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Editorial

Quest, a Journal of Kathmandu Bernhardt College (JKBC) is a biannual research journal. The main objective of the journal is to contribute to knowledge building process on research work in science, arts, management, and literature by providing an opportunity for scholarly discussion on the role of researchers and reviewers. For this purpose, the journal comprises original research, review papers and other scholarly creations of academic value that contribute to understanding of the scientific technology, business entrepreneurship, human values and education and its processes.

We have an immense pleasure of releasing this second issue of Quest. All articles comprised in this issue are the contribution towards a disclose for research activities involving our faculties in contemporary issues of the Science, Managements, Arts, and Literature. As the articles in this issue have shown, it is important that we make such discourse in the localized context but at the same time have broader perspectives. On our part, we are committed to continue such articles because we believe that the exposures of the articles are significant in the development of new technology and awareness. The articles, are reviewed by the Editorial Board, however, the Board does not guarantee the accuracy of the data and analytical results along with their implications. Moreover, the views and interpretations included in the articles are those of the authors.

Our goal is sharing the knowledge and skills of recent development in the fields of sciences, information technology, management, arts and literature. So, we welcome papers that perceive research works with an integrative prospective bringing in local, regional and as well as global contexts in any pertinent subject in research or review. We invite scholarly papers from all authors –prospective and established. Moreover, we encourage all to support in our endeavour to build and share knowledge for research activities. Our plan in further issues is to include the opinion and review papers, short-notes, reflective notes, book reviews and abstracts of students' research projects. Those interested in contributing such articles in any relevant subject are requested to submit the articles to editorial board for consideration in the forthcoming issues.

The Editorial Board would like to thank Management Committee of Kathmandu BernHardt College and faculty members for their valuable supports in the publication of this issue. We'd like to especially thank reviewers for their invaluable suggestions and feedbacks to standardise the articles. Any comments, queries, suggestions, and correspondences are highly appreciable.

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Equatorial Ionospheric Plasma Bubbles Measured by Optical Imaging System

*Narayan P. Chapagain, PhD
Associate Professor, Department of Physics, Patan M. Campus
Tribhuvan University, Kathmandu, Nepal
npchapagain@gmail.com

Abstract

Deep plasma depletions in the equatorial ionosphere are referred to as ionospheric irregularities or equatorial plasma bubbles (EPBs). Nighttime equatorial F-region plasma irregularities can significantly affect communications and navigation systems. In this study, we present the image measurements of plasma bubble from Christmas Island (2.1°N, 157.4°W, dip latitude 2.8°N) in the central Pacific Ocean. These observations were made during September-October 1995 using a Utah State University (USU) CCD imaging system measured at ~280 km altitude. Well-defined magnetic field-aligned depletions were observed on 18 nights during the campaign, including strong post-midnight fossilized structures, enabling detailed measurements of their morphology and dynamics. We also estimate zonal velocity of the plasma bubbles from available images. The zonal velocity of the plasma bubble is a very important parameter for the understanding and modeling of the electrodynamics of the equatorial ionosphere and for the predictions of ionospheric irregularities. The eastward zonal drift speeds estimated to be around 90-100 m/s prior to local midnight, and decreases during the post-midnight period that persisted until dawn.

Keywords: ionosphere, irregularities, plasma depletion, optical imaging, equatorial plasma bubble.

1. Introduction

The ionosphere is the ionized region of the upper atmosphere extending from ~50 km to beyond 1000 km. This region contains significant numbers of free electrons and positive ions and also some negative ions. The electron concentration may amount to only about one percent of the neutral concentration. However, the presence of these electrons has a profound effect on the properties and behaviour of the medium.

The vertical structure of the ionosphere has been divided into three layers according to ion constituent and associated chemistry. These distinct layers develop because (a) the solar spectrum deposits its energy at various heights depending on the absorption characteristics of the atmosphere, (b) the physics or recombination depends on the atmospheric density, and (c) the composition of the atmosphere changes with height. The vertical structure of the plasma density of the ionosphere is shown in Figure 1. The main layers are D-region (~50-90 km altitude), E-region (~90-150 km altitude), and F-region (150-500 km altitude) [*Kelley,* 1989]. The layers are generally characterized by density maxima at a certain altitude. The D-layers is mostly responsible for the refection of radio wave propagation from earth during the daytime period. While during the nighttime period, the D-layer vanishes and E-layer becomes very weak and consequently, the F-layer is primarily responsible for the reflection and propagation of the radio wave on the Earth's atmosphere.

The Earth's ionosphere often shows the occurrence of highly irregular plasma density
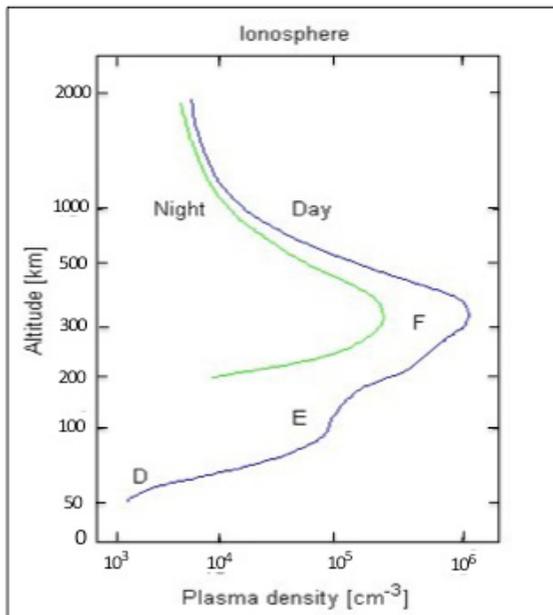
Figure 1: Vertical profile of the ionosphere during the day and night-time period.

and velocity fluctuations with a large range of scale sizes and amplitudes at almost all altitudes throughout the latitude and longitude sectors. The plasma irregularities at F-region ionosphere are predominantly a nighttime phenomenon and this is a region of greatest interest to space scientists because of the complex dynamical phenomena and instability occurrence in this region. This post-sunset phenomenon is commonly referred to as plasma irregularity or plasma depletion or plasma bubble. These plasma irregularities are generally magnetic field aligned. They have zonal widths of typically a few tens of kilometres and extend along the magnetic field lines for hundreds to thousands of kilometres depending on the peak altitude of the irregularity (bubble) development (e.g., *Sobral et al.,* 2002), while their vertical heights range from a few tens of kilometres to several hundred kilometres.

When radio signals propagate through these irregularities regions, they cause distortion in amplitude and phase. This results in a fade in received signal power, meaning a loss of s ignal that directly affect on communication and navigations systems which are a concern to many sectors, both civilian and military. The generation of these irregularities is one of the most spectacular manifestations of space weather in the Earth's ionosphere. Understanding the day-to-day variability of these irregularities has become a highly active area of research in the aeronomy community and much work remains to be done before we have a complete understanding of this phenomenon.

Ionospheric irregularities were first reported by scientists using High-Frequency (HF) radio ionospheric sounding experiments that took place about seven decades ago. *Berkner and Wells* [1934] described well-known accounts of ionosonde reflections above the nighttime F peaks. *Booker and Wells* [1938] published nighttime ionograms with virtual height traces that were mysteriously spread in altitude. The bottomside profiles of the plasma were also found to be disturbed after sunset, which affected radio wave propagation near the critical frequency. This disturbance, called equatorial spread *F,* is now known as the process that causes large-scale plasma depletions (termed bubbles, wedges, or plumes). As the plasma depletions advect upwards from the bottomside to the topside ionosphere, they generate a broad spectrum of disturbances that can be detected by digital ionosondes and ionospheric radars and result in spectacular airglow images. *Haerendel* [1973] published a theory for bubbles where he applied the concept of flux tube integrated variables. In 1973, *Hanson and Sanatoni* used the satellite observations and reported density bite-outs of over three orders of magnitude deep in the bottomside F-region. *Woodman and LaHoz*

[1976] used radar observations from Jicamarca, Peru, and reported plume-like structures extending to high altitudes. In addition to the ionosonde and radar observations [e.g., *Fejer and Kelley,* 1980; *Chapagain et al.,* 2009], the plasma irregularities (or bubbles) have been detected by satellite [e.g., *McClure et al.,* 1977], rockets [e.g., *Kelley et al.,* 1982], as well as other ground-based optical instruments [e.g*., Weber et al.,* 1978; *Mendillo and Baumgardner*, 1982; *Taylor et al.,* 1997].

The plasma bubbles development is most effective at the magnetic equator in the post-sunset time period, although occasionally post-midnight and pre-sunrise events have been observed. These bubbles sometimes reach more than 20º magnetic latitude from the generation region at the magnetic equator [e.g., *Kelley et al.,* 2002; *Makela and Kelley,* 2003]. This is due to the large conductivity along the magnetic field lines, allowing the perturbed electric fields to efficiently map poleward where they can affect the local ionosphere. For example, the irregularities developed in the equatorial region say above the south India (magnetic equatorial region) can propagate poleward above the Nepal where magnetic latitude is around 18º. Hence the study of these irregularities also becomes important in this territory.

The bubbles extending poleward of the equator allow for ground-based imaging techniques to capture two-dimensional spatial information on the depletions. Several previous studies have employed all-sky imagers pointed to the zenith to make observations of the kilometre-and-greater scale-size depleted regions associated with irregualrities [e.g., *Mendillo and Baumgardner*, 1982; *Taylor et al.,* 1997; *Makela*, 2006; *Chapagain et al.,* 2011]. The advantage of imaging over other techniques of studying these irregularities (e.g., coherent radar observations and VHF scintillation measurements) is that imaging reveals the two-dimensional structure of these depleted regions rather than their properties along a single viewing direction.

In this study, we present the optical observations near magnetic equator from Christmas Island in the Central Pacific ocean to examine the signature of ionospheric plasma bubbles observed by optical observations. We also estimate the zonal velocity of the plasma bubbles to probe the distance travelled by the bubble as it is developed at a place.

2. Methodology

As the airglow is faint, we cannot see it readily because the strongest airglow emission lies outside the range of the human eye's sensitivity, in the near infrared region [e.g., *Wayne,* 1991]. However, we can use sensitive optical equipment, such as photometers and CCD cameras, to observe airglow emissions during the nighttime period. As atmospheric disturbances, such as internal gravity waves, pass through the airglow layers, they cause perturbations in the temperature and density of the relevant constituents, which in turn, produce intensity fluctuations of the airglow. These intensity variations are used to study the disturbances in the upper atmosphere, including the ionospheric plasma irregularities.

The ionospheric plasma depletion is measured by observing the OI (630.0 nm) airglow intensity depletion. However, the volume emission rate of 630.0 nm $O(^1D)$ decreases at higher altitudes as molecular oxygen density exponentially decays with height. As a result, the higher minimum F-layer height required for plume formation leads to low airglow intensities. Thus, it is unlikely that the development of plumes after sunset will be observed through 630.0 nm airglow photometry near the magnetic equator. When the post-sunset

ionosphere decreased in virtual height to less than ~275 km, airglow intensities increased and fully developed depletions became visible as dark bands in the ambient airglow. On the other hand, when the virtual height at the magnetic equator is above ~275 km for the entire night, the airglow depletion will not be visible, even though plumes and scintillations will have occurred [*Mendillo and Baumgardner,* 1982].

The development of highly sensitive CCD cameras has proven to be an ideal instrument for the imaging of nighttime airglow in the sky and the study the upper atmospheric phenomenon. The imaging system consists of an all-sky or fish-eye (180°FOV) lens system, a computer-controlled filter wheel, and a CCD camera head fitted with a 1024×1024 pixel back-illuminated bare CCD (quantum efficiency ~80% at visible and 50% at NIR wavelengths). *Taylor and Hill* [1991] were able to obtain high-quality images of wave structure using a CCD camera. These cameras were first used for narrow field of view

(FOV) measurements. They further developed a fish-eye (180° FOV) lens to image airglow emissions. *Taylor and Garcia* [1995] published the first results using this method for the airglow measurements. Since then, numerous studies have been carried out using this technique [e.g., *Taylor et al.,* 1997; *Santana et al.,* 2001; *Makela and Kelley,* 2003; *Mukherjee,* 2003; *Martinis et al.,* 2003; *Pautet et al.,* 2009; *Chapagain et al.,* 2011; *Chapagain et al.,* 2013].

3.   Observations and Data Analysis

The Utah State University (USU) CCD airglow imager was set up and operated at Christmas Island, Republic of Kiritimati (2.1°N, 157.4°W, dip latitude 2.8°N) for exploratory optical measurements of plasma bubbles in the central Pacific sector. The measurements were made during 18 nights in September 14–October 2, 1995. But this data were not analysed in detail. The main purpose of this campaign was to study the occurrence,
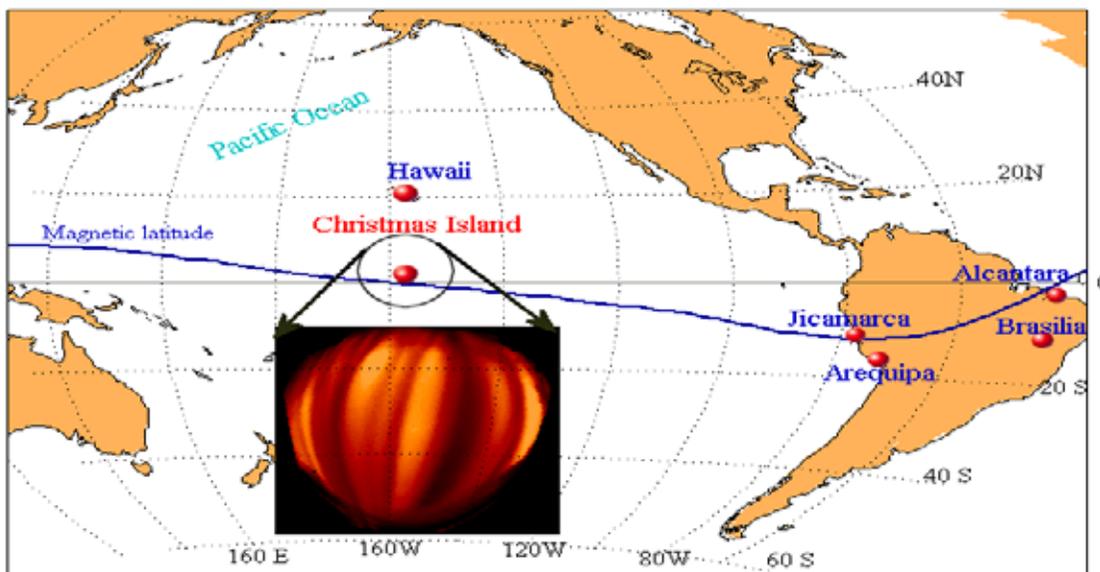
Figure 2: Map showing the central Pacific location of Christmas Island, the field of view covered by the all-sky imager (circle), and an example of OI (630.0 nm) airglow image. The solid line represents the magnetic equator.
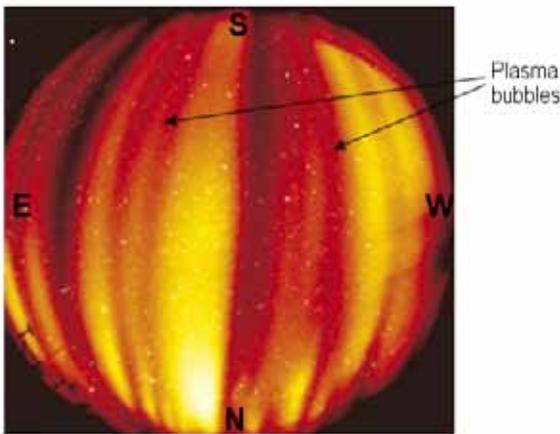
Figure 3: Example of processed image recorded by the USU optical imager over Christmas Island. The dark bands are the plasma bubbles.

spatial characteristics, and dynamics of the ionospheric plasma bubbles at equatorial latitudes. However, we recently carried out the detail analysis of the data. The images were recorded on time intervals of approximately 5 and 11 minutes of sequence of observations.

Figure 2 is a map of the Pacific region showing the central location of Christmas Island, about 2000 km due south of Hawaii. The open circle centered on Christmas Island represents the geographic field of view (FOV) of the all-sky imager (~1500 km diameter) for F-region measurements assuming a reference altitude of airglow emissions at 280 km. The enlarged airglow image below illustrates the orientation and typical structure of plasma bubble recorded during this campaign. The solid curve line show the magnetic equator.

4. Results
4.1. Equatorial Plasma Bubbles (EPBs)

The occurrence of the night-time plasma irregularities in the equatorial F-region ionosphere is commonly referred to as plasma depletion or equatorial plasma bubbles (EPBs). The wide spectral distribution of plasma bubble irregularities are known to cause interference with satellite-to-ground-based telecommunication channels, and the degradation of navigation and Global Position systems (GPS) due to the random fluctuations of the amplitude and phase of the radio waves as they pass thorough these irregularity regions [*Basu et al.,* 1999].

The ionospheric irregularities have broad range scale sizes over several orders of magnitude from tens of centimetres to hundreds of kilometres. They extend from the F-region up to ~2000 km altitudes within the dip latitudes of about ±20° and are driven by a number of wave generation processes [*Chapagain et al.,* 2011]. Due to the high parallel conductivity and mobility in the ionosphere, the signature of irregularities can be observed in all latitudes between in mid-latitude regions. The spread *F* occurrences in the equatorial F-region can be particularly severe, although they can appear at all latitudes. However, their occurrences depend on the season, solar cycle, latitude, and longitude.

