

Volume 4, Issue 5(3), May 2015
**International Journal of Multidisciplinary
Educational Research**

Published by

Sucharitha Publications
8-21-4, Saraswathi Nivas, Chinna Waltair
Visakhapatnam – 530 017
Andhra Pradesh – India
Email: victorphilosophy@gmail.com
Website: www.ijmer.in

Editorial Board

Editor-in-Chief

Dr.K. Victor Babu

Faculty, Department of Philosophy
Andhra University – Visakhapatnam - 530 003
Andhra Pradesh – India

EDITORIAL BOARD MEMBERS

Prof. S.Mahendra Dev

Vice Chancellor
Indira Gandhi Institute of Development
Research
Mumbai

Prof.Y.C. Simhadri

Vice Chancellor, Patna University
Former Director
Institute of Constitutional and Parliamentary
Studies, New Delhi &
Formerly Vice Chancellor of
Benaras Hindu University, Andhra University
Nagarjuna University, Patna University

Prof. (Dr.) Sohan Raj Tater

Former Vice Chancellor
Singhania University, Rajasthan

Prof.K.Sreerama Murty

Department of Economics
Andhra University - Visakhapatnam

Prof. K.R.Rajani

Department of Philosophy
Andhra University – Visakhapatnam

Prof. P.D.Satya Paul

Department of Anthropology
Andhra University – Visakhapatnam

Prof. Josef HÖCHTL

Department of Political Economy
University of Vienna, Vienna &
Ex. Member of the Austrian Parliament
Austria

Prof. Alexander Chumakov

Chair of Philosophy
Russian Philosophical Society
Moscow, Russia

Prof. Fidel Gutierrez Vivanco

Founder and President
Escuela Virtual de Asesoría Filosófica
Lima Peru

Prof. Igor Kondrashin

The Member of The Russian Philosophical
Society
The Russian Humanist Society and Expert of
The UNESCO, Moscow, Russia

Dr. Zoran Vujisiæ

Rector
St. Gregory Nazianzen Orthodox Institute
Universidad Rural de Guatemala, GT, U.S.A

Prof.U.Shameem

Department of Zoology
Andhra University Visakhapatnam

Dr. N.V.S.Suryanarayana

Dept. of Education, A.U. Campus
Vizianagaram

Dr. Momin Mohamed Naser

Department of Geography
Institute of Arab Research and Studies
Cairo University, Egypt

I Ketut Donder

Depasar State Institute of Hindu Dharma
Indonesia

Prof. Roger Wiemers

Professor of Education
Lipscomb University, Nashville, USA

Dr.B.S.N.Murthy

Department of Mechanical Engineering
GITAM University –Visakhapatnam

N.Suryanarayana (Dhanam)

Department of Philosophy
Andhra University
Visakhapatnam

Dr.S.V Lakshmana Rao

Coordinator
A.P State Resource Center
Visakhapatnam

Dr.S.Kannan

Department of History
Annamalai University
Annamalai Nagar, Chidambaram

Dr. Barada Prasad Bhol

Registrar, Purushottam Institute of
Engineering & Technology
Sundargarh, Odisha

Dr.E. Ashok Kumar

Department of Education
North- Eastern Hill University, Shillong

Dr.K.Chaitanya

Department of Chemistry
Nanjing University of Science and
Technology
People's Republic of China

