island Press.
- Pyatt, G. (1991) "Poverty: A Wasted Decade", *European Economic Review*, 35(2&3), 358-365.
- Radetzki, M. (1992) "Economic Growth and the Environment", in P. Low (ed.) *International Trade and Environment*, Washington D.C.: The World Bank, pp. 121-136.
- Ram, R. (1982) "Composite Indices of Physical Quality of Life, Basic Needs fulfillment, and Income: A Principal Component Representation" *Journal of Development Economics*, 11(2): 227-247.
- Rao, V.V.B. (1991) "Human Development Report 1990: Review and Assessment", *World Development*, 19(10), 1451-1460.
- Raworth, K. and Stewart, D. (2003) "Critiques of the Human Development Index" in Fukuda-Parr and Shiva Kumar (eds.) *Readings in Human Development*, New Delhi: Oxford University Press, pp.140-152.
- Ray, A.K. (2008) "Measurement of Social Development: An International Comparison" *Social Indicators Research*, 86(1): 1-46.
- Sagar, A.D. and Najam, A. (1998) "The Human Development Index: A Critical Review", *Ecological Economics*, 25(3): 249-264.
- Sen, A.K. (1985) *Commodities and Capabilities*, Amsterdam: North-Holland.
- Sen, A.K. (1987) *Standard of Living*, Cambridge: Cambridge University Press.
- Sen, A.K. (1997) *On Economic Inequality*, Oxford: Clarendon.
- Sirgy, M.J., Michalos, A.C., Ferriss, A.L., Easterlin, R.A., Patrick, D. and Pavot, W. (2006) "The Quality-of-life (QOL) Research Movement: Past, Present, and Future" *Social Indicators Research*, 76(3): 343-466.

- Stanton, E.A. (2007) "The Human Development Index: A History" Working Paper Series No. 127, Amherst: Political Economy of Research Institute, University of Massachusetts.
- Trabold-NuÈbler, H. (1991) "The Human Development Index: A New Development Indicator?" *Intereconomics*, 26(5), 236-243.
- Vega, M.C.L. De La and Urrutia A.M. (2001) "HDPI: A Framework for Pollution-Sensitive Human Development Indicators" *Environment, Development and Sustainability* 3(3): 199-215.
- Zaim, Osman (2005) "A Framework for Incorporating Environmental Indicators to the Measurement of Human Well-Being", Research Paper No. 2005/05, World Institute for Development Economics Research (WIDER), United Nations University.

Service Quality in Public Bus Transport Services : Weighted Gap Score Approach

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Abstract

This paper investigates discrepancy between passengers' expectation and perception towards the quality of services provided by Public Bus Transport Corporation using weighted Service Quality scores by loadings derived from factor analysis. This study uses a convenience sampling method to collect data from 585 passengers of the Public Transport Corporation. The results showed that 'bus service', bus stand service' and 'staff behaviour' dimensions are, the more important, while 'ticket booking' is the least important element of the quality. Finally, managerial implications for the public transport corporation and suggestions for future research are provided.

Keywords : *Service Quality; Transport Services; Weighted Gap Score*

Introduction

In recent years, the service industry has turned into the new engine triggering the growth of the new economy. World-wide companies are carrying out a large investment in service innovation. As a result, service science has become the core of both the academic and practical domains globally, which uses scientific and systematic methods to analyse, manage, and promote service productivity or build up service innovation framework (Liou & Tsao, 2010). In several Asian countries, the public sector occupies an important position in the economy. The public sector should strive to create customer value just as the private sector does (Rahaman & Rahaman, 2009). The development of techniques for customer satisfaction analysis is necessary as they allow the critical aspects of the supplied services to be identified and customer satisfaction to be increased (Metallo & Cuomo, 2000). Bus is a very popular mode of transportation in India because of its low cost and made a great and significant contribution to the national economy. Román, Martín, and Espino (2013) stated that measuring the quality of public services is currently one of the major challenges for economic analysis; this challenge is due to the importance of its results both for companies that provide these services and for the supervisory public administration. Given that public transport services are offered directly to customers, the resultant quality of a service should be seen as an outcome of user perception (Das & Pandit, 2013) because as Bordagaray,

dell'Olio, Ibeas, and Cecín (2013) stated, "Without the consumer, the market has no reason to exist". Therefore, the level of quality in a service will be high when the performance of the service fits customers' needs and expectations. For these reasons, it is important to identify service quality attributes and to establish their importance and influence on customer behaviour. This paper investigates discrepancy between passengers' expectation and perception towards the quality of services provided by Public Bus Transport Corporation using weighted Service Quality scores as a new calculation method.

Service Quality

The service quality measurement is developed by adapting the disconfirmation theory, Grönroos (1982) identifies two service quality dimensions: Functional quality (represents how the service is delivered; that is, it defines customers' perceptions of the interactions that take place during service delivery) and Technical quality (reflects the outcome of the service act, or what the customer receives in the service encounter). The disconfirmation theory also is the basis for Parasuraman, Zeithaml, and Berry (1985) SERVQUAL model with five dimensions (reliability, responsiveness, assurances, empathy, and tangibility), which views service quality as the gap between the expected level of service and customer perceptions of the level received. Several studies used the advance modified versions of the SERVQUAL model (Boulding, Kalra, Staelin, & Zeithaml, 1993; Cronin & Taylor, 1992; Parasuraman, Berry, & Zeithaml, 1991; Parasuraman, Zeithaml, & Berry, 1994; Zeithaml, Berry, & Parasuraman, 1996). (Cronin & Taylor, 1992) stated that there are problems inherent in the use of the disconfirmation paradigm to measure service quality. They suggest that the expectations scale be discarded in favour of a performance-only measure of service quality that they term SERVPERF. Parasuraman et al. (1994) diagnosing controversies relative to their service quality measure, compare the performance of four alternative measures, SERVQUAL, SERVPERF, a summary disconfirmation measure (Brown, Churchill Jr, & Peter, 1993), and a three-column disconfirmation scale that compares a consumers' desired and adequate expectations to their performance perceptions. The results of their investigation suggest that both SERVPERF and the summary disconfirmation measure outperform SERVQUAL. However, the authors recommend the continued use of their gap-based measure due to its superior diagnostic capacity. Previous studies widely used P-E gap to measures service quality (Arabatzis & Grigoroudis, 2010; Chen, Chang, & Lai, 2009; Kassim & Bojei, 2002; Pakdil & Aydın, 2007; Tahir & Abubakar, 2007). Therefore, this study also used P-E gap model to measure service quality of Public Bus Transport Corporation.

Service Quality in Bus Transport services

Public transportation is one of the essential tools most people require in their daily life (Lei & Mac, 2005). As public transport organizations grow older and matured, the

quality of service diminishes gradually and public being left with no option but to accept what is offered (Andreassen, 1994). To overcome this issue in public transport organization the concept of service quality needs to be introduced (Ancarani & Capaldo, 2001). Past researchers have identified different factors of service quality in public transportation services. Hensher and Prioni (2002) identified the service quality index reliability, frequency, walking distance to the bus stop, waiting safety, access to the bus, air conditioning, and cleanliness of seats. Ryus (2003) defined five categories of measures reflect the passenger's point of view in transit services: availability of transit service, service monitoring travel time, safety and security, and maintenance and construction activity on passenger trips. Jen and Lu (2003); (Jen, Tu, & Lu, 2011) reported the service quality dimensions; interaction with passengers, tangible service equipment, convenience of services, operating management support and interpersonal relationships. Wen, Lan, and Cheng (2005) identified important factors of service quality to influence the passengers' loyalty; amenity, crews' attitude, station performance and operational performance. Hu and Jen (2006) developed the scale to measure service quality of city buses in Taipei, the dimension are interaction with passenger, tangible service equipment, convenience of service, operating management support. Eboli and Mazzulla (2007) measured customer satisfaction in the context of bus service on various factors including availability of shelter and benches at bus stops, cleanliness, overcrowding, information system, safety, personnel security, helpfulness of personnel, and physical condition of bus stops. Vanniarajan and Alleswari (2010) identified the Busqual factors such as reliability, staff behaviour, safety, tangibility and cleanliness. The SERVQUAL dimensions are widely used by researchers to evaluate the transport service quality (Awasthi, Chauhan, Omrani, & Panahi, 2011; Huang, Wu, & Hsu, 2006; Randheer & AL-Motawa, 2011; Too & Earl, 2010; Vanniarajan & Stephen, 2008; Wang, Feng, & Hsieh, 2010).

Methodology

Questionnaire Design

The modified SERVQUAL and transport service quality dimensions were taken into consideration based on previous literature (Wen et al., 2005). First part of the questionnaire deals with the measurement of service quality with 31 attributes. The expectations and perceptions were rated using 7-point Likert scale. Perceptions were rated from 1-strongly disagree to 7-strongly agree, and expectations were rated from 1-unimportant to 7-very important. To ensure the content validity, the survey instrument was revised and finalized according to feedback from eight academicians who are working in the area of service quality and a pre-test sample of 25 postgraduate students. Finally the questionnaire was corrected by subject experts, based on their suggestions the necessary changes has been made. The second Part of the questionnaire presents respondents' demographic information (sex, age, education, family income, and travel purpose).

Sampling and Survey Procedure

The sample in this study consists of passengers who used the long distance buses of Tamil Nadu State Transport Corporation. The survey was administered over five weeks. To make more representativeness of the sample, the survey procedure was performed on three different places based on convenience sampling procedure. 800 questionnaires were distributed and 585 usable ones were obtained. After eliminated incomplete responses and passengers who have not travelled more than two times in the preceding month, there was an effective response rate of 73.12%. Of the respondents, 66.6% were male and 33.5% were female, the average age is 23.5 ranged between 19 years to 38 years, the average monthly family income Rs. 18000 ranged between R.s.3000 to Rs. 150,000.

Data Cleaning and Purification Process

Non-response to questionnaire surveys may potentially bias results, as those who respond may differ in some systematic way from non-respondents. Examination of the data suggested that non-response bias is not present in the data set. Fifty five respondents were removed because they had missing data in the questionnaire and thirty responses were deleted as they did not answer the questionnaire accurately or did not read the items.

Data Analysis

The collected data is analysed using principal component analysis for identifying underlying dimensions of bus transport service quality. The independent sample t test is conducted to compare the difference between expectation and perception gap scores using SPSS 21.0 version. To test the measurement properties of the scale we first conducted reliability analysis by grouping the items according to the six a priori conceptual dimensions from past literature. We then reduced the list of items within each dimension by examining corrected item-to-total correlations and deleting items whose elimination improved reliability coefficient alpha. To minimize the common method bias, the study conducted Post hoc test (Harman single factor) as recommended by Podsakoff, MacKenzie, Lee, and Podsakoff (2003) found that the items did not significantly load onto a single factor. Hence the study ensured that the data is free from the common method bias.

Method of Calculating Weighted Score for Expectation and Perception

Computing the weighted score expectation and perception Pakdil and Aydin (2007) method was adopted. Factor analysis was performed for both expectation and perception; actual scores were converted into new weighted scores based on scores weighted by factor loadings. In computing the expectation score for each factor (F_{t_i}), passengers' evaluations were weighted by the concerned factor loadings as given in Eq (1). For $i = 1, 2, \dots, n$, where n is the number of passengers; $t = 1, 2, \dots, m$, where m is the number of factors, and w_j is the factor loading of j^{th} item, $j = 1, 2, \dots, k$, where k is the number of items included in t^{th} factor,

where x_{jci} is the i^{th} respondent's expectation score for j^{th} item,

$$Ft_{ci} = W_1 \times X_{1ci} + W_2 \times X_{2ci} + \dots + W_k \times X_{kci}$$

$$= \sum_{(j=1)}^k w_j \times X_{(jci)} \quad (1)$$

and for the perception score, the weighted score calculated for a factor is

$$Ft_{pi} = W_1 \times X_{1pi} + W_2 \times X_{2pi} + \dots + W_k \times X_{kpi}$$

$$= \sum_{(j=1)}^k w_j \times X_{(jpi)} \quad (2)$$

where x_{jpi} is the i^{th} passenger's perception score for j^{th} item. For example, the first factor, F1-staff behaviour, includes Q1, Q2, Q3, Q4, Q5 and Q6 items; with the factor loadings 0.736, 0.721, 0.716, 0.681, 0.650 and 0.648, respectively (Table 1). If the first respondent scored his/her expectations for Q1 as 7; Q2 as 6, Q3 as 5 Q4 as 4, Q5 as 3 and Q6 as 1, then his/her F1 score is 18.38. Each respondent's expectation and perception scores were computed, respectively.

Results

An individual item analysis (Table 1) of the scale showed that the expectations items had mean scores ranging from 5.42 for item E11 "Special attention is given to passengers from other cities, states, etc" to 5.98 for item E13 "Special care is taken for senior citizens & physically challenged persons". Item E23 "Bus stops toilets are well maintained" had the largest standard deviation of 1.75. The item to total scale(Pearson) correlations for the expectations items ranged from .54 to 0.81. Item E1 "Ticket office is located at an easily accessible place" had the lowest correlation coefficient of .54.

Table 1
Summary of Item-Total Correlations, Means and Standard Deviations of Expectation Scale

Expectation Items	Item-total Correlation	M	SD
Ticket booking			
E1 Ticket office is located at an easily accessible place	.54	5.80	1.44
E2 I can book tickets for my journey without any difficulty	.57	5.87	1.47

E3	Information given at the reservation counters is understandable	.58	5.70	1.49
E4	Employees of the ticket offices are responsive	.63	5.75	1.49
Bus Services				
E5	Buses are in good condition	.74	5.88	1.56
E6	The interiors of the buses are clean & hygienic	.72	5.88	1.56
E7	Buses have adequate lighting facilities inside	.65	5.59	1.38
E8	Bus windows are in good condition	.77	5.70	1.50
E9	Bus engine is smooth and doesn't make more noise	.69	5.67	1.50
E10	Buses have comfortable and spacious seats	.74	5.82	1.46
Empathy				
E11	Special attention is given to passengers from other cities, states, etc.	.61	5.42	1.67
E12	Adequate care is taken in case of any emergency	.73	5.88	1.45
E13	Special care is taken for senior citizens & physically challenged persons	.75	5.98	1.47
E14	Special care is taken for women & children	.77	5.78	1.48
Reliability				
E15	Buses departure on time	.76	5.75	1.50
E16	Buses reach your destination on time	.79	5.81	1.50
E17	The emergency exit door is visually appealing in buses	.71	5.74	1.57
E18	Buses have adequate safety and security measures	.77	5.91	1.50
E19	Buses travel at a normal speed	.59	5.53	1.51
Bus Stand Services				
E20	Infrastructure/ Facilities are well maintained at the bus stops	.80	5.64	1.60
E21	Bus stops have adequate shelter and chairs	.78	5.65	1.48
E22	Bus stops have adequate facilities (toilets, water, parking etc.)	.79	5.74	1.63
E23	Bus stops toilets are well maintained	.78	5.76	1.75
E24	Bus stops have adequate facilities for food and beverages	.71	5.62	1.51
E25	Bus stops have adequate safety and security measures (Video monitors, security personnel, etc.)	.74	5.61	1.57
Staff Behaviour				
E26	The staff satisfy passengers' requests right at the first time	.76	5.56	1.49
E27	The staff are always willing to help passengers	.81	5.70	1.44

E28	The staff answer the passenger queries properly	.81	5.72	1.42
E29	The staff are always polite	.76	5.67	1.52
E30	The staff understand passengers' needs	.77	5.65	1.45
E31	The staff behaviour is courteous	.75	5.68	1.39

An individual item analysis (Table 2) of the scale showed that the perception items had mean scores ranging from 2.52 for item P23 "Bus stops toilets are well maintained" to 4.41 for item P2 "I can book tickets for my journey without any difficulty" and item P7 "Buses have adequate lighting facilities inside". Item P13 "Special care is taken for senior citizens & physically challenged persons" and item P22 "Bus stops have adequate facilities (toilets, water, parking etc.)" had the largest standard deviation of 1.84. The item to total scale (Pearson) correlations for the perceptions items ranged from .33 to .70. Item P2 "I can book tickets for my journey without any difficulty" had the lowest correlation coefficient of .33.

Sample Adequacy

The sample consisted of 585 passengers who travelled the long distance buses of Tamil Nadu State Transport Corporation. To check the sample appropriateness is Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy statistic which indicates the proportion of variance in variables that might be caused by underlying factors. This index ranges from 0 to 1, reaching 1 when each variable is perfectly predicted without error by the other variables. The KMO value must exceed 0.50 for both the overall fit and each individual variable, and the value above 0.8 is considered meritorious (Hair et al., 2008). The KMO measure value for expectation and perception scales are .93 and .96 respectively.

Table 2

Summary of Item-Total Correlations, Means and Standard Deviations of Perception Scale

Perception Items	Item-total Correlation	M	SD
Ticket booking			
P1	Ticket office is located at an easily accessible place	.34	4.40 1.67
P2	I can book tickets for my journey without any difficulty	.33	4.41 1.76
P3	Information given at the reservation counters is understandable	.42	4.25 1.75
P4	Employees of the ticket offices are responsive	.51	3.99 1.73
Bus Services			
P5	Buses are in good condition	.58	3.67 1.75
P6	The interiors of the buses are clean & hygienic	.56	3.39 1.74

P7	Buses have adequate lighting facilities inside	.52	4.41	1.56
P8	Bus windows are in good condition	.60	3.59	1.72
P9	Bus engine is smooth and doesn't make more noise	.58	3.66	1.63
P10	Buses have comfortable and spacious seats	.60	3.72	1.67
Empathy				
P11	Special attention is given to passengers from other cities, states, etc.	.54	3.54	1.79
P12	Adequate care is taken in case of any emergency	.56	3.88	1.75
P13	Special care is taken for senior citizens & physically challenged persons	.54	3.96	1.84
P14	Special care is taken for women & children	.55	4.06	1.81
Reliability				
P15	Buses departure on time	.53	3.87	1.80
P16	Buses reach your destination on time	.56	3.79	1.79
P17	The emergency exit door is visually appealing in buses	.52	3.66	1.83
P18	Buses have adequate safety and security measures	.57	3.50	1.68
P19	Buses travel at a normal speed	.48	4.22	1.65
Bus Stand Services				
P20	Infrastructure/ Facilities are well maintained at the bus stops	.62	3.07	1.71
P21	Bus stops have adequate shelter and chairs	.56	3.56	1.76
P22	Bus stops have adequate facilities (toilets, water, parking etc.)	.61	3.11	1.84
P23	Bus stops toilets are well maintained	.63	2.52	1.76
P24	Bus stops have adequate facilities for food and beverages	.49	3.88	1.76
P25	Bus stops have adequate safety and security measures (Video monitors, security personnel, etc.)	.56	3.15	1.75
Staff Behaviour				
P26	The staff satisfy passengers' requests right at the first time	.67	3.61	1.63
P27	The staff are always willing to help passengers	.68	3.65	1.62
P28	The staff answer the passenger queries properly	.65	3.65	1.64
P29	The staff are always polite	.65	3.33	1.67
P30	The staff understand passengers' needs	.70	3.57	1.66
P31	The staff behaviour is courteous	.66	3.63	1.66

Table 3
Factor Loadings, Construct Reliability, and Convergent Validity of Service Quality Expectation Scale

Dimensions and Indicators	Loadings	Alpha	CR	AVE
Staff Behaviour		.93	.93	.70
The staff satisfy passengers' requests right at the first time	.65			
The staff are always willing to help passengers	.72			
The staff answer the passenger queries properly	.74			
The staff are always polite	.72			
The staff understand passengers' needs	.68			
The staff behaviour is courteous	.65			
Bus Stand Services		.92	.93	.69
Infrastructure/ Facilities are well maintained at the bus stops	.58			
Bus stops have adequate shelter and chairs	.66			
Bus stops have adequate facilities (toilets, water, parking etc.)	.78			
Bus stops toilets are well maintained	.72			
Bus stops have adequate facilities for food and beverages	.63			
Bus stops have adequate safety and security measures (Video monitors, security personnel, etc.)	.62			
Bus Services		.90	.87	.53
Buses are in good condition	.70			
The interiors of the buses are clean & hygienic	.76			
Buses have adequate lighting facilities inside	.67			
Bus windows are in good condition	.71			
Bus engine is smooth and doesn't make more noise	.63			
Buses have comfortable and spacious seats	.60			
Reliability		.85	.89	.61
Buses departure on time	.76			
Buses reach your destination on time	.80			
The emergency exit door is visually appealing in buses	.59			
Buses have adequate safety and security measures	.56			
Buses travel at a normal speed	.58			

Empathy		.84	.86	.62
Special attention is given to passengers from other cities, states, etc.	.57			
Adequate care is taken in case of any emergency	.70			
Special care is taken for senior citizens & physically challenged	.79			
Special care is taken for women & children	.73			
Ticket booking		.78	.78	.50
Ticket office is located at an easily accessible place	.67			
I can book tickets for my journey without any difficulty	.69			
Information given at the reservation counters is understandable	.63			
Employees of the ticket offices are responsive	.65			

Note: CR= Composite Reliability, AVE= Average Variance Extracted

The underlying dimensions for the set of expectation statements and the set of perception were identified through principal components analyses of the passengers' responses. Each group of variables was analyzed by using a varimax rotation, with a factor loading of .5 or better. We used the breaks-in-eigenvalues criterion to determine the initial number of factors to retain. We then went through a series of iterations, each involving elimination of items with low loadings on all factors or high cross-loadings on two or more factors, followed by factor analysis of the remaining items. This iterative process resulted in the final service quality scale, consisting of 31 items on six dimensions, which we labelled as follows: (1) staff behaviour, (2) bus stand services, (3) bus services, (4) reliability and assurance, (5) empathy and (6) ticket booking.

Table 4
Factor Loadings, Construct Reliability, and Convergent Validity of Service Quality Perception Scale

Dimensions and Indicators	Loadings	Alpha	CR	AVE
Staff Behaviour		.89	.91	.64
The staff satisfy passengers' requests right at the first time	.65			
The staff are always willing to help passengers	.72			
The staff answer the passenger queries properly	.74			
The staff are always polite	.72			

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The staff understand passengers' needs	.68			
The staff behaviour is courteous	.65			
Bus Stand Services		.83	.88	.54
Infrastructure/ Facilities are well maintained at the bus stops	.58			
Bus stops have adequate shelter and chairs	.66			
Bus stops have adequate facilities (toilets, water, parking etc.)	.78			
Bus stops toilets are well maintained	.72			
Bus stops have adequate facilities for food and beverages	.63			
Bus stops have adequate safety and security measures (Video monitors, security personnel, etc.)	.62			
Bus Services		.83	.88	.55
Buses are in good condition	.70			
The interiors of the buses are clean & hygienic	.76			
Buses have adequate lighting facilities inside	.66			
Bus windows are in good condition	.71			
Bus engine is smooth and doesn't make more noise	.63			
Buses have comfortable and spacious seats	.60			
Reliability		.70	.81	.50
Buses departure on time	.76			
Buses reach your destination on time	.80			
The emergency exit door is visually appealing in buses	.59			
Buses have adequate safety and security measures	.56			
Buses travel at a normal speed	.58			
Empathy		.77	.85	.59
Special attention is given to passengers from other cities, states, etc.	.57			
Adequate care is taken in case of any emergency	.70			
Special care is taken for senior citizens & physically challenged	.79			
Special care is taken for women & children	.73			
Ticket booking		.64	.79	.51
Ticket office is located at an easily accessible place	.67			

I can book tickets for my journey without any difficulty	.68
Information given at the reservation counters is understandable	.63
Employees of the ticket offices are responsive	.65

Note: CR= Composite Reliability, AVE= Average Variance Extracted

Reliability

To evaluate reliability, the most commonly accepted measure is internal consistency reliability using Cronbach's Alpha and composite reliability values. Cronbach's Alpha values are highly satisfactory for both service quality expectation (.78 to .91) and perception measures (.64 to .89) and exceeds the common threshold of .70 except ticketing dimension (.64) in perception scale; Constructs' composite reliability is also highly satisfactory for both service quality expectation (.78 to .93) and perception measures (.79 to .91), and exceeds the common threshold of 0.70. (Roldán & Franco, 2012).