Figure 3 shows an example of an OI (630.0 nm) airglow image measured by the USU all-sky CCD camera on September 28, 1995 from Christmas Island obtained from processing the raw image taken by CCD camera. For the image processing, we use the software developed by the Centre for Atmosphere and Space Sciences (CASS), from Utah State University. At night, a fully developed irregularity is characterized by plasma bubbles that are the region of the deep plasma depletion as shown by the dark bands on the image. The plasma density inside the bubbles can be up to three orders of magnitude lower than that of its surroundings. During the development phase of the plasma bubbles, they are known to drift upward and eastward. When the irregularities onset ends, generally during the post-midnight period, the upward drifts ceases and the bubble becomes a fossilized one.
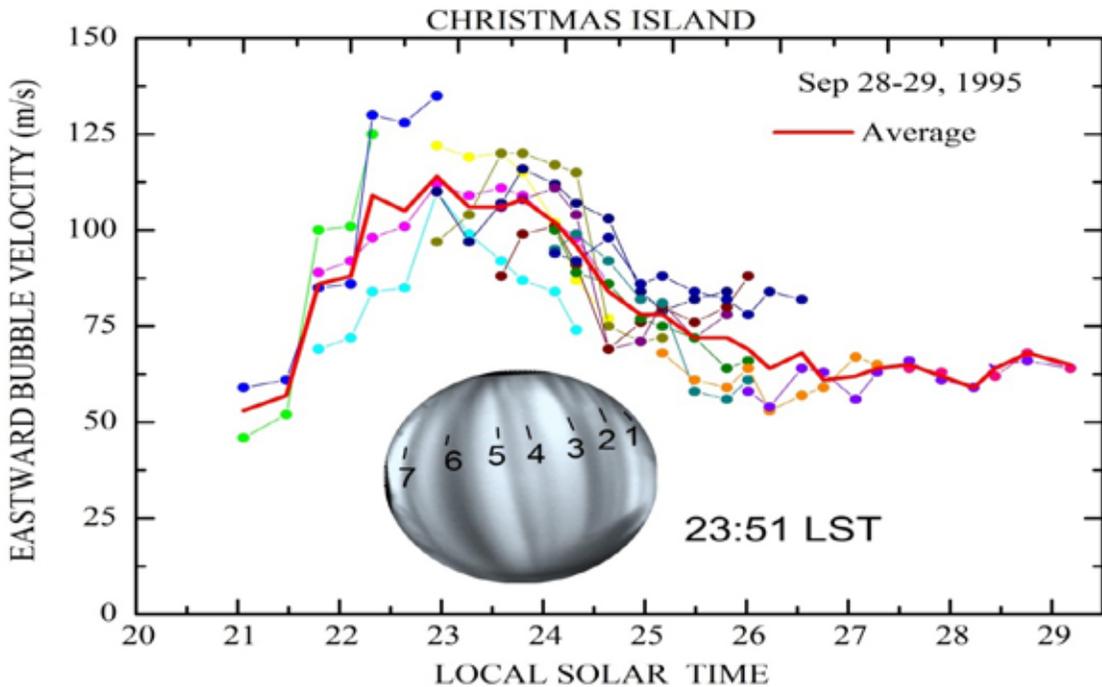
Figure 4: EPBs drift velocities for several consecutive bubbles during the night of September 28-29. Examples of bubble numbers (1, 2, 3, 4, 5…. etc.) are also shown in the OI image at 23:51 LST. The bold line represents the averaged velocity of all bubbles.

The fossil bubbles then drift eastward with the ambient plasma, while the bubbles at higher-latitudes generally tend to lag behind.

4.2. EPB Zonal Velocity

The zonal velocities of the individual plasma bubble as a function of local solar time (LST) were measured on 18 near-consecutive nights. First we processed the raw images using the software developed by USU and these images were used to determine an average drift velocity for each depletion structure. To calculate the bubble velocity, the displacement of an individual structure was measured from two consecutive images. The speeds were then estimated by dividing the average distance between the structures by the corresponding time interval. The drift velocities were usually calculated from bubbles as they moved through the zenith sky. However, these data were often supplemented by measurements of bubbles closer to the edges of the camera's FOV and were adjusted to the same LST.

Figure 4 plots the derived zonal velocity of several consecutive EPBs as a function of local solar time for the night of September 28-29. The OI image at 23:51 LST shows example of bubble structures (numbered 1-7), but several other bubbles were also measured during the night to determine the EPB motion. The drift velocity of each bubble overlaps very well. The average velocity indicated by the bold line peaked at ~115 m/s around 23:00 LST and then decreases over the next ~2 hours down to ~60 m/s, and thereafter remained approximately constant until at dawn ~04:45 LST.
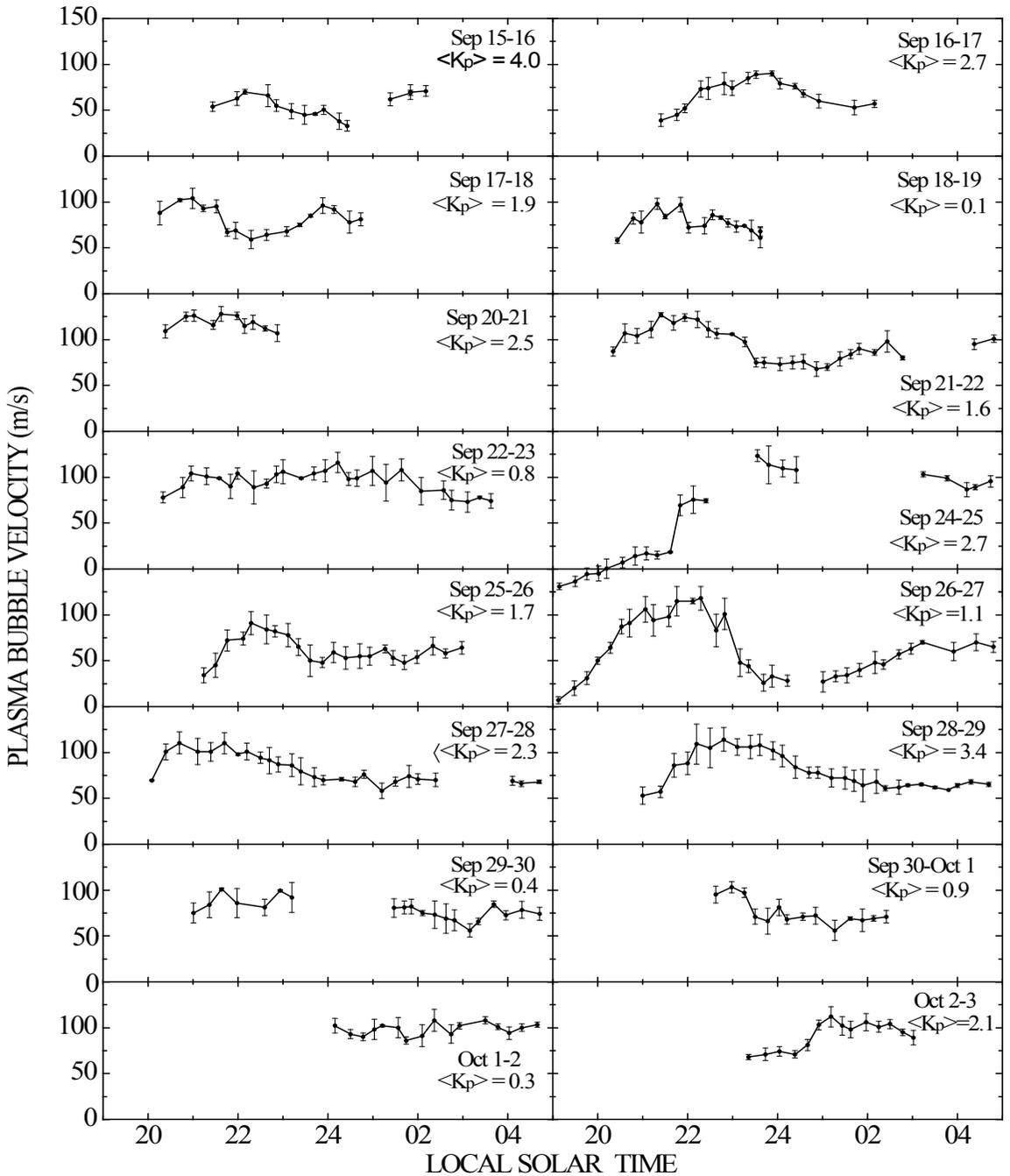
Figure 5: The average EPBs velocities calculated from two successive images for time binned at ~16 minutes during 16 nights, assuming a reference altitude of airglow emissions at 280 km. K_p index represents average geomagnetic activity during nine-hour period.

Using the above procedure, Figure 5 shows the average EPB zonal velocities as a function of LST for 16 nights during the campaign. Due to limitations in the camera operation caused by moonlight, the measurements were restricted to evening time during the first part of the campaign and the post-midnight during the latter part on the campaign. However, it is clear from this figure that good measurements were obtained during most of the campaign period. The gaps in the drift velocity data on September 15-16, 18-19, 20-21 and 24-25 were due to clouds, while on September 21-22, 29-30 and September 30-October 1, they were caused by strong fading of the bubbles. The vertical bars on each plot represent one standard deviation in the measurement uncertainty at that time.

To examine the influence of the magnetic activity on zonal drift velocity during the campaign, we checked the average values of three hourly geomagnetic indexes <Kp> over a nine-hour period (13:30-22:30 LST) and are given in each plot. We classify the observation days in such a way that the days are geomagnetically quiet if the average values of K_p index is less than 3, otherwise, the days are geomagnetically disturbed. In this calculation, the interval includes six hours prior to local sunset during which EPB onset may be influenced by geomagnetic storms. However, the geomagnetic activity was quiet with minor activity (< 3) except September 15 and 28 when $<K_p>$ was slightly larger than 3 and no significant difference in EPB activity was evident. This result was to be expected as geomagnetic storms during solar minimum condition, are known not to significantly affect zonal drift velocities; however, the storms prior to sunset may still inhibit the onset of ESF [*Fejer et al.,* 2005].

Figure 5 reveals a significant night-to-night variability in the derived EPB drift velocities. On several nights, they generally increase in early evening hours, peaking around 22:00-23:00 LST (velocities >100 m/s). The velocities then decrease to a minimum around local solar midnight and then increase slightly in magnitude in the early morning hours. On the other hand, some nights (e.g., September 22-23) exhibit very little change in the magnitude of the velocity, which remains relatively high throughout the night. Figure 5 also shows low eastward velocity of ~7 m/s, and westward motion of ~20 m/s in the early evening hours on September 26-27, and September 24-25, respectively.

5. Discussion

The occurrence and severity of irregularity event depends on the condition of the local equatorial ionosphere, as well as that of the plasma in electrical contact with it (namely, the off-equatorial E-region) through coupling within the appropriate magnetic flux tube. Convective plumes of turbulent plasma that develop during strong ESF events rising to higher altitudes can degrade communications system and can last for several hours as the plumes (bubbles) drift as fossilized bubbles with the background plasma. Consequently, further study of development and propagation of the plasma bubbles during the night-time period has become very important for space weather prediction. Additionally, the knowledge of space and time variations of the ionospheric zonal and vertical drifts in the equatorial region is of fundamental importance to the understanding of the low-latitude ionospheric climatology [*Fejer et al.,* 1991]. The study of these drifts also helps us to better understand the local mechanisms of coupling processes of the ionosphere-thermosphere (I-T) system under magnetically quiet conditions, as well as

global mechanisms of the equatorial ionosphere coupling with magnetosphere, interplanetary medium and high-latitude I-T system under magnetic storm conditions. Therefore, the studies of several ionospheric parameters including the onset heights and times of the irregularities and plumes with solar activities are significant for the characterizations of ionospferic irregularities.

The depletions observed from Christmas Island are clearly similar to OI (630.0 nm) thermospheric observations from other sites at equatorial and low latitudes. Their magnetic meridian alignment, sharp east-west gradients in the airglow structure and spacing of the dark bands strongly suggest that they are the airglow signature of the medium scale field-aligned plasma bubbles generated by the Rayleigh-Taylor (RT) instability. Studies of equatorial ionospheric irregularities using Atmospheric Explorer E (AE-E) plasma density measurements reported that the irregularities have the form of sharp quasiperiodic depletions [e.g., *Tsunoda et al.,* 1982; *Hysell and Kelley,* 1997]. *Abalde et al.* [2001] presented the fine structure of the quasi field-aligned ionospheric plasma bubbles using the OI777.4 nm emission image measurements. Since the Christmas Island observations were from close to the dip equator, the results only show the airglow structure of the bottomside F region modulations in the plasma depletions. Therefore, these data cannot demonstrate that these F region plasma bubble structures penetrated to the topside ionosphere, though they likely did. Particularly in the early evening, some structures may only have been bottomside modulations, yet to grow into topside bubbles. Most of the nights, the depletions developed in the FOV of the camera during early evening and then drifted eastward. They are seen close to 1930 LST (1 h after ground level local sunset) to 0400 LST (0930

h after local sunset). Thus, these early evening plasma depletions and possible plasma bubbles have their initial development near Christmas Island longitude. Later in the evening airglow signatures of depletions forming at other longitudes drifted into the FOV as fossil depletions just as observed by *Makela et al.* [2004]. The airglow signatures of the fossil structures sometimes will remain until local sunrise when the sun re-ionizes the ionosphere.

6. Conclusions

In this study, night-time airglow depletions observations from Christmas Island using all-sky images of the thermospheric OI (630.0 nm) airglow emissions have been reported. The large scales equatorial plasma bubbles (EPBs) aligned along the Earth's magnetic field are observed on every night of the campaign. The EPBs mostly developed during 19:30–20:00 LST and their active growth region was close to the west edge of camera's field of view suggesting that they were seeded to the west of Christmas Island.

The EPBs developed in the early evening hour propagate eastward as fossilized structures that persisted till the dawn during the most of the night of the observations. Measurements of plasma bubbles drift velocities exhibited significantly day-to-day variations in their magnitudes. The average drift velocity of the EPBs increased as night progress and becomes peaked around 90–100 m/s at ~23:00 LST at approximately 2 hours after local sunset. The drift velocities remains at a nearly constant at a value of ~80 m/s during the post-midnight period until dawn. The further study of such EPBs from different latitude and longitude sectors will be significant to investigate the initiation and growth of EPBs. Moreover, we are also planning to investigate the ionospheric conditions over Nepal by using the satellite observations.

Acknowledgments

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Estimation of Daily Total Solar Radiation Using RadEst 3.00 Program at lowland Simara, Nepal

*Manoj Gurung, **Khem N. Poudyal, ***Shekhar Gurung, PhD
*Lecturer, NASA International College, Kathmandu, Nepal
**Associate Professor, IOE, Pulchowk Campus, Tribhuvan University, Kathmandu, Nepal
***Professor, Central Department of Physics, Tribhuvan University, Kathmandu, Nepal
Email: grgmanoj100@gmail.com and khempoudyal@hotmail.com

Abstract

The daily total solar radiation of Simara Airport, Bara (Lat: $27^0 9'33''N$, Long: $84^0 58'48''E$, Alt: 137m above the sea level) has been estimated by using RadEst 3.00 program in 2008 and 2009. RadEst 3.00 have four models (Bristow-Campbell, Campbell-Donatelli, Donatelli-Bellocchi and modular DCBB), which estimates the daily total or global solar radiation (GSR) from maximum and minimum air temperatures and precipitation data. All models estimate atmospheric transmissivity of total solar radiation based on the difference between maximum and minimum air temperature. The estimated value of radiation is calculated as the product of estimated atmospheric transmissivity times the value of potential radiation outside the earth atmosphere. In comparison with all the four models, the Modular DCBB gives the best result and the values of Root Mean Square Error (RMSE), Coefficient of Residual Mass (CRM), Correlation Coefficient (r) and Mean Bias Error (MBE) 4.06,0.00,0.64, 0.03 and 4.98,-0.09, 0.59,1.42 are found in 2008 and 2009, respectively. The overall performance of Modular DCBB is the best fit by the statistical analysis.

Keywords: models, solar radiation, temperature, precipitation, transmissivity, statistical parameters.

1. Introduction

Solar radiation is a primary factor in many applications, such as solar energy systems, architecture, agriculture, hydrology, food industry and irrigation [Assi and Jama, 2010]. Despite the significance of solar radiation, they are not easily available for many developing countries due to cost and maintenance and measurement equipment. Therefore it is rather important to elaborate methods to estimate the solar radiation on the basis of more readily meteorological data [Chegaar et al., 1998].

Nepal is located in favorable latitude, receives ample solar radiation throughout the country. The average total or global solar radiation GSR) varies from 3.6 – 6.2 KWh/ m²/day. The national average solar energy is 4.7 KWh/m²/day [Shrestha and Chalise, 1978, SWERA, 2006; Poudyal et al., 2012]. The

weather is most favorable for the utilization of solar energy, but the distribution of the solar radiation is not well known.

Energy from the sun uses as inexpensive source of power. The non-renewable sources of energy like coal, crude oil, natural gas and uranium are being used extensively and so, the sources would be depleted to the point where it would be economically unviable to continue exploration [Augustine and Nnabuchi, 2009]. Scientists are worried that with this speed, so they are trying to harness the Sun to use its energy for solar heating system and in sizing photovoltaic (PV) power.

A number of techniques are available for estimating solar radiation. The global solar radiation determines the energy state of the active surface and the lower atmospheric layers. The values of global solar radiation

determined in the first place by the Sun height and by the cloudiness. With the increase of the atmospheric haze the global solar radiation decreases especially for large sun heights. So, the annual amounts of global solar radiation are varying in larger limits [Liou, 1980]. This work will help the energy strategist planners to utilize the solar energy potential to solve the energy crisis of the Trans Himalayan region.

2. Materials and Methods

The total solar radiation (Hg) and sunshine hours were collected from the Simara Airport (Lat. 27⁰9'33"N, Long. 84⁰58'48"E and Alt. 137m above mean sea level) Department of Hydrology and Meteorology (DHM) Government of Nepal. The data were measured by using Environdata EASIDATA Mark 4. It is a modular weather station that supports any combination of up to 16 digital plug-in sensors. Its multiple-memory system ensures efficient use of memory and typically provides daily summaries, hourly and 10 minute data for periods of 1 - 3 months. It can store up to 216 data types, including real time calculations on sensor inputs. The operating temperature range from -20^0C to $+50.0$°C and the resolution is 0.1°C.This instrument is compact, robust, automatic weather station. Similarly, all the measuring data are recorded by data stored into 4 independent memory areas. 64 K battery backed RAM -stores 20,000 values, likewise the optional memory 256 K can be used for 80,000 values. It collects the data at real time for the needs of meteorology and slow signal analysis. The solar radiation sensor's cosine correction is achieved by shaping a teflon diffuser and accurately housing this inside an opaque cylinder. The accuracy of solar radiation of the device is about +/- 5% [Manual, 1982].

2.1. Models

In the present work, the RadEst 3.00 software [http://www.isci.it/tools, and http://www.sipeaa.it/tools] is used to estimate total Solar Radiation from the different models. The RadEst 3.00 consists of four models Bristow-Campbell (BC) model, Campbell-Donatelli (CD) model, Donatelli-Bellocchi (DB) model and modular DCBB model.