Dr.Merina Islam

Department of Philosophy
Cachar College, Assam

Dr. Bipasha Sinha

S. S. Jalan Girls' College
University of Calcutta, Calcutta

Dr. K. John Babu

Department of Journalism & Mass Comm
Central University of Kashmir, Kashmir

Dr.Ton Quang Cuong

Dean of Faculty of Teacher Education
University of Education, VNU, Hanoi

Prof. Chanakya Kumar

Department of Computer Science
University of Pune,Pune

Prof. Djordje Branko Vukelic

Department for Production Engineering
University of Novi Sad, Serbia

Prof.Shobha V Huilgol

Department of Pharmacology
Off- Al- Ameen Medical College, Bijapur

Prof.Joseph R.Jayakar

Department of English
GITAM University
Hyderabad

Prof.Francesco Massoni

Department of Public Health Sciences
University of Sapienza, Rome

Prof.Mehsin Jabel Atteya

Al-Mustansiriyah University
College of Education
Department of Mathematics, Iraq

Prof. Ronato Sabalza Ballado

Department of Mathematics
University of Eastern Philippines, Philippines

Dr.Senthur Velmurugan .V

Librarian
Kalasalingam University
Krishnankovil Tamilnadu

© Editor-in-Chief, IJMER[®]
Typeset and Printed in India
www.ijmer.in

IJMER, Journal of Multidisciplinary Educational Research, concentrates on critical and creative research in multidisciplinary traditions. This journal seeks to promote original research and cultivate a fruitful dialogue between old and new thought.

C O N T E N T S

Volume 4

Issue 5(3)

May 2015

S. No		Page No
1.	Bali Tourism Image from WOM to e-WOM according to 4A Approach Ni Gusti Ayu Dewi Paramita Arisandi, I Gede Putu Wirawan and Linawati	1
2.	Agriculture: A New Approach to Sustainable Development R. Sudhakar Goud	14
3.	Essential Principles for Quality Education T.Vijay Kumar Ratnam	19
4.	Languaging Issues in Bali Tourism : An Eco-Sociolinguistic Approach Yohanes Kristianto and Ketut Artawa	30
5.	The Study of Deviations in Grammar and Syntactic Structures of English in Telugu-Speaking Region Siva Satyanarayana Jagarapu	47
6.	Pneumatic Operated Pipe Cutting Machine Using Abrasive Disc Cutter Roshani U. Shingarwade and Pankaj S. Chavan	58
7.	Marginalization of Hindu Female Employees at Five Star Hotels in Bali(A Case Study) Ni Wayan Karmini	66
8.	College Library Websites Useful to Digital Library P.Subbulakshmi	75
9.	The Significance of Suffering According to Some of the Major Existentialist Thinkers Papori Boruah	92
10.	Finite Element Analysis of Stainless Steel-AISI 316l and Titanium-Tia14v Intramedullary Locking Rod for Tibia Bone Fracture R. A. Lekurwale, S. N. Aloni and K. S. Dagwar	105

11.	Self-Help Group and Women Empowerment: A Case Study of Hugli District in West Bengal	116
	Sayanti Poddar	
12.	Indian Agriculture and Sustainable Development in IPR (Intellectual Property Rights) Regime	125
	Smrutirekha Mohanty and Minati Mallick	
13.	An Implementation of Cluster Based Certificate Revocation with Vindication Capability for Manet	143
	Ruchita Harish Bajaj and P.L. Ramteke	
14.	Quality Education – The Role of Teachers	157
	Shaik John Abraham Joseph	
15.	SAmKara on JīVaṅśVāra and Sāksin	165
	Soumya Kanti Sinha	
16.	Performance Evaluation of SBI Magnum Equity Fund	179
	G.Gangaiah	
17.	Platform and Local Train Tickets in Mobile by Using Android Application	188
	P.Kiruthika and S.Shanmugapriya	
18.	Problems and Prospects of Rural Entrepreneurs	195
	M.Sandhya Sridevi and M.Pardha Saradhi	
19.	The Relationship Between Skill and Fitness of Urban Soccer Players of West Bengal	212
	Provash Das and Piyali Mishra	
20.	Content Knowledge and Pedagogical Content Knowledge in the Sixth Grade Mathematics Textbook of West Bengal Board of Secondary Education	221
	Subir Sen and Tuhin Kumar Samanta	

Dr. K. VICTOR BABU

M.A.,M.A.,M.Phil.,Ph.D.,PDF, (D.Lit)
Faculty of Philosophy and Religious
Studies & Editor-in-Chief
International Journal of Multidisciplinary
Educational Research (IJMER) &
Sucharitha: A Journal of Philosophy and
Religion
Andhra University, Visakhapatnam
Pin - 530 003 , Andhra Pradesh – India



ISSN : 2277 – 7881
Impact Factor :2.972(2015)
Index Copernicus Value: 5.16



Editorial.....