Validity

To achieve the convergent validity all standardized factor loadings should be greater than .70 and the average variance extracted (AVE) for measures is greater than .50 (Fornell & Larcker, 1981). In the present study the standardised factor loadings for expectation scale are ranged from .56 to .80 and AVE values are ranged between .50 to .70. Similarly, the standardised factor loadings for perception scale are ranged from .56 to .80 and AVE values are ranged between .50 to .64. Hence, the study established the convergent validity for the latent constructs.

Gap Scores among the Service Quality Dimensions

To calculate the difference in the score between the 31 statements the SERVQUAL method was used (Parasuraman, Zeithaml, & Berry, 1988). The negative score indicates the passengers perceived that the level of service provided by the transport corporation did not meet their expectations. Table 5 exhibited that there were some differences in magnitude of the gap score among the dimensions of service quality: ticket booking, bus services, empathy, reliability, bus stand services and staff behaviour. The result also showed that none of the items of service quality had a positive gap score; it is an evident that passengers were generally not satisfied with the service provided by the public transport corporation. The service quality dimensions were ranked based on the size of the gap score, the priority of service quality had been assessed and the results were presented in Table 3.

Table 5
Gap Score among the Service Quality Dimensions

Dimensions	P		E		Gap (P-E)	t	Priority
	M	SD	M	SD			
Ticket booking	17.03	4.83	23.09	4.63	-6.06	22.04**	6
Bus Services	22.38	7.47	34.51	7.37	-12.12	27.12**	3
Empathy	15.44	5.54	23.06	4.98	-7.62	24.07**	5
Reliability	19.06	6.45	28.73	5.98	-9.67	26.02**	4
Bus Stand Services	19.13	7.84	34.02	8.04	-14.90	30.38**	1
Staff Behaviour	21.45	7.90	33.98	7.49	-12.54	26.78**	2

Note: ** p < .01.

From the table 5, it is inferred that the bigger gap score, the more serious the service quality shortfall for the passenger viewpoint. The most important dimension was "bus stand services" (-14.90), the second most important dimension was "staff behaviour " (-12.54). Finally, the least important dimension was "ticket booking" (-6.06). The un-weighted gap score among the five service quality dimensions indicated that the public transport corporation fell short of the customer's expectation on each dimension. Considering the un-weighted gap score, the service quality dimensions were ranked based on the size of the gap score. The bigger the gap is, the more important the dimensions from passengers' view, which could be ranked in the following order: bus stand services, staff behaviour, bus services, reliability, empathy and ticket booking.

Weighted Gap Score among the Service Quality Dimensions

Table 6
Weighted Gap Score among the Service Quality Dimensions

Dimensions	P		E		Gap (P-E)	t	Priority
	M	SD	M	SD			
Ticket booking	11.23	3.18	15.35	3.08	-4.12	22.66**	5
Bus Services	15.12	5.09	24.59	4.35	-9.47	33.24**	2
Empathy	10.84	3.90	13.69	2.95	-2.86	13.77**	6
Reliability	12.54	4.32	17.20	3.56	-4.66	19.73**	4
Bus Stand Services	12.67	5.26	23.32	5.53	-10.65	31.97**	1
Staff Behaviour	14.84	5.47	21.52	4.75	-6.68	21.46**	3

Note: ** p < .01.

From Table 6, the "bus stand services" dimension had the biggest weighted gap score of -10.65, followed by "bus services" (-9.47), "staff behaviour" (-6.68), "reliability" (-4.66), "ticket booking" (-4.12), and "empathy" (-2.86). Finally, the table 5 showed that there was a significant difference in priority or ranking between un-weighted and weighted scores from passenger's perspective.

Table 7

Comparison of Weighted and Un-weighted Gap Scores among the Six Service Quality Dimensions

Dimension	Weighted Gap Score	Un weighted Gap Score
Ticket booking	-4.12	-6.06
Bus Services	-9.47	-12.12
Empathy	-2.86	-7.62
Reliability	-4.66	-9.67
Bus Stand Services	-10.65	-14.90
Staff Behaviour	-6.68	-12.54

From the table 7, it can be observed that there is a differences between weighted and un-weighted Gap scores in ranking the service quality dimensions. The weighted gap score of service quality is better approach to rank the service quality dimensions. To compare of the passengers' actual perceptions of service quality with their expectations, the paired t-test was conducted and the results showed a statistically significant difference in all five dimensions weredisplayed in Table 5. Finally, it can be summarized that passengers' perception of public transport corporation service quality did not meet with their expectations.

Conclusions and Managerial Implications

The highly competitive market conditions in the bus transport sector pressurises public transport corporations to deliver high-quality services. To provide this, public transport corporations must first understand passengers' needs and expectations. Next, they should focus on how to deliver the most convenient service to meet passengers' needs. This study develops a new structure to define public transport corporation's service quality dimensions. The service quality dimensions are almost similar to those presented in previous studies (Eboli & Mazzulla, 2008; Philip & Hazlett, 1997; Ryus, 2003; Vanniarajan & Alleswari, 2010). The result of Gap analyses showed that passengers' perceptions of the bus transport corporation in India were consistently lower than their expectations. Hence, negative gaps, especially pertaining to "bus stand services", "bus services", and "staff behaviour" were important to consider in terms of making improvement efforts. The bigger the gap, the

serious the level of service quality that need to be improved, from the customers' point of view. These results provide powerful information for future policymaking due to the fact that once the transport planners know the variables that users value the most; they can define more efficient strategies for improvements.

Scope for Further Research

The findings of the study pertaining to Tamil Nadu State Transport Corporation, further research should be conducted having a large data nationwide. Obtaining larger samples of respondents in further studies would facilitate a more robust examination of changes in perceived - expected service quality relationship. The further research should also focus on the affect of the management's expectation and the user's expectation levels.

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References

- Ancarani, A., & Capaldo, G. (2001). Management of standardised public services: a comprehensive approach to quality assessment. *Managing Service Quality*, 11(5), 331-341. doi: 10.1108/09604520110404059
- Andreassen, Tor Wallin. (1994). Satisfaction, Loyalty and Reputation as Indicators of Customer Orientation in the Public Sector. *International Journal of Public Sector Management*, 7(2), 16-34. doi: 10.1108/09513559410055206
- Arabatzis, Garyfallos, & Grigoroudis, Evangelos. (2010). Visitors' satisfaction, perceptions and gap analysis: The case of Dadia-Lefkimi-Souflion National Park. *Forest Policy and Economics*, 12(3), 163-172. doi: <http://dx.doi.org/10.1016/j.forpol.2009.09.008>
- Awasthi, Anjali, Chauhan, Satyaveer S., Omrani, Hichem, & Panahi, Ariyo. (2011). A hybrid approach based on SERVQUAL and fuzzy TOPSIS for evaluating transportation service quality. *Computers & Industrial Engineering*, 61(3), 637-646. doi: <http://dx.doi.org/10.1016/j.cie.2011.04.019>
- Bordagaray, Maria, dell'Olio, Luigi, Ibeas, Angel, & Cecín, Patricia. (2013). Modelling user perception of bus transit quality considering user and service heterogeneity. *Transportmetrica A: Transport Science*, 10(8), 705-721. doi: 10.1080/23249935.2013.823579
- Boulding, William, Kalra, Ajay, Staelin, Richard, & Zeithaml, Valarie A. (1993). A dynamic process model of service quality: From expectations to behavioral intentions. *Journal of Marketing Research*, 30(1), 7-27. doi: 10.2307/3172510

- Brown, Tom J., Churchill Jr, Gilbert A., & Peter, J. Paul. (1993). Improving the measurement of service quality. *Journal of Retailing*, 69(1), 127-139. doi: [http://dx.doi.org/10.1016/S0022-4359\(05\)80006-5](http://dx.doi.org/10.1016/S0022-4359(05)80006-5)
- Chen, Kee-Kuo, Chang, Ching-Ter, & Lai, Cheng-Sheng. (2009). Service quality gaps of business customers in the shipping industry. *Transportation Research Part E: Logistics and Transportation Review*, 45(1), 222-237. doi: <http://dx.doi.org/10.1016/j.tre.2008.02.005>
- Cronin, J. Joseph, Jr., & Taylor, Steven A. (1992). Measuring Service Quality: A Reexamination and Extension. *Journal of Marketing*, 56(3), 55-68. doi: 10.2307/1252296
- Das, Shreya, & Pandit, Debapratim. (2013). Importance of user perception in evaluating level of service for bus transit for a developing country like India: a review. *Transport Reviews*, 33(4), 402-420. doi: 10.1080/01441647.2013.789571
- Eboli, Laura, & Mazzulla, Gabriella. (2007). Service quality attributes affecting customer satisfaction for bus transit. Paper presented at the Journal of Public Transportation.
- Eboli, Laura, & Mazzulla, Gabriella. (2008). A Stated Preference Experiment for Measuring Service Quality in Public Transport. *Transportation Planning and Technology*, 31(5), 509-523. doi: 10.1080/03081060802364471
- Grönroos, Christian. (1982). An Applied Service Marketing Theory. *European Journal of Marketing*, 16(7), 30-41. doi: 10.1108/EUM0000000004859
- Hensher, David A., & Prioni, Paola. (2002). A Service Quality Index for Area-Wide Contract Performance Assessment. *Journal of Transport Economics and Policy*, 36(1), 93-113. doi: 10.2307/20053894
- Hu, Kai-Chieh, & Jen, William. (2006). Passengers' Perceived Service Quality of City Buses in Taipei: Scale Development and Measurement. *Transport Reviews*, 26(5), 645-662. doi: 10.1080/01441640600679482
- Huang, Yuan-Chih, Wu, Chih-Hung, & Hsu, CJ. (2006). Using importance-performance analysis in evaluating Taiwan medium and long distance national highway passenger transportation service quality. *Journal of American Academy of Business*, 8(2), 98-104.
- Jen, William, & Lu, Tang Jung. (2003). Effects of service quality, customer satisfaction and switching barriers on passenger behavioral intentions in scheduled coach service. Paper presented at the Proceedings of the Eastern Asia Society for Transportation Studies.
- Jen, William, Tu, Rungting, & Lu, Tim. (2011). Managing passenger behavioral intention: an integrated framework for service quality, satisfaction, perceived value, and switching barriers. *Transportation*, 38(2), 321-342. doi: 10.1007/s11116-010-93069
- Kassim, Norizan Mohd, & Bojei, Jamil. (2002). Service quality: gaps in the Malaysian telemarketing industry. *Journal of Business Research*, 55(10), 845-852. doi: [http://dx.doi.org/10.1016/S0148-2963\(00\)00224-1](http://dx.doi.org/10.1016/S0148-2963(00)00224-1)

Service Quality in Public Bus Transport Services : Weighted Gap Score Approach

- Lei, Mandy, & Mac, Lancy. (2005). Service quality and customer loyalty in a Chinese context: does frequency of usage matter? Paper presented at the ANZMAC 2005 Conference: Services Marketing.
- Liou, Yiching, & Tsao, Wen-Yu. (2010). A study on the service model of public transportation: Taiwan railways vs Taiwan high speed rail corporation. *Service Science*, 1(2), 32-42.
- Metallo, Gerardo, & Cuomo, Maria Teresa. (2000). La customer satisfaction come strumento relazionale e di ascolto per una nuova Pubblica Amministrazione. *Micro & Macro Marketing*, 9(1), 51-78.
- Pakdil, Fatma, & Aydın, Özlem. (2007). Expectations and perceptions in airline services: An analysis using weighted SERVQUAL scores. *Journal of Air Transport Management*, 13(4), 229-237. doi: <http://dx.doi.org/10.1016/j.jairtraman.2007.04.001>
- Parasuraman, A., Berry, Leonard L., & Zeithaml, Valarie A. (1991). Refinement and reassessment of the SERVQUAL scale. *Journal of Retailing*, 67(4), 420-450.
- Parasuraman, A., Zeithaml, Valarie A., & Berry, Leonard L. (1985). A Conceptual Model of Service Quality and Its Implications for Future Research. *Journal of Marketing*, 49(4), 41-50. doi: 10.2307/1251430
- Parasuraman, A., Zeithaml, Valarie A., & Berry, Leonard L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12-40.
- Parasuraman, A., Zeithaml, Valarie A., & Berry, Leonard L. (1994). Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research. *Journal of Marketing*, 58(1), 111-124. doi: 10.2307/1252255
- Philip, George, & Hazlett, Shirley-Ann. (1997). The measurement of service quality: a new P-C-P attributes model. *International Journal of Quality & Reliability Management*, 14(3), 260-286. doi: 10.1108/02656719710165482
- Price, James L. (1997). Handbook of organizational measurement. *International Journal of Manpower*, 18(4), 305-558. doi: 10.1108/01437729710182260
- Rahaman, Khan Rubayet, & Rahaman, Md Arifur. (2009). Service Quality Attributes Affecting The Satisfaction Of Railway Passengers Of Selective Route In Southwestern Part Of Bangladesh. *Theoretical and Empirical Researches in Urban Management*, 4(3 (12)), 115-125.
- Randheer, Kokku, & AL-Motawa, Ahmed A. (2011). Measuring Commuters' Perception on Service Quality Using SERVQUAL in Public Transportation. *International Journal of Marketing Studies*, 3(1).
- Román, Concepción, Martín, Juan Carlos, & Espino, Raquel. (2013). Using Stated Preferences to Analyze the Service Quality of Public Transport. *International Journal of Sustainable Transportation*, 8(1), 28-46. doi: 10.1080/15568318.2012.758460
- Ryus, Paul. (2003). A Summary of TCRP Report 88: A Guidebook for Developing a Transit Performance-Measurement System. *TCRP Research Results Digest*(56).

- Tahir, I, & Abubakar, N. (2007). Service quality gap and customers satisfactions of commercial banks in Malaysia. *International Review of Business Research Papers*, 3(4), 327-336.
- Too, Linda, & Earl, George. (2010). Public transport service quality and sustainable development: a community stakeholder perspective. *Sustainable Development*, 18(1), 51-61. doi: 10.1002/sd.412
- Vanniarajan, T., & Alleswari, A. (2010). Busqual and Repurchase Intention Among The Passengers: An Empirical Study. *Journal of Marketing & Communication*, 6(1), 10-17.
- Vanniarajan, T., & Stephen, A. (2008). Railqual and Passengers Satisfaction: An Empirical Study in Southern Railways. *Asia Pacific Business Review*, 4(1), 64-75. doi: 10.1177/097324700800400107
- Wang, Shu-Mei, Feng, Cheng-Min, & Hsieh, Cheng-Hsien. (2010). Stakeholder perspective on urban transport system service quality. *Total Quality Management & Business Excellence*, 21(11), 1103-1119. doi: 10.1080/14783363.2010.529329
- Wen, Chieh Hua, Lan, Lawrence, & Cheng, Hsiu Ling. (2005). Structural Equation Modeling to Determine Passenger Loyalty Toward Intercity Bus Services. *Transportation Research Record: Journal of the Transportation Research Board*, 1927(-1), 249-255. doi: 10.3141/1927-28
- Zeithaml, Valarie A., Berry, Leonard L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 60(2), 31-46. doi: 10.2307/1251929

A Study on Workplace Deviance Behaviour in Small Scale Industries at Puducherry Region

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Abstract

Employee deviance is one of the growing concerns in all the organization across the world. Nowadays some of the organization seems to be declining in their productivity due to the prevalent existence of deviant behaviour in the workplace. It is also known as counterproductive behaviour or dysfunctional behaviour. An organization may have minimum or maximum number of employees for its production but still it suffers from the spreading disease called workplace deviance behaviour to some extent. Though the organization continuously monitoring the employees around the clock, the workplace deviance behaviour exists somewhere in the corner of the organization. Thus, this study makes a lucid attempt to identify the different kinds of deviant behaviour exist in the small scale industry at Puducherry region and also the researcher showing keen to test the relationship between the demographic variables and the workplace deviance behaviour because whether it has any significant role in influencing the deviant behaviour or not. Current study is descriptive research, convenience sampling technique is adopted to collect 154 fresh samples through structured questionnaire and the period of study is from January 2014 to March 2014. Non parametric statistical tools like Mann Whitney Test and Kruskal Wallis Test are applied to test the Hypothesis. Results and discussions are clearly depicted in the full paper.

Keywords : *Workplace Deviance Behaviour, Counterproductive Behaviour, Small Scale Industry, Puducherry*

Introduction

An organization may be defined as a group of people who are working together to achieve a common goal. Each and Every individual are considered as an asset of an Organization. If anyone of the Individual deviate from the Workplace, it may disrupt the entire performance of the organization. The Workplace Deviance Behaviour seems to be minor in the initial stage but it has greater repercussions in future if an organization fails to adopt the preventive mechanism. According to Robinson and Bennett (1995) Workplace Deviance refers to voluntary behaviors by employees that violate significant organizational norms, policies, or rules and in so doing threaten the well-being of the organization and/or

its members or both. Here the researcher wants to reveal the significance of Workplace Deviance Behaviour with an example, for instance if an employee from an organization belongs to Production Department is unhappy with his Superior or Subordinate or any other Company Policy matter, then the employee may not concentrate in the work allotted to him and it will lead to disrupt in the working process or block in the flow of work channel. The employee may purposely blame the others for stopping the work and tend to disseminate the wrongful information to the others in order to deviate the other employees from the workplace. Thus it has a greater impact in disturbing the entire performance of an organization.

Generally the Workplace Deviance Behaviour is also known as Counterproductive Behaviour or Dysfunctional Behaviour. Robinson and Bennett (1995), has divided the Workplace Deviance Behaviour in two broad categories namely Interpersonal Deviance and Organizational Deviance. However it is further sub divided into four categories like Production Deviance, Property Deviance, Political Deviance and Personal Aggression. This Study is going to explore the Major Type of Deviant Behaviour exist in the Small Scale Industries at Puducherry region and also to analyze the relationship between the Demographic Variables (Gender, Type of Employment, Age, Qualification, Experience and Income) and the Workplace Deviance Behaviour (19 Items given by Robinson and Bennett, 2000) by using Statistical tools. The Current Study is conducted in Puducherry region from January 2014 to March 2014. Puducherry is a Union Territory of India; it consists of several Small Scale Industries located at different places of Puducherry.

According to the Source provided by District Industries Centre (DIC), Puducherry, it is found that there are more than 400 Small Scale Industries which consists of more than 45000 employees. Some of the well known Small Scale Industries covered in this study are Thirubuvanai, Sedarapet and Kirumambakam Small Scale Industries.

Review of Literature

Robinson and Bennett, (1995) Workplace Deviance refers to voluntary behaviors by employees that violate significant organizational norms, policies, or rules and in so doing threaten the well-being of the organization and/or its members or both.

According to Mazni and Roziah, (2011), The Workplace Deviant Behaviour (WDB) is of two types namely Constructive Deviance and Destructive Deviance. The Constructive Deviance explains about the employees engage themselves in Creativity behaviour that can help the Organization to grow further. The Destructive Deviance explains where the employees are purposely intending to cause harm to the others or to the organization itself. Sometimes they may do it for both by insulting others, hitting a co-worker, yelling at others, talking loudly on the phone about a personal matter during working hours, not sharing information, gossiping, undermining fellow employees & destroying organizational property.

A Study on Workplace Deviance Behaviour in Small Scale Industries at Puducherry Region

There are ample reasons which shows and explains that why employees intend to cause harm at the workplace. Though there are many employees in an organization, the employees with lower status are more prone to exhibit the deviant behaviour as they are spending their free time with their colleagues or coworkers to chat informally in order to get the latest information about the Management or Supervisors or any other person who would have mistreated or insulted them in the working place.

Rollinson, (2005) defines workplace stress as the conditions arising from the interaction of people and their jobs, which are characterized by changes within people that force them to deviate from their normal functioning. Stressors in the workplace are those conditions that have the potential to result in a person's experiencing a situation as stressful.

The degree of stress experienced and the ways in which a person reacts to it can be influenced by a number of other factors such as personal characteristics, lifestyle, and social support, appraisal of the stressor, life events and socio-demographic and occupational variables. Appelbaum et al. (2005) "Women are more likely to hold higher values" resulting in lower likeliness to engage in unethical and deviant behavior. Appelbaum et al. (2007) Furthermore, usually males not females engage in aggressive behavior in the workplace.

Appelbaum et al. (2005) The longer an employee is a member of an organization, the more unlikely it is that he will act unethically and engage in deviant acts. Appelbaum et al. (2007) Employees with less tenure in an organization are more likely to engage in acts of property deviance and other types of workplace deviance. Robinson, Greenberg (1998), the temporary nature of work is likely to cause deviant workplace behavior. There are several reasons why temporary workers are more likely to engage in deviant acts. Temporary workers are usually paid less, have lower skills and poor motivation, have limited identification with the organization, lack the opportunity to develop commitment to the organization, and do not have enough time to develop a relationship with their employer. Once employees gain tenure and identify more with their organizations, they are less likely to engage in employee theft and other deviant acts.

Appelbaum et al. (2005) Age is expected to be positively correlated to ethical decision - making. Appelbaum et al. (2007) In fact, elder employees are likely to be more honest than younger employees are. Greenberg, Barling (1996) Younger members of the workforce are linked to an "epidemic of moral laxity" because "more theft involvement has been found among younger employees." O'Fallon, Butterfield (2005) But surprisingly, the research on age shows mixed results concerning ethical decision-making.

VanSandt et al. (2006) One of the most important factors in the "development of moral judgment" is the length of formal education. An individual with a longer length of formal education is "more aware of the social world and his place in it" . With each level of education attained, an individuals' moral awareness increases.

Appelbaum et al. (2005) Thus, education is positively related to ethical decision - making; the more education an individual possesses, the less likely it is that he will act unethically and engage in acts of deviant behavior.

Appelbaum et al. (2007) Some forms of Deviant Workplace Behavior "are more likely to involve employees who are young, new to their job, work part-time, and have low-paying positions." Greenberg, Barling (1996) Marginal employees have "low status, low rank in the organizational hierarchy, low wages, little opportunity for advancement, short tenure, little chance to develop relationships", are socially isolated, and are disposable.

Objectives of the Study

- ♦ To identify the Major Type of Deviant Behaviour exist in the Workplace at Puducherry region with respect to Small Scale Industries.
- ♦ To analyze the relationship between the Demographic Variables (Gender, Type of Employment, Age, Qualification, Experience and Income) and Workplace Deviance Behaviour.

Hypothesis of the Study

1. H1: There is no Significant Relationship between the Gender and Workplace Deviance Behaviour.
2. H2: There is no Significant Relationship between the Type of Employment and Workplace Deviance Behaviour.
3. H3: There is no Significant Relationship between the Age and Workplace Deviance Behaviour.
4. H4: There is no Significant Relationship between the Qualification and Workplace Deviance Behaviour.
5. H5: There is no Significant Relationship between the Experience and Workplace Deviance Behaviour.
6. H6: There is no Significant Relationship between the Income and Workplace Deviance Behaviour.