The four models calculate daily solar radiation at earth surface as the product of potential radiation and transmissivity coefficient. Potential radiation is the extraterrestrial radiation, which is above the earth atmosphere. It is calculated by the following relation:

$$PotRad_{day} = 117.5 \times d \ 2 \times \{ h \times \sin(lat) \times \sin(dec) + \cos(lat) \times \cos(dec) \times \sin(h) \} / \pi \quad (1)$$

The model Bristow-Campbell (BC) [Bristow and Campbell 1984] is given by

$$EstRad_i = t_i \times PotRad_i \quad (2)$$

$$t_i = \tau \left[1 - \exp \left(\frac{-b\,\Delta T_i^c}{month\,\Delta T} \right) \right] \quad (3)$$

The model Campbell and Donatelli (CD) [Campbell and Donatelli, 1998] is given by

$$EstRad_i = t_i \times PotRad_i$$

$$t_i = \tau \left[1 - \exp\{ -b \times f(Tavg) \times \Delta T_i^2 \times f(T\min) \} \right]$$

The model Donatelli and Bellocchi (DC) [Donatelli and Bellocchi, 2001] is given by

$$EstRad_i = t_i \times PotRad_i$$

$$t_i = \tau [1 + f(i)] \left[1 - \exp \left\{ \frac{-b\,\Delta T_i^c}{month\,\Delta T} \right\} \right] \quad (4)$$

The model Modular Dolnatelli Campbell Bristow Bellocchi (DCBB) [Modular DCBB, 2003]

$$EstRad_i = t_i \times PotRad_i$$

$$t_i = \tau \left[1+f(i)\right]\left[1-\exp\left\{\frac{-b\,\Delta T^2\,f(T\min)}{\Delta Tavg}\right\}\right] \quad (5)$$

Where, $EstEad_i$ = estimation radiation (MJ/m²day⁻¹), $PotRad_i$ = potential radiation (MJ/m²day⁻¹), i = day of the year, tt_i = transmissivity, τ = clear sky transmissivity, $\Delta T = Tmax_i - (Tmin_i + Tmin_{i+1})/2$, $Tmax_i$ = daily air maximum temperature °C, $Tmin_i$ = daily air minimum temperature °C, monthΔT = average monthly ΔT, b = empirical parameter, c = empirical parameter, $f(Tavg)$ = 0.017×exp{(-0.053×Tavg)}, $Tavg = (Tmax_i + Tmin_i)/2$; $f(Tmin) = \exp(Tmin_i/Tnc)$, f (i) = c1 {sin(i×$c_2$×π/180) + cos(i×F($c_2$)× π/180)}, F ($c_2$) = 1 – 1.90 c_3 + 3.83 c_3^2, $c_3 = c_2$ - integer (c_2); b = empirical parameter, c_1 = parameters for seasonal variation magnitude, c_2 = parameters for seasonal variation profile.

The accuracy of the different models was tested by calculating four widely used statistics Root Mean Square Error (RMSE), Coefficient of Residual Mass (CRM), Correlation Coefficient (r) and Mean Bias Error (MBE) [Murray and Larry, 2004].

$$RMSE = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(X_i - Y_i)} \quad (6)$$

$$CRM = \frac{M - E}{M} \quad (7)$$

$$r = \frac{\sum (X_i - \overline{X})(Y_i - \overline{Y})}{\sqrt{\sum(X_i - \overline{X})^2 (Y_i - \overline{Y})^2}} \quad (8)$$

$$MBE = \frac{\sum_{i=1}^{N}(X_i - Y_i)}{N} \quad (9)$$

Where, X_i = estimation radiation of the ith day, Y_i = measured radiation of the ith day, $\overline{X}$ = yearly average value of the measured radiation; $\overline{Y}$ = yearly average value of the estimated radiation; M = yearly average value of Measured Radiation; E = yearly average value of Estimated Radiation.

3. Result and Discussion

The values of daily solar radiation throughout the year have been estimated at Simara Airport (27⁰9'33"N, 84⁰58'48"E, and 137m above mean sea level) by using RadEst software. The radiation values have been evaluated for two years by using the air temperature and radiation data as the input data for the year namely 2008 and 2009. The air temperature data includes precipitation, maximum temperature and minimum temperature. The radiation is measured in the unit of MJm⁻²day⁻¹. It has been found that on the clear day the maximum radiation is measured and on the days of precipitation the amount of solar radiation has decreased sharply in comparison of sunny days.

The values of estimated radiation obtained from the Auto Optimization method were found deviating remarkably from the measured values of the radiation. So the second method parameter fitting was chosen to estimate the daily global solar radiation. The parameters of each model have been fitted with respect to the data of the year 2008. The estimated value of the radiation obtained from the parameter fitting method is found to be closer to the measured values of the radiation. The yearly average value, maximum value and yearly total value of the estimated and measured radiation by parameter fitting and Auto Optimization method has been tabulated below:

The table 1 shows the average value, maximum value and yearly total of the measured and estimated global solar radiation of the year 2008 evaluated by different models through both Auto Optimization and parameter

Table: 1 Average value, maximum value and yearly total of GSR of Simara 2008.

Models	Average	value	(MJ/m²)	Maximum	value	(MJ/m2)	Yearly	total	(MJ/m²)
	MEA	EST		MEA	EST		MEA	EST	
		PF	AO		PF	AO		PF	AO
BC	15.3	15.3	15.6	25.5	26.4	26.5	5568	5587	5695
CD	15.3	15.3	18.1	25.5	27.0	27.8	5568	5567	6608
DB	15.3	15.3	15.6	25.5	25.6	26.3	5568	5573	5689
DCBB	15.3	15.3	15.9	25.5	25.7	27.6	5568	5569	5787

fitting method. The yearly average value of the measured radiation is 15.3 MJ/m². The estimated radiation obtained through parameter fitting by the models BC, CD, DB and DCBB are same which are due to the fact that the parameters of each model have been fitted with respect to the data of simara 2008 by minimizing Coefficient of Residual Mass (CRM). By making CRM as small as possible or zero by choosing suitable values of parameters and same values of the parameters has been used to estimate the radiation of other years.

The table 2 shows the average value, maximum value and yearly total of the measured and estimated global solar radiation of the year 2009 evaluated by different models through both Auto Optimization and parameter fitting method. The yearly average value of the measured radiation is 14.6 MJ/m². The estimated radiation obtained through parameter fitting by the models BC, CD, DB and DCBB are 15.9 MJ/m², 16.4 MJ/m², 15.9 MJ/m² and 16.0 MJ/m² respectively. Again, the estimated radiation obtained through Auto Optimization

by the models BC, CD, DB and DCBB are 16.2 MJ/m², 19 MJ/m², 16.2 MJ/m² and 16.6 MJ/m² respectively. Similarly, the maximum value and yearly total value of the measured and estimated radiation evaluated by all four models through both procedures has also been shown in the table 2.

Table 3: Comparisons between statistical parameters

Year	models	RMSE	CRM	R^2	MBE
2008	BC	4.59	0.00	0.55	0.05
	CD	5.42	0.00	0.42	-0.003
	DB	4.34	0.00	0.58	0.015
	Modular DCBB	4.06	0.00	0.64	0.003
2009	BC	5.62	-0.09	0.49	1.4
	CD	6.71	-0.12	0.34	1.92
	DB	5.38	-0.09	0.52	1.39
	Modular DCBB	4.98	-0.09	0.59	1.42

Table: 2 Average value, maximum value and yearly total of GSR of Simara 2009.

Models	Average	value	(MJ/m²)	Maximum	value	(MJ/m2)	Yearly	total	(MJ/m²)
	MEA	EST		MEA	EST		MEA	EST	
		PF	AO		PF	AO		PF	AO
BC	14.6	15.9	16.2	26.9	28.3	28.5	5309	5784	5886
CD	14.6	16.4	19.0	26.9	28.2	29.3	5309	5970	6905
DB	14.6	15.9	16.2	26.9	28.3	28.7	5309	5780	5890
DCBB	14.6	16.0	16.6	26.9	27.7	28.9	5309	5796	6016
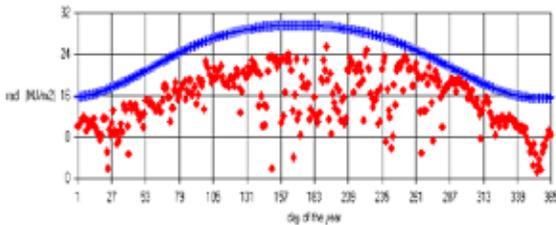
Figure 1: Global Solar Radiation: 2008.
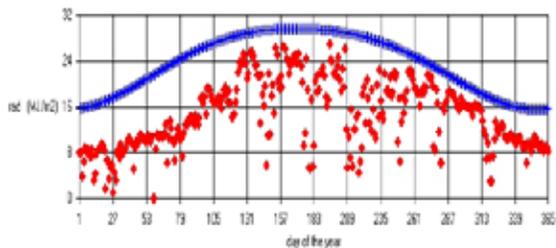
Figure 2: Global Solar Radiation: 2009.
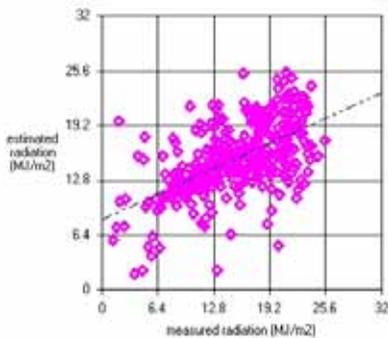
Figure 3: MEA. Vs EST (BC): 2008.
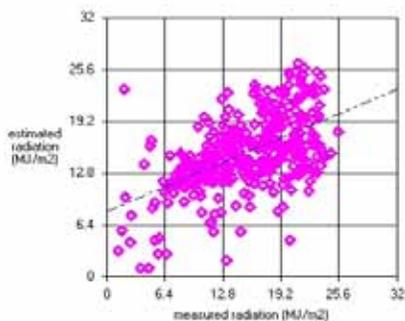
Figure 4: MEA Vs EST (CD): 2008.
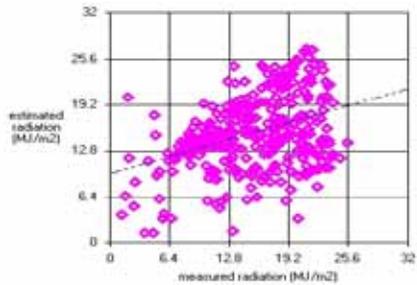
Figure 5: MEA Vs EST (DB): 20 08
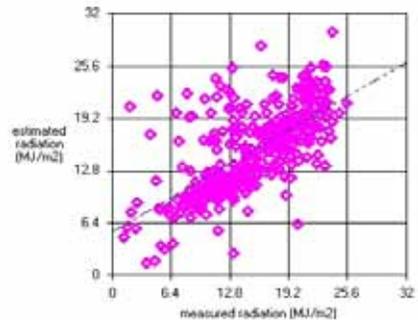
Figure 6: MEA Vs EST (DCBB): 2008
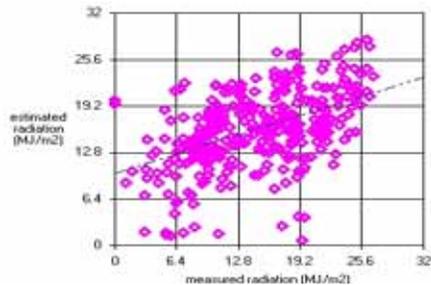
Figure 7: MEA Vs EST (BC): 2009.
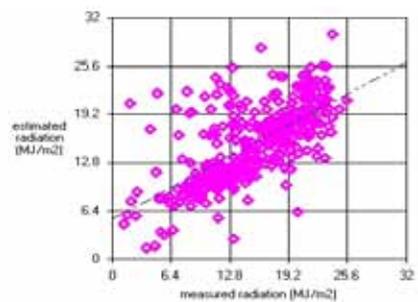
Figure 8: MEA Vs EST   (CD): 2009.
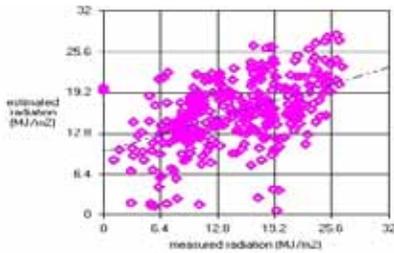
Figure 9: MEA Vs EST (CD): 2009.
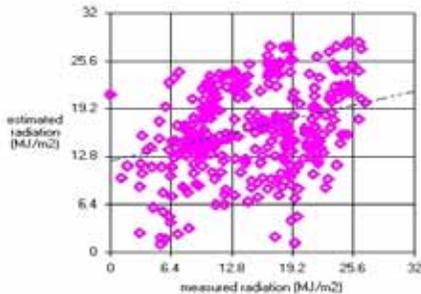
Figure 10: MEA Vs EST (DCBB): 2009.

From the table: 3 the model Modular DCBB has produced the least RMSE 4.06 and, 4.98 in 2008 and 2009 as compared with other models. Thus, the modular DCBB can be taken to be the best in terms of producing less RMSE. The models BC, CD, DB and DCBB have 0.00, 0.00, 0.00, 0.00 and -0.09, -0.12, -0.09, -0.09 of CRM is found in 2008 and 2009 respectively. Among the four models, the CD can be taken to be the best in terms of producing less CRM.

The model Modular DCBB has shown the highest degree of correlation with measured values of radiation namely 0.64 and 0.59 in 2008 and 2009 in comparison with other BC, CD and DB models hence the model Modular DCBB can be taken to be the best fit in terms of correlation coefficient in between estimated and measured values of the radiation. The model modular DCBB has produced the least MBE of 0.003 and 1.42 in 2008, 2009 incomparision with other three models thus, the modular DCBB can be taken to be the best in terms of producing least MBE.

The Figure 1 and Figure 2 show the Global Solar Radiation Vs Day of the year for 2008 and year 2009. In these two figures, there is uniform distribution of global solar radiation however there is comparatively less amount of GSR is found in 2009 than 2008. Similarly the figures 3 to 10 show the measured (MEA) Vs estimated (EST) radiation in four different models. The model modular DCBB seems to be more reliable among these four models.

4. Conclusions

The global solar radiation is evaluated by the four models with the help of air temperature data and precipitation. Statistical analysis in between the observed and estimated data of minimum and maximum air temperature shows that the measured and modeled data are in good agreement. However, it has been found that most of the models have slightly overestimated values. This overestimation might be due to missing the measured data of global solar radiation. As there is no seasonal pattern of the overestimation and underestimation of the radiation throughout the year, consideration should be given to the overall performance of the models.

The average Global Solar Radiation of Simara 15.3 MJ/m^2 /day and 14.6 MJ/m^2 /day are found in 2008 and 2009 respectively. These values are sufficient to promote the solar energy technology at the similar geographysical location of Nepal. In addition that this work will help the energy strategist planners to utilize the solar energy potential to solve the energy crisis and energy harvesting at the Trans Himalaya region. The RMSE, CRM, MBE and correlation coefficient values of Modular DCBB model are the most significant in comparison with other three models. Hence, the results of this research clearly indicate that the Modular DCBB model is the best fit for the estimation of global solar radiation using meteorological parameters. It is confirmed that this result is similar to the result reported by Poudyal et al. [2013].

Acknowledgment

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Web link: http://www.isci.it/tools

http://www.sipeaa.it/tools

Tax Induced Inclination Towards Sources of Funds: Opinions of Nepalese Corporate Officials

[*]Gopi Nath Regmi, PhD
Associate Professor, Central Department of Management, Tribuvan University, Kathmandu, Nepal
kausivbd@gmail.com

Abstract

With the aim at assessing tax induced inclination towards sources of funds the opinions of Nepalese corporate officials have been analyzed in this paper. The responses of selected officials from profit-making and loss-making companies have been analyzed by utilizing simple statistical tools. The opinions based observations revealed that corporate income tax related factor is one of the important factors shaping a unique inclination towards the sources of funds. Depending upon the results of analysis it can be concluded that tax factors have influence on the preference of suitable source of funds in Nepalese Manufacturing Companies. However, the profitability status of the companies determines the extent of preference on tax-favored source of the funds to the companies.

Keywords: income tax, manufacturing companies, source of funds, tax-favored source.

1. Introduction

The sources of funds are the financial instruments or means by which a firm can accumulate required capital for financing its long-term and short-term investments. The major sources of funds to a firm are retained earnings, issue of new share, and debt (King, 1995). In this regard, tax induced financing hierarchy suggests that debt and retained earnings are preferable over new share issue. For many tax systems, debt finance is preferable to retained earnings as well. Thus, debt, retained earnings, preference share, and new equity share is the order of preference of financing sources basedon tax induced financing hierarchy (Lyon, 1995).

One of the advantages of debt is that the interest payments are deductible for income tax purpose (Van Horne, 2000). Likewise, personal taxation rate of interest is less than the rate of corporate income taxation (Lyon, 1995). Consequently, the corporate income tax system

motivates the firm to issue debt, since the firm can shield a part of its operating profits from taxation (Shevlin, 1999). Moreover, in most of the countries, the tax laws give a definite cost advantage to debt financing over preferred stock and new equity issue because of tax-deductible interest (Martin, et al., 1991). However, the cash-flow ability of the company to service debt, determines the level of debt from the financial manager's point of view (Graham, et al., 1985).

Debt related securities are senior to which firm has to pay interest first. Common shares are residual securities to which firm has to pay dividend only after meeting all operational and financial charges when the firm is earning enough profit. This seniority and residual status of debt and equity may affect the firm's preference over the sources of funds (Smith, 1952). Besides, the existence of sound relationship between commercial banks and firms is likely to mitigate the information problem that arises when there is a need for the detection of credibility of firms. Banks serve as

corporate creditors, which gather information, and monitor firms that are demanding funds (Requejo, 1996). In addition, the desire to retain effective control of a company could lead management to adopt a higher level of debt than would otherwise be desirable in order to avoid issuing additional voting stock (Sarnat and Levy, 1986). Depending upon these theoretical assertions, it can be argued that various factors like: specific cost of capital (coupon rate of interest, expected dividend), effects of corporate income tax, lending procedure of commercial banks, desire of management to retain effective control, debt servicing ability of the firms, and seniority and residual status of the securities, may influence the firm's preference over the different sources of funds.

The financing theories assert that the type of assets owned by a firm affects its financing choice. So, structure of assets is another factor that should be taken into consideration while fixing the debt-equity mix of the firm. As a result, capital-intensive firm with securable fixed assets uses relatively more debt, whereas labor-intensive firm that has less securable fixed assets uses less debt and more equity (Titman and Wessels, 1988).

The tax incentive for a company to use debt depends on the company's ability to generate sufficient earnings from which interest payments can be deducted before determining the taxable income (DeAngelo and Masulis, 1980). It means the companies with high and stable earnings have more ability to take advantages of tax incentives (Graham, 1985). Further, the past profitability position of a firm and the amount of earnings that are retained in the business are other important determinants of its current debt level (Titman and Wessels, 1988). In this background, the expected risk associated with the debts of a manufacturing firm also affects its debt-equity mix (Flath and Knoeber, 1980).