You will be happy to know that we have entered the fourth year of publication of IJMER, since its inception in April 2012. Focusing on many interdisciplinary subjects, the published papers are spreading the knowledge with fervent hope of upholding the holistic approach. With all my heart, I reiterate to echo my sincere feelings and express my profound thanks to each and every valued contributor. This journal continues to nurture and enhance the capabilities of one and all associated with it.

We as a team with relentless efforts are committed to inspire the readers and achieve further progress. Aim is to sustain the tempo and improve. We acknowledge with pleasure that our readers are enjoying the publications of Sucharita Publishers. We solicit to receive ideas and comments for future improvements in its content and quality. Editor – in-Chief explicitly conveys his gratitude to all the Editorial Board members. Your support is our motivation. Best wishes to everyone.

Dr.K.Victor Babu
Editor-in-Chief

**SOCIAL SCIENCES, HUMANITIES, COMMERCE & MANAGEMENT, ENGINEERING
& TECHNOLOGY, MEDICINE, SCIENCES, ART & DEVELOPMENT STUDIES, LAW**

www.ijmer.in



MARGINALIZATION OF HINDU FEMALE EMPLOYEES AT FIVE STAR HOTELS IN BALI (A CASE STUDY)

Ni Wayan Karmini

Hindu University of Indonesia
Denpasar, Bali, Indonesia

I. INTRODUCTION

Historically, the progress in tourism in Bali cannot be separated from the roles played by the Hindu Balinese women. In the tourism industry and social, ritual and art activities, they are exploited. In addition, according to Anshori (2007), the beauty of their bodies is used as the productive object. Pitana (1998: 22) stated that the things which had inspired tourists to come to Bali were the beauty of the nature, the culture and the Hindu women. However, the current progress in the tourism industry does not necessarily mean that it allows the Hindu women to have the managerial position; in fact, those who are employed at five star hotels have become marginalized. Such a phenomenon can be seen from the organizational charts at the five star hotels located in Sanur area, Bali. None has been appointed a General Manager. From the six departments, namely, the Housekeeping Department, the Security Department, the Personnel Department, the Food & Beverage Department, the Department of Front Office, and the Department of Sales/Marketing, some Hindu women are appointed the lower managers; none has been appointed the top manager.

In relation to the phenomenon described above, the problems of the present study are formulated in two research questions; they are: what factors had caused the Hindu women employed at five star hotels in Bali to be marginalized; and why, as the employees employed at Five Star Hotels in Bali, they were marginalized. This present study was intended to find the solution to the problems mentioned above. As a



result, the Hindu women, especially those employed at five star hotels in Bali, will not be marginalized any longer.

II. The Factors Causing the Hindu Women Employed at Five Star Hotels in Bali to Be Marginalized

According to the research conducted in 2011, 1243 employees were employed at the Five Star Hotels located in Sanur Area; 1036 (83%) were male and the rest, that is, 207 (16.65%) were female. Out of 207 female employees, 169 (81.64%) were Hindus, and the rest, that is, 38 (18.36%) were non Hindus. Among the Hindu female employees, who were employed at three star hotels in Sanur area, only one who was in charge of the personnel department, meaning that the rest, that is, 184 were common employees. What was surprising was that among the 38 non Hindus, 6 were department heads, and that none of the Hindus was appointed the general manager or operational manager. This showed that the Hindu women had been marginalized.

The internal and external factors had caused the Hindu women employed at Five Star Hotel located in Sanur area to be marginalized.