Research Methodology

- ♦ Research Design - Descriptive Research
- ♦ Population - Employees from the 3 Small Scale Industries at Puducherry (Thirubuvanai, Sedarapet and Kirumambakam Small Scale Industries)
- ♦ Sample Size - 154 response are found to be Valid out of 150 distributed questionnaire
- ♦ Sampling Technique - Convenience Sampling
- ♦ Research Instrument - Structured Questionnaire for WDB by Bennett and Robinson, 2000 with 5 Point Scale (1 - Never to 5 - Always)

A Study on Workplace Deviance Behaviour in Small Scale Industries at Puducherry Region

- ♦ Type of Data - Primary Data
- ♦ Period of Study - January 2014 to March 2014
- ♦ Statistical Tools - Normality Test, Mann Whitney Test & Kruskal Wallis Test

Independent Variables

In the Present Study, the Demographic Variables (Gender, Type of Employment, Age, Qualification, Experience and Income) are taken as Independent Variables and the distribution of profile of 154 samples are clearly shown in the Figure 1: Frequency Distribution for Independent Variables (Refer Figure 1 in Annexure).

Dependent Variables

The Standard Measures of Workplace Deviance Behaviour given by Robinson and Bennett (2000) are taken as Dependent Variables. In this Study, the Mean for all the 19 items of Workplace Deviance Behaviour is found to be not less than 3 which is enough to prove that there is a higher possibility of existence of Deviant Behaviour in the Workplace (Refer Table 1 in Annexure). The Table 1 reveals that the Major Type of Deviance is found in Coming Late to Work (3.62), Taking Longer Break (3.48), Ethnic Remarks (3.41) and Cursed Someone at Work (3.40).

Results and Discussion

Normality Test

The Sample Size for the Current Study is 154 which is lesser than 2000 Elements and hence Shapiro - Wilk Test is conducted to test the Assumptions of Normality and the result is shown in the Table 2 (Refer Table 2 in Annexure).

It is found that the Significance Value for all the 19 items of Workplace Deviance Behaviour is lesser than 0.05 and It shows that the data collected is not Normally Distributed and it's better to conduct Non Parametric Test to derive the results.

Mann Whitney Test

- ♦ Hypothesis 1: There is no Significant Relationship between the Gender and Workplace Deviance Behaviour.

To test the above said Hypothesis 1, the Mann Whitney Test is carried out to find the results and the same is shown in Table 3 (Refer Table 3 in Annexure). Here the Independent Variable is Gender and the Dependent Variable is Workplace Deviance Behaviour. The Gender is further classified into two Groups namely Male and Female. From the Table 3, it is found that there exists a significant relationship between most of the Dependent Variables and the Gender as the significance value is lesser than 0.05. Only in

few cases it is insignificant between the Gender and the Dependent Variables as the significance value is greater than 0.05. 6 items out of 19 items are found to be insignificant and they are Cursed Someone at Work, Played a Mean Prank on Someone at Work, Acted Rudely on Someone at Work, Falsified a receipt to get reimbursed, Intentionally worked slowly and Dragged out work in order to get Overtime. Thus it is an evident to conclude that there is a significance relationship between the Gender and Most of the Dependent Variables.

- ♦ Hypothesis 2: There is no Significant Relationship between the Type of Employment and Workplace Deviance Behaviour.

To test the above said Hypothesis 2, the Mann Whitney Test is carried out to find the results and the same is shown in Table 4 (Refer Table 4 in Annexure). Here the Independent Variable is Type of Employment and the Dependent Variable is Workplace Deviance Behaviour. The Type of Employment is further classified into two Groups namely Permanent and Temporary. From the Table 4, it is found that there exists a significant relationship between most of the Dependent Variables and the Type of Employment as the significance value is lesser than 0.05.

Only in few cases it is insignificant between the Type of Employment and Dependent Variables as the significance value is greater than 0.05. 6 items out of 19 items are found to be insignificant and they are Ethnic Remarks, Neglected Boss Instructions, Shared Confidential Information, Used Illegal Drug, Put Little Effort on Work and Dragged out work in order to get Overtime. Thus it is an evident to conclude that there is a significance relationship between the Type of Employment and Most of the Dependent Variables.

Kruskal Wallis Test

- ♦ H3: There is no Significant Relationship between the Age and Workplace Deviance Behaviour.
- ♦ H4: There is no Significant Relationship between the Qualification and Workplace Deviance Behaviour.
- ♦ H5: There is no Significant Relationship between the Experience and Workplace Deviance Behaviour.
- ♦ H6: There is no Significant Relationship between the Income and Workplace Deviance Behaviour.

To test the above said Hypothesis 3 to Hypothesis 6, Kruskal Wallis Test is carried to find the results and the same is shown in the Table 5 to Table 8 (Refer Annexure). From the Kruskal Wallis Test, it is found that there exists a significance relationship between the Demographic Variables and the Workplace Deviance Behaviour. Only in few cases, the data is not enough to conclude that there exist a significant relationship between the

Demographic Variables and the Workplace Deviance Behaviour. The Output for each Demographic Variable is given below;

- With respect to Age and Dependent Variables, only 4 items out of 19 items are found to be insignificant and they are Spent too much time fantasizing, Discussed Confidential Information, Sometimes put little effort on work and Dragged out work in order to get Overtime (Refer Table 5 in Annexure).
- With respect to Qualification and Dependent Variables, only 3 items out of 19 items are found to be insignificant and they are Intentionally worked slowly, used Illegal Drug at Work and Dragged out work in order to get Overtime (Refer Table 6 in Annexure).
- With respect to Experience and Dependent Variables, only 6 items out of 19 items are found to be insignificant and they are Cursed Someone at Work, Played a Mean Prank on Someone at Work, Falsified a receipt to get reimbursed, Intentionally worked slowly, used Illegal Drug at Work and Dragged out work in order to get Overtime (Refer Table 7 in Annexure).
- With respect to Income and Dependent Variables, only 6 items out of 19 items are found to be insignificant and they are made an Ethnic Remarks, Played a Mean Prank on Someone at Work, Spent too much time fantasizing, Neglected Boss Instructions, Intentionally worked slowly and used Illegal Drug (Refer Table 8 in Annexure).

Findings of the Study

- Generally it is found that the Mean for all the 19 items of Workplace Deviance Behaviour is found to be not less than 3 which is enough to prove that there is a higher possibility of deviance in workplace. The Major Type of Deviance is found in Coming Late to Work (3.62), Taking Longer Break (3.48), Ethnic Remarks (3.41) and Cursed Someone at Work (3.40).
- From the Normality Test, it is found that the significance value is lesser than 0.05 which shows that the data is not normally distributed and hence some of the Non Parametric tests are applied to derive the results.
- From the Mann Whitney Test for Gender and Workplace Deviance Behaviour, it is found that there exists a significant difference between most of the Dependent Variables and Gender as the significance value is lesser than 0.05.
- Only in few cases (6 items out of 19 items) are insignificant between the Gender and the Dependent Variables as the significance value is greater than 0.05. They

are Cursed Someone at Work, Played a Mean Prank on Someone at Work, Acted Rudely Someone at Work, Falsified a receipt to get reimbursed, Intentionally worked slowly and Dragged out work in order to get Overtime. Thus it is an evident to conclude that there is a significance difference between the Gender and Most of the Dependent Variables.

- ♦ From the Mann Whitney Test for Type of Employment and Workplace Deviance Behaviour, it is found that there exists a significant difference between most of the Dependent Variables and the Type of Employment as the significance value is lesser than 0.05.
- ♦ Only in few cases (6 items out of 19 items) are insignificant between the Type of Employment and Dependent Variables as the significance value is greater than 0.05. They are Ethnic Remarks, Neglected Boss Instructions, Shared Confidential Information, Used Illegal Drug, Put Little Effort on Work and Dragged out work in order to get Overtime. From the Kruskal Wallis Test, it is found that there exists a significance difference between the Personal Variables and Most of the Dependent Variables.
- ♦ Only in few cases, the data is not enough to conclude that there exist a significant difference between the Personal Variables and Some of the Dependent Variables. Thus it is an evident to conclude that there is a significance difference between the Type of Employment and Most of the Dependent Variables.

Suggestions of the Study

From the Findings, it is found that Major Type of Deviance Behaviour exist in the Workplace is because of Coming Late to Work, Taking Longer Break, Ethnic Remarks and Cursed Someone at Work. In connection to this, the researcher would like to give the following Suggestions to the Management for free from the Workplace Deviance Behaviour. The Management shall maintain the Strict Attendance Record to monitor the Employees Log in and Log out details. Supervision shall be enhanced during the Break time to ensure that employees are not spending much time for Break. Special Counseling may be organized for people who are involved in Racism or Ethnicity to create awareness about the problems of Ethnic Remarks or Cursing Someone at Work. Moreover, the Management shall organize a frequent meet with the employee representatives to identify their problem and solve it immediately to achieve the organizational goal.

Scope of the Study

The Scope of the Study may be extended to various other Geographical Areas. In depth Study may also be organized by taking more number of Samples from the same Puducherry region.

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Specific Study may also be done in the areas of Large Scale, Small Scale or Small Scale Industries. A Comparative Study may also be undertaken to highlight the difference between Service Industry and Manufacturing Industry. Some other Statistical Tools may also be applied to analyze the dimensions of Workplace Deviant Behaviour.

Conclusion of the Study

Thus the Current Study can be concluded by recapitulating the Main Objectives of the Study which is focused on identifying the Major Type of Deviance Behaviour exists in the Workplace and also to find the relationship between the Demographic Variables (Gender, Type of Employment, Age, Qualification, Experience & Income) and the Workplace Deviance Behaviour (19 Items) in the Small Scale Industries located at Puducherry region. This Study involved the Descriptive Research and Convenience Sampling Technique is used to collect the 154 Fresh Samples through Structured Questionnaire by Robinson and Bennett (2000) for measuring Workplace Deviance Behaviour. The Period of Study was carried out from January 2014 to March 2014. From the Mann Whitney Test and Kruskal Wallis Test, it is found that there exists a significant relationship between the Demographic Variables and most of the Workplace Deviance Behaviour which is clearly shown in the Table 3 to 8. However the Study can also be extended to many other Geographical areas or considering some other Independent Variables to measure the variations in the Dependent Variables.

References

- Appelbaum, S.H, Deguire, K.J. and Lay, M. (2005), "The relationship of ethical climate to deviant workplace behavior", *Corporate Governance*, Vol. 5, No. 4, 43-55.
- Appelbaum, S.H., Iaconi, G.D. and Matousek, A. (2007), "Positive and negative deviant workplace behaviors: causes, impacts, and solutions", *Corporate Governance*, Vol. 7, No. 5, pp. 586-598
- Bennett J Rebecca & Robinson L Sandra, (2000), Development of a Measure of Workplace Deviance, *Journal of Applied Psychology*, 2000, Vol. 85, No. 3, 349-360
- District Industries Centre (DIC), Brief Industrial Profile of Puducherry 2012 by Ministry of MSME (Micro, Small and Small Enterprise), Government of India.
- Greenberg, L. and Barling, J. (1996), "Employee Theft", *Journal of Organizational Behavior* (1986-1998), pp. 49-64
- Mazni, A. & Roziah, M.R. (2011). Towards developing a theoretical model on the determinants of workplace deviance among support personnel in the Malaysian Public Service Organisations. <http://www.google.co.zw/#hl-enfsclient=psy-abl.3/06/2012>
- O'Fallon, M.J., Butterfield, K.D. (2005), "A Review of The Empirical Ethical Decision-Making Literature: 1996-2003", *Journal of Business Ethics*, Vol. 59, 375-413

- Robinson, S.L. and Bennet, R.J. (1995). A Typology of deviant workplace behaviour: a multidimensional scaling study. *Academy of Management Journal*, 38 (2): 555-72
- Robinson, S.L. and Greenberg, J. (1998), "Employees Behaving Badly: Dimensions, Determinants, and Dilemmas in the Study of Workplace Deviance", *Journal of Organizational Behavior* (1986-1998), pp. 1-30
- Rollinson D, 2005, *Organizational Behaviour and Analysis: An Integrated Approach*. London: Prentice Hall
- VanSandt, C.V., Shepard, J.M. and Zappe, S.M. (2006), "An Examination of the Relationship Between Ethical Work Climate and Moral Awareness", *Journal of Business Ethics*, Vol. 68, pp. 409-432

ANNEXURE

Figure 1
Frequency Distribution for Independent Variables

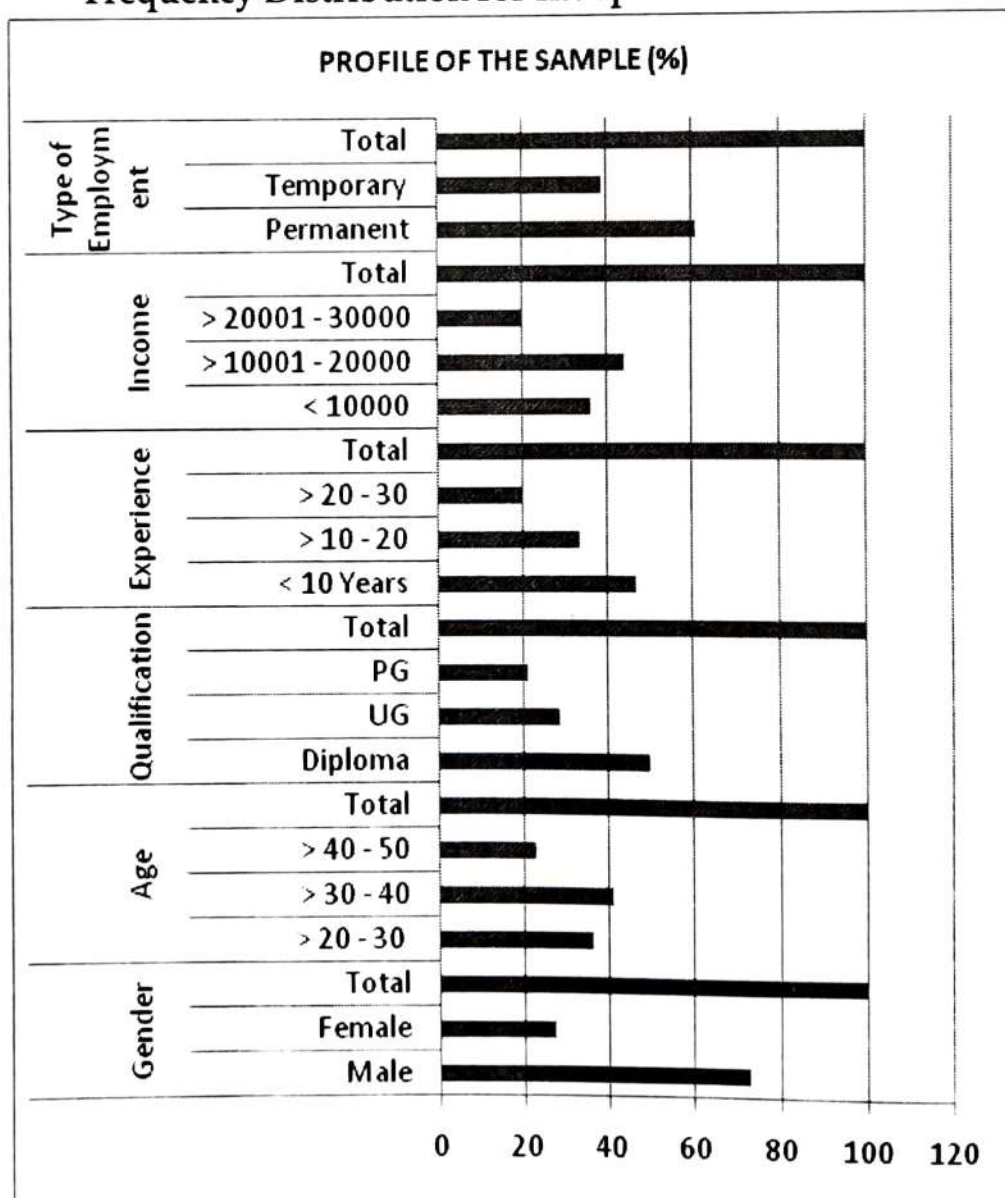


Table 1
Descriptive Statistics for Dependent Variables

	N	Mean
Made Fun on Someone	154	3.1515
Something Hurtful	154	3.1591
Ethnic Remarks	154	3.4167
Cursed Someone	154	3.4091
Mean Prank	154	3.3485
Acted Rudely	154	3.3788
Publicly Embarrassed	154	3.2424
Taken Property	154	3.2273
Spent Too Much Time	154	3.2803
Falsified a receipt	154	3.3030
Longer Break	154	3.4848
Come Late to Work	154	3.6212
Littered Work Environment	154	3.0227
Neglected Boss Instruction	154	3.3106
Intentionally Worked Slow	154	3.3864
Confidential Information	154	3.1894
Used Illegal Drug	154	3.3636
Put Little Effort	154	3.1061
Dragged Overtime	154	3.0227

Table 2
Test of Normality

	Statistic	Shapiro-Wilk df	Sig.
Made Fun on Someone	.730	154	.000
Something Hurtful	.722	154	.000
Ethnic Remarks	.626	154	.000
Cursed Someone	.674	154	.000
Mean Prank	.688	154	.000
Acted Rudely	.754	154	.000
Publicly Embarrassed	.532	154	.000
Taken Property	.571	154	.000
Spent Too Much Time	.699	154	.000
Falsified a receipt	.774	154	.000
Longer Break	.637	154	.000
Come Late to Work	.615	154	.000
Littered Work Environment	.743	154	.000
Neglected Boss Instruction	.765	154	.000
Intentionally Worked Slow	.694	154	.000
Confidential Information	.478	154	.000
Used Illegal Drug	.609	154	.000
Put Little Effort	.688	154	.000
Dragged Overtime	.133	154	.000

Table 3
Test Statistics for Grouping Variable (Gender by using Mann Whitney Test)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Mann-Whitney U	109	133	73	147	152	154	113	115	54	154	78	82	99	81	157	61	101	55	164
	7.5	0.0	5.0	4.0	0.0	8.5	7.5	5.0	6.0	1.5	7.5	2.5	1.0	2.5	9.0	7.0	9.5	1.0	5.0
Asymp. Sig. (2-tailed)	.000	.021	.000	.187	.302	.392	.000	.000	.000	.381	.000	.000	.000	.000	.480	.000	.000	.000	.294

Grouping Variable: Gender

Descriptions : 1-Made fun of someone at work, 2-Said something hurtful to someone at work, 3-Made an ethnic, religious, or racial remark at work, 4-Cursed at someone at work, 5-Played a mean prank on someone at work, 6-Acted rudely toward someone at work, 7-Publicly embarrassed someone at work, 8-Taken property from work without permission, 9-Spent too much time fantasizing or daydreaming instead of working, 10-Falsified a receipt to get reimbursed for more money than you spent on business expenses, 11-Taken an additional or longer break than is acceptable at your workplace, 12-Come in late to work without permission, 13-Littered your work environment, 14-Neglected to follow your boss's instructions, 15-Intentionally worked slower than you could have worked, 16-Discussed confidential company information with an unauthorized person, 17-Used an illegal drug or consumed alcohol on the job, 18-Put little effort into your work, 19-Dragged out work in order to get overtime

Table 4
Test Statistics for Grouping Variable
(Type of Employment by using Mann Whitney Test)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Mann-Whitney U	166	133	175	164	167	165	149	148	163	95	159	151	157	170	168	197	196	186	198
	5.5	0.5	2.0	8.5	6.5	7.0	5.5	0.5	9.5	7.5	7.5	6.5	9.0	3.5	9.0	7.0	3.5	4.0	9.0
Asymp. Sig. (2-tailed)	.024	.000	.086	.026	.040	.034	.000	.000	.025	.000	.011	.002	.006	.059	.042	.542	.567	.227	.166

Grouping Variable : Type of Employment

Descriptions : 1-Made fun of someone at work, 2-Said something hurtful to someone at work, 3-Made an ethnic, religious, or racial remark at work, 4-Cursed at someone at work, 5-Played a mean prank on someone at work, 6-Acted rudely toward someone at work, 7-Publicly embarrassed someone at work, 8-Taken property from work without permission, 9-Spent too much time fantasizing or daydreaming instead of working, 10-Falsified a receipt to get reimbursed for more money than you spent on business expenses, 11-Taken an additional or longer break than is acceptable at your workplace, 12-Come in late to work without permission, 13-Littered your work environment, 14-Neglected to follow your boss's instructions, 15-Intentionally worked slower than you could have worked, 16-Discussed confidential company information with an unauthorized person, 17-Used an illegal drug or consumed alcohol on the job, 18-Put little effort into your work, 19-Dragged out work in order to get overtime

Table 5
Test Statistics^{a,b} for Grouping Variable (Age by using Kruskal Wallis Test)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Asymp. Sig.	.006	.000	.012	.000	.001	.000	.000	.000	.104	.013	.022	.001	.000	.027	.001	.052	.036	.141	.303

a. Kruskal Wallis Test, b. Grouping Variable: Age

Descriptions : 1-Made fun of someone at work, 2-Said something hurtful to someone at work, 3-Made an ethnic, religious, or racial remark at work, 4-Cursed at someone at work, 5-Played a mean prank on someone at work, 6-Acted rudely toward someone at work, 7-Publicly embarrassed someone at work, 8-Taken property from work without permission, 9-Spent too much time fantasizing or daydreaming instead of working, 10-Falsified a receipt to get reimbursed for more money than you spent on business expenses, 11-Taken an additional or longer break than is acceptable at your workplace, 12-Come in late to work without permission, 13-Littered your work environment, 14-Neglected to follow your boss's instructions, 15-Intentionally worked slower than you could have worked, 16-Discussed confidential company information with an unauthorized person, 17-Used an illegal drug or consumed alcohol on the job, 18-Put little effort into your work, 19-Dragged out work in order to get overtime

Table 6
 Test Statistics,b for Grouping Variable (Qualification by using Kruskal Wallis Test)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
df	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Asymp. Sig.	.000	.001	.009	.000	.003	.000	.000	.000	.011	.000	.000	.000	.000	.040	.099	.000	.106	.002	.119

a. **Kruskal Wallis Test, b. Grouping Variable: Qualification**

Descriptions: 1-Made fun of someone at work, 2-Said something hurtful to someone at work, 3-Made an ethnic, religious, or racial remark at work, 4-Cursed at someone at work, 5-Played a mean prank on someone at work, 6-Acted rudely toward someone at work, 7-Publicly embarrassed someone at work, 8-Taken property from work without permission, 9-Spent too much time fantasizing or daydreaming instead of working, 10-Falsified a receipt to get reimbursed for more money than you spent on business expenses, 11-Taken an additional or longer break than is acceptable at your workplace, 12-Come in late to work without permission, 13-Littered your work environment, 14-Neglected to follow your boss's instructions, 15-Intentionally worked slower than you could have worked, 16-Discussed confidential company information with an unauthorized person, 17-Used an illegal drug or consumed alcohol on the job, 18-Put little effort into your work, 19-Dragged out work in order to get overtime

Table 7
 Test Statistics, b for Grouping Variable (Experience by using Kruskal Wallis Test)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
df	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Asymp. Sig.	.000	.006	.000	.133	.556	.015	.003	.002	.000	.666	.000	.000	.004	.000	.896	.000	.072	.000	.180

a. Kruskal Wallis Test, b. Grouping Variable: Experience

Descriptions : 1-Made fun of someone at work, 2-Said something hurtful to someone at work, 3-Made an ethnic, religious, or racial remark at work, 4-Cursed at someone at work, 5-Played a mean prank on someone at work, 6-Acted rudely toward someone at work, 7-Publicly embarrassed someone at work, 8-Taken property from work without permission, 9-Spent too much time fantasizing or daydreaming instead of working, 10-Falsified a receipt to get reimbursed for more money than you spent on business expenses, 11-Taken an additional or longer break than is acceptable at your workplace, 12-Come in late to work without permission, 13-Littered your work environment, 14-Neglected to follow your boss's instructions, 15-Intentionally worked slower than you could have worked, 16-Discussed confidential company information with an unauthorized person, 17-Used an illegal drug or consumed alcohol on the job, 18-Put little effort into your work, 19-Dragged out work in order to get overtime

Table 8
 Test Statistics^{a,b} for Grouping Variable (Income by using Kruskal Wallis Test)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
df	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Asymp. Sig.	.000	.000	.269	.015	.075	.001	.000	.000	.756	.000	.000	.000	.000	.616	.230	.001	.739	.001	.007

a. Kruskal Wallis Test, b. Grouping Variable: Income

Descriptions: 1-Made fun of someone at work, 2-Said something hurtful to someone at work, 3-Made an ethnic, religious, or racial remark at work, 4-Cursed at someone at work, 5-Played a mean prank on someone at work, 6-Acted rudely toward someone at work, 7-Publicly embarrassed someone at work, 8-Taken property from work without permission, 9-Spent too much time fantasizing or daydreaming instead of working, 10-Falsified a receipt to get reimbursed for more money than you spent on business expenses, 11-Taken an additional or longer break than is acceptable at your workplace, 12-Come in late to work without permission, 13-Littered your work environment, 14-Neglected to follow your boss's instructions, 15-Intentionally worked slower than you could have worked, 16-Discussed confidential company information with an unauthorized person, 17-Used an illegal drug or consumed alcohol on the job, 18-Put little effort into your work, 19-Dragged out work in order to get overtime

Working Group Characteristics of Teachers and its Relation with Organizational Effectiveness in Education Sector

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Abstract

The changing landscape of Management Education System of India has had a significant impact on the roles of the personnel who serve in these institutions. Many changes related to Management Education System try to promote a new understanding of teachers' collaboration in developing their Management Schools. Recent reforms in education system are calling for a change in work culture focusing more towards teachers' teamwork.