Many authors have suggested that the big firms have higher level of debt in their financing mix as compared to small firms where they use lower level of debt and higher level of equity (Warner, 1977). Regarding the issue of equity securities, size may be related to the accessibility to capital markets and economies of scale (Marsh, 1982).

The tax deductibility of interest payments positively impacts future cash flows, resulting in a preference for debt financing over equity. Debt has tax benefits; there is a positive relationship between debt and market value of the firm (Modigliani and Miller, 1963). In other words, use of debt in financing mix does affect future cash flows, which in turn impact the firm's market value (Clark, 1993). However, the effective tax advantage available to the firms from using debt is less than the benefits of statutory income tax from using debt. Such advantages vary across the types of manufacturing firms (Cordes and Sheffrin, 1983). Besides effective tax and statutory tax advantages, other tax advantages are also available to a firm which include carry-forward of losses, allowability to write off specified capital expenditures, allowability of operating expenses, interest versus dividend allowability and depreciation deductions. Thus, these are the major tax factors which have the effect on financing choice of the manufacturing companies (Mittal, 1989).

Based on these theoretical assertions, a questionnaire form was devised and it was executed to collect the opinions of officials of Nepalese listed manufacturing companies. The collected opinions have been then used to analyze the opinions of Nepalese corporate officials on inclination towards the sources of funds.

2. Methodology

This study aims at analyzing opinions of the officials working in decision-making areas

of the manufacturing companies, which are enlisted in Nepal Security Exchange Limited. Thus, the officials holding the officer-level positions, in those companies, were supposed to be decision-making officials. Altogether eight companies were selected by considering reported profit and loss. The manufacturing companies which have reported operating loss in theyears immediately before the study year have been taken as loss-making companies. And obviously, those companies which have reported profit for atleast five years immediately before the study year have been taken as profit-making companies. The enlisted manufacturing companies like: Bottlers Nepal Limited, Unilever Nepal Limited, Nepal Lube Oil Limited, and Bottlers Nepal Terai Limitedwere taken as profit-making companies, and other companies like: Gorakhkali Rubber UdhyogLimited, Khadhya Udhyog Limited, Arun Vanaspati Udhyog Limited, and Nepal Bitumen and Barrel Udhyog Limited were taken as loss-making companies.

Altogether, 76 respondents were selected from sample companies for opinion survey. The sample respondents comprise 76 officials including at least one official from finance or accounting area and other were departmental heads, deputy departmental heads, senior officers, and officers possessing minimum educational qualification of bachelor degree. Further, out of selected 76 officials, 38 officials represent profit-making companies and equally 38 officials represent loss-making companies.

To analyze the responses under yes/no questions percentage was used. Similarly, to analyze ranking questions, the weighted value based on allotted scores was used. On the basis of priorities given to each factor, a weight of 1 to 6 points was fixed. Thereafter, the computed mean value was considered as the base for overall ranking of the factors. Spearman's rank correlation coefficient test

was applied to test the relationship between the ranks given by the respondents from profit-making and loss-making companies. Likewise, chi-square test was also used to test the difference in responses between the groups of respondents from profit-making and loss-making companies.

3. Analysis

An objective of opinion survey was to find out the preferred financing hierarchy of Nepalese manufacturing listed companies and to compare it with tax induced financing hierarchy. The financing hierarchy of a company depends upon the inclination of its officials towards different sources of funds. Tax induced financing hierarchy provides first priority to debt and second priority to retained earnings.

Inclination towards sources of funds

To observe the preferred financing hierarchy of the sample companies, different sources of funds like: internal resource, issue of equity, issue of preference share and trade dues were allowed for ranking to the respondents. All the 76 respondents have answered this question. The patterns of ranking have shown the slight difference of opinions between the respondents from profit-making and loss-making companies. The mean value and rank of the responses pertaining to the inclination towards sources of funds are presented in Table 1.

With respect to inclination to the sources of funds, Table:1 reveals that the respondents from profit-making companies have given first priority to issue of equity share, second to internal resources, third to institutional loan, fourth to issue of debenture, fifth to trade dues and creditors, and sixth to issue of preference shares. Likewise, the respondents from loss-making companies have given first priority to issue of equity share, second to institutional

Table 1. Inclination towards Sources of Funds:Mean value and Rank of Responses

Sources of Funds	Respondents from Profit-making Co.		Respondents from Loss-making Co.		Overall	
	Mean Value	Rank	Mean Value	Rank	Mean Value	Rank
a. Institutionalloans	4.026	3	4.447	2	4.237	2
b. Issue ofdebentures	2.737	4	3.158	4	2.947	4
c. Internal resources	4.501	2	3.526	3	4.013	3
d. Issue ofequity shares	4.842	1	4.474	1	4.658	1
e. Issue ofpreference shares	2.289	6	2.501	6	2.395	6
f. Trade dues and creditors	2.605	5	2.895	5	2.751	5

Source: Field survey, 2013

loan, third to internal resources, fourth to issue of debentures, fifth to trade dues and creditors, and sixth to issue of preference shares. In overall, equity, institutional loan, and internal resources are the preferred sources of funds to the manufacturing listed companies.

Both groups of respondent have given first priority to issue of equity share and last priority to issue of preference shares. Similarly, both groups of respondents have given fourth priority to issue of debenture and fifth priority to trade dues. Whatsoever, they have given different priorities to institutional loan and internal resources. The degree of relationship between responses of two groups is computed by employing Spearman rank correlation. In this regard, the observed rank correlation coefficient is 0.943 and the critical value for 6-paired observations is 0.823 at 0.05 significance level. The observed correlation coefficient, is thus, significant suggesting a positive relationship between the ranks assigned by respondents from two different groups. Further, to observe whether there is any difference in the preferences of the two different groups of respondents from profit-making and loss-making companies is significant or not, the

chi-square test is employed. The observed chi-square value is 8.629 and its critical value for 5 degree of freedom is 11.07 at 0.05 significance level. Thus, the observed chi-square value is insignificant, suggesting similarity in views of respondents from two different groups with respect to the inclination towards sources of funds.

In a nutshell, it can be pointed out that the officials of Nepalese listed manufacturing companies prefer tax induced financing hierarchy to a noticeable extent.

The inclination of corporate officials towards different sources of funds is affected by several factors. The financial and nonfinancial limitations experienced in corporate circumstances may cause to build up specific opinion over the sources of funds too. Thus, to observe major factors of inclination towards the sources of funds; all together six factors were allowed for ranking to the respondents. All the 76 respondents have replied this question, which showed the differences in the patterns of ranking between the respondents from profit-making and loss-making companies. The mean value and rank of the responses, pertaining to the factors of inclination towards sources of

Table 2: Factors Influencing Inclination towards Sources of Funds:Mean value and Rank of Responses

Factors Influencing Inclination	Respondents from Profit-making Co.		Respondents from Loss-making Co.		Overall	
	Mean Value	Rank	Mean Value	Rank	Mean Value	Rank
(a) Interest vs. expected dividend	2.395	6	2.316	6	2.355	5
(b)Corporate income tax effects	4.211	2	4.132	3	4.171	1
(c) Seniority and residual status	2.974	5	4.526	1	3.751	3
(d) Level of retained earnings	3.605	3	2.816	5	3.211	6
(e) Debt servicing capacity	4.632	1	2.974	4	3.803	2
(f) Ownership and control	3.184	4	4.237	2	3.711	4

Source: Field survey, 2013

funds, are presented in Table: 2.

Regarding the factors influencing the inclination, it is revealed from Table: 2 that the respondents from profit-making companies have given first priority to debt servicing capacity, second to corporate income tax effects, third to level of retained earnings, fourth to ownership and control, fifth to seniority and residual status, and sixth to interest vs. expected dividend. Likewise, the respondents from loss-making companies have given first priority to seniority and residual status, second to ownership and control, third to corporate income tax effects, fourth to debt servicing capacity, fifth to level of retained earnings, and sixth to interest vs. expected dividend. In totality, corporate income tax effects, debt servicing capacity, and seniority and residual status are the major factors influencing the inclination of corporate officials towards the sources of funds.

It is also observed in the Table: 2 that,both groups of respondent have given least priority to interest vs. expected dividend. Besides this,

they have given different priorities to other remaining factors. Respondents from profit-making companies have given second priority, but respondents from loss-making companies have given third priority to corporate income tax effects. Thus, the degree of relationship between responses of two groups has been computed by employing Spearman rank correlation analysis. The rank correlation coefficient is observed at 0.029 and the critical value for 6-paired observations is 0.823 at 0.05 significance level. The observed correlation coefficient is thus insignificant suggesting absence of relationship between the ranks assigned by two different responding groups. Further, to observe whether the difference in the views of the two different groups is significant or not, the chi-square test is employed. The observed chi- square value is 31.579 and its critical value for 5 degree of freedom is 15.086 at 0.01 significance level. The observed chi-square value is significant; suggesting the difference in opinions of respondents from different groups is significant with respect to

Table 3: Importance of Borrowing: Frequencies and Percentage

Responses	Respondents from				Overall	
	Profit-making Co.		Loss-making Co.			
	F	P	F	P	F	P
Yes	38	100	38	100	76	100
No	-	-	-	-	-	-
Total	38	100	38	100	76	100

Source: Field survey, 2013 (F = Frequency, P = Percent)

the factors of inclination towards sources of funds.

In conclusion, it can be stated that the major factors influencing inclination towards sources of funds are different over the profitability positions of the companies. In addition, effect of corporate income tax is an important factor influencing the inclination of corporate officials towards the sources of funds. However, debt servicing capacity and, seniority and residual status of the securities are also influential in shaping specific inclination towards different sources of funds.

Reasons behind Borrowing

Entertaining loans from banks including financial institutions is one of the popular components for financing fixed as well as operating expenditures. Loans are the interest-bearing debt to a company and are served regularly within the agreed terms and conditions. A proper serving of debt requires deriving sufficient earnings and making payments of interest on a regular basis. Improper utilization of debt in the business limits the firm's ability to serve debt through regular payment of interest. In that sense, a risk is always associated with the borrowing. In spite of this risk, debt stands at the top of tax-induced financing hierarchy, because of its tax advantage. Therefore debts are preferable over other sources of funds. Recognizing this fact, firms usually include

debt in their financing mix. However, in practice, borrowing may not be materialized always because of its tax advantage. Besides the tax advantage, there may be other advantages behind the borrowing of funds. It is therefore, an attempt has been made to explore reasons of borrowing funds in manufacturing companies. For this purpose three questions, were devised: one dichotomous and other two factors ranking, and included in the questionnaire distributed to the respondents. All the 76 respondents replied for two questions only. The respondents from profit-making companies however responded the dichotomous question in similar pattern with that of respondents from loss-making companies. The frequencies of their responses followed by percentage are presented in Table:3

With respect to importance of borrowing, Table: 3 shows that the responses of the question are affirmative. It means all respondents from profit-making and loss-making companies have recognized the importance of borrowing. This 100 percent affirmative response has indicated that debt component occupies its prominent place in the financing mix irrespective of the profitability status of the company.

Based on the opinions of respondent it can undoubtly be confirmed that borrowing is an important and popular source of funds to the companies. Despite, there may be different reasons of borrowing to the companies. Thus, a reasons seeking question, with respect to

Table4: Reasons behind Borrowing:Mean value and Rank of Responses

Reasons	Respondents from Profit-making Co.		Respondents from Loss-making Co.		Overall	
	Mean Value	Rank	Mean Value	Rank	Mean Value	Rank
(a) Positive attitude of managers on debtcapital	3.079	5	2.816	6	2.947	6
(b) Advantage of interest tax shield	4.289	1	4.026	2	4.158	1
(c) Adequate earning to serve debt	3.158	4	3.132	5	3.145	4
(d) Lower rate of interest	2.974	6	3.158	4	3.066	5
(e) Inadequate internal funds	3.474	3	4.036	1	3.751	3
(f) Credibility of the company	4.026	2	3.842	3	3.934	2

Source: Field survey, 2013

borrowing, was devised and included in survey questionnaire distributed to the respondents. The mean value and rank of responses to this question are presented in Table: 4.

As regards reasons behind borrowing, Table:4 reveals that the respondents from profit-making companies gave first priority to advantage of interest tax shield; second to credibility of the company; third to inadequate internal funds; fourth to adequate earning to serve debt; fifth to positive attitude of managers on debt capital; and sixth to lower rate of interest. Likewise, the respondents from loss-making companies gave first priority to inadequate internal funds; second to advantage of interest tax shield; third to credibility of the company; fourth to lower rate of interest; fifth to adequate earnings to serve debt; and sixth to positive attitude of managers towards debt. However, in an average, the major reasons behind borrowing are: advantage of interest tax shield, credibility of the company, and inadequate internal funds.

The two groups of respondent have given different priorities to the reasons behind

borrowing. Respondents from profit-making companies gave first priority to the advantage of interest tax shield, whereas respondents from loss-making companies gave second priority to it. Thus, the degree of relationship between responses of both groups is computed by employing Spearman rank correlation analysis. In this regard, the observed rank correlation coefficient is 0.657 and its critical value, at 0.05 level of significance, is 0.823. The observed correlation coefficient is thus insignificant suggesting there is no statistical relationship between the ranks assigned by respondents from two different groups. Further, to observe whether the difference in the views of the two different groups of respondents from profit-making and loss-making companies is significant, the chi-square test is employed. The observed chi-square value is 15.172 and its critical value, for 5 degree of freedom, is 15.086 at 0.01 significance level. The observed chi-square value is thus significant, suggesting difference in the opinions of respondents from different groups is significant with respect to reasons behind borrowing funds.

Table 5: Importance of Retained Earnings:Frequencies and Percentage

Responses	Respondents fromProfit-making Co.		Respondents from Loss-making Co.		Overall	
	F	P	F	P	F	P
Yes	38	100	30	79	68	89
No	-	-	8	21	8	11
Total	38	100	38	100	76	100

Source: Field Survey, 2013 (F = Frequency, P = Percentage)

Based on the opinions of the respondents, it can be concluded that the preferential reasons against borrowings are different between the two groups of respondents from profit-making and loss-making companies. The advantage of interest tax shield is the major reason for the borrowing of funds. However, credibility and earnings prospective of the company limit the level of borrowings.

Reasons behind Retained Earnings

Retained earning is the most important internal source of funds in terms of its cheapness and convenience. However, it depends on the level of earning, and its retention policy of the firm. Usually, income tax system favors retained earnings. Consequently, tax induced financing hierarchy keeps it on the top next to debt. In this perspective, in order to survey the opinions of officials of sample companies, one dichotomous question was included in questionnaire distributed to them. All 76 respondents replied this question. The frequencies and percentage of their responses are presented in Table: 5.

Table: 5 shows that the responses on the importance of retained earnings are mostly affirmative consisting 100 percent from profit-making and 79 percent from the loss-making companies. It means majority of respondents have recognized retained earnings as an important component of financing mix. Based on the opinions of respondents, it can undoubtly be concluded that retained earning is an important source of funds to the manufacturing companies.

The reasons behind retaining of earnings might be different between the two groups of respondents from profit-making and loss-making companies. This may be so, because the profitability status affects the level of earnings retained in the company. Thus, a ranking question was devised and included in the survey questionnaire to explore the major reasons of retaining earnings in the companies. Out of 76 respondents, 68 respondents replied this question. The mean value and rank of responses to this question are presented in Table: 6.

It is observed in Table:6 that both groups of respondents gave first priority to conveniently available of funds; second to addition to owners' equity; third to tax advantage to the shareholders; fourth to comparatively lower cost of capital; fifth to relatively lower capital gain tax rate; and sixth to necessary to maintain stock price. Thus, the major reasons behind retained earnings are: conveniently available of funds, addition to owners' equity and tax advantages to the shareholders.

Both groups of respondent gave first priority to conveniently available of funds and least priority to necessary to maintain stock price. Similarly, both groups of respondents gave third and fourth priorities equally to the tax related reasons. Thus, the degree of relationship between responses of both the responding groups is computed by employing

Table 6: Reasons behind Retained Earnings:Mean value and Rank of Responses

Reasons	Respondents from Profit-making Co.		Respondents from Loss making Co.		Overall	
	MeanValue	Rank	MeanValue	Rank	MeanValue	Rank
(a) Comparatively lower cost of capital	3.316	4	3.401	4	3.352	4
(b) Tax advantage to the shareholders	3.632	3	3.733	3	3.676	3
(c) Conveniently available of funds.	4.474	1	4.567	1	4.515	1
(d) Addition to owner's equity	4.316	2	4.334	2	4.323	2
(e) Necessary to maintain stock price.	2.631	6	2.467	6	2.559	6
(f) Relatively lower capital gain tax rate	2.632	5	2.501	5	2.574	5

Source: Field survey, 2013

Spearman rank correlation analysis. In this regard, the observed rank correlation coefficient is 1.000 and the critical value, for 6-paired observations at 0.01 significance level, is 0.928. The observed correlation coefficient, is thus, significant suggesting a positive relationship between the ranks assigned by respondents from two different groups. Further, to observe whether the opinions of the two different groups of respondents from profit-making and loss-making companies in same patterns are statistically significant or not, the chi-square test is employed. The observed chi- square value is 1.886 and its critical value, for 5 degree of freedom at 0.05 significance level, is 11.07. The observed value of chi-square is less than its critical value. Thus the observed chi-square value is insignificant, suggesting similarity in views of respondents from different groups with respect to reasons behind retained earnings It can therefore be concluded that the reasons behind retained earnings are identical between the groups of respondents from profit-making and loss-making companies.

Advantage of income tax to the shareholders is a major reason for retaining earnings in the manufacturing companies.

Reasons behind New Equity Issue

Issue of new equity share increases the number of common stockholders restraining voting right. Major motive of investment in stocks is to obtain dividend. Common stockholders thus expect sound dividend distribution to their investment. Usually, dividends on equity capital are residual. And it is distributed if any balance of profit remains after satisfying the income tax and interest recipients. As a return to the owner's contribution, dividend is distributed only in a situation when firm derives profit satisfactorily. No dividend is distributed even though there is less profit. In this sense, equity remains less risky than debts to the firm. Also, new equity dilutes the concentrated control of the limited owners. Equities occupy least option in the tax induced financing hierarchy as compared to other options, because it creates nondeductible

Table 7: Importance of New Equity Issue: Frequencies and Percentage

Responses	Respondents from Profit-making Co.		Respondents FromLoss-making Co.		Overall	
	F	P	F	P	F	P
Yes	34	89	32	84	66	87
No	4	11	6	16	10	13
Total	38	100	38	100	76	100

Source: Field Survey, 2013 (F = Frequency, P = Percentage)

expense to the firm for income tax purpose.