2.1 The Internal Factor

a. Being Less Skilled and Professional

Skill and professionalism, which can be acquired through formal education, training and experience, are needed by someone who wants to be a hotel general manager. 1.62 % of the women living in Sanur area were graduates of the diploma program and 3.99% were graduates of the undergraduate program. Based on the data quoted above, several women should have been in the managerial position (Kecamatan Denpasar Selatan dalam Angka, 2011). The Hindu women who were employed at five star hotels were common employees. The study conducted at three star hotels located in Sanur area showed that no Hindu woman was in the managerial position, resulting from being less



skilled and professional (Karmini, 2011). Such a phenomenon shows that skill and professionalism, which can certainly be acquired through formal education and training are needed in order to be in the managerial position.

However, traditional and cultural activities did not allow them to acquire the skill and professionalism needed to be in the managerial position. They were too busy with their religious, traditional and cultural activities to improve their skill and professionalism, and this was implied by the customary regulations (*awig*), meaning that, structurally, they were not free to improve their skill and professionalism. In addition, they were also made to be busy with religious rituals and mutual assistance such as *ngayahang* and *ngopin* (forms of mutual assistance).

Professionalism can be obtained through education, as stated by Driyakara (1980) that education is an attempt made to humanize man (2007: 13). They can also improve their skill and professionalism through workshops and the other trainings which are relevant to tourism. Those who are employed at five star hotels need skill, professionalism, and being punctual. Ms. Ruscitawati (34 years old), the personnel manager of the Inna Grand Bali Beach, stated as follows:

...”untuk mengisi posisi manajer di hotel berbintang lima, tidak cukup memiliki ketrampilan dan pendidikan tinggi saja, yang menjadikan pertimbangan pertama adalah keprofesionalisme, juga ketersediaan waktu (Wawancara, 17 September 2014)

[...]”skill and higher education are not enough for someone who would like to be in the managerial position; the first consideration is professionalism as well as availability of time (Interview, 17 September 2014).



What was stated above shows that time management is highly essential if someone would like to be employed at a five star hotel. The Bali Hindus, who were employed at five star hotels, could not concentrate on their jobs as they were also involved in the traditional and cultural activities. Being not professional and being not able to focus on their jobs did not allow them to be in the managerial position.

b. Being Bound to Families

Internally, the Bali Hindu women were also bound to their families. The Balinese people adhere to the patriarchal culture, which have been inherited from generation to generation. The patriarchal culture refers to the system in which men control the matters pertaining to families. Such a cultural inheritance should be used as a model by a small family (Parimarta, 2006: 6). The Hindu Balinese women who were employed at five star hotels still appreciate the patriarchal culture.

c. Being Bound to Tradition

The result of the study conducted by Karmini (2011) showed that none of the Hindu women was appointed the general manager of a five star hotel. The traditional factor was responsible for that. In Bali the traditional activities are organized by the traditional village (*desa adat*) or the smaller neighborhood under the traditional village (*banjar*). Thus, the traditional village is a socio-religious organization which can independently organize itself in order to achieve its objective (Windia, 2008: 92).

It can be stated, therefore, that being bound to the tradition was also responsible for the fact that it was possible for the Hindu women to be in the managerial position. Tradition (*adat*) is a social organization which contains regulations, norms and religious values written in the form of what is called *awig* (the customary law) as the umbrella which is inspired by Hinduism. The binding tradition also



caused the Balinese women, especially those who were employed at five star hotels, to be marginalized.

2.2 The External Factor

a. Limited Relation

Relation is the most important part in management; whether tourism business will be successful or fail is highly dependent on the network of relation which is built. The cultural factor and the fact that much time was spent on domestic affairs restricted the Hindu women to build the network of relation. Being a manager needs a wider relation in the tourism industry. As they were close and submitted, it was difficult for them to build relation with owners.

b. Limited Nurturing and Training Programs

The fact that only a few Hindu Balinese women became the top managers at the Five Star Hotels could not be separated from the limited nurturing and training programs which they could attend. The reason was that the nurturing and training provided by the Department of tourism could have improved their skill and professionalism. Ni Wayan Rasmini (aged 33), a staff member of the Sanur Beach Hotel, stated as follows.