The main purpose of teachers' teamwork is to discover innovative teaching strategies and pursuit of excellence for achieving the focused outcome of institutions or the department. Ability to work in teams is always included in short lists of desirable generic skills of teachers. Teachers' teamwork is only possible if teachers work as teams, not as groups.

This paper is concerned with examining and comparing the characteristics of different types of working groups of teachers that exist in the Government Universities, Private Universities and Private affiliated colleges in North-Eastern region of India offering management education, so as to explore whether they are working as teams or groups. The study also investigates the relation between teamwork with team effectiveness and organizational effectiveness of Management Educational sector in North-Eastern region of India

The comparison was carried out with Government University, Private University and Private affiliated college in the region and the results indicate that teamwork is significantly and positively correlated to team effectiveness and organizational effectiveness.

Key words : *Group, Management education system, Organizational effectiveness, Team, Teamwork, Team effectiveness*

1. Introduction

India has made progress in terms of increasing the management education attendance rate. According to Bharadwaj (2013), in the last few years there are lots of new management institutions coming into existence in India. India is now having 3,900 management schools which are approved by the AICTE with intake of 3.5 lakhs of students. He added that there is a mushroom growth of management institutions in India, with

increased availability of seats which is even more than the demand, thus degrading the quality of the course. According to Watana (1998), the increased complexity and numbers of students and uncertainty of today's environment will confront the educators during the next decades. Forces and trends such as changing organizational structure, increased knowledge, and interdisciplinary collaboration, trends in higher education and especially in management education have a part to play. All these affect the management educational profession and the roles, way of functioning and skill requirements of management educators. In addition, management educators are requesting more conducive work environment along with opportunities for continued professional growth and self-actualization.

To overcome all these problems and to work with diverse group of students, only groups of teachers that are likely to possess a wide range of information and skills are really needed. All the teachers of Management Education Sector will have to meet new requirements and enable flexible and efficient working system to conduct work in such a way that they can fulfil the demands of management students and recruiters effectively.

2. Conceptual Background

2.1. Groups and Teams

According to Robbins and Judge (2007), a group is that which interacts primarily to share information and to make decisions for helping each member perform within his or her area of responsibility.

Teams can be defined as a collection of individuals, brought together in a particular context, in which team members collaborate on common tasks. (Hoegl and Gemuenden, 2001).

Knowledge of the characteristics of working group is very much necessary for the organization because these characteristics are related to most of the effectiveness criteria, (Campion, Papper, & Medsker, 1996).

2.2. Teamwork

Teamwork means when members of a team work together towards the achievement of common goals (Jiang et al., 1997). Team working has been so effective that the ability to work in a team is assessed as an essential quality by organizations, (Cohen and Bailey, 1997).

2.3. Team Effectiveness

Team effectiveness can be achieved when the members of the team work together towards the achievement of common goals. (Jiang et.al. , 1997). The effectiveness of a team is evaluated by its outcomes.

2.4. Organizational Effectiveness

Organizational effectiveness is defined as the ability of an organization to maximize its performance within a competitive external environment, (Khurana,2011).

2.5. Importance of Teachers' Teamwork in Educational Institutions

According to Vogt (2002), teachers' teamwork is required to improve teacher effectiveness.

Wetungu (2012) said that teachers should take the initiatives to constantly improve their teamwork abilities to facilitate sustainable performance.

According to Ryan Arciero (2011), one of the best parts of being a teacher is to know how to work in a team.

Watson (2000) has explained many benefits of teachers' teamwork like greater educational autonomy, generic skills development or enhancement, understanding of co-operative working and learning processes etc.

3. Review of Literature

According to Kent Gerlach (2002), to be successful, teachers must view themselves as teams in the educational process.

According to Kampala City Council Education report (2008), the ultimate academic performance can be achieved when teachers work as a team.

Ragusa (2012), expressed that teachers need to work with each other to develop their teaching skills.

It is said that one of the most common skills required by new work practices is the ability to work as a team to get synergistic effect, (Capelli and Rogovsky ,1994).

According to Angelacox (2010), when teachers work collaboratively with other teachers, their great ideas and opinions are multiplied many times over for the good of the students.

The development of knowledge-based economy has been causing a dramatic change to the nature of management education in India. According to Smith (2011), as educational institutions restructure and reform for the 21st Century, teachers are being required to work together in more ways.

According to Westerbeck (2010), due to explosive growth in demand for management course, it has opened the door to massive growth and innovation in the management education sector.

Cheney(2005), presumed that the efficiency of Private institutions is much greater than of government supported institutions.

In recent years, the Management Schools has recognized the importance of assessing the team effectiveness and organizational effectiveness also because they accepted that organizational effectiveness is the main concern of all higher education institutes, (Asraf et. all , 2012).

4. Objectives of the Study

The study is carried out with the following objectives-

- i. To conduct a study in Management Educational Institutions of North-Eastern region of India, so as to find out whether the management educators / teachers in institutions offering management education have the characteristics of teams.
- ii. To carry out a comparative analysis of teamwork, team effectiveness and organizational effectiveness dimensions of Governmental University, Private University and Private affiliated college of the studied area.
- iii. To explore the extent to which the teachers' teamwork is related to team effectiveness and the latter is related to organizational effectiveness in management institutions.

5. Research Methodology

A well thought methodology was adopted so that comprehensive information could be obtained from both the Governmental as well as private institutions offering management education.

5.1. Sources of Data

5.1.1. Primary Sources

Primary data was collected from the teachers working in the leading Government Universities, Private Universities and private affiliated colleges in the studied area, with the help of questionnaires, one to one interview etc.

5.1.2. Secondary Sources

Secondary data was collected from the books, articles that appeared in journals, study reports etc.

5.2. Study in Sample Institutions

This study included four leading Governmental Universities, four Private Universities and four Private Affiliated Colleges offering management education in this region. For selecting the sample, convenient sampling procedure has been adopted.

5.3. Methods of Data Analysis

Both quantitative and qualitative methods of analysis were considered. SPSS (version 16) was used for analysis. Statistical tools like mean, standard deviation, t test, ANOVA and correlation analysis were used to fulfil the objectives of the study.

6. Analysis

It has been seen that the teachers in the management educational sector, have different qualifications, experiences, ages etc. These variations exist as the need and complexity of different functions carry out by the teachers are different.

6.1 Descriptive Statistics:

Means and standard deviation of all the dimensions of Teamwork, Team effectiveness and Organizational effectiveness in Governmental University, Private University and Private affiliated college of management institutions under study is computed.

6.1.1. Means and Standard Deviations of Teamwork Variables

A summary of means and standard deviation of all the 22 dimensions of Teamwork in the three sectors under study is presented in the table below:

Table 1
Means and Standard Deviations of Teamwork

Sl. No	Dimensions of Teamwork	Government University		Privat University		Private affiliated College	
		Mean	Standard deviation	Mean	Standard Deviation	Mean	Standard Deviation
1.	Collaboration	3.84	1.003	4.45	.506	3.62	.852
2.	Participation	3.71	1.189	4.03	.981	3.31	.884
3.	Conflict Resolution	3.87	0.806	3.97	.865	3.46	.706
4.	Problem solving	3.90	.908	4.34	.769	3.62	.752
5.	Open relationship	4.03	1.048	4.14	1.026	3.69	.618
6.	Contribution	3.74	1.094	4.41	.733	3.54	.761
7.	Trust & Honesty	3.94	.929	4.28	.702	3.35	.846
8.	Express opinion	3.90	1.106	4.45	.736	3.31	.736
9.	Commitment	3.94	.929	4.17	.805	3.38	.697
10.	Ownership	3.74	.855	4.17	.805	3.35	.846
11.	Interaction	4.42	.502	4.48	.574	4.08	.484
12.	Conscious effort	3.97	.752	4.28	.649	3.58	.857
13.	Collective work	3.71	.902	4.10	.673	3.65	.936
14.	Accountability	4.16	.779	4.38	.942	3.77	.587
15.	Complimentary skills	4.26	.729	4.21	.774	3.58	.987
16.	Positive Synergy	4.10	.831	4.28	.528	3.58	.902
17.	Focus	3.42	1.057	4.03	1.017	3.27	1.002
18.	Interdependent	3.74	.729	4.10	.939	3.77	.652
19.	Mutual support	3.71	.824	4.28	.797	3.73	.604
20.	Shaping work	3.65	.915	4.31	.604	3.46	.761
21.	Shared Leadership	3.71	.824	4.03	.823	3.23	.992
22.	Collective work product	3.55	.925	3.83	.602	3.19	.895
Average		3.864	.893	4.215	.766	3.523	.789

Source : Compile Data

On analyzing the above table, it has been observed that in the three categories, Teamwork has got the highest mean value in the Private University, followed by Government University and then Private affiliated college. Comparing the standard deviation scores, the table shows that the scores are lowest in the Private University category.

6.1.2. Means and Standard Deviations of Team Effectiveness Variables

A summary of means and standard deviation of all the 8 dimensions of Team effectiveness in the three sectors under study is presented in the table below:

Table 2
Means and Standard Deviations of Team Effectiveness Dimensions

Sl. No	Dimensions of Team effectiveness	Government University		Privat University		Private affiliated College	
		Mean	Standard deviation	Mean	Standard Deviation	Mean	Standard Deviation
1.	Departmental performance	4.26	.773	4.69	.471	3.92	.796
2.	Objective planning	4.00	.894	4.69	.471	3.85	.784
3.	Syllabus making	3.90	1.076	4.41	.907	2.96	1.076
4.	Events Organizing	4.45	.675	4.38	.775	3.50	1.105
5.	Academic outputs	4.10	.908	4.24	.912	3.38	.852
6.	Curriculum updating	4.23	.762	4.52	.634	3.46	.989
7.	Scheduling classes	4.55	.506	4.41	.568	3.77	1.070
8.	Satisfaction as a teacher	4.06	.680	4.55	.686	3.38	.983
Total average		4.194	.784	4.486	.678	3.528	.957

Source: Compile Data

On analyzing the above table, it has been observed that Team effectiveness has the highest mean value in the Private University followed by Government University and then Private affiliated college. Regarding the standard deviation scores, the scores are lowest in the Private University category.

6.1.3. Means and Standard Deviations of Organizational Effectiveness Variables

A summary of means and standard deviation of all the 8 dimensions of Organizational effectiveness in the three sectors under study is presented in the table below:

Table 3
Means and Standard Deviations of Organizational Effectiveness Dimensions

Sl. No	Dimensions of Organizational effectiveness	Government University		Private University		Private affiliated College	
		Mean	Standard deviation	Mean	Standard Deviation	Mean	Standard Deviation
1.	Academic development	4.10	.301	4.00	.000	4.00	.000
2.	Career development	4.55	.506	4.00	.000	4.00	.000
3.	Personal development	4.32	.475	4.00	.000	3.19	.402
4.	Acquiring resources	4.29	.529	3.45	.506	3.00	.000
5.	Liveliness	3.94	.854	4.00	.000	3.65	.485
6.	Professional development	4.00	.000	3.79	.412	3.19	.402
7.	Applicant's number	4.32	.475	4.00	.000	3.00	.000
8.	Assignment's time limit	4.23	.617	3.79	.412	3.00	.000
Total average		4.219	.470	3.879	.166	3.379	.161

Source : Compile Data

It is seen that, Government University category has got maximum mean value score for organizational effectiveness, which is followed by Private University and then Private Affiliated College.

It can be summarized from the above analysis that Private University category has the highest mean values on Teamwork and Team effectiveness, but the mean value of Organizational effectiveness is highest at Governmental University.

6.2. Inferential Statistics

One of the major objectives of the present study is to investigate and compare various categories of Management Educational Institutes. To accomplish these, t-test and ANOVA were computed for the variables of Teamwork, Team effectiveness and Organizational effectiveness.

6.2.1. Pair Wise Comparison between the all Three Categories Under Study

With the help of t-test analysis the pair wise comparison between all three categories with reference to Teamwork, Team effectiveness and Organizational effectiveness have been compared.

Comparison between Government University and Private University

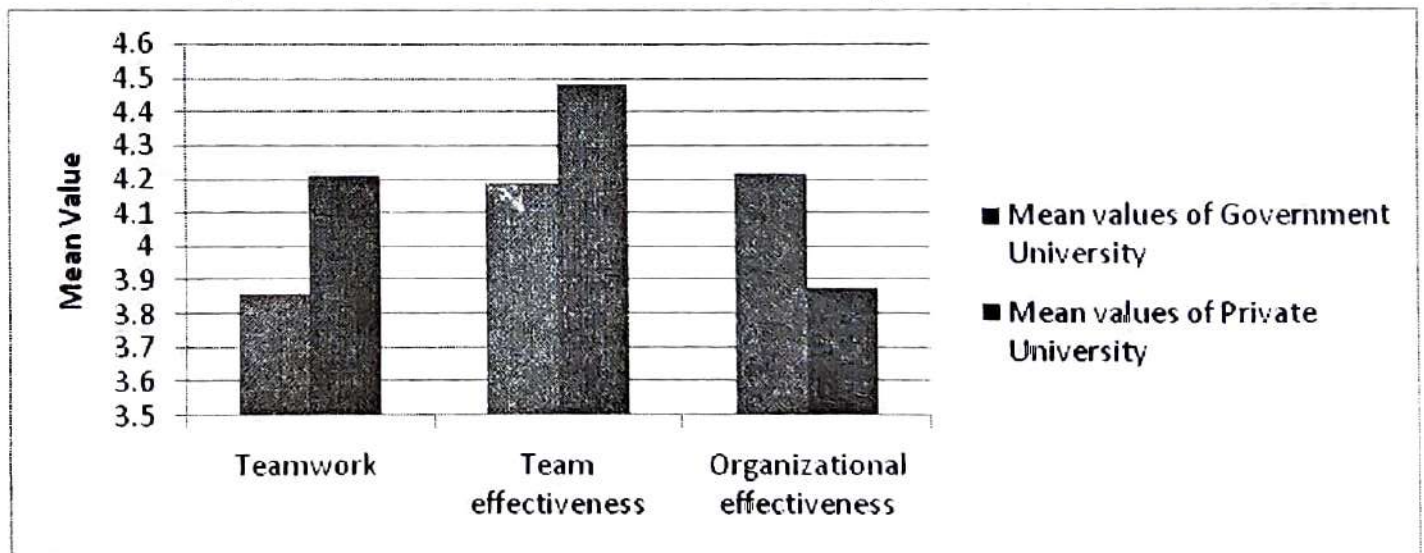
A comparison was drawn between Government University (G.U) and Private University (P.U.) for Teamwork, Team effectiveness and Organizational effectiveness.

Table 4
Comparison between Government University and Private University

Variable	Mean G.U.)	Mean (P.U.)	S.D(G.U.)	S.D.(P.U.)	t value	p value
Teamwork	3.864	4.215	.893	.766	2.28	0.026*
Team effectiveness	4.194	4.486	.784	.678	2.05	0.044*
Organizational Effectiveness	4.219	3.879	.470	.166	6.20	0.000*

Source: Compile Data (*p is less than 0.05)

Fig.1
Comparison between Government University and Private University



Source: Compile Data

Comparison between Government University and Private Affiliated College

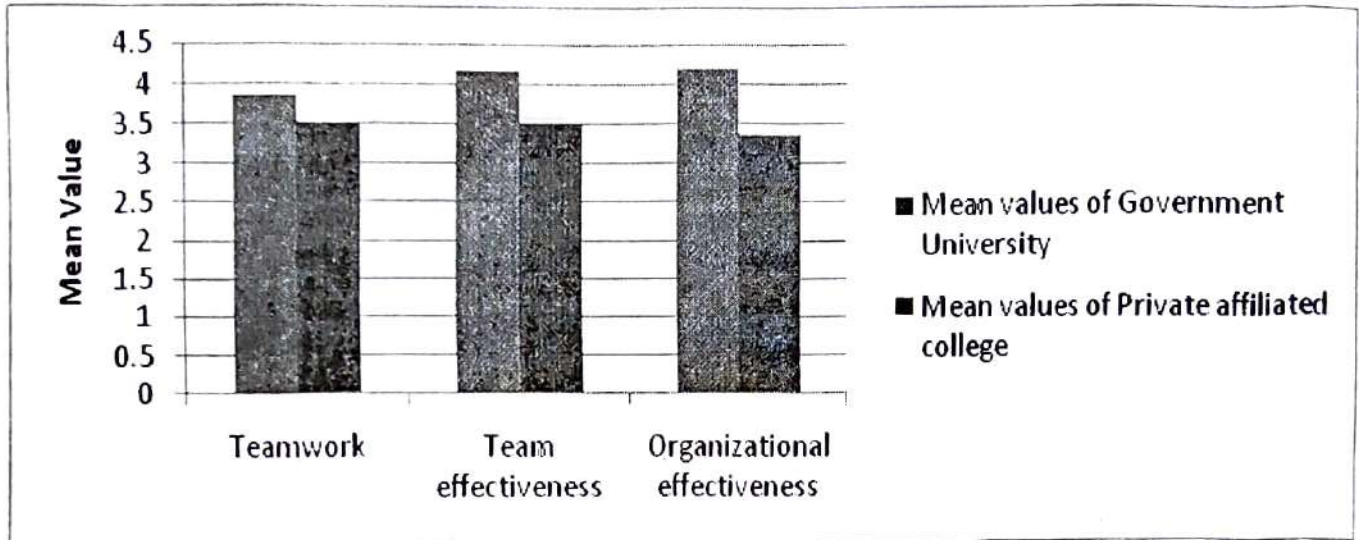
The mean values of Teamwork, Team Effectiveness and Organizational effectiveness for Government University and Private Affiliated College were compared.

Table 5
Comparison between Government University (G.U.) and Private Affiliated College (P.A.C.) for Teamwork, Team effectiveness and Organizational effectiveness.

Variable	Mean G.U.)	Mean (P.A.C.)	S.D(G.U.)	S.D.(P.A.C)	t value	p value
Teamwork	3.864	3.523	.893	.789	2.11	0.039*
Team effectiveness	4.194	3.528	.784	.957	3.00	0.004*
Organizational Effectiveness	4.219	3.379	.470	.161	16.22	0.000*

Source: Compile Data (*p is less than 0.05)

Table 2
Comparison between Government University (G.U.) and Private Affiliated College (P.A.C.) for Teamwork, Team effectiveness and Organizational effectiveness.



Source: Compile Data

Comparison between Private University and Private affiliated college

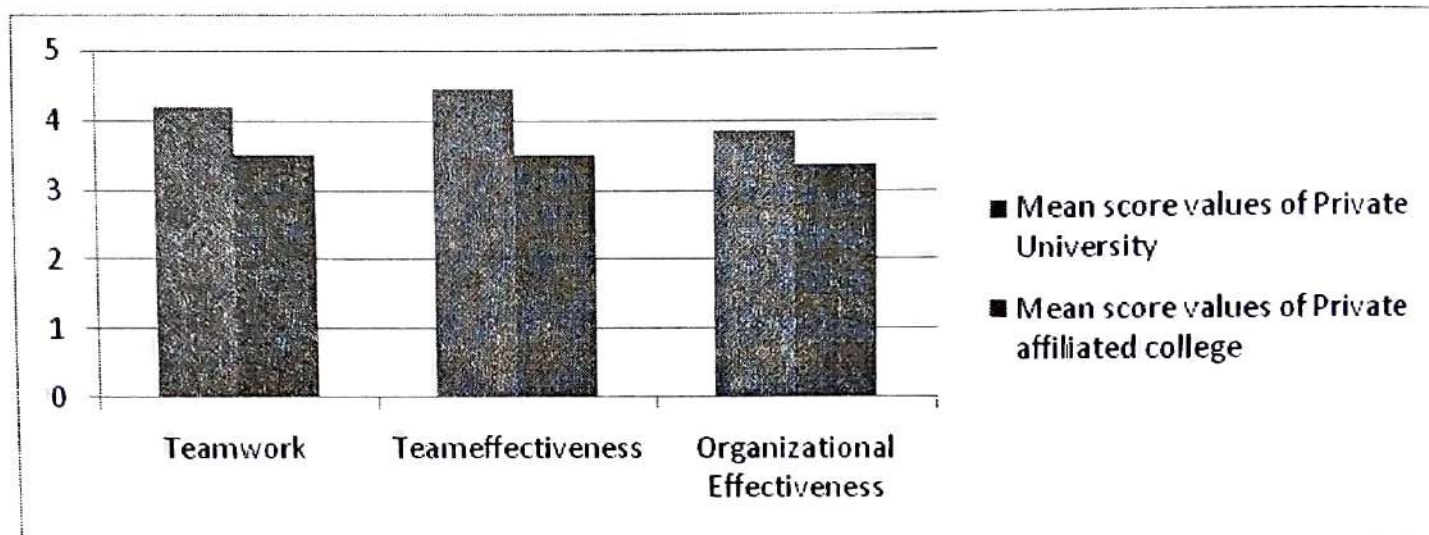
A comparison was also drawn between the mean values of Teamwork, Team effectiveness and Organizational effectiveness for Private University and Private Affiliated College.

Table 6
Comparison between Private University and Private Affiliated College for Teamwork, Team effectiveness and Organizational effectiveness .