There may be several reasons including residual status behind choosing new equity issue as the source of funds to the companies. Therefore, an attempt has been made to find out the specific reasons for using new equity share in the companies. For accomplishing this purpose, two questions: one dichotomous and another ranking were devised and included in the survey questionnaire distributed to the respondents. All the 76 respondents replied the dichotomous question. However, the respondents from profit-making companies have responded this question in similar pattern with that of respondents from loss-making companies. The frequencies of responses of the respondents followed by percentage are presented in Table: 7.

As regards the importance of new equity issue; Table: 7 shows that the responses are almost affirmative consisting 89 percent of profit-making companies and 84 percent of loss-making companies. On the other hand, only 11 percent respondents from profit-making and 13 percent respondents from loss-making companies replied in negative terms. Thus it is proved that the majority of respondents from profit-making and loss-making companies have recognized the importance of new equity issue. These affirmative responses have indicated that the new equity component occupies its important place in financing mix irrespective of the profitability status of the company.

Based on the opinions of respondents it can obviously be confirmed that new equity is an important and popular source of funds. Despite, the reasons influencing new equity are not identical for every business situation. In some situations it is necessary to dilute concentrated control with limited owners and in other situations it is necessary to cope with risk forestalling attitude of the managers. A reasons seeking question, with respect to new equity issue, was devised and included in survey questionnaire distributed to the respondents. Out of the 76 respondents, 66 respondents answered this question. The mean value and rank of responses to this question have been presented in Table: 8.

As regards reasons of new equity issue, both groups of respondent gave first priority to uncertain future profits, second to dividend can be distributed after interest and tax, third to negligible risk than debt, fourth to desire to dilute control of limited owners, fifth to lower collateral value of business assets, and sixth to nondebt tax shield substitutes debt tax shield. In totality, the major reasons behind new equity issue are: uncertain future profits, dividend can be distributed after interest and tax, and negligible risk than on debt.

Both groups of respondent have given their priorities in identical patterns to the reasons behind issuing new equity shares. Similarly, both groups of respondent seemed to be identical in ranking the tax related reason. The degree of relationship between responses

Table 8: Reasons behind New Equity Issue: Mean value and Rank of Responses

Reasons	Respondents from Profit-making Co.		Respondents from Loss-making Co.		Overall	
	Mean Value	Rank	Mean Value	Rank	Mean Value	Rank
(a) Dividend can be distributed after interest and tax.	4.382	2	4.406	2	4.394	2
(b) Negligible risk than debt.	4.235	3	4.219	3	4.227	3
(c) Non-debt tax shield substitutes debt tax shield.	2.529	6	2.531	6	2.531	6
(d) Uncertain future profits	4.647	1	4.501	1	4.576	1
(e) Lower collateral value of business assets.	2.559	5	2.656	5	2.606	5
(f) Desire to dilute control of limited owners.	2.647	4	2.688	4	2.667	4

Source: Field survey, 201

of two responding groups from profit-making and loss-making companies is computed by employing Spearman rank correlation analysis. In this regard, the observed rank correlation coefficient is 1.000 and the critical value, for 6-paired observations at 0.05 significance level, is 0.928. The observed correlation coefficient, is thus, significant suggesting a positive relationship between the ranks assigned by respondents from two different groups. Further, for observing whether there is any significant difference in ranks assignment of two different groups of respondents from profit-making and loss-making companies, the chi-square test is employed. The observed chi- square value is 4.922 and its critical value for 5 degree of freedom at 0.05 significance level is 11.07. The observed chi-square value is insignificant, suggesting similarity in the opinions of respondents from different groups with respect to the reasons behind issuing new equity shares. Therefore, it is observed that the reasons behind issuing of new equity shares are identical between two groups of respondents from profit-making and loss making companies. Tax related reason does not disfavor the issuing of new equity shares greatly in the context of manufacturing companies.

4. Conclusion

The main purpose of this study is to assess the opinions of Nepalese corporate officials regarding with their tax induced inclination towards different sources of funds. In respect to this purpose, this study has analyzed opinions of the respondents from profit-making and loss-making companies on factors affecting for the inclination towards sources of funds. A structured questionnaire was used to collect the opinions of respondents. The executed questionnaire comprises seven ranking and three dichotomous questions. Each question has certain relationship with other questions and even more than one question were asked for the same purpose so that essential information could be covered. The opinions gathered through questionnaires were analyzed by employing statistical tools like: weighted value,

mean value, percentage, ranks, rank correlation, and chi-square.

Regarding the borrowing of funds; advantage of interest tax shield, credibility of the company, and inadequate internal funds were the prioritized reasons. Likewise, for retained earnings, the prioritized reasons were: conveniently available of funds, addition to owners' equity and tax advantage to the shareholders. On the other hand, uncertain future profits, dividend can be distributed after interest and tax, and negligible risky than debt, were the prioritized reasons behind new equity issue. The overall responses indicate that corporate income tax is an important factor influencing level of borrowing. However, the first priority was given to new equity because of its residual status over other sources. With respect to factors influencing debt-equity mix; profitability status of the company, tax benefits available as per the tax laws, and risk associated with debt were the prioritized factors. Among them, the tax benefit is one of the major factors influencing debt-equity mix.

Opinions based major observations revealed that the Nepalese listed manufacturing companies prefer tax induced financing hierarchy to a noticeable extent. Officials of Nepalese listed manufacturing companies showed their inclination towards new equity, institutional loan, and internal resources as the major sources of funds. Their inclination to these sources was mainly affected by corporate income tax, debt servicing capacity of the company, and seniority and residual status of the sources. In addition, the corporate income tax is observed as one of the important factors influencing inclination towards sources of funds. The responses regarding the factors influencing inclination, however, were different between the groups of respondents from profit-making and loss-making companies. Thus, reasons to prefer even the same type of source were different between the groups of respondents from profit-making and loss-making companies.

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Non-Financial Performance of Nepalese Enterprises

Sanjay Kumar Shrestha, PhD
Associate Professor, Central Department of Management, Tribhuvan University
Kirtipur, Kathmandu, email: sanjaycares@hotmail.com.

Abstract

A study has been undertaken to assess the non-financial performance of Nepalese enterprises in terms of employees' satisfaction. Judgmentally 6 commercial banks were considered. Of these enterprises, SCBL was best in employee satisfaction, followed by NABIL, HBL, and RBBL. NIBL and NBL have moderately satisfied their employees. The differences among the sample banks in terms of employee satisfaction are less significant.

Keywords: non-financial performance, economic reward, psychic reward, career planning.

1. Introduction

The basic objective of the present study is to assess the degree of employees' satisfaction in the Nepalese commercial banks. An exploratory cum descriptive research methodology has been used in the present research. 6 commercial banks have been selected as samples i.e. Nepal Bank Ltd. (NBL), Rastriya Banijya Bank Ltd. (RBBL), Nepal Investment Bank Ltd. (NIBL), and 3 foreign joint venture banks, i.e. Himalayan Bank Ltd. (HBL), Nabil Bank Ltd. (NABIL), and Standard Chartered Bank Ltd. (SCBL). The selection of the samples is judgmental and includes both more efficient & less efficient organizations in terms of net worth & profit.

Since the present research is opinion survey based one, only primary sources have been used to collect data. The sources of primary data are different levels of employees of the banks so that their responses will be more representative and reliable. Primary data have been collected by using structured questionnaire technique supported by personal unstructured interviews. All the structured questionnaires were based on five-point Likert Scale. The questions were basically derived from theoretical reviews of related books &. 5 scaled Likert's model based questionnaire has: Legend: 5, 4, 3, 2, 1 where

(5) Very Much (4) Much (3) Moderate (2) Less (1) Least.

Almost only 75 percent questionnaires were collected from these banks in the first round; hence additional sets of questionnaires were again distributed to these banks to complete the research. Responses to the unchecked questions were collected by unstructured personal interview with the respondents.

In order to accomplish the objective, relevant data have been collected, sorted, classified, and tabulated. Thereafter, the data have been presented, analyzed, and interpreted using appropriate statistical tools like averages, standard deviation, co-efficient of variation. Microsoft Office Package and SPSS program have been extensively used in the research.

Non-financial performance of an organization can be assessed using various variables and responsibilities towards different stakeholders. In this article, one of the most important stakeholders has been considered, i.e. employees, their overall satisfaction from the banks has been measured to assess the non-financial performance of the banks.

Non-Financial Performance in Terms of Employee-Satisfaction (NFP-ES)

Employees' satisfaction is one of the

Non-Financial Performance of Nepalese Enterprises

most important variables of an organization's qualitative performance. But employees' satisfaction is the outcome of the various contribution & efforts of the organization towards its employees like work environment, economic & psychic rewards, organizational treatment, job design, leadership, decision-making/empowerment, career planning & development, communication, etc. A questionnaire containing 45 questions were distributed to 24 employees of each of the banks and their responses were collected and have been analyzed in this section. More specifically, employee-satisfaction of the 6 banks has been analyzed in terms of the following 9 components as given in Table 1:

1.1. Work Environment (Work-E2)

Employees' satisfaction depends mostly upon the overall work environment created by the management of the bank. Work environment includes QWL, on the job facilities, fair treatment, socialization, friendly & cooperative environment, resource allocation, etc. 10 questions were asked to 24 employees of each of the banks and their responses have been recorded and analyzed.

The Work-E2-value has ranged between

3.23 (of NBL) and 4.15 (of SCBL) indicating that SCBL is the best in terms of creating a satisfying work environment. Next to it, lie NABIL (3.80), RBBL (3.72), NIBL (3.66), and HBL (3.66) whose performances in this regard are much satisfactory as their values have approximated 4. Only NBL (3.23) has performed moderately as its value has approximated 3. The overall situation of work environment is much satisfactory as the combined mean of their values has approximated 4 (i.e. 3.70). The difference in their performance is marginal as indicated by the much lower CV of about 8%.

1.2. Economic Rewards (Eco-R2)

In the extremely poor countries like Nepal, economic rewards matter a lot in employee satisfaction. 3 questions were asked concerning financial rewards, compensation, employee welfare, and health & safety programs of the banks among the 24 employees of each of the 6 banks. Their average responses have been summed up and analyzed.

The Eco-R2-value has ranged between 2.86 (NBL) and 3.60 (SCBL). SCBL (3.60), RBBL (3.60), and HBL (3.53) seem to have been able to much satisfy their employees in terms of economic rewards as their Eco-R2-values tend

Table 1: Employee satisfaction

Bank	NBL	RBBL	NIBL	HBL	NABIL	SCBL	MEAN	CV
Work-E2	3.23	3.72	3.66	3.66	3.80	4.15	3.70	7.98%
Eco-R2	2.86	3.60	3.13	3.53	3.46	3.60	3.36	8.99%
Psy-R2	3.20	3.68	3.60	3.72	3.75	4.02	3.66	7.30%
Org-T2	2.74	3.06	3.07	3.28	3.18	3.71	3.17	10.08%
Job-D2	3.42	3.68	3.48	3.92	3.70	3.80	3.67	5.16%
Lead-2	3.13	3.59	3.30	3.65	3.82	3.95	3.57	8.67%
Empow-2	3.19	3.32	3.22	3.32	3.50	3.63	3.36	5.01%
Caree-2	3.01	3.58	3.51	3.74	3.76	3.99	3.59	9.07%
Comm-2	3.36	3.56	3.78	3.63	3.76	4.13	3.70	6.99%

to approximate 4. NABIL (3.46), NIBL (3.13), and NBL (2.86) seem to have been able to moderately satisfy them as their Eco-R2-values tend to approximate 3. The overall performance of all the selected banks in terms of economic rewards is moderate as the combined mean has approximated 3 (i.e. 3.36). Overall analysis shows that the difference among the employees' happiness in terms of economic rewards of the different banks is very low as indicated by very low CV (i.e. 9%).

1.3. Psychic Rewards (Psy-R2)

Psychic rewards are psychological rewards that an employee enjoys from the organization where he works. They are the Maslow's higher order needs and Hertzberg's hygiene factors of motivation. Psychic rewards consist of recognition, job security, pride in work, mental happiness, acceptable changes, internalization of organizational goals & its alignment with personal goals, and organizational commitment. 8 related questions were asked to the 24 employees of each the 6 banks and their responses have been averaged and interpreted.

Psy-R2-value has ranged between 3.20 (NBL) and SCBL (4.02). SCBL (4.02) clearly is the winner in making the employees psychologically happy. Next to it, NABIL (3.75), HBL (3.72), RBBL (3.68), and NIBL (3.60) seem to have better satisfied their employees with psychic rewards as their Psy-R2 values tend to approximate 4. Only NBL (3.20) has been able to moderately satisfy its employees as its Psy-R2 value has approximated 3. The overall performance of the selected banks is much satisfactory as the combined mean has approximated 4 (3.66). The difference in psychic rewards among employees of the different banks is less pronounced as indicated by the very low CV, i.e. 7.30%.

1.4. Organizational Treatment (Org-T2)

Employees' treatment by the organization plays important role in employees' satisfaction. Organizational treatment includes grievance handling, fair & speedy feedback, impartiality in selection, promotion, transfers, etc. 3 questions were asked among the 24 respondents of each of the sample banks and their responses have been summed up and analyzed. Org-T2-value has ranged between 2.74 (NBL) and 3.71 (SCBL). SCBL (3.71) has been clearly successful in making its employees happier with the organizational treatment whose value tends to approximate 4. Next to it, HBL (3.28), NABIL (3.18), NIBL (3.07), RBBL (3.06) and NBL (2.74) seem to have moderately satisfied their employees by their organizational treatment as their Org-T2-values tend approximate 3. The overall performance of all the sample banks is moderate as the combined mean of their Org-T2-values approximate 3 (i.e. 3.17). The 6 banks have been so competitive in this regard that the CV is low (i.e. 10.08%) indicating marginal differences.

1.5. Job Design (Job-D2)

When job is properly and efficiently designed, the job becomes meaningful, significant, motivating, and satisfying. A well designed job contains adequate responsibilities and empowers the employees properly. Employees feel that the span of control, unity of control, and unity of direction are balanced. Employees are capable of balancing their family life and work life. Regarding these issues, 5 questions were asked among the 24 employees of each of the 6 banks and their responses were analyzed and summed up and analyzed.

Job-D2-value has ranged between 3.42 (NBL) and 3.92 (HBL). HBL (3.92), SCBL (3.80), NABIL (3.70), and RBBL (3.68) have been able to better satisfy their employees in

terms of job design as their Job-D2-values approximate 4. NIBL (3.48) and NBL (3.42) have been moderate in this regard as their Job-D2-values approximate 3. The overall performance in terms of job design in all the 6 banks is considered better as their combined mean Job-D2-value has approximated 4 (3.67). The differences among this variable among the banks are very much insignificant as indicated by the very low CV, i.e. 5.16%.

1.6. Leadership (Lead-2)

How much the employees are happy with the leadership of the banks is another important issue. Quality of leadership is reflected in terms of encouragement, motivation, appreciation, friendliness, clarity of future vision, communication skill, professionalism, positive changes, etc. on the part of the organizational leaders. To assess these aspects of leadership, 7 questions were asked among the 24 employees of each of the 6 banks, and their responses have been summed up and interpreted.

Lead-2-value has ranged between 3.13 (NBL) and 3.95 (SCBL). SCBL (3.95), NABIL (3.82), HBL (3.65), and RBBL (3.59) have been successful in developing & implementing the leadership that are much satisfactory to the employees as their Lead-2-values approximate 4. The leadership of NIBL (3.30) and NBL (3.13) is moderately satisfactory, as its Lead-2-value value has approximated 3. The overall leadership performance of all the sample banks is much satisfactory as the combined mean Lead-2-value of these banks has approximated 4 (i.e. 3.57). These banks have differed very little in this regard as indicated by the very low CV, i.e. 8.7%.

1.7. Empowerment (Empow-2)

Employees' satisfaction depends upon empowerment, i.e. allowing them the decision-making authority. More specifically, boss consulting the subordinates in decision-making and autonomy at workplace play important role in employee-satisfaction. To assess this, 3 questions were asked among the 24 employees of each of the 6 banks. Their responses have been summed up and presented.

Empow-2-value has ranged between 3.19 (NBL) and 3.63 (SCBL). SCBL (3.63) and NABIL (3.50) have been able to better satisfy the employees in terms of empowerment as their Empow-2-values have approximated 4. HBL (3.32), RBBL (3.32), NIBL (3.22), and NBL (3.19) are able to satisfy their employees moderately in terms of empowerment as their Empow2-values have approximated 3. The overall performance of these banks in terms of employee empowerment is moderate as their combined mean Empow-2-value has approximated 3 (i.e. 3.36). There has been much similarity among the banks in terms of employee empowerment as indicated by very low CV, i.e. 5.01%.

1.8. Career Planning & Development (Caree-2)

Employees join organizations not only for economic rewards but for their future career development. They calculate their future career success in the organization and assess the organization's skill enhancing endeavors contributing to their promotion. In this regard, 3 questions were asked among the 24 employees of each of the 6 banks. Their responses have been summed up and analyzed.

Caree-2-value has ranged between 3.01 (NBL) and 3.99 (SCBL). SCBL (4) has scored the highest and hence is considered the best performer in the career management of its employees. Next to it, NABIL (3.76), HBL (3.74), RBBL (3.58), and NIBL (3.51) seem to perform much better in terms of career

Table 2: Employees' Satisfaction

S.N.	Name of the Banks	NFP-ES
1	Nepal Bank Ltd. (NBL)	3.16
2	Rastriya Banijya Bank Ltd. (RBBL)	3.59
3	Nepal Investment Bank Ltd. (NIBL)	3.47
4	Himalayan Bank Ltd. (HBL)	3.64
5	Nabil Bank Ltd. (NABIL)	3.69
6	Standard Chartered Bank Ltd. (SCBL)	3.94
	Mean	**3.58**
	Coefficient of Variation (CV)	**7.21%**

management as their Caree-2-values have approximated 4. Only NBL is considered the moderate performer in this regard as its Caree-2 value has approximated 3 (i.e. 3.01). The overall performance of all the sample banks is considered much better as the combined mean Empow-2-value of all the banks has approximated 4 (3.59). The lower CV (i.e. 9.07%) indicates more similarity in their performance in career management.

1.9. Communication (Comm-2)

Clear & timely communication among the employees regarding organizational goals, strategies, policies, rules, authority, responsibility, and performance feedback is another component leading to employee satisfaction. To assess the degree of effective communication, 3 questions were asked among the 24 employees of each of the 6 banks. Their responses have been categorized and interpreted.