“Untuk pembinaan terkait dengan kepariwisataan oleh lembaga pernah pernah diikuti, dan sebatas pada bagaimana etika dalam memberikan pelayanan kepada wisatawan, misalnya dalam sikap dan komunikasi. Pembinaan dan pelatihan dianggap sangat penting, tetapi itu sangat jarang”. Kemampuan dalam komunikasi dan ketrampilan dalam usaha didapatkan hanya mengandalkan feeling dan mengikuti yang sudah ada di lingkungan saya bekerja (Wawancara, 2 Juni 2014).



[The nurturing program in tourism provided by a governmental institution has ever been attended; however, the material was only limited to how to serve tourists, meaning that the material only included how to behave (ethics) and how to communicate (communication). Nurturing program and training is considered the most important, but it has been occasionally provided". The ability in communication and the skill needed in hospitality is only dependent on feeling and following what has been available in the environment where I am employed (Interview, 2 June 2014).

The Hindu women who were employed at five star hotels could occasionally attend the nurturing and training programs provided due to the internal and external factors mentioned above. The related institutions had found it difficult to invite the Hindu women to attend such programs as they were busy with traditional activities. Their less understanding and being closed were also responsible for the less nurturing program they were supposed to attend.

III. Freeing the Hindu Women from Being Marginalized

The external and internal factors caused the Hindu Balinese women to be marginalized. The internal factors included limited skill and professionalism, being bound to families and tradition which shackled their public role. They should be freed from what traditionally and culturally shackled them to support them in the public domain. Therefore, the *awig* (the customary law) should be made so flexible that it would not prevent the Hindu women from being employed at five star hotels. Their families should make them independent so that they can play their public role optimally.

It is necessary for the stakeholders to give opportunity to the Hindu female employees to develop their social relation. Their relation will be globalized if opportunity is given to them to develop their social



relation. It is necessary for the government to determine in the form of a policy the number of women who should be in the top managerial position at five star hotels. In addition, it is also necessary for the Department of Tourism to increase the frequency of nurturing and training programs as needed by five star hotels through related institutions.

IV. Closing

The internal and external factors caused the Hindu women employed at five star hotels to be marginalized. They should be able to reduce what had internally and externally shackled them so that they would be able to maximize their career. It is also necessary for tradition to support the status of and the roles played by the Hindu women, as they are also entitled to the top managerial position at the hotels where they are employed.

References

1. Abdullah, Irwan. 2006. *Construction and Reproduction of Culture*. Yogyakarta: Pustaka Pelajar
2. Anshori, Yahya. 2007. *Dakocan, Reflection of the Balinese Women's Powerlessness?* Loose Article. Jakarta: Indonesian Media.
3. Anonym. 2002. *Women Journal for Enlightenment and Equality*. Jakarta: Foundation of Women Journal (Number 26).
4. Adhiti, Ida Ayu Iran. 2003. *The Balinese Women in Entrepreneurship within the Context of Tourism: A Case Study at North Kuta District*. Thesis of Master Program in Cultural Studies, Udayana University, Denpasar.
5. Center of Statistics of Bali Province. *Bali at a Glance 2010*.
6. Barker, Chris. 2005. *Cultural Studies: Theory and Practice*, Translation, Cultural Studies: Theory and Practice. Yogyakarta: PT. Bentang Pustaka.
7. Boserup, E. 1984. *The Role Played by Women in Economic Development*. (Mien Jobbaar and Sunarto: the Translators). Jakarta: Obor Indonesia Foundation.
8. Couteu, Jean and Usadi Wiratnaya. 1994. *Bali on the Cross Road*1, 1. Denpasar, Nusadata Indobudaya.