Variable	Mean G.U.)	Mean (P.A.C.)	S.D.(G.U.)	S.D.(P.A.C)	t value	p value
Teamwork	4.215	3.523	.766	.789	4.59	.000*
Team effectiveness	4.486	3.528	.678	.957	5.17	.000*
Organizational Effectiveness	3.879	3.379	.166	.161	31.93	.000*

Source: Compile Data (*p is less than 0.05)

Figure 3
Comparison between Private University and Private Affiliated College for Teamwork, Team effectiveness and Organizational effectiveness .



Source: Compile Data

Summary of t Test Results

The t test results reveal that there are significant differences in Teamwork, Team effectiveness and Organizational effectiveness for Government and Private University, Private University and Private affiliated college, and Government University and Private affiliated college of management education under study, as p-values are smaller than 0.05.

6.2.2. Comparison of Teamwork, Team effectiveness and Organizational effectiveness in all the three categories under study

As it is observed that there are differences in the teamwork values of respondents in the three categories of institutions under study, one way ANOVA was computed to identify whether the differences between mean of different categories are significant or not.

Comparison of Teamwork in all the Three Categories Under Study

One way ANOVA was computed to identify whether teamwork differences between means of different categories of institutions are significant or not.

Table 7
Comparison of the Overall Teamwork of Three Categories Under

Teamwork	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	6.103	2	3.051	9.413	.000*
Within Groups	26.905	83	.324		
Total	33.007	85			

Source:Compile Data (*p is less than 0.05)

From the above table, it can be seen that there are significant differences in the mean Teamwork values of Educators in all the three categories of institutions, as $F=(9.413)$, $p=.000$.

Comparison of Team Effectiveness in all Three Categories under Study

One way ANOVA was computed to identify whether Team effectiveness differences between means of different categories of institutions are significant or not.

Table 8

Comparison of the overall Team Effectiveness of Three Categories under Study

Team effectiveness	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	8.848	2	4.424	13.086	.000*
Within Groups	28.060	83	.338		
Total	36.908	85			

Source: Compile Data (*p is less than 0.05)

From the above table, it can be seen that there are significant differences in the mean Team effectiveness values of Educators in the three job categories as $F = 13.086$, $p=.000$.

Comparison of Overall Organizational Effectiveness in all Three Categories

One way ANOVA was computed to identify whether organizational effectiveness differences between means of different categories are significant or not.

Table 15

Comparison of the overall Organizational Effectiveness of three Categories under Study.

Team work	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	10.028	2	5.014	154.311	.000*
Within Groups	2.697	83	.032		
Total	12.725	85			

Source: Compile Data (*p is less than 0.05)

From the above table, it can be seen that there are significant differences in the mean Organizational effectiveness values of Educators in the three categories of institutions, as $F = 154.311$, $p= .000$.

Summary of ANOVA Results

The ANOVA results reveal that there are significant differences among all the three categories under study with reference to Teamwork, Team effectiveness and Organizational effectiveness.

6.3. Teamwork, Team Effectiveness and Organizational Effectiveness Relationship

Pearson's product moment correlation was computed after identifying the areas of significant differences in the mean score of Teamwork, Team effectiveness and Organizational effectiveness, to understand the relationship among them in Governmental University, Private University and Private affiliated college under study.

6.3.1. Relationship between Teamwork and Team Effectiveness

Pearson's product moment correlation was computed to understand the relationship between Teamwork and Team effectiveness in different categories under study.

Table 9
Comparison of Coefficient of Correlations between Teamwork and Team Effectiveness

Correlations		Teamwork	Team effectiveness
Teamwork	Pearson Correlation	1	.750**
	Sig. (2-tailed)		.000
	N	86	86
Team effectiveness	Pearson Correlation	.750**	1
	Sig. (2-tailed)	.000	
	N	86	86

Source: Compile Data (**Correlation is significant at the 0.01 level).

From the above table of correlation, it was found that Teamwork has a significant and strong positive correlation ($r = 0.75$, $p < 0.01$) with Team effectiveness.

6.3.2. Relationship between Team effectiveness and Organizational effectiveness

Pearson's product moment correlation was computed to understand the relationship between Team effectiveness and Organizational effectiveness in different categories under study.

Table 10
Comparison of Coefficient of Correlations between Team Effectiveness and Organizational Effectiveness

Correlations		Team effectiveness	Organizational effectiveness
Team effectiveness	Pearson Correlation	1	.466**
	Sig. (2-tailed)		.000
	N	86	86
Organizational effectiveness	Pearson Correlation	.466**	1
	Sig. (2-tailed)	.000	
	N	86	86

Source : Compile Data (**Correlation is significant at the 0.01 level).

From the above table of correlation, it was found that Team effectiveness has a significant and moderate positive correlation ($r = 0.466$, $p < 0.01$) with Organizational effectiveness.

6.3.3. Relationship between Teamwork and Organizational Effectiveness

Pearson's product moment correlation was computed to understand the relationship between Teamwork and Organizational effectiveness in different categories under study.

Table 11
Comparison of Coefficient of Correlations between Team work and Organizational Effectiveness

Correlations		Team work	Organizational effectiveness
Teamwork	Pearson Correlation	1	.347**
	Sig. (2-tailed)		.001
	N	86	86
Organizational effectiveness	Pearson Correlation	.347**	1
	Sig. (2-tailed)	.001	
	N	86	86

Source: Compile Data (**Correlation is significant at the 0.01 level).

From the above table of correlation, it was found that Team work has a significant and weak positive correlation ($r = 0.347$, $p < 0.01$) with Organizational effectiveness.

Summary of Correlation Results

The Pearson's product moment correlation results reveal that there are positive relationships among Teamwork, Team effectiveness and Organizational effectiveness in Government University, Private University and Private affiliated college.

7. Discussion

This study is a comparative analysis carried out to compare the three categories of Management Educational Institutions- Government University, Private University and Private Affiliated College related to Teamwork, Team effectiveness and Organization effectiveness of the educators. The discussion is based on the quantitative findings presented in previous section.

7.1. Characteristics of Management Educators

The findings indicate a clear picture about the characteristics of management educators of Government University, Private University and Private affiliated college of North- Eastern region of India. The study revealed that they have the characteristics of team. Further it has been observed that the average mean of all the twenty two variables teamwork of management educators of all three categories are above 3.5. As in the five point Likert scale, the undecided has assigned the value 3; so mean value above 3 has been regarded as general agreement to the statements. Higher the mean value is, higher will be the degree of agreement. As average mean value of teamwork are 3.864, 4.215 and 3.523 for Government University, Private University and Private affiliated college respectively, this reflects that the management educators of all categories under study agree that they work as a team, not as a group, whereas the team characteristics is maximum in Private University followed by Government University and then Private affiliated college.

7.2. Comparative Analysis of Teamwork, Team effectiveness and Organizational effectiveness dimensions

7.2.1. Comparative Analysis of Teamwork

On comparing the dimensions of teamwork, it is observed that in Government Universities, interactions among educators, complimentary skills, accountability and positive synergy are the few significant dimensions of teamwork; whereas factors like focus on achieving the objectives, collective work product and shaping work are less significant to teamwork in this category.

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In Private Universities, it has been observed that Interactions among Educators, Collaboration, and Expressing opinions are the most important dimensions of team work, whereas few less significant dimensions are Collective Work Product, Conflict Resolution, Focus on Objectives, Participation and Shared Leadership.

In Private Affiliated Colleges, dimensions like Interactions, Interdependence, Accountability and Mutual Support are very significant, but Collective Work Product, Shared Leadership and Focus on Objectives are less influential on Teamwork.

From the above discussion it can be concluded that factors like Interactions among Management Educators and Accountability are the common significant dimensions and Focus on Objectives and Collective Work Products are the common less significant dimensions of Teamwork in all three categories of Management Educators.

7.2.2. Comparative Analysis of Team effectiveness

On comparing the dimensions of Team effectiveness, it is observed that in Government Universities, Scheduling Classes and Organizing Events are the few significant dimensions of Team effectiveness; whereas factors like Objective Planning and Syllabus Making are less significant dimensions to Team effectiveness in this category.

In Private Universities, it has been observed that Departmental Performance and Objective Planning are the most important variables, whereas Event Organizing and Academic Outputs are few less significant factors in Team effectiveness.

In Private Affiliated Colleges, similar to Private University, dimensions like Departmental Performance and Objective Planning are very significant, but Syllabus Making, Academic Output and Satisfaction as a Teacher are less influential on Team effectiveness.

7.2.3. Comparative Analysis of Organizational effectiveness

On comparing the dimensions of Organizational effectiveness, it is observed that in Government Universities, Career Development, Personal Development and Applicants' number are the few significant dimensions of Organizational effectiveness; whereas factor like Liveliness is less significant to Organizational effectiveness in this category.

In Private Universities, it has been observed that Academic Development, Career Development, Personal Development, Liveliness and Applicants' Number are the most important variables that influence equally, whereas the least significant factor is Acquiring Resources on Organizational effectiveness here.

In Private Affiliated Colleges, dimensions like Academic Development and Career Development are equally and most significant, but Acquiring Resources, Applicants' Number and Assignment's Time Limit are equally less influential on Organizational effectiveness.

So, it can be concluded from the study that different Teamwork, Team effectiveness

and Organizational effectiveness dimensions have different level of importance and significance in these three categories of Management Institutions under study.

7.3. Relationship between Teamwork and Team effectiveness of Educators in Management Educational Institutions of North-Eastern region of India.

From the present research it has been found that Teamwork is correlated with Team effectiveness. Combined together all the twenty two dimensions of Teamwork are found to have strong positive and significant correlation with eight dimensions of Team effectiveness. It may lead to the conclusion that the management educators working in Teams are found to be more effective in their performance. Thus it can be stated that, Teamwork improves Team effectiveness.

7.4. Relationship between Teamwork and Team effectiveness with organizational effectiveness of Educators in Management Educational Institutions of North-Eastern region of India.

From the present research it has been found that Teamwork is correlated with Organizational effectiveness, but the relation is weak positive. It has been also found that the relationship between Team effectiveness with Organizational effectiveness is moderately positive. It is found that an increase level of Team effectiveness is not reflected adequately in Organizational effectiveness. There may be several other factors from the environment that can influence Organizational effectiveness other than team effectiveness. The presence or absence of these factors and the extent of their presence can be significant.

8. Conclusion

It can be concluded from the present study that the management educators/ teachers of North- Eastern region of India, irrespective of their category, have the characteristics of Team. The study brought to light that Teamwork is related to Team effectiveness and Organizational effectiveness. Though Teamwork and Team effectiveness is highest in Private University, but organizational effectiveness is found to be high in Government University in this region. The mean scores and standard deviations obtained in different dimensions can be carefully studied to improve Teamwork, Team effectiveness and Organizational effectiveness. Further the study revealed an important finding that though the strength of relationship between Team effectiveness and Organizational effectiveness is moderately positive, but the Management Institutions of Private sector scoring highest in Team effectiveness could not score the same as regards to Organizational effectiveness. As already indicated above the other factors from the environment that effect the latter should be explored and taken care of so that the organization can perform well, thus motivating the Teams.

9. Bibliography

- Angelacox, (2010). Is teaching a work of teamwork or individuals. Available at : <http://www.enotes.com/homework-help/teaching-work-teamwork-individual-explains-393905> [Accessed 5th March 2014]
- Anne, S. (2011). Working Together: Groupwork, Teamwork, and Collaborative Work among Teachers. Available at [http://www.google.co.in/search?q=National + institute + for + urban + school + improvement](http://www.google.co.in/search?q=National+institute+for+urban+school+improvement) [Accessed on 17th July 2014.
- Asraf, G., and Kadir, S. (2012), "A Review on the Models of Organizational Effectiveness: A Look at Cameron's Model in Higher Education", *International Education Studies*, Vol.5, No.2, PP.80-86.
- Campion, M.A., Papper, E.M., and Medsker, G.J. (1996), "Relationship between Work Team Characteristics and Effectiveness: A Replication and Extension", *Personnel Psychology*, Vol.49, Issue 2, PP.429-452.
- Cappelli, P. and Rogovsky, N. (1994), "New Work Systems and Skill Requirement", *International Labour Review* , Vol.133, No.2 ,PP. 205-220.
- Cheney, G., Ruzzi, B.B. and Muralidharan, K. (2005, "A Profile of the Indian Education System", Working Paper, National Centre on Education and the Economy, New Delhi.
- Cohen, S.G. and Bailey, D.E. (1997), "What makes teams work: group effectiveness research from the shop floor to executive suite", *Journal of Management*, Vol.23, No.3, PP. 239-90.
- Gerlach, K. (2002), "Let's Team Up". National Education Association, Washington, D.C.
- Gina, R. (2012). Team Building Techniques for Teachers. Available at: http://www.ehow.com/way_5347266_team-building-techniques-teachers.html. [Accessed on 7th August 2014].
- Hoegl, M. and Gemuenden, H.G. (2001), "Teamwork quality and the success of innovative projects: a theoretical concept and empirical evidence", *Organization Science*. Vol. 12, No.4, PP. 435-49.
- Jiang, J.J., Motwani, J., and Margulis, S.T. (1997), "IS team projects: IS professionals rate six criteria for assessing effectiveness", *Team Performance Management*, Vol.3 No. 4, PP.236-43.
- Kampala City Council Legal Department Report (2008), "Kampala City Council Legal Department Report on education and school performance", Kampala City Council, Kampala.
- Kent, G. (2002). Teamwork: Key to Success for Teachers and Paraeducators. Available at: <http://www.ici.umn.edu/products/impact/152/over6.html> [Accessed 19th January 2014].
- Khurana, P. (2011), "Role of Ethics in Personal, Team and Organizational Effectiveness", Ph.D. dissertation, University of Delhi, Delhi.
- Robbins, S. and Judge. T. (2007), "Understanding work team: Organization Behavior", 12th edition, Prentice-Hall of India Private Limited, New Delhi.

- Ryan, A. (2011). Classroom Management Tips for Teachers- How to Discipline Students, Available at: <http://www.suite101.com/article/classroom-management-tips-for-teachershow-to-discipline-students-a393262> [Accessed 29th June 2014].
- Sumit, B. (2013). Total Number MBA Colleges India. Available at: <http://studyc-hacha.com/discuss/63897-total-number-colleges-india.html> [Accessed 13th August,2014].
- Tim, W. (2010), India: The Future of Management Education? Available at: <http://www.businessweek.com/managing/content/sep2010/ca2010093.520557.html> [Accessed 15th December 2013]
- Vogt, F. (2002), "Teacher Teamwork- supportive cultures and coercive policies", Proc, Annual Conference of the British Educational Research Association, University of Exeter, England.
- Watana, V. (1998), "Factors Affecting Organizational Effectiveness of Nursing Institutes in Thailand". Ph.D. dissertation, The National Institute of Development Administration, Bangkok, Thailand.
- Watson, P. (2000), "Innovative Teaching, Teamwork and Generic Skills in the University Environment", Ph.D. dissertation, Division of Law, Macquarie University, Sydney, Australia.
- Wetwngu, K. (2012), "Human Resource Practices, Teamwork and Perceived Teacher Performance in Secondary Schools in Kampala City Council and Wakiso District", Ph.D. Dissertation, Makerere University, Plana.

Business History: Redefining Entrepreneurship In Indian Context

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Abstract

The concept of entrepreneurship is having certain complex tradition within the economic and business activities thus formulating a sufficient definition is extremely difficult since this concept has a long and rich tradition within economic theory. There are some scholars tried to analyze this concept in different dimensions are continuously having been changing from time to time along with its scope. But India is having certain unique entrepreneurial roots which need to redefine the concept entrepreneurship in indigenous context.

Key Words : *Entrepreneur, Invention, Innovation, Capitalist, tradition*

Introduction

Entrepreneurship is one of the potential areas of the economic progress. There are many countries proved that the progress in the entrepreneurship leads to development. After liberalization policies India also showed a tremendous progress in global business. It cannot be denied that, the notion of the business in India broken the chains of age long social structures in post liberal period. More over the modern and the post-modern periods are seems to be witnessed in shaping the features and characteristics of entrepreneurship. It is true that India made a transition from agriculture to an industrial economy further to service sector during post independent period. Recently our entrepreneurs and their undertakings are underwent a great deal of modifications as a result of their interactions with the global companies. Indian businessman also started following in western foot steps and began to spread their tentacles across the world. Interaction between Indian and western business became a critical factor in the recent past. Though the existing business opportunities have already been pre-occupied by some mercantile classes the new business class from land owning rural gentry, professionals and first generation entrepreneurs making their sway in Hyderabad business. It could be understand by knowing their social out look and perceptions that have been redefining the entrepreneurship.

Objectives of the study

To understand the true meaning and Historical discourse of the concept
Entrepreneurship.

To appraise the possibility of application and to draw the scientific definition of the concept entrepreneurship.

Methodology

Concept oriented theoretical discussion is used to meet the objectives of this paper. Chronology of the concept development also indented in this discussion. Prominent scholar's views are reviewed in this paper. This paper concluded with some research questions on the scientific definition of the concept Entrepreneurship.

Discussion

The root of the word entrepreneurship can be traced back to 800 years to the French verb "Entrepreneur" which means "to do something". Three hundred years later a noun form of the term appeared and soon thereafter both the verb and the noun entered the English language. The term entrepreneur first appeared in the French language and was applied to leaders of military expeditions in the beginning of the 16th century (Long.W.1983). In 1730 Richard Cantillon, an Irishman living in France was the first person to use the term Entrepreneur to refer to economic activities(Long.W.1983). Richard Cantillon used the term entrepreneur to mean a self employed person with a tolerance for the risk he believed was inherent in providing for ones own economic well being. Moreover he defined entrepreneur as a person who buys factor services at certain prices for selling his product at uncertain prices in future. He views an entrepreneur as a bearer of non-insurable risk(Long.W.1983).

Towards the beginning of the Industrial revolution (1830), (J.B. say) Jean Baptists say a French economist further expanded the definition of a successful entrepreneur to include the possession of managerial skills. He made distinction between the function of an entrepreneur and the function of a capitalist(Long.W.1983). An entrepreneur may or may not supply capital but he must know the art of superintendence and administration. Further extending this concept that Long(1983) viewed in historical perspective that three traits in varying degrees have been included in the definition of Entrepreneurship, Uncertainty and Risk Complementary managerial competence and creative opportunities. He argues that to ignore any of these areas is to risk repeating rather than learning from the History of the concept of entrepreneurship (Long.W.1983).

In 1920, Prof. Knight added the possession of courage in the face of uncertainty to the definition of a successful entrepreneur and highlighted the importance of managerial skills. According to his theory the entrepreneur earns profits because he undertakes risks. The manufacturers produce goods with a view of selling them at a profit. It is the entrepreneur income which is unknown and uncertain(Long.W.1983). It is uncertain because it is left behind in character. Since the assumption of risk is a disutility it must be paid for and Profit is the reward for the exhumation of such risks. According to Prof. Knight the main function of entrepreneur is to act in anticipation of future events. He produces goods

in anticipation of demand and purchase goods in anticipation of resale. Moreover according to Knight's theory uncertainty bearing is essential to production, therefore it is a factor of production and the reward for it is a part of normal cost of production (Long, W. 1983). The risk theory seems to suggest that the more risky the nature of an enterprise the greater must be the profit earned by it. But uncertainty bearing is only a part of the duties of the entrepreneur. He has other duties also e.g. Organizing, Bargaining and innovating. Moreover it is not possible to measure uncertainty in concrete terms. The theory seems to suggest that the more risky the nature of an enterprise the greater must be the profit earned by it, but really speaking, there is no such direct correlation between the rate of profits and the degree of risks inherent in different types of business (Long, W. 1983).

Joseph A. Schumpeter has seen that the function of entrepreneurs is to reform or revolutionize the pattern of production by exploiting an invention or more generally as untried technological possibility for producing a new commodity or producing an old one in a new way by opening up a new source of supply of materials or new outlets for products, by reorganizing an industry and so on (Joseph A. Schumpeter 1976). Rail road construction in its earlier stages, electrical power production before the First World War, steam and steel, the motorcar, colonial ventures afford spectacular instances of a large genius which comprises innumerable humbler ones such as making a particular kind of sausage or toothbrush. This kind of activity is primarily responsible for the recurrent 'prosperities' that revolutionize the economic organism and the recurrent recession that are due to the disequilibrating impact of the new products or methods (Joseph A. Schumpeter 1976).

According to Joseph Schumpeter, an entrepreneur is an innovator who brings economic development through new combination of factors and production, an entrepreneur is the man who sees the opportunity for introducing a new technique or a new commodity for an improved organization or for the development of newly discovered resources. He raises the money to launch new enterprises, assembles the factory of production and chooses top managers and not the organization to get going. He need not be a capitalist he may not provide any funds of his own. Schumpeter argues that inventions or discoveries by themselves have little economic effect for inventions or resource discoveries to be significant; instead some one with special talent brings them into use. That man is an entrepreneur. Sometimes the entrepreneur is treated also as a capitalist but there is a difference between the two terms (Joseph A. Schumpeter 1976).

The capitalists furnish the funds. It is leadership rather than ownership that matters on the question of development. The neo classical economists in their theoretical formulations do not stress entrepreneurship to the extent that Schumpeter does. The neo classical view of the economic world development takes place gradually and smoothly, whereas Schumpeter emphasizes that entrepreneurship is connected with a view of development as carried by discontinuous spurt in a dynamic world. Another feature of the Schumpeterian model which increases the prominence of the entrepreneur is the development process

which is the minimization of the role of consumer sovereignty and the hope of profits was a major stimulant to innovation (Joseph A. Schumpeter 1976).

Schumpeter's theory though logical, seems one sided and over emphasized. The invention itself is only a scientific fact, the innovation as Schumpeter emphasized is the economic fact. Although the hope of profits was a major stimulant to innovation, there was also other pre-requisites technical knowledge which could be utilized. Entrepreneurs recognize the opportunities and respond to them by having adequate ability for the introduction of new techniques (Joseph A. Schumpeter 1976).

Talking on the Invention and Innovation (Dr. Anji Reddy 1996) states the 'invention' and 'innovation' represent the core values that determine the long term success of any organization. As he further says about the distinction between invention and innovation, an 'invention' is the actual idea for a new product or method while innovation is the translation of the idea in to practice'. Thus in the business sense it is the innovator who makes things happen (Dr. Anji Reddy 1996). He is the entrepreneur who champions the idea and brings it to the market place. Without him inventions will remain dry and useless things. He further says that innovation is a trait of successful organization.

In contrast with the above said views Max Weber is different with his own perception in the traditional dimension that the influence of environment and belief systems on individuals and entrepreneurial energies were generated by religious belief. Too much stress on obedience develops entrepreneurial qualities. The main factor contributing to entrepreneurship in Europe was the protestant ethics (Max Weber 2001) .

In the economic point of view Leibenstein's X-efficiency Idea is an extremely simple one that the effective use of inputs leads to greater out put. Suppose the certain inputs have been allocated to a firm these inputs can be used with various degrees of effectiveness within the firm. The more effectively they are used the greater the output, when an input is not used effectively the difference between the actual output and the maximum output attributable to that input is a measure of the degree of x-efficiency. Leibenstein has identified two broad types of entrepreneurship. 1. The routine entrepreneurship which is really a type of management and 2. The Innovational entrepreneurship. By routine entrepreneurship we mean the activities involved in coordinating and carrying on a well established, grow concern in which the parts of the production function in use are well known for a firm which operates in well established and clearly defined markets. By innovational entrepreneurship we mean the activities necessary to create an enterprise where not all the markets are well established or clearly defined and/ or in which the relevant parts of the production are not completely known. In both the routine and the innovation cases, the entrepreneur co ordinates activities that involve different markets and he is an inter mark operator (Harvey Leibenstein. 1978).