Comm-2-value has ranged between 3.36 (NBL) and 4.13 (SCBL). Employees of SCBL (4.13) are much satisfied by the communication system in the bank. NIBL (3.78), NABIL (3.76), HBL (3.63), and RBBL (3.56) seem to have much satisfactory communication system as their Comm-2-values have approximated

4. NBL (3.36) seems to have moderately satisfactory communication system as its value has approximated 3 (i.e. 3.36). The overall communication system of all the sample banks is much satisfactory as the combined mean Comm-2-value has approximated 4 (3.70). There has been more similarity in the quality of communication system in the banks as CV has been very low, i.e. 7%.

Non-Financial Performance in Terms of Employees-Satisfaction (NFP-ES)

So far, different sub components of employees' satisfaction have been analyzed. In this section, an attempt has been made to assess the overall employees' satisfaction keeping in mind all the components. A questionnaire containing 45 questions were distributed to 24 employees of each of the banks and their responses have been collected and categorized in table 2.

NFP-ES-value has ranged between 3.16 (NBL) and 3.94 (SCBL). SCBL (3.94), NABIL, (3.69), HBL (3.64), and RBBL (3.59) seem to have much satisfied employees as their NFP-ES-values have approximated 4. NIBL (3.47) and NBL (3.16) seem to have moderately satisfied employees as their NFP-ES-values have approximated 3.

The overall performance of all the banks in terms of NFP-ES-values seems to be much satisfactory as the combined mean NFP-ES-value has approximated 4 (i.e. 3.58). There seems to be more similarity among the banks in terms of NFP-ES as the CV is very low (i.e. 7.21%). ***To sum up, it can be concluded that non-financial performance of all the banks in terms of employees' satisfaction is sound.***

Recommendation for further research: This study has analyzed only one component of management, i.e. employee satisfaction; the other dimensions have been assumed and left behind. Future researchers are suggested to conduct an extensive study encompassing other components too. Further, the impact on other stakeholders like customers, investors, etc has not been assessed in this study. Hence, the future researchers are suggested to conduct researches addressing the issues. Moreover, larger samples should be taken encompassing various industries over an extended period of time.

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Performance Measurement System in Five Star Hotels for Competitive Advantages

Agni Dhar Parajuli*

Lecturer, Department of Management, P. N. Campus,Tribhuvan University, Pokhara

agnidharp@gmail.com

Abstract

The overall purpose of this study is to investigate the impact of managerial characteristics on Key Performance Indicators in the Nepalese five star hotel industry. Performance measurement techniques have evolved in response to the weaknesses of financial measures. This is not to say that financial measures do not have a place, but that reliance on these alone is insufficient to properly manage a business. A range of models have been developed which combine financial and non-financial measures to provide a more holistic view of the performance of organizations. These measures are termed multi-dimensional performance measures. A descriptive research design with a random sample survey was used to gather primary data using self-administered questionnaires. Hospitality managers in Nepal are still focusing on financial and quality services measures for competitive advantages, but other dimensions, such as those related to employees, customer satisfaction, benchmarks, flexibility, and the competitiveness dimension of performance measures are not being implemented. In other words, Nepalese five star hotels are ignoring the non-financial dimensions of determinant measures. Different dimensions of performance are the influential determinants for a sustainable competitive advantage.

Keywords: Hotel industry, Nepalese five star hotel, dimension of performance measures

1. Introduction

A performance measurement system is a framework for building a fundamental block of total quality management. Historically, organizations have always measured their performance within the context of some financial accounting framework. A performance measurement framework is informed by the strongest and the weakest part of a company, or by its success or failure through liquidation on the basis of framework characteristics. However, traditional performance measures based on financial and cost accounting information, while providing financial information to shareholders, offer little to support organizations on their quality journey because they do not map process performance and the improvements seen by the customer. In a successful total quality organization, performance will be measured by the improvements seen by the customer as well as by the results delivered to other stakeholders, such as the shareholders.

A performance measurement system must be meaningful, unambiguous and widely understood. It must be owned and managed by the teams within the organization, based on a high level of data integrity, is embedded within the organization's normal procedures, able to drive improvement and linked to critical goals, and is the key driver of the organization in order to create competitiveness. The choice of measures to guide and evaluate the performance of business units is one of the most critical challenges facing organizations (Ittner and Larcker, 1998).

A performance measurement cycle is a

Mr. Agni Dhar Parajuli is a visiting faculty of Kathmandu Bernhardt College.

never-ending improvement system and a process of the organization. Performance measurement plays an important role in: identifying and tracking progress against organizational goals/ benchmarks; identifying strengths, weaknesses, opportunities and threats to improvement; comparing performance against both internal and external standards.

Keeping in mind the above concept, this research carried out the performance measurement system in the management accounting of Nepalese five star hotels. Management accounting should report all relevant information related to the evaluation of the business units performance systems, which focus solely on financial measures such as profits, returns on investment, standard costs and variance analysis. This approach has been widely criticized (e.g. Ittner et al., 1997; Kaplan and Norton, 1996). The criticisms arise because these measures are distorted by external reporting conventions; they promote short-terms and accounting manipulation, and do not take into consideration the cost of capital or non-financial 'leading' measures such as customer satisfaction, labor efficiency or innovation.

Several studies have shown that there may be a link between strategic priorities, management accounting practices and organizational performance (e.g., Govindarajan, 1988; Govindarajan and Fisher, 1990; Chenhall and Langfield-Smith, 1998; Greve, 1999; Cagwin, 2000; Cagwin and Bouwman, 2002). The literature concerning performance measurement has had two main phases. The first phase began in the late 1880s and went through the 1980s. In this phase the emphasis was on financial measures such as profit, return on investment and productivity. The second phase started in the late 1980s, and came as a result of changes in the world market. Companies began to lose market shares to overseas competitors who were able to provide higher-quality products at a lower cost and with more variety. Based on the literature, this paper concludes the following two phases of performance measurement for a competitive strategy.

In order to regain a competitive edge, companies have not only shifted their strategic priorities from product and market differentiation and low-cost production, to quality, flexibility, short lead time and dependable delivery, but have also implemented new technologies and

Table 1: Performance Identification for Competitive Strategy

Traditional Performance Measures	Non-traditional Performance Measures
* Based on outdated traditional accounting system * Mainly financial measures * Intended for middle and high level managers * Lagging metrics (weekly or monthly) * Difficult, confusing and misleading * Lead to employee frustration * Neglected on the shop-floor * Have a fixed format * Do not vary between locations * Do not change over time * Intended mainly for monitoring performance * Not applicable for JIT, TQM, CIM, FMS, RPR, OPT etc. * Hinders continuous improvement	* Based on company strategy and environment * Mainly non-financial measures * Intended for all employees * On-time metrics (hourly, or daily) * Simple, accurate and easy to use * Lead to employee satisfaction * Frequently used on the shop-floor * Have no fixed format (depends on needs) * Vary between locations * Change over time as needs change * Intended to improve performance * Applicable JIT, TQM, CIM, FMS(Flexible Mfg. System), OPT (Optimized Production Technology), etc. * Helps to achieve continuous improvement

philosophies of production management (i.e. Computer Integrated Manufacturing (CIM), Flexible Manufacturing Systems (FMS), Just In Time (JIT), Optimized Production Technology (OPT), and Total Quality Management (TQM)). The implementation of these changes revealed that traditional performance measures have many limitations and the development of new performance measurement systems is required for success.

The main objective of this study is to examine the traditional (financial) and non-traditional (non-financial) performance measurement techniques of Nepalese five star hotels for competitive advantages.

2. Study Problem

Fitzgerald et al. (1991) advocates that performance measures have continued relevance in competitive strategies. The main study problem of this research is how Nepalese five star hotels practice and measure the company's performance/services, in their

Table 2: Performance Measures for Organizations (adopted Fitzgerald et al model)

Dimensions of Performance		Types of Measures
Results	Competitiveness	Relative market share and position sales growth. Diversification of services, broad distribution of product, product or service line, measurement of the customer base.
Determinants	Quality of Product/Service	Reliability, responsiveness, appearance, cleanliness/tidiness, comfort, friendliness, communication, courtesy, competence, access, availability, security, consistent quality.
	Flexibility	Volume flexibility, delivery speed flexibility, specification flexibility.
	Resource Utilization	Productivity, efficiency, utilization of labor, machinery and equipment, land and building, room and space, investment and materials.
	Innovation	Performance of the innovation process, performance of the individual innovation.
	Customer Satisfaction	On time delivery, high quality of products, availability of goods, low price products, after sales services, customer loyalty, profitable customers, product warranty.
	Employees	Team work, personnel development, employee attitudes, employee skills, pay scale, cooperation, willingness to help, confidence in the delivery of services, politeness, neatness and cleanliness, professionalism.
	Benchmarking	Innovation process and time, product characteristics, operational process and time, management process, strategic priorities, organization, outside organization, individual innovator, rate of introducing new product, research and development.
	Financial	Increase in turnover, overall profitability, divisional profit, return on investment, liquidity, capital structure analysis, economic value added, budget variance analysis, cost reduction with quality services, cash flow.

accounting practices regarding data, the competitive environment and the chosen strategy or strategic priority where performance measurement is continually relevant to competitive advantages.

Do Nepalese five star hotels practice financial and non-financial performance measurement techniques for competitive advantages?

3. Methodology

For a reliable study, this research work takes a representative sample from the study population (8 five star hotels in Nepal). The operational sample size of the study is about 50% (i.e. 4) of the whole operational population. Empirical data was collected through questionnaire surveys. Questionnaires were sent to the general managers and departmental chief officers of 4 of the largest five star hotels in Nepal. The total number of returned questionnaires was 20 out of 28. However, not all respondents answered all the questions, due to the fact that respondents were guaranteed full anonymity. Therefore the questionnaires did not include any information that could have made it possible to reveal who responded and who did not.

In the survey, 8 groups of performance-related dimension techniques were supplied to the respondents in order for them to express their views in a Likert Scale rating. The available data was analyzed with SPSS software. The aforementioned 8 group performance-related dimension techniques are: dimension of competitiveness; dimension of quality services; financial dimension measures; customer satisfaction dimension; employee-related dimension; dimension of benchmarking; dimension of resource utilization; dimension of flexibility. These dimension were measures in different type of factors

This research presents two major models that are utilized or have influenced performance measurement and management practices. The two models are: the Results and Determinant Model (Fitzgerald et al., 1991).

4. Analysis and Discussion

The choice of measures to guide and evaluate the performance of business units is one of the most critical challenges facing organizations (Ittner and Larcker, 1998). Management accounting should report all relevant information (internal and external or financial and non-financial) related to the evaluation of a business units performance. Systems that focus solely on financial measures such as profits, return on investment, standard costs and variance analysis have been widely criticized (e.g. Ittner et al., 1997; Kaplan and Norton, 1996). The criticisms arise because these measures are distorted by external reporting conventions; they promote short-terms and accounting manipulation, and do not take into consideration the cost of capital or non-financial 'leading' measures such as customer satisfaction, labour efficiency or innovation, quality services; and employee performance.

In Table 3, as expected based on the research problem, the majority of respondents have rated the dimension of quality services measures as an important dimension in five star hotels. Likewise, the resource utilization dimension was second in importance, and financial, customers, benchmarks, employees, and competitive dimensions were rated third, fourth, fifth and six priorities respectively. This result is shown on the right side of Table 3.

The same percentage of respondents has reported the frequent usage and practice of these measures as follows: the Nepalese five star hotel management respondents indicated service quality as their first priority, financial dimension measures were practiced as second

priority; the employee related dimension, the resource utilization dimension, and the competitiveness dimension were ranked as third, fourth and fifth in priority. The dimension of flexibility and benchmarks were ranked lowest as practiced in Nepal's five star hotels.

From the above analysis it is clear that the Quality of Service Dimension gets higher priority based on importance. Likewise, the resources utilization dimension ranked second in importance based on the hotel manager's perceptions. In terms of practices, hotel managers rated the quality services dimension as first priority in order to meet the competitive advantages. The financial dimension was rated as second priority; employee related dimensions was rated third priority; the resource utilization related dimension and customer satisfaction related dimension, were rated fourth and fifth in priority, in order to meet the competitive advantages of the hotel business.

4.1. Quality Services Dimension

The hotel manager should establish proper service quality standards in relation to customer needs and perceptions. Service quality cannot be improved without establishing a standard and measuring it. Therefore, with respect to the 13 service attributes identified in Table 2, they were asked to rate the service performance of the Nepalese five star hotels based on a five-point Likert Scale in terms of practice.

The study of service encounters and service experience suggests that it is more complex to evaluate service quality than goods. Services are more difficult to measure and standardize, and consequently establishing an instrument that attempts to measure quality has become a central challenge for the delivery of good service quality and the service company's success. These quality services are important factors in order to increase sustainable competition.

Are there useful quality service performance measurement techniques in Nepalese five star hotels as single and major factors sustained in long-term competition?

Alternate Hypothesis:
Ha= Quality services performance measurement techniques in Nepalese five star hotels are used as single and major factors sustained in long-term competition

Table 3: Respondent Results Regarding Performance Measurement Techniques

Respondent Means of Given Importance	Performance Measurement Techniques (Mean on both sides of Table)	Respondent Means of Practice
12.63	Financial Dimension	16.6
12.33	Customer Satisfaction Dimension	15.75
11.65	Employee Dimension	16.54
12.16	Benchmarking Dimension	13.05
10.60	Competitiveness Dimension	15.08
18.38	Quality Services Dimension	18.35
16.00	Resource Utilization Dimension	16.50
12.00	Flexibility Dimension	14.31
	Performance Measurement Framework	

Table 4: One Sample Test

| | Test Value = 10 | | | | | |
| | t | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
					Lower	Upper
Rarely	-80.322	12	.000	-9.76923	-10.0342	-9.5042
Sometimes	-31.536	12	.000	-8.46154	-9.0461	-7.8769
Often	-15.774	12	.000	-5.53846	-6.3035	-4.7735
Very Often	6.637	12	.000	3.76923	2.5319	5.0065

Ha: $\mu \neq 10$
Ho: $\mu = 10$

Quality services performance measurement techniques in Nepalese five star hotels are used as the single and major factors that sustained long-term competition. Whose p value 0.00 issued Very Often, 0.00 is used often, 0.00 is used sometimes, 0.00 is rarely used, and 0.00 is never used in the accounting systems of Nepalese five star hotels. Where $P < 0.05$, if p value is less than $\sigma = 0.05$ accept alternate hypothesis and reject the null hypothesis. It means quality services performance measurement techniques in Nepalese five star hotels are used as the single and major factors that sustain long-term competition.

4.2. Financial Measures Dimension

The management staff of five star hotels were asked about finance related performances.

Those finance related performance elements are: increase in turnover; overall profitability; divisional profit; return on investment; liquidity; capital structure analysis; economic value added; budget variance analysis; cost reduction with quality services; and cash flow.

Are financially related performance measurement techniques used in Nepalese five star hotels for competitive advantages?

Alternate Hypothesis:

Ha = Financially related performance measurement techniques of Nepalese five star hotels have been used for competitive advantages and strategic management accounting systems.

Ha: $\mu \neq 6$
Ho: $\mu = 6$

A low significance value (typically below $0 < 0.05$) indicates that there is a significant

Table 5: One Sample Test

| | Test Value = 6 | | | | | |
| | t | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
					Lower	Upper
Never	-12.521	10	.000	-4.90909	-5.7827	-4.0355
Rarely	-15.656	10	.000	-4.36364	-4.9847	-3.7426
Sometimes	-9.783	10	.000	-3.18182	-3.9065	-2.4571
Often	-1.813	10	.100	-1.27273	-2.8365	.2910
Very Often	3.296	10	.008	3.81818	1.2369	6.3995

difference between the test value and the observed mean. The significance level gives the result of the test. Very small value of p is less than 0.05 (00 < 0.05) indicates that there are probably significant relationships among the variables. Financially related performance measurement techniques of Nepalese five star hotels have been designed for competitive advantages and strategic management accounting systems. Whose p value 0.008 is for used Very Often, used Often 0.100, usedSometimes0.00, rarely used 0.00 and Never used 0.00 of uses of financial performance measurement techniques.

Where P < 0.05.If p value is less than σ= 0.05 accept the alternative hypothesis or reject null hypothesis. It means financially related performance measures are very often used in Nepalese five star hotels for competitive strategy and strategic management accounting. It is clear that Nepalese five star hotels have important financial performance measurement techniques.

4.3. Customer Satisfaction Dimension

Customers are the king of any business organization. Business organizations cannot imagine a good business and a profitable business without customers. Therefore customer satisfaction is the major responsibility and performance of the business as well as hotel

business. The success and failure of the hotel business or service business are based on the performance of on-time delivery, high quality of products, availability of goods, low-priced products, after-sales services, customer loyalty, profitable customers, and product warranty.

Are Customer Satisfaction related performance measurement techniques for competitive advantages used in Nepalese five star hotels?

Hypothesis: Customers satisfaction related performance techniques are highly associated for competitive advantages and strategic management accounting, rather than traditional accounting techniques in Nepalese five stars hotels.

Ha: $\mu \neq 8$

Ho: $\mu = 8$

A low significance value (typically below 0< 0.05) indicates that there is a significant difference between the test value and the observed mean.

The significance level gives the result of the test. Very small values of p is less than 0.05 (00 < 0.05) indicate that there are probably significant relationships among the variables.

Customer Satisfaction related performance dimensions of Nepalese five stars hotels are highly associated with competitive advantages

Table 6: One Sample Test

	Test Value = 8					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Never	-15.149	8	.000	-6.88889	-7.9375	-5.8403
Rarely	-17.103	8	.000	-6.44444	-7.3133	-5.5756
Sometimes	-15.000	8	.000	-5.00000	-5.7687	-4.2313
Often	-2.795	8	.023	-1.88889	-3.4474	-.3303
Very Often	.300	8	.772	.22222	-1.4870	1.9314

and strategic management accounting, rather than with traditional accounting techniques. Whose p value 0.772 is for used Very Often, used Often 0.023, used Sometimes0.00, Rarely used 0.00 and Never used 0.00 regarding customer satisfaction related performance.

Where P > 0.05, If p value is higher than σ= 0.05 reject the alternative hypothesis or accept null hypothesis. It means the Customer Satisfaction related performance dimension of Nepalese five stars hotels is not used for competitive advantages and strategic management accounting. From the respondent's point of view, it is clear that the five star hotels of Nepal are not still aware of measuring Customer Satisfaction related performance for competitive advantages and strategic management accounting. The researcher concluded that five star hotels are still using traditional accounting only, to determine the organization's total income and expenditures.