9. Dahrendorf, R. 1986. *Conflict and Conflict in the Industrial Society: a Critical Analysis*. (Ali Mandan: the Translator). Jakarta: Rajawali Pers.
10. Fakhri, Mansour. 1996. *Shifting the Conceptions of Gender and Social Transformation*. Yogyakarta: Pustaka Pelajar.
11. Gayatri, Ni Putu G. 2002. *The Balinese Women's Role in Cultural Conservation and Tourism Development: A Case Study at Kuta Traditional Village*. Thesis of Master Program in Cultural Studies of Udayana University, Denpasar.
12. Hendarto, H. 1993. *Knowing the Concept of Gramsci's Hegemony*. Editorial Team of Driyarkara (ed.), *Societal and Human Discourse*. Yogyakarta: Kanisius. Pages 66-89.
13. Lestari, I. 1990. *Family Decision Making*. In T.O. Ihromi (ed.). *The Mothers Who Play Single and Multiple Roles*. Jakarta: Research Institute of the Faculty of Economics of Udayana University. Pages 87 – 101.
14. Levy, Diane and Patricia Lerch. *Tourism as a Factor in Development: Implication for Gender and Work*. *Gender and Society* 5: 67—85.
15. Lubis, Akhyar Yusuf. 2004. *After What Is True and What Is Definite Is Damaged, Are There Any Place for Scientists: A Description of Philosophy of Sciences of Postmodernists*. Bogor: Akademia.
16. Lury, C. 1998. *Consumer Culture*. (Hasti T. Champion; the Translator). Jakarta: Obor Indonesia Foundation.
17. Monograph of West Sanur Village, Denpasar City. 2008.
18. Magnis-Suseno, F. 1978. *To What Work Ethic Should We Go to?* Magazine of Social Economic Studies of Prisma. VII, Number 11. Pages 22-31.
19. Magnis-Suseno, F. *Karl Marx of Ice Utopist of Revisionism of Dispute*. Jakarta: PT. Gramedia Pustaka Utama.
20. Mardani. "Women and Development of Culture Tourism". A Paper Presented in the National Symposium of Gender and Tourism Development. Yogyakarta, 27-28 March 1995. (Not Published)
21. Marzeli, Amri. 2005. *Anthropology and Indonesian Development*. Jakarta: Prenada Media.
22. Monk, Janice and C. Alexander. "Freeport Fallout: Gender, Employment and Migration on Margarita Island". *Annals of Tourism Research* 13: 393 – 413.
23. Moore, Henrietta L., 1998. *Feminism and Anthropology*. Cambridge: Polity Press.
24. Piliang, Y.A. 1998. *The Reality Folded World before the Third Millennium Comes and Postmodernism Dies*. Bandung: Mizan.
25. Piliang, Y.A. 1999. *Hyper-Reality of Culture*. Yogyakarta: LkiS.



26. Pitana, I Gd. 1998. "The Traditional Village in the Modernization Current". In the Dynamism of the Balinese Culture and Society. I Gd. Pitana. (ed.): 137—158. Denpasar: Bali Post.
27. Pratiwi, Wiwik Dwi. "The Rural Women's Ability and Tourism Development". Presented in the National Symposium of Gender and Tourism Development (Not Published). Yogyakarta, 27-28 March 1995.
28. Profile of West Sanur Village, North Sanur Village, South Denpasar, Denpasar City. 2009.
29. Ratna, Kutha. 2005. *Literature and Cultural Studies: Representation of Fiction and Facts*. Yogyakarta: Pustaka Pelajar.
30. Sajogyo, P. 1983. *The Women's Role in the Society Development*. Jakarta: CV Rajawali Pers.
31. Suastika. 2006. *The Balinese Women's Work Ethos: Reflection of the Value of Literary Work and Its Actualization in the Society Life*. In (ed) *Bali Bangkit Bali Kembali*. Affiliation of the Department of Culture and Tourism of the Republic of Indonesia with Udayana University. Pages 279-316.
32. Sukesi, K. 1995. Women in the People's Plantation: The Relation of Power between Men and Women in the Sugarcane Plantation. In T.O. Ihromi ed. *Kajian Wanita dalam Pembangunan*. Jakarta: Foundation of Obor Indonesia. Pages 351-375.
33. Sunastri, I Gusti Ayu. 2004. The Conflict of the Balinese Women's Role at North Pemecutan Village, West Denpasar, Denpasar City, Thesis of Master Program in Cultural Studies of Udayana University, Denpasar.
34. Suryani, L.K. 2003. *The Balinese Women*. Denpasar: Bali Post.
35. Wijaya, H.R. 1995. "The Women's Role and World Trade". Magazine of Social and Economic Studies of Prisma, XXIV, Number 6 Pages 43—61.
36. Yudha Triguna, Ida Bagus Gde. 2000. *The Women's Position in accordance with Hindu Dharma* (from the Sociological and Theological Perspective). Denpasar .