Leibenstein's 'x' efficiency theory was originally developed for the purpose, to analyze the role of the entrepreneur and to explain why growth rates differ in different

countries, and why growth rates differ in the same country at different periods. Secondly this theory shows that a firm will achieve maximum efficiency when the firm minimizes efficiency as the firm minimizes costs, which is to say when x-efficiency is equal to zero (Harvey Leibenstein. 1978).

David McClelland studied this concept in a psychological point of view. According to him the "N Ach" is the driving force for the birth of leaders and the economic growth (David C. McClelland and David G. Winter. 1971). Among the psychological theories, David McClelland in his book the Achieving Society has established that the achievement motive contributes largely to entrepreneurship and he developed an achievement motivation theory which can be used to explain entrepreneurial behavior. He says that the development depends on vigorous activities of a number of individuals who behave in an entrepreneurial fashion (David C. McClelland and David G. Winter. 1971). If substantial economic development is to occur in poor countries, the number of individuals with the entrepreneurial motivational complex particularly with high achievement will have to be significantly increased (David C. McClelland and David G. Winter. 1971).

McClelland's *The Achieving Society* (1961) contends that a particular human motive with the need for achievement promotes entrepreneurship which in turn is a key to economic growth. Moreover a society with a generally high need for achievement or 'Urge to improve' produces more energetic entrepreneurs who in turn bring about more rapid economic development the importance of the pioneering studies of McClelland said that the wide spread use of achievement motivation in training programmes seeks to engender entrepreneurs and managers in poor countries. It means thoughts of people deal constantly with doing something better they will, by definition score higher in achievement (David C. McClelland and David G. Winter. 1971). The theory of achievement motivation predicts that it is precisely those with high "n Achievement" who are sensitive to changes in economic opportunities, the high "n achievement leads to more enterprising behavior, where as those with low "n achievement" are not. Those with high "n achievement" are responsive to the economic stimuli and they find the ways of making a better living at various levels and the motivational levels make a big difference in all the ways in getting opportunities, per say the success rate depends up on the motivational levels (David C. McClelland and David G. Winter. 1971).

The Individuals with high "n Ach" shows that in general they behave like successful, rationalizing, business entrepreneurs. They set moderate difficult goals for themselves, neither too easy nor too hard and maximize the likelihood of achievement satisfaction. They are more than normally interested in concrete feedback on how well they are doing. They like assuming personal responsibility for solving problems, because in that way they can get a sense of achievement satisfaction from completing the task, where as they can not if success depends on luck or circumstances beyond their control they show more initiative and exploratory behavior continually researching the environment to find tasks

that they can solve their satisfaction. So it was predicted that entrepreneurial business executives should universally score higher in "achievement" than professionals with similar social and educational background (David C. McClelland and David G. Winter (1971). D.V. Manohar Manohar. (Chairman Shakti Group of Industries Hyderabad) a multi faceted entrepreneur from Hyderabad who gone through many difficulties and bagged many achievements in his entrepreneurial journey express that the entrepreneurial bug and the perseverance are the main ingredients for his achievements. He also some what accepts the "achievement" is a key ingredient in the development of entrepreneurship.

Conclusion

The above discussed theories may very well suitable for well advanced countries and is less likely to be appropriate in India. There is substantial limitation on resources availability in India. McClelland high motivation associated with a competitive spirit may be appropriate when an individual can control his activity but not where he faces substantial restraints on decision making. In India apprehensions should be faced from public and bureaucratic economic decision making.

There is a need that entrepreneurship is to be understood in the context of the prevailing environment of that particular country. In Japan entrepreneurship implies abilities to multiply capital. In industrially advanced countries entrepreneurship is associated with innovation. In India entrepreneurship allied with the tradition. In the modern sense entrepreneurs mean inspired individuals who create new ventures that solve problems or create new opportunities.

One should not minimize the traditional constraints in Indian business. The communal and family nexus are important in development of entrepreneurship. The extended family is the basic unit for individual identification and orientation and frequently for business ventures. Through McClelland theory of 'individual achievement and motivation' we can not explain the Indian entrepreneurial behavior. For a large proportion of firms in India, the basic unit of entrepreneurship is the extended family.

There are many traditional aspects need to be analyzed with reference to Indian society. For instance a person is granted credit as a member of a particular Jati or family rather than as an individual in most of the villages India. It develops a kind of relationship between creditor and debtor takes on a 'Jajmani' like character or semi permanent patron, client relationship in which the creditor provides virtually unconditional access to credit for goods and services for the customer in return for the customers continuous loyalty and patronage. Social divisions and caste implications had prescribed the occupations of certain communities from the generations.

At the same time it can not be denied the implications of state regulations and the political connections of entrepreneurs in the scenario of the Indian business which has been generating considerable attention in recent years. It has been noticed that the political

connections can help a business by getting access to scarce resources and manipulating favorable regulations to improve profitability and to reduce the risk.

References

- Long W. (1983). The Meaning of Entrepreneurship. *American journal of Small Business*, 8(2), 47-59(c971086) (CENCEE Web Teams.)
- Joseph A. Schumpeter(1976). *Capitalism, Socialism and Democracy*, Introduction by Tom Bottomore; George Allen & Unwin LTD, Ruskin House Museum Street. PP-132.
- Dr. K.Anji Reddy(1996). Invention, Innovation and the creation of wealth, Prof.N. R. Kamath Memorial Lecture, Indian Chemical Engineering Congress 1996, December 18-21, Ankleswar, Gujarat. PP- 1-9).
- Charles Outcalt: 'The Notion of Entrepreneurship: Historical and Emerging Issues' accessed from www.celcee.edu.
- Max Weber (2001). *The Protestant Ethics and the spirit of Capitalism*, Routledge, Taylaer and Francis groups.
- Harvey Leibenstein(1978). *General X- Efficiency Theory and Economic Development*, (oxford University Press, London, Toronto, PP-17).
- David C. McClelland and David G. Winter(1971). *Motivating Economic Achievement, Accelerating Economic development through psychological training*, (The Free Press, New York, Collier-Macmillan Limited, London. PP-6)
- Manohar.D.V. (Interviewed Chairman Shakti Group of Industries Hyderabad)

Financial Inclusion in Tripura: Role of Tripura Gramin Bank

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Abstract :

The financial system of a country plays a very important role in the economic development of the country. The reach of the financial institutions is significant in removing the regional backwardness and poverty and to incorporate inclusive growth. With the introduction of financial inclusion in India in 2005-06, Reserve Bank of India has tried to remove financial exclusion with various policy initiatives which guided the banks in bringing people of unbanked areas into the banking umbrella. In the present study, an attempt has been made to know the various FI initiatives taken by the Tripura Gramin Bank and to investigate the performance of Tripura Gramin Bank towards financial inclusion in Tripura. The study is spread over a period of eight years starting from the year of introduction of Financial Inclusion i.e. 2005-06 to 2012-13.

Keywords : *Financial Inclusion, Tripura Gramin Bank, FI Initiatives, financial exclusion*

1. Introduction :

The financial system of a country plays a very important role in the economic development of a country. The reach of the financial institutions to the different parts of the country is significant in removing the regional backwardness and poverty. Our people in India are suffering from the problem of lack of finance for which the people from the rural areas mostly relied upon the informal source of credit. The moneylenders used to exploit the borrowers with higher interest rates and usually short term credit. The financial institutions on the other hand, were happier doing business in the urban areas because of good business, quality customers and lower operating cost on profit.

The evidence of the initiatives of Financial Inclusion by the Reserve Bank of India can be found from late 60's when 14 banks were nationalized in 1969 with the objective of having more control on the banks and thus including the rural areas in the banking arena for facilitating the farmers and rural population. In 2004, Reserve Bank of India has set up a commission namely Khan Commission, to see how people from the unbanked areas can be brought under the umbrella of Financial System. The recommendations of the commission were introduced in the mid-term review of the 2005-06 policy. The central bank advised the banks and the financial institutions to start working on the recommendations of the

Commission to bring unbanked areas and people within the banking arena. K.C. Chakrabarty, the then Chairman of Indian Bank, has first introduced Financial Inclusion in 2005 with a pilot project in Union Territories of Pondicherry.

1.1. Meaning and Definitions of Financial Inclusion :

The dictionary meaning of inclusion is the action or state of including or of being included within a group or structure and the term Financial Inclusion means to include everyone into the country's financial system. In simple words, FI is making banking service available at a minimum cost to the large section of disadvantage and low income groups of people. Financial Inclusion is an attempt to bring un-banked people in banking service.

Dr.K.C.Chakrabarty,the then Deputy Governor of RBI in his speech at St. Xavier's College on September 6, 2011 defined,

"Financial Inclusion is the process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups such as weaker sections and low income groups in particular at an affordable cost in a fair and transparent manner by mainstream institutional players."

Thus, FI may be defined as, overall financial growth through connecting all sections of the society in general and vulnerable groups such as weaker sections and low income groups of people with banking service at an affordable cost by providing better understanding of those services.

1.2. Need of Financial Inclusion :

The Indian economy is the second fastest growing economy in the world. Majority of the underdeveloped population of the country resides in rural areas. The development of underprivileged section like, Farmers, small vendors, etc. in rural and urban areas is a necessary step towards economic development. And non-availability of finance is the barrier towards economic development and a reason for economic disparities among different regions of the country. On the other hand, the financial institutions are afraid of increasing NPA and with this fear they are not willing to support the rural people, farmers, small vendors etc. with extending credit and banking services. (Nachimuthu, 2009, pp. 9,10,13)

The poor people are earning, saving, borrowing, and making payments throughout their livelihood. But they need well-suited products and assurance to make their transaction, to protect their families and improve their lives. It is well found that a large number of households and especially those in rural areas do not have bank accounts and also true that the formal sector has not been expanding rapidly enough where services to the masses are concerned. Hence for inclusive growth banks need to redesign their business strategies to incorporate specific plans to promote FI of low income group treating it both a business opportunity as well as a corporate social responsibility. The poor people should get equal

opportunity as others are getting to better their life and for all these, it requires attention of human, financial institutions and government.

1.3. Status of Tripura :

The state of Tripura is located at the far most north-eastern corner of India. It is the smallest state in India which spreads little over 10,000 kilometer square. Total population of Tripura as per 2011 census is 36,73,917 of which male and female are 1,874,376 and 1,799,541 respectively. Due to lack of urbanization, the population residing in rural area is more as compared to the urban land. Of the total population of Tripura, around 73.83 percent live in the villages. About 42 percent of the total population is engaged in Agriculture and contribute to the major portion of GSDP of the state. As per the census of 2001, literacy rate of Tripura was 73.66 per cent which rose to 87.75 per cent in 2011 and ranks fourth among the states. (Census of India, 2011)

According to the Economic Review of Tripura 2012-13, "the economy of Tripura is characterized by high rate of poverty, low per- capita income, low capital formation, inadequate infrastructure facilities, geographical isolation and communication bottleneck, inadequate exploitation and use of forest and mineral resources, low progress in industrial field and high un-employment problem." (Economic Review of Tripura, 2012-13)

The state is also not having adequate number of branches to serve the people with adequate and timely finance. The state has only 328 branches of various banks as on March 31, 2013. According to Census 2001, 26.5 per cent of the households are availing the banking services in Tripura compared to 35.5 per cent at India level.

1.4. Profile of Tripura Gramin Bank :

Tripura Gramin Bank (TGB) was set up with four branches on 21st December, 1976 under the RRBs Act 1976 in the state of Tripura. The Authorized Share Capital of the Bank is Rs. 5.00 crores comprising of 5 lakhs share of Rs. 100 each. The Paid-Up Share Capital of the Bank is Rs. 1.00 crore subscribed by Govt. of India, Govt. of Tripura and U.B.I (Sponsor bank) in the ratio of 50:15:35 respectively. Tripura Gramin Bank has the largest network in the state with 133 branches which constitute 70% of the branch network. Tripura Gramin Bank covers 44% of the total rural branches of all banks with 92 branches out of 210 rural branches. (36th Annual Report Tripura Gramin Bank, 2012-13)

1.5. Statement of the Problem :

In spite of tremendous progress in the financial systems and markets in India, the masses till now remain outside from the formal financial sector. There is a vast and different group of people whose financial needs have been overlooking since a long time. They are marginal farmers, agricultural laborers', migrants, employees and entrepreneurs in the unorganized sector, socially excluded groups etc. Major portion of the population of Tripura

are engaged in agro based occupation and live in rural areas.

Banks constitute the major share in the formal financial system in India. The development of banking has not taken place much in North Eastern States if compared to India level. This is clear from the data published by Reserve Bank of India regarding banking penetration. North Eastern States have lower banking penetration in comparison to all-India average. Tripura being a north eastern state is no different from other.

Reserve Bank of India has introduced many new instruments from time to time to decrease the level of financial exclusion and bring people of unbanked areas into the banking umbrella. Reserve Bank of India has always given importance to the RRBs for increasing the level of financial inclusion. Tripura Gramin Bank being an RRB has a major role to play in bringing the people of Tripura into the banking arena.

1.6. Objective of the Study :

The objectives of this paper are as following:

- (i) To investigate the various initiatives taken by the Tripura Gramin Bank for promoting financial inclusion.
- (ii) To investigate the performance of Tripura Gramin Bank towards financial inclusion of Tripura.

1.7. Methodology and Data Source :

The study is an exploratory one and is mainly based on secondary data. As financial inclusion was introduced in the year 2005-06 by the Reserve Bank of India, so study period of 8 years starting from 2005-06 to 2012-13 has been taken in the present study. To know the status of financial inclusion in Tripura, only Tripura Gramin Bank has been studied as this Regional Rural Bank has the highest number of bank branches all over Tripura and all other banks operating in the state of Tripura has been kept outside the purview of the present study.

In the present study the researcher relied primarily on the data published regularly by Tripura Gramin Bank and Reserve Bank of India in various forms. Press Releases, Annual Reports and other periodicals and publications of Tripura Gramin Bank and bank statistics, handbooks and working papers published by Reserve Bank of India have been referred.

To know the various initiatives taken by TGB for promotion of financial inclusion in the state of Tripura, focused interview method has been adopted. The Chairman of the bank and other senior managers has been interviewed.

"CRISIL Inclusix" index has been used for measuring the progress of financial inclusion in the present study. The collected data and information has been processed, analysed and interpreted by using tables, graphs and diagrams to reach the final observation.

The Remaining paper is organised as follows: Section 2 deals with the Financial Inclusion initiatives taken Tripura Gramin Bank in the recent past and followed by the Results & Discussion in Section 3. The paper concludes in Section 4.

2. Initiatives taken by Tripura Gramin Bank :

As the central bank of the country, the Reserve bank of India has taken steps to ensure FI in the country. It has tried to make banking more attractive to citizens by allowing for easier transactions with banks. As per guidelines of RBI for FI in India TGB has also come out with various initiatives to spread FI. Given below are various initiatives which were taken and implemented by TGB to accelerate the process of FI in Tripura.

(i) **'No-Frills' Accounts** : As per RBI guideline TGB has started to provide this facility from the year 2006. Under this scheme, the bank is opening a saving account with 'Zero' balance. TGB also provide overdraft of Rs. 500 to Rs. 1000 on 'No-Frill' A/c. The scheme helped the weaker communities to come under the ambit of financial inclusion. From the date of introduction of the facility up to financial year 2010-11, the bank has a total 298699 numbers of No Frill Account.

(ii) **Kisan Credit Card (KCC)** : The KCC scheme is mainly introduced for enabling farmers to purchase agricultural inputs and draw cash for agricultural production. KCC is a credit card cum pass-book. Maximum amount of loan sanctioned in KCC is Rs. 300000. During the year 2010-2011, the bank issued 18167 number of KCC while 12362 Nos. were issued in 2012-2013. The total number of KCC issued by the bank since inception is 70871 Nos. with overall credit limit of Rs. 1227841 thousand.

(iii) **Introduction of GCC/SCC** : With a view to providing credit card like facilities in the rural areas the Reserve Bank advised all scheduled commercial banks, including RRBs, in December 2005 to introduce a General Credit Card without collateral. TGB has introduced GCC in the year 2006 and Swarojgar Credit Card (SCC) in the year 2007. Maximum credit limit of each of these credit cards is 25000.

(iv) **Business Correspondence (BC) Model** : BC acts as an agent of a bank, providing services in the unbanked areas or where the population is scattered over large area and where opening of a branch is not viable. BC Model has been implemented by the bank from 2011. TGB appoint's a sub agent to deliver services to the customers at their door step. TGB appoint's the sub agent through an agreement (MoU).

(v) **Financial literacy Program** : RBI has taken number of measures to increase financial literacy in the country and advised all the banks to take initiative for financial inclusion. TGB started financial literacy program in the year 2011 and conducted financial literacy program in different blocks. TGB has done nine financial literacy campaigns in nine different blocks namely Damcherra (North District) in 30th June, 2011; Mungiakami (West District) in 30th July, 2011; Hrishyamukh (South District) in 19th August, 2011; Kanthalia (West District) in 23rd September, 2011; Ampinagar (South District) in 21st October, 2011; Bishalgar (West District) in 23rd November, 2011; Padmabil (West District) in 29th December, 2011; Dasda (North District) in 13th January, 2012; Khowai (West District) in 15th February, 2012.

(vi) **Self- Help Group Linkage Program** : TGB has given special emphasis on organization of SHG for developing awareness among the rural people for the fulfillment of their urgent credit needs in a simple way. During the year 2011-12, 397 Nos. of SHGs were formed and the total no. of SHG stood at 16229 Nos. at the end of the year. All the groups are maintaining SB A/c with the bank branches and aggregate balance reached to Rs. 271943 thousand as on 31.03.2011.

(vii) **Using Information Technology (IT)** : The use of Information and Communication Technologies (ICT) can play as a catalyst in bringing financial inclusion in the country. TGB has reached 100 per cent Core Banking Solution (CBS) Bank after starting the conversion process in 2010.

TGB has introduced inter branches ATM (Automated Teller Machine) facility to the customer to do Banking transactions such as Cash withdrawal, balance enquiry etc. The TGB has been maintaining the ATM services in the four branches such as Khumlung Branch, Ambassa Branch, Santirbazar Branch, Pabiachhara (Kumarghat) Branch.

(viii) **Insurance Products** : Micro-insurance is a key element in the financial services package for people at the bottom of the pyramid. The poor face more risks than the well off. TGB has also introduced some insurance product for the upliftment of rural people. Some of the insurance products are Group Mortgage Redemption Assurance, Grameen Surakshya Yojana, Assets insurance and TGB Swasthya Bima Prakalpa.

(ix) **Other initiatives** :

- ♦ The bank (TGB) with 131 branches across Tripura is the first RRB in eastern and northeastern region to start Aadhaar (ID card) based payment under numerous schemes.
- ♦ Keeping with the directives of the Reserve Bank of India (RBI), the TGB has engaged several farmers clubs, retired banks officials and societies to extend the banking services to remote areas with population above 2,000 or even below.
- ♦ To extend its services to the far-flung, hilly and inaccessible areas of the northeastern state, the TGB has already opened 5 Ultra Small Branches (USB) and would set up 13 such branches soon.
- ♦ On the occasion of the TGB's foundation day, the bank has introduced two new schemes - Gramin Samridhi Yojana (GSY) and Rupay Kishan Card (RKC). The interest of the GSY, a recurring deposit scheme, is 9.35 percent while in RKC, borrower can withdraw money anytime using ATM.

3. Results and Discussion :

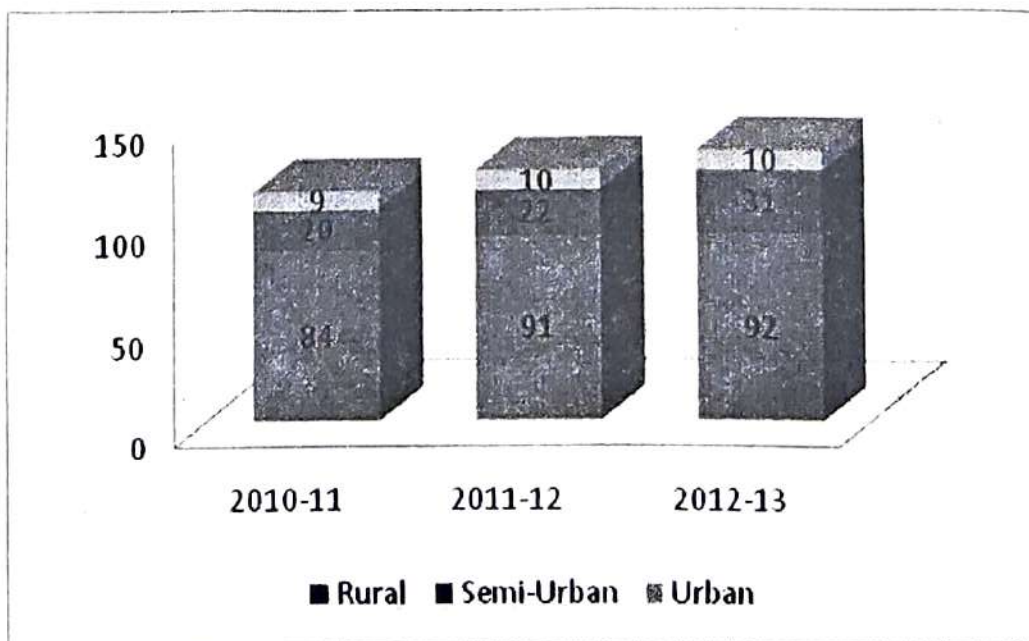
Tripura Gramin Bank has taken many initiatives starting from the year Financial Inclusion has been introduced in India as an initiative by the Reserve Bank of India. Tripura

Gramin Bank as the only regional rural bank of Tripura has always been looked into as a promoter of financial inclusion in the region. Let us discuss how much Tripura Gramin Bank has been successful in bringing in financial inclusion in the state.

3.1. Number of Branches :

As per the directives of Reserve Bank of India to open more branches and include more unbanked areas into the banking arena, Tripura Gramin Bank has been continuously working on that. Tripura Gramin Bank has the largest network in the state with 133 branches which constitute 70% of the branch network and covers 44% of the total rural branches of all banks with 92 branches out of 210 rural branches. During 2010-11 to 2012-13 also the same can be seen as more branches are opened and majority has been opened in the rural areas. Out of the 20 branches open in those 3 years, only 1 has been open in urban area and remaining in semi-urban (11 branches) and rural area (8 branches).

**Figure 3.1.1.
Classification of Branches**



Population per Branch :

Tripura Gramin Bank has 133 branches spread over all the 8 districts of Tripura. The average population density per branch of TGB is 27623 in Tripura. Among all the districts South Tripura district has a better population density per TGB Branch which is 22671 and North Tripura has worst at 32111. With the introduction of more branches in the near future the population density per branch is bound to come down.

3.2. Trend in Deposits :

As many initiatives have been taken by the bank like introduction of No-Frills account, simplified KYC Norms, use of regional language for forms etc. relating to opening of accounts, number of savings account and current account can be a very important indicator for measuring financial inclusion. The increased number of accounts can indicate how many new accounts have been opened and thereby how many people have been brought under the banking system. And the movement in the deposits held in the account can be an indicator of their savings habit and banking habit of the customers.

From the two figures below it is clear that the both savings accounts and current is showing an increasing trend every year which is a positive sign of financial inclusion. Savings account has a higher growth rate compared to current account, this is understandable as no-frills accounts are allowed only in case of savings account and the operation in savings account is easier compared to current account.