4.4. Employee Related Dimension

The Employee Related Dimension of performance measurement criteria likes neat and professional employees; employees skills; employee pay scale; politeness of employees; personal development of employees; team performance of employees; employee attitude; confidence of employees in the delivery of services; willingness of employees to help; and cooperation among employees; were all considered important criteria of performance measurement.

Are Employee Related performance measurement techniques used for competitive advantages and strategic management accounting systems in Nepalese five star hotels?

Alternate Hypothesis:

Ha = Employee related performance dimensions of Nepalese five stars hotels are used for competitive strategy with the practice of management accounting, and strategic priorities, rather than the practice of traditional accounting techniques.

Ha: $\mu \neq 7$
Ho: $\mu = 7$

A low significance value (typically below $0 < 0.05$) indicates that there is a significant difference between the test value and the observed mean.

The significance level gives the result of the test. When the very small value of p is less than 0.05 ($00 < 0.05$), this indicates that there are probably significant relationships among

Table 7: One Sample Test

	Test Value = 7					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Never	-69.000	9	.000	-6.90000	-7.1262	-6.6738
Rarely	-21.336	9	.000	-6.20000	-6.8574	-5.5426
Sometimes	-4.337	9	.002	-3.30000	-5.0212	-1.5788
Often	.136	9	.895	.10000	-1.5675	1.7675
Very Often	1.233	9	.249	1.30000	-1.0857	3.6857

the variables.

The Employee Related performance dimension of Nepalese five stars hotels isused for competitive strategy and strategic management accounting systems, rather than those used in traditional accounting system techniques.

Whose p value 0.249 is for used Very Often, used Often 0.895, used Sometimes 0.002, Rarely used 0.00 and Never used 0.00 in competitive strategy.

Where P > 0.05.If the p value is higher than σ= 0.05 reject the alternative hypothesis or accept the null hypothesis. It means that the Employee Related performance dimensions of Nepalese five star hotels are not used for competitive strategy and strategic management accounting systems.

4.5. Benchmarking Dimension

Benchmarking is a continuous quality improvement process by which an organization can assess its internal strengths and weaknesses, evaluate comparative advantages of leading competitors, identify best practices of industry functional leaders, and incorporate these findings into a strategic action plan geared to gain a position of superiority (Min and Min, 1996).

Comparing figures as the core principal procedure in benchmarking processes seems to be more easily understood and applied by hospitality managers than more complex procedures like planning or optimizing.

Are benchmarking related measurement techniques for competitive advantages and strategic management accounting used in Nepalese five star hotels?

Null Hypothesis: Nepalese five star hotels Very Often use Benchmark related performance dimensions for competitive advantages in Nepalese five star hotels .

Ha: $\mu \neq 5$

Ho: $\mu=5$

A low significance value (typically below $0< 0.05$) indicates that there is a significant difference between the test value and the observed mean.

The significance level gives the result of the test. Very small values of p is less than 0.05 ($00 < 0.05$) indicates that there are probably significant relationships among the variables.

Nepalese five star hotels Very Often use Benchmark related performance dimensions for competitive advantages and strategic management accounting system in Nepalese five star hotels, rather than traditional

Table 8: One Sample Test

	Test Value = 5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Never	-5.375	11	.000	-3.75000	-5.2856	-2.2144
Rarely	-1.132	11	.282	-1.08333	-3.1899	1.0232
Sometimes	1.832	11	.094	1.41667	-.2852	3.1185
Often	.340	11	.740	.16667	-.9114	1.2447
Very Often	-3.023	11	.012	-1.75000	-3.0243	-.4757

accounting.

Whose p value 0.012 is for used Very Often, Often used 0.740 used Sometimes0.094,Rarely used 0.282 and never used 0.00 in competitive advantages and strategic management accounting systems.

Where $P < 0.05$, If p value is less than $\sigma = 0.05$ accept null hypothesis and reject the alternative hypothesis or it means that the Benchmark related performance dimension of Nepalese five stars hotels is not used Very Often, Often or Sometimes for competitive advantages and strategic management accounting systems. It is clear that Nepalese five star hotels are unaware that they have not used Benchmark related performance dimensions and competitive strategic techniques and strategic management accounting for competitive advantages. They still employ traditional accounting techniques for the measurement of all Benchmark related performance.

4.6. Resource Utilization Dimension

Human, financial, physical and information resources are important for hotel business organizations. The management of the hospitality industry performs the efficient acquisition and effective utilization and proper coordination of resources. It also contributes to the development of human resources. The utilization of human labor efficiency, utilization of labor effectiveness, productivity, machines and equipment, land and buildings, room, space and investment materials are major resources for the research organization. The researcher has tried to investigate the resources utilization strategy for competitive advantages in Nepalese five star hotels.

Is there an appropriate use of Resource Utilization techniques for competitive advantages in Nepalese five star hotels?

Respondents rated their perceptions regarding the resources factors that have major importance in the hospitality business. Respondents indicated that all of the resource factors are important, such as the utilization of labor efficiency, land, building and investment, and that these are the top most important factors in the hospitality business. In practice, respondents expressed their views slightly differently regarding its importance. It means the hospitality industry has been unable to utilize or think of these resources as important.

Hypothesis: Resource Utilization performance dimension techniques are Very Often practiced in Nepalese five hotels for competitive advantages.

Ha: $\mu \neq 8$

Ho: $\mu = 8$

Resource Utilization dimension techniques are very often practiced in Nepalese five stars

Table 9: One Sample Test

Practice	Test Value = 8					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Rarely	-15.000	7	.000	-7.50000	-8.6823	-6.3177
Sometimes	-13.229	7	.000	-5.00000	-5.8937	-4.1063
Often	1.313	7	.231	1.75000	-1.4020	4.9020
Very Often	-1.156	7	.286	-1.25000	-3.8073	1.3073

hotels to meet the competitive advantages and strategic priorities. Whose p value 0.286 is for used Very Often, used Often 0.231, used Sometimes0.00, Rarely used 0.00 and never used 0.00 for competitive advantages.

Where P > 0.05, If p value is greater than σ= 0.05 reject alternate hypothesis and accept the null hypothesis. It means appropriate resource utilization dimension techniques have not been used Very Often, or Often in Nepalese five stars hotels for competitive advantages. It clear that, Nepalese five star hotels have to change their Resource Utilization techniques in order to meet the global competitive advantage and higher productivity.

4.7. Flexibility Dimension

Flexibility means the ability to move with customer needs, respond to competitive pressures and be closer to the market. In other words, flexibility is the adjustment strategy of the change according to the environmental situation in an organization. From the respondent's point of view, hotel business organizations think that all the factors are important activities in order to meet competitive advantages.

From the respondent's point of view, hotel business organizations think that all the factors are important activities in order to meet competitive advantages.

Are flexibility performance measurement techniques useful for competitive advantages and strategic management accounting systems in Nepalese five star hotels?

Alternate Hypothesis:

Ha= The Flexibility Dimension performance measurementtechnique is practiced Very Often in Nepalese five star hotels, in order to meet the global competitive advantages.

Ha: $\mu \neq 8$

Ho: $\mu=8$

Flexibility performance measurement techniques are Very Often practiced in Nepalese five star hotels to meet global competitive advantages.

Whose p value is 0.842 for used Very Often; used Often 0.066 used Sometimes 0.466, Rarely, used 0.017 and Never used 0.00 for global competitive advantages.

Where P > 0.05.If p value is greater than σ= 0.05 reject alternate hypothesis or accept the null hypothesis. It means the Flexibility Dimension of performance measurement techniques has not been used Very Often, Often or Sometimes in Nepalese five stars hotels to meet global competitive advantages.

4.8. Result/Dimension of Competitiveness

Determining how to measure the performance of a company is always difficult.

Table 10: One Sample Test

Practice	Test Value = 5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Never	-6.897	8	.000	-3.88889	-5.1891	-2.5887
Rarely	-2.985	8	.017	-2.33333	-4.1360	-.5306
Sometimes	-.766	8	.466	-.44444	-1.7820	.8931
Often	2.125	8	.066	1.88889	-.1609	3.9387
Very Often	-.206	8	.842	-.22222	-2.7064	2.2619

First, there is the problem of finding useful definitions of concepts such as competitiveness or performance (Buckley, Pass, and Prescott 1988;Day and Wensley, 1988). Second, there is the problem of how to measure these concepts. Especially in the area of profit statement analysis, the evaluation has been enhanced by the growing recognition and use of comparative analysis techniques (Fay, Rhoads and Rosenblatt 1976; Horwath, Toth and Lesure 1978;Moncarz and Portocarrero, 1986; Fenton, Fowler and Parkinson 1989;Harris and Hazzard, 1992;Atkinson, Berry and Jarvis 1995; Coltman, 1998). Comparing financial information has proved to be effective for the assessment of the internal operating performance related to budgeting and past results, whereas common size analysis facilitates operating performance comparisons on an inter-company and industry basis (Harris and Brown 1998). Each of those methods encompass the idea of a more informed approach to a results analysis by the presence of 'absolute' and 'relative' measures of variation in performance. There are basically three ways that management can evaluate and control business performance; these are (1) Comparing budgeted versus actual input and output factors; (2) Comparing input and output factors over multiple periods; and (3) Comparing input and output factors with main competitors. The first

two instruments can be implemented within a firm and without incorporating any external data from other companies. The latter refers to performance monitoring and measurement between 'organizational units'. Organizational units may refer to internal departments, several outlets of one company, or several companies within one industry. For example, by measuring the efficiency of its internal divisions, a company will understand itsrelative performance. This helps managers to check if any appropriate corrective action needs to be taken and provides indications as to what kind of action, if any, should be taken.

Is the dimension of competitiveness measurement techniques useful for measuring the efficiency of internal divisions in Nepalese five star hotels?

Competition is the major dimension of organization. In order to meet the competitive advantages,the management and staff of five star hotelswere asked about relative market share and position, customer interest level, diversification of services, how products or services are widely distributed, timely delivery of services, advanced technology, prices and quality,asmajor factors in the Competitive Dimension. In the perception of respondents, an alternate hypothesis was developed.

Table 11: One Sample Test

	Test Value = 6					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Never	-29.000	4	.000	-5.80000	-6.3553	-5.2447
Rarely	-5.657	4	.005	-4.00000	-5.9632	-2.0368
Sometimes	-1.206	4	.294	-.80000	-2.6417	1.0417
Often	2.333	4	.080	1.40000	-.2659	3.0659
Very Often	-1.206	4	.294	-.80000	-2.6417	1.0417

Alternate Hypothesis:

Ha= Dimension of competitiveness measurement techniques for measuring the efficiency of Nepalese five star hotels and its internal divisions are very often practiced in competitive strategies and strategic management accounting rather than the practice of traditional accounting techniques.

Ha: $\mu \neq 6$

Ho: $\mu = 6$

The dimension of competitiveness measurement techniques for measuring the efficiency of Nepalese five star hotels and its internal divisions are very often practiced in competitive strategies and strategic management accounting, rather than the practice of traditional accounting techniques. Whose p value 0.294 is for used Very Often, Often Used 0.080,used Sometimes 0.294, used Rarely 0.005 and Never used 0.00 of competitiveness measurement techniques for measuring the efficiency of Nepalese five star hotels and the internal divisions.

Where P > 0.05.If p value is greater than $\sigma = 0.05$ reject alternate hypothesis and accept the null hypothesis. It means the dimension of competitiveness measurement techniques for measuring the efficiency of Nepalese five star hotels and their internal divisions are not used Very Often, Often nor Sometimes in the practice of competitive strategies and strategic management accounting systems, rather than the practice of the traditional accounting system.

5. Study Result

All of the above performance measurement techniques are equally useful for the competitive advantage of the hotel industry. Nepalese five star hotels concentrate only on quality services and financial measures as major factors thatsustain the organization in long-term competition. But this concept/perception of the management of the hotel industry may not be supportive to meet competitive advantages. The customer satisfaction related performance, benchmark related dimension, employee related performance dimension and competitiveness dimension measures were not emphasized to meet the competitive advantages of Nepalese five stars hotels. Financial measures and quality services measures dimensions alone,may not meet the sustainable competitive advantage in a rapidly changing environment and for customer interest.

6. Conclusion

The choice of measures to guide and evaluate the performance of business units is one of the most critical challenges facing organizations (Ittner and Larcker, 1998). The hotel sector has some different dimensions: reliability, responsiveness of employees, appearance of employees and facilities, cleanliness and tidiness of hotel rooms and employees, comfort of the guest, friendliness environment for the guest, reliability, effective and efficient communication system, courtesy, competency of employees, accessible service and facilities, availability of services, guest security, and consistent quality at all times are the major criteria of quality services of the hotel business. Management accounting should report all relevant information related to the evaluation of the performanceof a business unit.Systems which focus solely on financial measures such as profits, return on investment, standard costs and variance analysis have been widely criticized (e.g. Ittner et al., 1997; Kaplan and Norton, 1996).Hospitality managers in Nepal are still focusing on financial and quality services measures for competitive advantages, but other dimensions, such as those related to employees, customer satisfaction, benchmarks, flexibility, and the competitiveness dimension

of performance measures are not being implemented. In other words, Nepalese five star hotels are ignoring the non-financial dimensions of determinant measures. Different dimensions of performance are the influential determinants for a sustainable competitive advantage.

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EFL Learners, Stories and Language Development

Kamal Poudel

Faculty, Department of Linguistics, Tribhuvan University, Kirtipur, Kathmandu
Visiting Faculty, Kathmandu Bernhardt College, Balkhu Chowk, Kathmandu
kamalpoudel@gmail.com

Abstract

The present article presents strategies in exploiting literary text namely short fictions in the EFL classrooms. Literary texts are always motivating texts for the students and they can trigger the interest to learn and enhance the target language. Considering this, the article presents the ways to use the texts. This article is mainly useful to the teachers who are teaching literature at intermediate and higher levels, but the strategies can be followed at the lower levels too.

Introduction

Students are required to get exposed to various forms of language in order to enhance their language standard and acquire proficiency in the target language. For this,the teachers can take various types of materials into the foreign language classroom situations. This article considers using literary texts in the classroom in order to teach skills and facilitate students' understanding of the target language. We all are aware of the fact that literature can be one of the authentic sources for developing one's language standard. Also we have experienced that students generally find literature as a source of development and is motivating. It has a very important educational value as well. The other advantage of using literature in the EFL language classroom is that it helps the learners to understand other's culture. Along with fun, students will be enabled to develop their interpretative abilities literature. The message of literature tends to be universal in nature which ultimately helps the learner share their individual opinions, feelings and emotions among their own colleagues, which can be a stimulus for facilitating the language proficiency. The varied aspects of language are vividly used in literature, so the students' exposure to literature will eventually help grasp and acquire the language itself in a better way.

Thus we can exploit literature for the purpose of teaching various skills namely reading, writing, listening and speaking, and also indeed vocabulary and grammar. Bringing these issues into consideration, this article mainly deals with some possible stages of teaching or using English literature in the EFL classroom. This however mainly concentrates on teaching reading. We can think of using the same text concentrating on other skills too, if we have time and space. The story, which is presented below, was written by a Nepali writer B.P. Koirala. The story adapted here was translated by an English professor S.P. Lohani. The title of the story is A TALE. The translated version of the story is slightly modified.

This article has two sections, namely Book A and Book B. The first one is to be used by the teacher and the second one by the students/learners.

Book A
Activity One: Scene Setting

The learners are required to get led into the text they are going to use. The setting of scene in the beginning can be very beneficial for the learners, since they will get themselves contextualized to the activities they will have while dealing with the text.The subject matter and situation of text become interesting when

they find related to real life situation.
Ask the following questions to the students.
a.   To what extent do you think living alone is joyful?
b.   Do you think life without marriage is interesting?
c.   Will our life be interesting if we are deprived of entertaining our passions?
d.   Have you ever felt you have attended godhood?
e.   How do you think supreme knowledge and godhood can be achieved?

Activity 2: Prediction

Tell the students that they are going to read a story entitled 'A Tale'. Then give a very brief description of cultural background on which the story is based on. In the present context, present the following.
'In some cultures, people think that life of human beings is sorrowful and is surrounded by many miseries, pains, problems, and difficulties. So, in order get rid of these things, one needs to achieve supreme knowledge and godhood, which can be done by undergoing penance forgetting his emotions, relatives etc, and thus reach the target overcoming the flesh and mind'.
After this, ask learners to predict what may happen in the story next and how it may come to the end.

Activity 3: Pre- teach Vocabulary

The learners are required to be familiar with new vocabulary items in the given text. We can approach any convenient technique for teaching vocabulary items. Ask the learners to read the sentences and give the meanings of the underlined words in task A. Then talk about the grammatical categories of the words too. After this, talk briefly about adjectives and their functions. Then ask them to fill in the blanks with appropriate words from the list given in

Task B. Tell them that the first letter of each word to fill in the blank is given. When they have finished the task B, ask them to match the words and meanings in Task C. Along with this, talk about verbs and adverbs briefly. Finally, drill the pronunciation of the vocabulary items they have just practised.

In addition, making them use the dictionary, basically monolingual, can be another simple technique for the purpose of enhancing the skill of vocabulary use.

Activity 4: Reading

In this stage students are required to have understanding the text they are going to read. Ask the students to read the questions in task D and read the text quickly. Then, ask them to write the answers to the questions. Make them aware that they need not to go through the text for detailed understanding. As a teacher you can model the technique of running eyes through the text for the key words that are required to answer the questions. The purpose of this reading is to get the general idea of the text.

Activities 5: Reading

In this stage students are required to read the text for a bit more general and detailed understanding. Ask them to read the text again and find whether the statements in task E are true or false.

Activity 6: Reading between Lines

Before leading the students for detailed understanding, we need to consider some cultural issues that are brought into the text. Regarding the present story, the following needs to be deliberated.
It is believed that attending Godhood and supreme knowledge makes any person free of any kind of problems that mortals in the earth

have to face. Mortals suffer mainly from love 'Maya' for their people and relatives, which may lead them to have many desires in this world. When a person has many desires, he may remain unsatisfied all the time. Since there is a chain of desires: one comes after the other. There are some mortals who want to get rid of desires and live the life without suffering for which one needs to achieve godhood and supreme knowledge. They believe that this can be achieved through penance so they go to the forest and live a lonely life for penance to conquer all the passions and desire, which may need a great labour and courage. However the question is 'Is it possible to conquer the passions and desires?'

After this, ask the students to read the text very carefully and answer the questions. They are required to read between lines for detailed understanding. Discuss the questions and answers in groups.

Activity 7: Interpretation

When the reading between lines is over, lead the students to the stage of reading beyond lines. In this stage, students need to interpret the texts.

Form groups of four/fives. Then, ask them to mainly discuss why the sage was unsuccessful in achieving the godhood and supreme knowledge. Further, ask them to focus on the issues given in Task G. When they finish the discussion ask each group to find a representative to share his/ her group's ideas and opinions regarding the man's fall in the story.

Finally, wind up the discussion with the statements that

……… it is really a good idea to go searching supreme knowledge and godhood. We can undergo many difficulties and problems and try to kill the passions and desires. With our will power, they may remain submerged but

when they get right moment, they will come out automatically. Indeed, we should control our passions and desires and remain within the social boundary or limitations, but certainly we cannot kill or totally erase them, because they are indispensable to human life. We can never erase the ecstasy and bliss of being human and living in the society. The supreme knowledge can be achieved if we understand our fellow beings and ourselves, and live in harmony along with quenching the thirst of and passion and desires. Indeed, this is the state of godhood too.'

The interpretation may go on and on. Come to the conclusions drawing ideas from the learners as well, which are based on the theme of the text.

Activity 8: Grammar Focus

We can select any grammar point to discuss in the classroom. For the present purpose, the irregular verbs have been focused on.

First, briefly talk about the various forms of the verb like: bare infinitive, infinitive, past, past participle, and present participle. Then

a. Ask two students to come to the front and sit facing each other
b. Ask student A to supply an irregular verb s/he knows, e.g.,seek (make it sure students know what an irregular verb is). Then, ask student B to give the past or past participle form of the verb. Give points for the correct answer.
c. Do the similar activities for the rest of the class.

After this, ask all the students to mark all the irregular verbs in the text 'A Tale'. Then ask them to briefly discuss what modifications have taken place during the process.

The similar game can be run for the purpose of words formation too. We can focus

on changing the grammatical/syntactic category of lexical items or deriving new vocabulary items.

Activity 9 Simple Past: Active and Passive

Get the students contextualised with the active and passive forms. Make sure students are familiar with the idea that intransitives do not have passive forms. Play a game 'find someone who….' as given in Task H. Give required instruction how to play the game.

Activity 10 Story: Assignment Idea

Ask the students to write a similar or different story. You may give some steps how to develop a story. They may write the story at home. Discuss briefly how tense is used in narratives. Let them share the story in the class.

Book B
Task A

Read the following sentences and give the meanings of underlined words.

a. In order to be clean and to purify one's character, one should undergo the process of penance. For this, he may impose punishment on oneself.

b. They were having a negotiation with that emissary. But as they knew that she had come there with a message that could ruin their fame, they broke up the negotiation with her.

c. The atmosphere and the environment in that place were so peaceful and very appealing. I believe such tranquillity can enable anyone to compose a poem.

d. The people who withdrawthemselves from a society live in the hermitage.

e. Her beauty attracts everybody. She looks like a nymph from the heaven.

f. It is believed god sometimes appears in the form of human beings. God's such incarnation may bring peace and harmony in the human world.

g. He was too excited, when he reached the summit of Mt Chandragiri. He said he had never experienced such ecstasy.

h. He had fought for the liberty of the nation. So many people gathered to pay homage to him.

i. When he heard that his friend had deceived him, he turned away in dismay and shock.

j. What bliss! I do not have to go to work today.

k. Don't blame her. She is not a seductress. She did not try to tempt anyone for wrong deeds.

Task B

Fill in the blanks with appropriate vocabulary items from the list. For your convenience, the beginning letter of each word to fill the blank is given.

> sparkling, chaste, celestial, anxious, comely, supreme, inferior

a. He is widely learned person. I feel i…..……. to him academically.

b. I am terrestrial but god is c. …..…….

c. The martyrs are considered to be the s…..…….characters of the nation.

d. The stream has s…..…….water. You can see tiny white bubbles of air.

e. He sat for his examinations. He is a…..……. to know about his result.

f. She looks pretty, and her c…..……. appearance is ever attractive.

g. One who has a pure and virtuous character is c…..…….

Task C

Match the following vocabulary items in column A with the meanings in column B

Task D

Now read the following questions. Then read the text given below quickly and answer

Column a	Column b
Dwell	to complete successfully
Triumph	to gain possession
Squat	to dive (into the water)
Plunge	to scatter small drops of water
Conquer	to sit on one's heels with knees drawn up under the body
Accomplish	to overcome
Sprinkle	to live
Meekly	to do without intention, do unconsciously
Involuntarily	to have desire
Aspire	obediently

the questions.

a. Who were in competition with gods long ago?

b. Did the man undergo penance for a short or long period?

c. Who sent the nymph to the earth to break the penance of the sage?

d. Who did the sage marry?

A Tale

This is a tale of long long ago, when human beings were in competition with the gods. The gods, ever fearful of defeat in their life-and-death struggle with the demons, did not hesitate to request the help of mere mortals like Dadhichi and Dasharath. But whenever any of these inferior mortals aspired to become gods through penance, the gods sought to destroy the penance of people who abandoned all worldly pleasures. Their most successful emissaries of destruction were celestial nymphs.

In those days, one man realized that supreme knowledge could not be found in cities and villages. Among men, he felt, the path to godhood was blocked by social obligations and the love of family and friends. So, to win supreme knowledge and godhood, he went to dwell alone in a remote jungle.

He lived in a small clearing surrounded by lofty trees. He ate wild roots and berries and drank water from the sparkling river that flowed by his hut. The air was filled with the songs of birds and the gentle murmur of the river.

To triumph over the flesh, he squatted in front of seven tongued fires in summer and plunged into ice-cold water in winter. He fasted for many days. Eventually, after much labor, he conquered his flesh and mind and lost his soul to God.

Now, one full moon followed another. The seasons changed. The trees lost their leaves, put on new leaves, flowered, and lost their leaves again. Yet the sage went on sitting motionlessly for meditation.

The leopards and cobras, the deer and the hare, surrounded him in perfect harmony. Anxious not to break the tranquillity of holy place, the tigers and bears tiptoed meekly by. Charged by inner light, he achieved a state of unending ecstasy. He felt the brilliance of a thousand suns exploding within him. Has his goal then been accomplished?

When the sage's penance started to threaten the seat of heaven, Indra, the king of the gods, sent the comeliest and cleverest nymph of his court to the hermitage.

The nymph took off her clothes and stepped into the river, playfully sprinkling its water. She looked as vibrant, as majestic and enchanting,

as a Himalayan peak touched by the first rays of the sun. Knee-deep in the river, she stooped to fill her hands with water, appearing as pure and chaste as the rajanigandha flower. Loveliest of all were her breasts, pointing downwards towards the water like twin raptors ready to pounce on their prey.

At that very moment, while the nymph was still in that attractive posture, the sage's eyes involuntarily opened. He did not see the changes around him: he did not notice the grass grown around him. Instead, his gaze fell on the nymph.

She was the living image of his last stage of penance, or the reappearance of his undying passion. Slowly, the sage rose, still fully experiencing his inner state of bliss, he advanced towards the glistening maiden. Soon after, they married in the jungle and made preparations to return to society. Just then, a great king and his villagers came to pay homage to this famous person. But, upon seeing the sage's young wife, they turned away in dismay and shock.The sage and his wife built a house in the village. Like their neighbours, they led a simple domestic life. In the course of time they became the parents of two boys. They helped their neighbours in any way they could. But their neighbours could never forgive his fall. At the sight of his wife carrying water from the well, they thought, 'Is she an evil seductress who caused the saint's downfall? And yet the sage never ceased to experience the ecstasy and bliss he felt in the jungle.

Task E
Find whether the following statements are true or false.
a. He did not do any labour for the penance.
b. Gods were quite conscious about losing their seats.
c. The sage was attracted and disturbed by beauty of nymph.

d. The villagers were really happy to welcome sage and his wife.
e. The sage and the nymph talked for a while and departed.

Task F
Answer the following questions.
a. Who did the gods use to ask for help when they were in problems?
b. How would the man undergo penance?
c. Why did the king of heaven, Indra, decide to send a nymph to the hermitage?
d. Who did sage see when he opened his eyes involuntarily? And what did he do further?
e. What kind of life did the sage's couple live then?

Task G
Interpret the text as you like in your groups. You can mainly concentrate on the following issues:
a. Gaining supreme knowledge and godhood.
b. Conquering flesh and mind and losing one's soul to god.
c. The passion and desires never die in human beings. They are indispensable to human beings.

Task H
Follow your teacher and play a game.
Find a person……………
…………was lost in Kathmandu.
…………whose parents were married in their early twenties.
…………dwelt in a village.
…………was threatened by a police for a parking offence.
…………plunged into the Narayani River.

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EFL Learners, Stories and Language Development

School is Bad for Children - It is Time for new Ideas!!!

Suraj Shiwakoti
Lecturer, Department of English, Kathmandu Bernhardt College
Bafal, Ringroad, Kathmandu, Nepal
shiwakotisuraj@gmail.com

My neighbor's daughter, who is about two and a half, became sick for four days on the very first day of her school. The cause was found on the second day, for the teacher had threatened her to call for police to shut her up because she was asking many questions and was touching everything in her classroom!!!

The example is itself evident of the education system of our nation that we want to make every child a coward, dull, indifferent, a parrot like, and passive! John Holt once stated that if aliens wanted to destroy mankind all they had to do is install our school-system. Once a child is born, after spending many days blissfully watching how his fingers move and poking at the cats and dogs at his house, enters the first year of what will be the focus of the next decade of his life: school.

Every child, on the very first day of his schooling, enters school building smarter, curious, less afraid, more confident, resourceful, independent, and we make him sit on a chair to learn things, as if the child is a blank sheet of paper and we want to write on it. In short the child comes to learn that learning process is dull, passive, rather than inventing something; he starts becoming disinterested.

First of all, he is taught that there's a difference between learning and living - as if learning is here in the school building, and living is outside, and there's no correlation between the two.As if what he did for the first five years of his life - like discovering language - wasn't learning at all.He learns that to be confused or wrong is a crime. The school wants" Right Answers", and he learns countless ways to con the teacher into thinking he knows something he doesn't; he learns to bluff and cheat.He also learns to be lazy. Before school began he worked for hours and hours, with no thought of reward, to make sense of the world. But in school he learns that no one does anything they

don't have to and he learns to be bored.
Poor student!!!

The ideas mentioned here are essentially those of educator and author John Holt, who believes that our educational system misdirects the youth of today. I agree and I often cite and quote him in my lectures.Please do not think me wrong. Education and knowledge is vital; I do not need to explain, it as clear as daylight, but the system is - like many things - imperfect. And the problem comes with the misconception that learning begins just after the first bell rings and stops after graduation.Education is a lifelong process and by showing kids that the reward for learning is not knowledge but a good report card, there's no wonder that the problem is lack of motivation.

I think that the point of education is not to teach what to think but how to think. Why do kids learn? They want to get good grades. Why get good grades? They will get into a good college. Why a good college? Because then, as everyone knows, we will be more likely to lead a happy, successful, and fulfilling life.Is it the destination we seek to our child?

Why such a claim?

The way he is treated makes him feel that he is worthless, untrustworthy, and capable only to take people's orders like a machine; you switch on and it starts functioning. We order him to read and make him learn like a parrot. In our one of the text book of university level, I would like to quote as an example, a very good story entitled The Good Example by Vicente Riva Palacio from Mexico is compiled which satirically shows how even a parrot enables itself to open a school after hearing his master's continuous teaching for a long period of time! Who is to be blamed; the master, the parrot? What is learningand why is it soimportant?People like us, psychologists

and educators, try to avoid confusion by being as clear as we can about how we define the terms we're using. We define learning as a change in behavior, thinking or feeling, caused by experience. We say that a child has learned from an experience if we see the child behave differently in a particular situation as a result of a particular experience or set of experiences.

What can be done?

As parents or as teachers, our goal is to help our children be happy,capable and well adjusted to their world. We hope that our teachingand their learning in the preschool years will have this result. Wehope that by the time that big day comes around, the first day atschool, they will be prepared to do well and enjoy themselves. Formany children, of course, getting used to school might not comeeasily. There may be reluctance and tears, especially in the earlyweeks.What do we need to do? I think, for one, that learning should be a more active process. It's a bit of a paradox to learn about the world by being taken out of it. We should have time to take more field trips and learn things hands-on in the "outside" world.

There's something even simpler: we should spend more time working with other students. And don't kids learn best from each other?Let students take more responsibility for their own learning. Does anyone really believe that students won't notice mistakes unless they're pointed out or correct them unless we're made to? In such a case we become less independent and less confident of our own abilities.And then there are grades. How it is possible, students ask, to stick a number on a piece of writing or a piece of art? Or even more importantly, how is it possible to work and think so hard for a class and then be presented with a load of percentage points?Because essentially, however grading may be justified or supplemented with explanations, it shows the student that what

counts in the end is not whether he has learned the material and will apply it or use it to enrich his life, but that a high number will get him into a good college.How do you truly measure what someone knows? In the words of Holt: "Let the child learn what every educated person must someday learn, how to measure his own understanding."What, after all, is the goal of education? Making honor a role? Or making sense of the world?

Usually, the more often we do something, the more automatic it becomes. Practice not only makes perfect, it makes fluentand effortlessas well. This is what we mean by strong learning. Strong learning is required when it's important the child always does a task correctly, or if she is going to be doing it a lot. Not only will the skill be more reliable and more accurate, but it will hold up after long periods without practice or reward. Asadults, we might not have used a bike or a scooter for many years, but when we get on one, maybe to show a child how to do it, we don't need any retraining. The keys to strong learning are plenty of practiceand something else called generalitytraining. Generality training is training designed to improve the chances that something learned in one situation will carry over into other situations and last over time. The need for practice is obvious enough, but it is also good to space out the practice sessions – more short sessions are better than fewer long ones.

We should also revise and modify compulsory school attendance system. The way will obviously be as great as school boundary creates because he will learn something being out of the school in first hand. There is another way as well; bring the students out of the school building and let them get experience from real world. They can be taken to the libraries, museums, exhibits, courtrooms, legislatures, radio and TV stations, meetings, businesses, laboratories, parks, fields, cow sheds, paddy fields, factories, bus parks and railway stations

and so on to learn about the realities of the world for their primary experience. Moreover the children can be made work together to help each other and each other's mistakes. Through this let the children judge their own work. It is best way to become a facilitator and help him to figure out the things. For real and better way of examining he success would be judging him through his peer work, project work, personal hygiene, everyday behavior, his ideology, personality development and his way of thinking about the real world; after all our goal is to produce a practical, moral positive thinking and creative human being rather than "a body of knowledge"

Different theories these days have been focusing on the alternative ways of educational development. Emotional Intelligence Quotient (EQ), one of the theories, is a type of social intelligence theory that involves the ability to monitor one's own and other's emotions, to discriminate among them, and to use the information to guide one's thinking and actions. Similarly Howard Gardener's Multiple Intelligence Theory also suggests that portfolios, descriptive assessment would be other alternatives for the examination system.

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Reading Purpose and Understanding

Sarala Bhattarai
Lecturer, BST College, Kathmandu

Readers read the texts with different purposes. The purpose of reading has an important role in reading and picking up the information. The purpose of reading also determines the process and nature of reading. In addition to this, the environment, where the reading task is set, may also affect the nature of reading. Sometimes, the reading environment itself may affect the purpose of reading too. In a very formal setting, for example, readers may not be able to read for pleasure. However, the purpose of reading can be set by the reader himself/herself. On the whole the motivation of readers also determines the objective of reading. The following is a brief discussion on reading purposes.

There are various types of students in an academic institution. In some cases we find students from different types of educational faculties, such students will be in need of different types of English. For example, the students representing science or engineering or commerce need a special type of English, which may not fit for the literature English student. This emphasizes on "learner need". The reading set according to the need of learner is called reading for specific purpose, since the reading texts prepared for one particular discipline will have a different specific relevance. However, this kind of claim creates a debate too, because no writer is going to follow any different syntactic pattern deviated from the standard norm. But it is true that lexical items and style certainly create an important context of relevance. A document or a report about a chemical reaction certainly sounds difficult for literature students to understand.

When the readers are reading for specific purpose (in the sense discussed above), they are much careful about using specific skills that are required to extract the meaning of the text. They are much conscious about the types of vocabulary items they are likely to come across while reading. The concentration of reading, thus, goes on to the specific vocabulary items which the readers take as "keywords". The identification of key words always makes it easier for the readers to understand the text. So is the role of style. The lack of comprehension of the style of the texts always creates problem in understanding the text and getting the meaning. The comprehensibility of a text may depend on the style chosen by the authors too. Some authors are more comprehensible and easy too understand and some difficult. On the whole the nature of subject matter itself might be crucial from the point of view of reading purpose. Besides, the understanding depends on the background knowledge of the readers too.

Apart from reading for specific purposes, there are readers who keep themselves busy reading for general purposes. The readers who read for general purposes have indeed some aim of gaining information from reading. This kind of reading can be found in various fields. Sometimes readers go through the texts, for example, to know about cultural heritage of a particular country or of a group. Along with this, people read just for pleasure too. In the case of second language, many students read fiction and romantic writings for the purpose of pleasure. In our contexts too, if the students are already familiar with reading such texts in

their own language or Nepali itself, they are very much likely to read romantic and thrilling type of texts with pleasure in English, which is normally fiction.

The students who are not quite sound in the second language may prefer simplified readers. After this stage is overcome, they automatically prefer reading the original texts. There are many advantages of reading for pleasure in second language learning context. Obviously reading for pleasure encourages students to set a habit of reading, which naturally helps them to upgrade their linguistic standard. The excessive reading habit enables them to come across a variety of language use and structure as well as vocabulary items. Also, it helps to internalize and conceptualize the fundamental rules and patterns of the target language. Students are stimulated to learn more aspects of grammar through this type of reading. Grammar learnt in isolation may not be very effective, and it may be quite difficult for the students to internalize or acquire the rules for the structures of the target language if they are treated separately. The understanding aspect also gets fostered if they are encouraged to read more and more. When students read for pleasure they feel free to respond to the texts. They will come up with various meanings. They are not forced to give response in particular way, although, no doubt their response to the text or meaning they consider should be within the boundary of validity.

The students need to be exposed to more reading materials but depending on their interest and desire. If they love science fiction, they should be given the very types of texts so as to arouse motivations in them. By this they will "have experience with the genre which will help them to predict many features of the second language text. At the same time cross-cultural genres contain culture-specific discourses, and these can be explored and discussed" (Wallace, 1969).

Thus it can be claimed that students may understand any text better if they read it being stimulated themselves, because self motivation is rather stronger. It is true that motivated students read and learn better.

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