Figure 3.2.1
Number of Savings Account

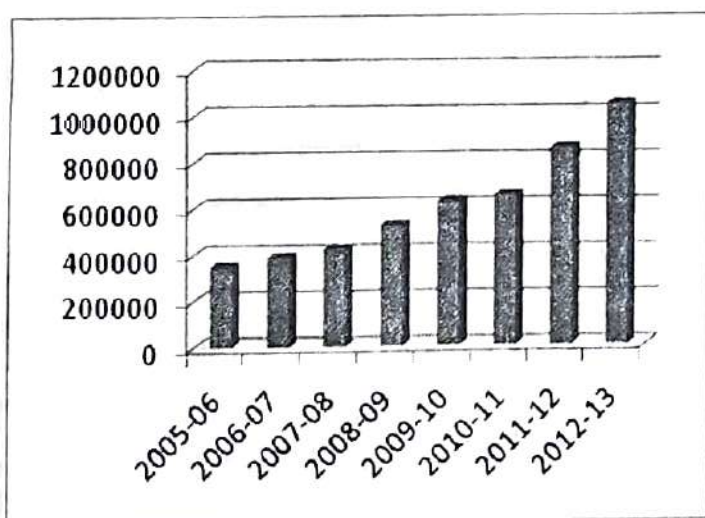
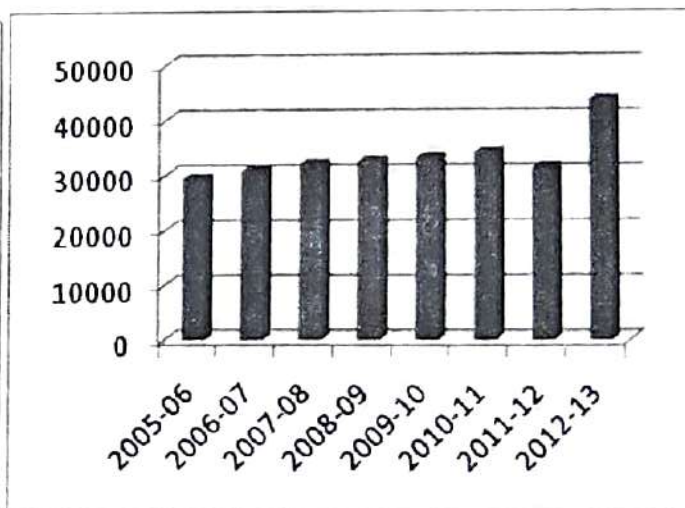


Figure 3.2.2
Number of Current Account



The same progress can be seen in case of deposits held also in Figure 3.2.3 and 3.2.4. Both types of accounts shows a positive growth rate in case of deposits held also. Savings account has a higher growth rate compared to current account. It is understandable from the fact that current account is being used by business people for their daily business transactions both withdrawal and deposit and the savings account is used for savings thus will have more deposit compared to withdrawals. Thus, it is again clear that people are not merely opening the accounts from social pressure but are also operating which can be termed as true financial inclusion.

Figure 3.2.3
Deposits Held in Savings

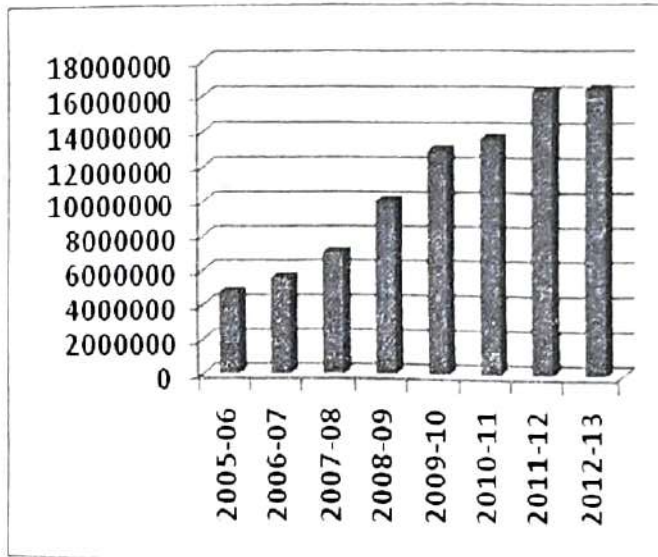
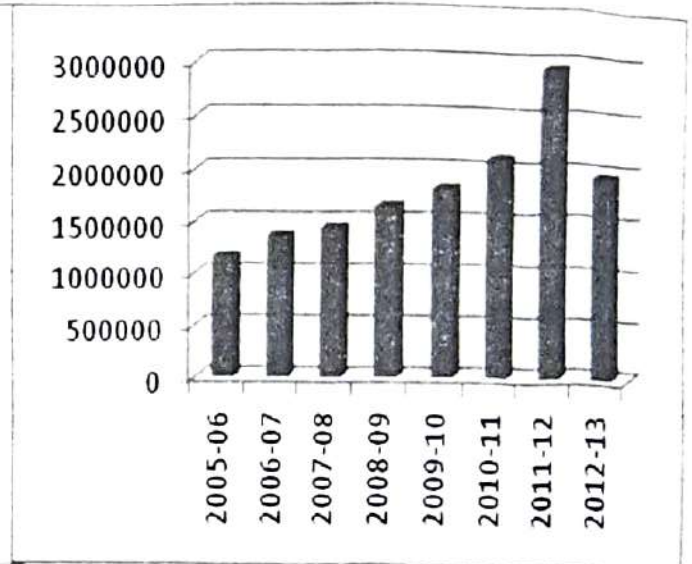


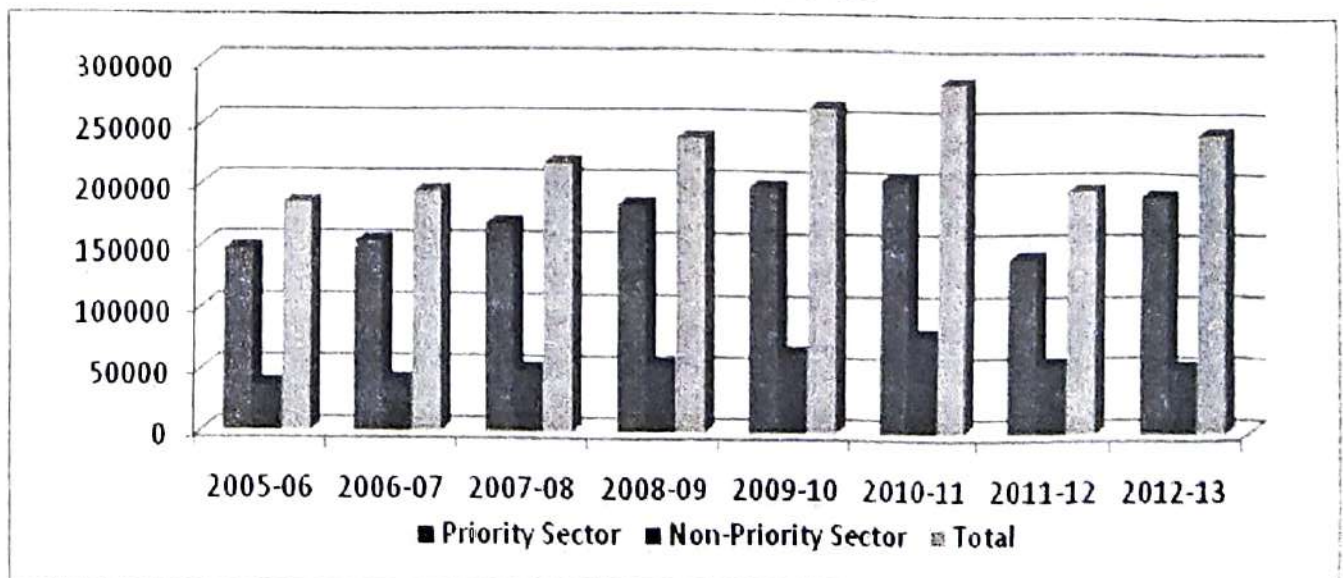
Figure 3.2.4
Deposits Held in Current



3.3. Trends in Advances :

Loans and advances from banks are found to be 'economical' for traders and businessmen, because banks charge a reasonable rate of interest on such loans/advances compared to the private moneylenders. As per guidelines of RBI on Financial Inclusion in India, TGB has also come out with various initiatives to provide loans and advances to various priority sectors, target group, ST/SC, minorities and SF/MF/AL etc. to accelerate the process of financial inclusion in Tripura.

Figure 3.3.1
Number of Loan Account



It is evident from the figure 3.3.1 that Tripura Gramin Bank has been doing a great job in making fund available to the poor and priority sector. The number of priority sector lending shows a remarkable growth in comparison to the non-priority sector lending. The total number of advance account also shows a good growth rate till 2010-11. Among the various loans granted to the priority sector Agri. & Allied Term Loan constitutes more than 40% of the loan accounts and Small Business/Retail Trade constitute nearly 30% of the loan accounts, and the trend is similar in all the years.

Figure 3.3.2
Loan Amount Disbursed

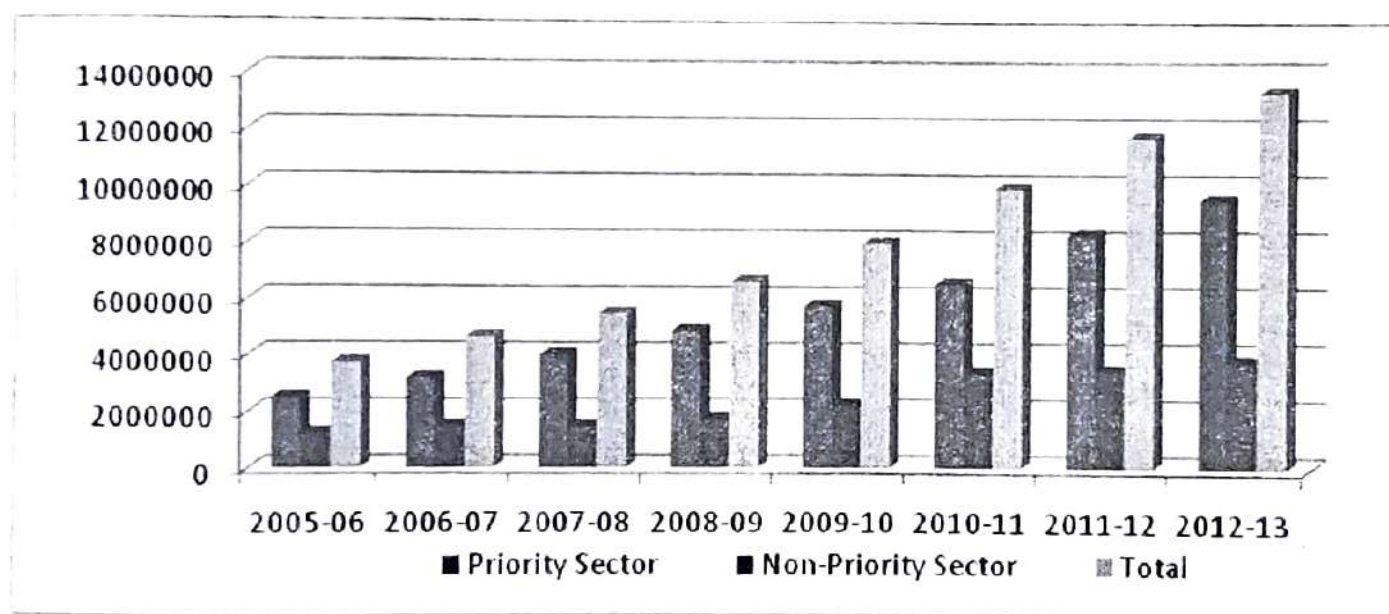


Figure 3.3.2 shows the trend in the loan amount disbursed. Loan amount disbursed also shows the good work of Tripura Gramin Bank. Both the priority and non-priority segment has gained a lot since 2005-06. Agri. & Allied Term Loan, Rural Artisan & S.S.I. and Small Business/Retail Trade has the highest share in the priority sector loans which is a good sign as Tripura is a agriculture based state. The ratio of Priority sector to non-priority sector is much higher than what is prescribed by RBI and it hovers at about 70% in favour of priority sector lending. The growth rate both in case of loan accounts and loan amount disbursed is healthy and thus an evidence of financial inclusion can be traced.

3.4. Findings :

The bank has taken various initiatives and among the various initiatives introduction of GCC/SCC, SHG credit linkage programme, no-frill a/c scheme helped the bank to promote financial inclusion in the state of Tripura. During the eight years (from the year

2005-06 to 2012-13) it is clear from the picture of various Deposit and Loan Accounts that Tripura Gramin Bank has done a tremendous job in bringing people to banks. The savings account was more prominent and seemed more attractive to the customers with its No-Frills criteria and simplified KYC norms a huge growth. Increase in crop loans and Agri. & Allied Term Loan shows the growing interest of customers towards bank credit. The loan to various undeveloped groups and various target groups also shows an increasing trend from the year 2006-07 i.e. just after introduction of the concept of financial inclusion. All the parameters show that since 2006, there has been an increase in banking business due to demand from the customer side which is a clear indicator of financial inclusion in Tripura.

4. Conclusion :

100 % Financial Inclusion is not far from reality, the only thing that is required to speed up the process is the will of the various banks to serve the nation and work for the development of the country which will ultimately give them back the return they desire. The financial institutions should take financial inclusion as a business opportunity and not as a binding imposed by RBI. Tripura Gramin Bank has taken the pain to include more and more villages under its network and thus it is also got the fruit in return by earning a net profit of Rs 48 crore, the highest among the regional rural banks (RRBs) in eastern and northeastern India, in the 2013-14 fiscal year.

Bibliography :

- Agarwal, P. (2009). *Financial Inclusion / Financial Literacy*. Ranchi: Reserve Bank of India.
- Agarwala, A. (2010). *Financial Inclusion: Challenges & Opportunities*. 23rd Skoch Summit Financial Deepening. Mumbai.
- C Rangarajan Committee. (2008). *Report Of The Committee On Financial Inclusion*. Committee On Financial Inclusion.
- Diego Anzoategui, A. D.-K. (October 2011). *Remittances And Financial Inclusion*. The World Bank Development Research Group Finance and Private Sector Development Team.
- Kale, S. K. (21 October 2008). *International Conference on "Public Financial Management for Improving Programme Delivery"*. In G. M. S K Kale (Ed.). New Delhi, Vigyan Bhawan,.
- Kochhar, S. (2009). *National Report on Speeding Financial Inclusion*. SKOCH Development Foundation. Mumbai.
- Kpodar, M. A. (April 2011). *ICT, Financial Inclusion, and Growth: Evidence from African Countries*. International Monetary Fund.

Financial Inclusion in Tripura: Role of Tripura Gramin Bank

- Kumar, R. (2009). Project Report On Financial Inclusion. NEW DELHI: Reserve Bank of India.
- Nachimuthu, V. (2009). Regional Economic Disparities in India. New Delhi, India: New Century Publications.
- Sarma, M., & Pais, J. (2008). Financial Inclusion and Development A Cross Country Analysis. New Delhi.
- Shah A. (June 16,2010). Harnessing The India Post Network For Financial Inclusion. New Delhi: Department of Post.
- Thorat, U. (2009). Report of the High Level Committee. Mumbai: RESERVE BANK OF INDIA.

Websites:

- destripura.nic.in/stat.pdf. (n.d.). Retrieved february 25, 2012, from www.destripura.nic.in:
destripura.nic.in/stat.pdf
- <http://www.kotak.com/bank/common/financial-inclusion.htm>. (n.d.). Retrieved Janury 16, 2012, from <http://www.kotak.com>: <http://www.kotak.com/bank/common/financial-inclusion.htm>
- rbidocs.rbi.org.in. (n.d.). Retrieved Janury 16, 2012, from rbi.org.in: rbidocs.rbi.org.in/rdocs/Speeches/PDFs/FIC060911DG.pdf
- tripuragraminbank.org. (n.d.). Retrieved March 25, 2012, from http://tripuragraminbank.org/About_TGB.htm
- www.iibf.org.in/uploads/Speech_VLeeladhar_.doc. (n.d.). Retrieved January 16, 2012, from www.iibf.org.in: www.iibf.org.in/uploads/Speech_VLeeladhar_.doc
- www.nabard.org/pdf/report_financial. (n.d.). Retrieved March 03, 2012, from www.nabard.org:
http://www.nabard.org/pdf/report_financial/full%20Report.pdf

Customer Satisfaction in Public Sector Banks: A Study in Silchar Town of Assam

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Abstract

The emergence of competition in the Indian banking industry following banking sector reforms in the early 1990s has created tremendous pressure for the public sector banks in India to survive and retain their market share. Indian public sector banks enjoyed semi protected environment for few decades since nationalization but liberalization of the banking sector has suddenly put them in a fiercely competitive environment for which they were practically not prepared. In order to cope up with the emerging competitive environment, public sector banks are expected to put increased emphasis on service quality and customer satisfaction. Infact, the success of a public sector bank is contingent upon customer-centered philosophies because competition has been gaining momentum after the entry of new private sector banks including the foreign banks. Service quality has been perceived as a crucial determinant for judging the degree of customer satisfaction in the banking industry. Although the degree of competition in the banking sector is relatively more in metropolitan cities, of late small cities and towns are also feeling the wave of competition. Apart from opening up of additional branches of public sector banks, private sector banks have also started their journey by inaugurating new branches even in small towns of the country.

The present paper makes an attempt to measure the degree of customer satisfaction in public sector banks operating in Silchar town of Assam. In order to assess the level of customer satisfaction, different dimensions of service quality have been identified and the perception of bank customers on the select dimensions of service quality has been analyzed. The study concludes that the customers of public sector banks operating in Silchar town of Assam are by and large satisfied on the service quality dimensions considered in the study.

Key Words : *Perception, Satisfaction, Competition, Dimension, Service*

Introduction :

The onset of competition from the private sector banks and initiation of banking reforms in the early 1990s have generated tremendous pressure for the public sector banks

in India and in order to survive and retain their market share in the emerging competitive environment public sector banks are expected to put increased emphasis on service quality and customer satisfaction. Infact, service quality has become an important means of differentiation and a path to bring customer satisfaction. Such differentiation based on service quality can be a key source of competitiveness for the public sector banks in India. Although the degree of competition in the banking sector is relatively intensified in metropolitan cities and other big cities, public sector banks in small cities and towns are also experiencing the transformation from semi-protected regime to fiercely competitive environment. Perceptions of today's customers are continually evolving, which is calling for providing quality services to the customers. Thus, offering quality services results in repeat purchase, loyalty, positive word-of-mouth and increased long term profitability.

Service Quality :

Service quality is conceptualized as an ancestor for the survival and growth of a bank in the age of cut-throat competition. It is a mechanism for a bank's struggle to separate itself from its competitors. Service quality is the discrepancy between what the customer feels a bank should offer and his/her perceptions of what the banks actually offer (Parasuraman, Berry and Zeithaml, 1988). In other words, it is the difference between customers' expectations for the service encounter and the perceptions of the service received (Munusamy, Chelliah and Mun, 2010). Gronroos (1984) has defined service quality as "the outcome of an evaluation process, where the customers compare their expectations with the service they have received." Parasuraman et.al (1988) supporting the view of Gronroos have defined service quality as "a form of attitude, related but not equivalent to satisfaction, that results from a comparison of expectations with perceptions of performance." Thus, service quality is the overall assessment of a service delivered to the customers. To put it in simple words, it is all about meeting customers' requirements and how well the services offered matches customers' expectations. Service quality has been perceived as a crucial determinant for evaluating the degree of customer satisfaction in the banking industry.

Customer Satisfaction

Customer satisfaction is defined as a customer's overall evaluation of the performance of offerings (Munusamy et. al, 2010). It is the feeling that customers have about a bank when their expectations have been met or exceeded over the lifetime of the product or service (Javed, 2005). Customer satisfaction is perceived as a consumer's opinion integrating cognitive and affective evaluations after his/her consumption experience. It is a term which measures the services provided by a bank to meet its customers' expectations. It is the transaction specific effective response to the evaluation of discrepancy between the prior expectations and actual experience relating to banking services (Paul and Barman, 2010). Measuring customer satisfaction offers an immediate, meaningful and objective feedback about a client's preferences and expectations.

The success of a bank is contingent upon customer-centred philosophies and service quality has become a crucial yardstick for assessing the level of satisfaction of bank customers. Thus, customer satisfaction and service quality are inter-related. The higher the service quality, the higher is the degree of customer satisfaction.

Brief Review of Literature

The review of related literature forms the basis for identifying the service quality dimensions regarding customer satisfaction and demographic factors to be selected for the study. Dinh and Pickler (2012) observed that the dimensions of service quality have been positively correlated with customer satisfaction. Sivesan (2012) also found that there exist a positive correlation between service quality dimensions and customer satisfaction. Santhiyavalli (2011) concluded that among the dimensions of service quality, Reliability, Responsiveness, Empathy and Tangibility are the major factors responsible for customer satisfaction. Khalid, Mahmood, Abbas and Hussain (2011) and Kumar and Manjunath (2012) found that there exist a positive relationship between service quality dimensions and customer satisfaction. Iranzadeh and Chakherlouy (2012) opined that the dimensions of service quality, such as, Sympathy, Reliability, Tangibility, Trustworthiness and Accountability showed a significant impact on customer satisfaction. Similarly, Munusamy, Chelliah and Mun (2010) revealed that among the dimensions of service quality, Tangibility showed a significant impact on customer satisfaction. Miguel-Dvila, Cabeza-Garca, Valdunciel & Florez (2010) concluded that service quality dimensions have deeper impact on customer satisfaction. Ghost and Gnanadhas (2011) viewed that among the dimensions of service quality, Assurance has the highest and Tangibility has the lowest impact on customer satisfaction. Mohammad and Alhamadani (2011) using regression analysis found that service quality is an important antecedent of customer satisfaction. Rajaram and Ganesh (2011) and Ravi and Basavaraj (2013) found that customers' age and sex are positively associated with overall service quality.

Thus, service quality dimensions and demographic background of the customers play an influencing role regarding satisfaction of bank customers. In the present study, Responsiveness, Empathy, Tangibility, Assurance and Reliability have been considered for analyzing the responses of customers of public sector banks. Apart from service quality dimensions, two demographic factors, namely, gender and age are also selected for the present study.

Objectives of the Study

- (1) To study the degree of satisfaction of customers of public sector banks operating in Silchar town of Assam.
- (2) To examine the relationship between select dimensions of service quality and overall satisfaction of customers of public sector banks operating in Silchar town of Assam.

- (3) To compare the gender wise and age wise level of satisfaction of customers of public sector banks operating in Silchar town of Assam on select service quality dimensions.

Hypotheses

- (1) There is no correlation between select service quality dimensions and overall satisfaction of customer of public sector banks operating in Silchar town of Assam.
- (2) The satisfaction of bank customers on select service quality dimensions does not vary across the gender.
- (3) The satisfaction of bank customers on select service quality dimensions does not differ across the age groups.

Data and Methodology

The present study is based on primary data. The population of the study includes customers of public sector banks operating in Silchar town of Assam. A structured questionnaire has been prepared covering five dimensions of service quality, namely, Responsiveness, Empathy, Tangibility, Assurance and Reliability. The data collected with the help of questionnaire from 60 respondents is not simply accepted because it contained unnecessary information and under emphasized facts. Thus, responses from 53 customers have been considered for the purpose of analysis. Therefore, the effective sample size for the present study is 53 customers of public sector banks operating in Silchar town of Assam. A five point scale ranging from Strongly Disagree (1) to Strongly Agree (5) has been used to record the perception of customers. For the purpose of analyzing the responses of bank customers, mean, standard deviation, correlation coefficient, Levene's F-test and t-test have been used.

Scope and Limitations of the Study

- The scope of the present study is confined to the customers of public sector banks operating in Silchar town of Assam.
- The sampling method adopted for collecting the data may not completely eliminate the possibility of sampling errors.
- Each study area has its own demographic, geographic, situational and cultural specificities. So, the findings of the study need to be interpreted with great caution while making any kind of generalization.

Data Analysis and Interpretation

Table 1 shows the profile of the respondents. Out of 53 respondents, 73.60 % are male and 26.40% are female. Among the respondents, 35 are below the age of 40 years and remaining 18 are above 40 years. As far as marital status of the respondents is concerned,

54.70% are single and 45.30% are married. Out of the total respondents, 9.40% are matriculate, 26.40% are HS passed, 47.20% are graduates and remaining 17% are post graduates.

Table 1
Profile of the Respondents

Gender	Number of Respondents	Percentage of Respondents
Male	39	73.60
Female	14	26.40
Age	Number of Respondents	Percentage of Respondents
Below 40 years	35	66.04
Above 40 years	18	33.96
Marital Status	Number of Respondents	Percentage of Respondents
Single	29	54.70
Married	24	45.30
Education	Number of Respondents	Percentage of Respondents
HSLC	5	9.40
HS	14	26.40
Graduate	25	47.20
Post Graduate	9	17.00

Source: Field Survey

Table 2
Satisfaction of Customers on Various Dimensions of Service Quality

Service Quality Dimensions	Mean	Std. Deviation
Responsiveness	3.72	.5825
Empathy	3.12	.7397
Tangibility	3.43	.7165
Assurance	3.74	.5402
Reliability	3.85	.5556

Source : Field Survey

Table 2 shows the level of satisfaction associated with the five select dimensions of service quality. The values of means with respect to select dimensions indicate that customers

of public sector banks in Silchar town have been satisfied with these dimensions. The Reliability dimension has the highest mean score (3.85) which indicates that the customers have highest degree of satisfaction with Reliability. The mean score of 3.74 associated with Assurance and 3.72 with respect to Responsiveness imply that customers have relatively high degree of satisfaction with these dimensions. Table 2 further reveals that bank customers have comparatively low level of satisfaction on remaining two dimensions, namely, Tangibility (3.43) and Empathy (3.12). The values of standard deviation associated with select dimensions disclose that there is least variation in the perception of customers with Assurance dimension. However, highest variation is observed in the responses of customers regarding Empathy dimension.

Table 3
Correlation between Service Quality Dimensions and Overall Customer Satisfaction

Service Quality Dimensions	Correlation Coefficient	Sig. (2 - tailed)
Responsiveness	0.691	0.000
Empathy	0.497	0.000
Tangibility	0.620	0.000
Assurance	0.721	0.000
Reliability	0.735	0.000

Source: Field Survey

Table 3 shows the degree of relationship between overall customer satisfaction and select service quality dimensions capable of influencing customer satisfaction. It is revealed from table 3 that all the dimensions are positively correlated with overall customer satisfaction at 1% level of significance. The relatively high degree of correlation has been found between overall customer satisfaction and Reliability (0.735) as well as Assurance (0.721). But moderate degree of correlation has been found between overall customer satisfaction and Responsiveness (0.691) as well as Tangibility (0.620). However, comparatively low degree of correlation has been observed between Empathy (0.497) and overall customer satisfaction.

Table 4
Gender Wise Satisfaction of Customers on Select Service Quality Dimensions

Service Quality Dimensions	Male (39)		Female (14)		t value	p value
	Mean	SD	Mean	SD		
Responsiveness	3.67	.6165	3.86	.4662	-1.051	.298
Empathy	3.15	.7535	3.04	.7196	.509	.613
Tangibility	3.44	.6900	3.39	.8128	.191	.849
Assurance	3.71	.5437	3.82	.5409	-.687	.495
Reliability	3.81	.5720	3.98	.5044	-1.008	.318

Source: Field Survey

Table 4 shows gender wise satisfaction of bank customers on five select dimensions of service quality. Out of the five dimensions, both male and female customers registered lowest degree of satisfaction with respect to Empathy. There is high variation in the responses of customers of both genders with respect to Empathy dimension.

The mean values indicate that out of the five dimensions, male customers recorded highest degree of satisfaction with respect to Reliability and less variation in the responses is also observed on this aspect as is evident from the value of standard deviation. On the other hand, the female customers also recorded highest degree of satisfaction with respect to Reliability dimension and by and large less variation is observed in the responses of female customers on this aspect as is evident from the value of standard deviation.

In order to test the significance of differences in the perception of male and female customers regarding the quality of services offered by the public sector banks operating in Silchar town of Assam, independent samples t-test is used. The result of Levene's F-test for equality of variances is not statistically significant at 95% confidence level for all the dimensions. Hence, assuming equal variances t values have been calculated for five dimensions capable of influencing satisfaction of customers of public sector banks across the gender. The corresponding p values obtained are greater than 0.05 for all the dimensions. This implies there is no significant difference in the perception of bank customers across the gender about all five dimensions affecting the satisfaction of customers of public sector banks operating in Silchar town of Assam.

Table 5
Age Wise Satisfaction of Customers on Select Service Quality Dimensions

Service Quality Dimensions	Below Forty Years (35)		Above Forty years (18)		t value	p value
	Mean	SD	Mean	SD		
Responsiveness	3.74	.5488	3.67	.6568	.447	.656
Empathy	3.19	.7080	3.00	.8044	.863	.392
Tangibility	3.44	.7202	3.39	.7287	.257	.798
Assurance	3.78	.5995	3.65	.4035	.800	.427
Reliability	3.92	.5995	3.72	.4447	1.243	.220

Source: Field Survey

Table 5 portrays age wise satisfaction of customers with five select dimensions of service quality namely, Responsiveness, Empathy, Tangibility, Assurance and Reliability. Out of the five dimensions, customers of both the age groups i.e. below forty (40) years and above forty (40) years have recorded lowest degree of satisfaction with respect to Empathy and relatively high variation in the responses is also observed on this aspect as is evident from the values of standard deviation.

On the other hand, the mean values indicate that out of the five dimensions, customers of both the age groups have recorded highest degree of satisfaction with respect to Reliability and by and large less variation is observed on this aspect as is evident from the value of standard deviation.

In order to test the significance of differences in the perception of customers of two age groups regarding the quality of services offered by the public sector banks operating in Silchar town of Assam, independent samples t -test is used. The result of Levene's F-test for equality of variances is not statistically significant at 95% confidence level for all the dimensions. Hence, assuming equal variances the t values have been calculated for select dimensions capable of influencing satisfaction of customers of public sector banks across the age groups. The corresponding p values obtained are greater than 0.05 for all the dimensions. This implies there is no significant difference in the perception of bank customers across the age groups about all the five dimensions of service quality selected capable of affecting the satisfaction of customers of public sector banks operating in Silchar town of Assam.

Summary of Major Findings

1. The mean score on select dimensions of service quality indicate that customers are by and large satisfied. Highest degree of satisfaction of bank customers has been

found on Reliability followed by Assurance, Responsiveness, Tangibility and Empathy dimensions of service quality. Further, least variation is observed regarding Assurance and relatively more variation is observed regarding Empathy.

2. All the select dimensions are positively correlated with overall customer satisfaction at 1% level of significance. A very high degree of correlation exists between overall customer satisfaction and Reliability as well as Assurance dimensions. But comparatively low degree of correlation has been observed between Empathy and overall customer satisfaction. However, the correlation between overall customer satisfaction and two service quality dimensions, namely, Responsiveness and Tangibility has been found to be moderate.
3. There is no significant difference in the level of satisfaction of bank customers across the gender about all the five dimensions of service quality. However, out of the five dimensions of service quality selected for the study both genders registered highest degree of contentment with respect to Reliability and lowest degree of satisfaction with respect to Empathy.
4. There is no significant difference in the level of satisfaction of bank customers across the age groups about all five select dimensions of service quality. However, among all the five dimensions of service quality selected for the study both the age groups registered highest degree of contentment with respect to Reliability and lowest degree of satisfaction with respect to Empathy.

Conclusion

Satisfaction is the sum total of customers' expressions of service quality and depends upon their perceptions to a large extent. Customer satisfaction with respect to service quality is a positive feature for the banking industry, providing matchless competitive edge. Customers of public sector banks operating in Silchar town of Assam are by and large satisfied with all the five service quality dimensions considered in the study. However, there is a scope for the bank management to formulate necessary plans and adopt suitable strategies for improving the services related to the components of Empathy and Tangibility so that the status of satisfaction of customers of public sector banks operating in Silchar town of Assam is promoted and delight of the customers can be ensured.

References

- C., S., Ravi, and Kundan, Basavaraj, (2013). Customers Preference and Satisfaction towards Banking Services With Special Reference to Shivamogga District In Karnataka, *TRANS Asian Journal of Marketing & Management Research*, 2(1), 29-37.
- Dinh, Van, and Lee, Pickler, (2012). Examining Service Quality and Customer Satisfaction in the Retail Banking Sector in Vietnam, *Journal of Relationship Marketing*, 11, 199-214.
- G., Arun, Kumar, and S., J., Manjunath, (2012). Service Quality Impact on Customer Satisfaction- A Study of ICICI Banking Mysore City, *International Journal of Engineering and*

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Management Research, 2(4),1-4.

Ghost, S., Fatima, H., and M., E., Gnanadhas, (2011). Impact of Service Quality in Commercial Banks on the Customers Satisfaction: An Empirical Study, *International Journal of Multidisciplinary Research*, 1(6), 19-33.

Gronroos, C. (1984). A Service Quality Model and its Marketing Implications, *European Journal of Marketing*, 18(4), 36-38.

Iranzadeh, Soleyman, and Farzam, Chakherlouy, (2012). Service Quality Dimensions in the Banking Industry and Its Effect on Customer Satisfaction (Case Study), *Quality Management and Practices*, Dr. Kim-Soon Ng (Ed.), ISBN: 978-953-51-0550-3, InTech, Available from: <http://www.intechopen.com/books/quality-managementand-practices/service-quality-dimensions-in-the-banking-industry-and-it-s-effect-on-customer-satisfactioncase-st>. (assessed on 14/02/2013).

Javed, F. (2005). Customer Satisfaction at a Public Sector Bank, Karachi, *Market Forces*, 1(2), 10-13.

Khalid, S., Babak, M., Muzaffar, A., and Shabbir, H. (2011). Customer Satisfaction with Service Quality in Conventional Banking in Pakistan: The Case of Faisalabad, *International Journal of Marketing Studies*, 3(4), 165-170.

Miguel-Davila, J., A., Laura, C., Laura, Valdunciel, and Marcela, Florez, (2010). Operations in Banking: the Service Quality and Effects on Satisfaction and Loyalty, *the Service Industries Journal*, Vol. 30(13), 2163-2182.

Mohammad, A., Abraheem, S., and Shireen, Yaseen, Mohammad, Alhamadani, (2011). Service Quality Perspectives and Customer Satisfaction in Commercial Banks Working in Jordan, *Middle Eastern Finance and Economics*,14, 60-69.

Munusamy, J., Shankar, Chelliah, and Hor, Wai, Mun, (2010). Service Quality Delivery and Its Impact on Customer Satisfaction in the Banking Sector in Malaysia, *International Journal of Innovation, Management and Technology*, 1(4), 398-399.

Parasuraman, A., L., Berry, and V., Zeithaml, (1988). SERRVQUAL: A Multi-item Scale for Measuring Consumer Perception of Service Quality, *Journal of Retailing*, 64, 12-20.

Paul, M., K., and Arup, Barman, (2010). Customers' Satisfaction- the Ignored Phenomenon: A Case Study in Rural Banking, *Indian Journal of Commerce*, 63(1), 21-35.

Rajaram, S., and Ganesh, K. (2011). Service Gap Analysis in Private Banks with Special Reference to Madurai and Virudhunagar Districts, *ZENITH International Journal of Business Economics and Management Research*,1(3), 112-125.

Santhiyavalli, G. (2011). Customers' Perception of Service Quality of State Bank of India- A Factor Analysis, *International Journal of Management and Business Studies*, 1(3), 78-84.

Sivesan, S. (2012). Service Quality and Customer Satisfaction: A Case Study - Banking Sectors in Jaffna District, Sri Lanka, *International Journal of Marketing, Financial Services & Management Research*,1(10), 1-7.

Human Resource Management in University Library: An Evaluative Study in NEHU, Tura Campus, Meghalaya.

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Abstract :

The paper briefly describes about Human Resource Management in University Library in Tura Campus, Meghalaya. The study is focus on the performance of the library staff working in different section of the Tura campus library. The study also aims at finding out various impediments face by the staff in providing services to the academic community of the campus. Providing the best library services for the users' satisfaction is the motto of any library in the world, where human resource plays a crucial role in its success. The study is carried out among the library staff working in the Tura campus library. Personal interaction with the staff and observation during the working hour was carried out to collect the relevant data. The finding of the study will help us to improve the library services in the university. Necessary suggestions are also incorporated by the authors for overall improvement of the library services and professional development of the staff in the campus library.

Key words : *Human Resources, Library staff, University Library, Management, Services.*

Introduction

Human resource management is a function in organizations designed to maximize employee performance in services of their employer's strategic objectives. It is primarily concerned with how people are managed within organizations, focusing on policies and systems. Human resource departments and units in organisations are typically responsible for number of activities, including employee recruitment, training and development, performance appraisal and rewarding (e.g. Managing pay and benefits systems). Library is a non-profit organization where human resource also plays a vital role in success of such organization. Qualification, sincerity, responsible, energetic, innovative, good work culture and reward is very essential for the success of the library. Achieving the library's goal in the campus is entirely dependent on the performance and output of these staff. Rooks (1988) urges that, in today's world the library finds itself competing with commercial profit

making endeavours in the information industry for trained, qualified librarians and information specialists. To succeed, libraries must adopt sound principles of management specifically in the area of human resources. Library is only good as its staff. Rubin (1991) too points out that the human resource manager must have a sound background in the development and administration of personnel policies and procedures; but managing people also entails an understanding of the psychological and sociological forces that affect worker attitudes and performance. He further stated that, many of us work within the personnel practices of our state or parent institutions. We certainly have the latitude and responsibility to manage our human resources to make the most of library performance and to recognize the worth of the individual employee. Again, Pandey (1999) also suggested that the selection and appointment of library staff should be done very carefully, because much of the success of the library staff members on the job in a library depends upon skilful personal administration.

Human resource plays a crucial role in success of any non-profit organisation like library. Assessing the performance of the staff, knowing various barriers in the functioning of the system and making necessary rectification and improvement in functioning is the need of today's library management. Furthermore, various issue and problems of the staff should also be considered seriously for the proper functioning of the campus library.

A Brief History of NEHU Tura Campus Library

North-Eastern Hill University, Tura Campus Library was established in 1996 with an objective to serve the academic community of the University. The Campus Library is the backbone of all academic activities for students, research scholars, faculty and staff of the University. Since its inception it has been playing a very vital role in updating the knowledge of the learners and information seekers. The Campus has a Central Library, one Library in the Dept. of Management and one library in Chandmari Campus. The Campus Library has a collection of more than 23,315 volumes and 939 bound periodicals and subscribes to 140 journals both national and foreign. The library also provides facilities for free direct access to e-journals and databases from India and abroad. Now, any library users can access journals listed in e-resources like American Chemical Society, American Institute of Physics, American Physical Society, Annual Reviews, Blackwell Publishing, Cambridge University Press, Economic & Political Weekly, Elsevier Science, Emerald, Institute of Physics, ISID, JCCC, JSTOR, MathSciNet, Nature, Oxford University Press, Portland Press, Project Euclid, Project Muse, Royal Society of Chemistry, SIAM, Springer Link and Taylor & Francis.

The Campus Library is well equipped to serve the academic community of the university with excellent modern facilities and well furnished reading rooms. The Library started its Automation activities in the year 2004. Library is using LibSys-4 software, for its computerized house-keeping operations. The entire collection of the library can be browsed through on On-Line Public Access Catalogue (OPAC) in the library and Web OPAC from any location within and outside the campus.

Internet facilities are also provided to the students, Research Scholars and Faculty and staff to access the desired reading materials for their academic enhancement. The Campus Library is open on all working days from 9.15 am to 5.00 pm except on Sundays and public holidays. The campus library is making every effort to provide better services to students, research scholars, faculty and staff for the maximum utilization of the resources. For more than a decade the library has been serving the academic community of the university. The campus library not only caters to the academic needs of the Faculty, Research Scholars, Students and Staff of the university but also to other neighbouring academic institutions of the entire Garo Hills, Meghalaya.

Library Sections

The Library has different sections: (i) Administration Section (ii) Acquisition Section (iii) Technical Section (iv) Circulation Section (v) Periodical Section (vi) Reference Section (vii) General Stack Section (viii) Computer Lab.

Library Staff Position

The campus library is having 18 staff which provides their services for the smooth functioning of the campus library. There is one Assistant Librarian, one Professional Asstt., five Regular Multi Tasking Staff, three NEHU contract employee and 8 eight additional staff from Out-Sourcing Agency for its smooth functioning.

Table 1
Present Staff Position in the Campus Library

Sl. No	Designation	No. of Post
1.	Assistant Librarian (AL)	1 (one)
2.	Professional Assistant (PA)	1 (one)
3.	Semi - Professional Assistant (SPA)	NIL
4.	Junior Library Assistant (JLA)	NIL
5.	Multi Tasking Staff (MTS)	5 (five)
6.	Contract Employee (NEHU)	3 (three)
7.	Outsourcing Staff (OS)	8 (eight)
Total =		18

Importance of the study :

NEHU, Tura Campus Library was established in the year 1996 to serve the academic community of the university as well as the region. Human resource assessment is very essential for the successful management of the campus library. Through the study we can

find out the performance of the staff and various impediments in the library management. This study will enable us to determine success or failure of the services, to assess the level of efficiency of the services and to identify what measures are needed in successful delivery of services. It is also felt that this study would put forth some innovative ideas to improve the services of the library and thereby putting into practical application in the campus libraries.

Objective

1. To assess the performance of staff in the campus library.
2. To find out various impediment in the library functions.
3. To recommend necessary suggestion for improvement of library services.

Methodology

For the study personal interaction and observation was carried out among the library staff working in different sections of the library to collect the relevant data. The study is conducted in NEHU, Tura Campus Library.

Findings

The study carried out in Tura campus library found that;

1. In the campus library, 70% of the staff are class X & XII pass and 30% person are graduate and above. Most of them have work for more than 10 years in the library without any library qualification and training which has hampered in giving better library services.
2. It is also found that 50% of staff are above the age of 40 years in which the performance level has gone down and less interested in the work. There is lack of responsibility and self sacrifice for any extra work. Sometimes staff in library is compel to work for extra time to serve the user need, where this is not seen in most of the staff.
3. It was observed that most of the staff are not punctual in coming to the library reasoning distance location and non-availability of frequent transport. These also lead to less output in the service due to late arrival of the staff. Some are even found comparing themselves with the other departments' staff of the university in punctuality for the work.
4. It is also observed that there is lack of work culture and competitive spirit among the staff, where they reason it was the difference in payment or salary with the regular employee, contract and outsourcing staff.
5. It was found that there is lack of team spirit and innovative ideas due to the old age, less education and same community employee.
6. It was also observed that lack of promotion and personal development opportunities directly affects in delivery the output of the staff.

7. It was observed most of the staff has been affected by external influence, believing on someone's misinformation and not believing in self capability or dedication to their work. This eventually effects in smooth functioning of the library.
8. The study found that 98% of the staff is not trained in the library profession where productivity is less and most of them find difficulties in delivering their services to the users' satisfaction.
9. There is lack of demonstration and communication skills among the library staff which hampered in delivery good library services to the users.
10. It is found that 90% of the staff are not trained and IT knowledge is nil which hampered the staff to give modern computerised service to the users even though the campus library is automated since the year 2004 onwards.
11. It was found that library staff suffered humiliation due to the strange behaviour of the users toward the library staff. Most users consider library staff are less qualified and are just custodian of books and other reading materials.

Suggestion

The Campus library is still in the developing stage since its inception in 1996 in Tura campus, even though it has been serving the academic community of the university for more than a decade. The library staff are putting their effort to give best services to satisfy the user of the campus library. The following suggestion may be put into practical application for the welfare of the staff and the campus library.

1. Recruiting staff and engaging them in the library work should be carefully done as they are dealing with different types of information and users.
2. Staff should be given training, career guidance and motivation for professional development for providing better service in the campus library.
3. Delegation of authority to the selected and responsible staff is essential for proper functioning of each section of the campus library.
4. Staff should report their section activities to the library authority and should be will to work in team for delivering better service.
5. Leadership quality is very important in the library. Working together with the library staff will lead in better service than to leave entirely on the subordinate staff.
6. Proper direction and coordination of work should be the first priority in the functioning of the library. Library staff should willing obey the higher library authority directions for carrying out particular task or work.
7. The library staff should develop leadership skills and quality to lead in front for any library activity not merely working on the demand of the library higher authority.

8. The subordinate library staff should respect their higher authority and fellow employee in work place and work with eagerness to bring improvement and new changes to the library services to suit the users' needs.
9. The University authority should formulate staff training, development and promotion policy for library staff.
10. Incentive and compensation plans for overtime work in the library should be framed for the welfare of all the library staff.
11. The library authority should initiate annual appreciation award for the outstanding staff to motivate the library staff.
12. The library staff should be willing to learn new things, accept new changes and willingly change from within their heart to give their best service for the campus library.

Conclusion

Human resource in the non-profit organisation like library is the main source of library's success. Management of this human resource is not an easy task as different individual with different ideas, working style and habits are put together to produce one good result. The key to library's success is in proper planning, implementation of services and resources, identifying users' needs, promotion, marketing and constant evaluation for further improvement. The campus library can achieved its goal through a good leader and willingness of library staff to change themselves from within their heart to do something worthy for their own workplace like university library.

References

- Murugan, M.S. (2006). *Management Principles and Practices*. New Delhi: New Age International Publishers (P) Ltd.
- Kumar, A., & Sharma, R. (2000) *Personnel Management: Theory and Practice*. New Delhi: Atlantic Publishers and Distributors.
- Sharma, J.N. (2002). *Human Resource Management*. New Delhi: Mittal Publications.
- Fisher, C.D., Schoenfeldt, L.F., & Shaw, J.B. (2002). *Human Resource Management (3rded.)*. Chennai: All India Publishers & Distributors.
- Arya, P.P., & Tandon, B.B. (Eds.). (1998). *Human Resource Development (3rded.)*. New Delhi: Deep & Deep Publications.
- French, W.L. (1997). *Human Resource Management (3rded.)*. Chennai: All India Publishers & Distributors.
- Human Resource Management (2014). Retrieved on March 4, 2014 from http://en.wikipedia.org/wiki/Human_resource_management

- Rooks, D.C. (1998). *Motivating Today's Library Staff: A Management Guide*. Phoenix: Oryz Press. From *Bulletin of Medical Library Association*, 76 (4), 377-378.
- Rubin, R.E. (1991). *Human Resource Management in Libraries: Theory and Practice*. New York: Neal Schuman. From *Bulletin of Medical Library Association*, 80(2), 207-208.
- Pandey, S. K. (ed). (1999). *Encyclopedia of Library Automation Systems and Networks*. Vol 4: *Organization of library automation*. New Delhi: ANMOL Publications Pvt. Ltd.
- Theja, K.A. (2007). *Library Automation: Strategies for Library Human Resource Management*. *Journal of the University Librarians*, 11, 98-110.

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