COLLEGE LIBRARY WEBSITES USEFUL TO DIGITAL LIBRARY

P.Subbulakshmi

Research scholar
Department of Library Science
Bharathiar University, Coimbatore

INTRODUCTION

Knowledge is power and access to knowledge is the epitome of civilization. Communication of knowledge is a dynamic process. It is hidden and transmitted through information contained in documents that includes data, resources, records, related files, which ultimately takes the shape of competitive intelligence from a wide range of sources

Technologies affect and influence the way we seek, locate access and use information. Changes in technology in recent years have dramatically altered the manner in which information is accessed, stored and disseminated. The driving force behind this rapid growth of information is due to the impact of the Internet.

Libraries function as an essential integral component in higher education system. Without a proper information and knowledge infrastructure, no education system can sustain and achieve its laid don goals and objectives. Librarians are making low budget and appropriate purchase decisions balancing both individual and institutional needs. The information scenario is changing at a faster speed. The reasons for this change are many. Library users increasingly demand resources in Electronic format because of its associated advantages. More and more library staff is now at ease with ICT and is happy and is ready to explore the functionalities of the software/ hardware to the maximum extent starting from the lower level, thanks to the rising rate of computer literacy. Colleges and other places of higher learning are slowly developing institutional repositories where the information generated by its members, is archived, using appropriate software and made freely available worldwide D-Space, as far as possible.

Emergence of Information and Communication Technology

The term information and communication technology was first used in 1997 in a report by Dennis Stevenson to the United Kingdom government. It has been used as an extended synonym for information technology. Information and communication technology consists of all technical means used to handle information and aid communication including computer and network hardware. Some of the well noted definitions regarding ICT have evolved over the years to describe the concept of ICT.



In the modern information society there is a sea change in information generation, distribution and access. 'Rapid developments in the field of Super Highway Technology in recent years paved the way for revolutionary changes in different sectors. In addition, computer networks play a crucial part in digital communication. It is one of the fastest growing technological areas that have brought many benefits virtually to every country in the world. With the interconnection of computer networks to the Internet the world truly became a global village.

Information resources

According to Ikoja-Odongo (2002), over a long period of time human beings have been able to record their memories, ideas and discoveries into forms that are classifiable such that information organizers have been able to produce certain categories of information resources. He asserts that information can be classified by content matter or by the physical format by which information is kept. The information resources classified by physical format include: written sources, databases, technical reports, grey literature and electronic resources, among others.

Electronic Information Resources

According to Shuling (2007), electronic information has gradually become a major resource in every university library. The emergence of electronic information resources, simply referred to as electronic resources, has tremendously transformed information handling and management in academic environments and in University libraries in particular. Ellis and Oldman (2005) note that through the use of electronic resources, researchers and students; now have access to global information resources, particularly the Internet for their scholarly intercourse.

E-resources

An electronic resource is defined as a resource which requires computer access or any electronic product that delivers a collection of data, be it text referring to full text bases, electronic journals, image collections, other multimedia products and numerical, graphical or time based, as a commercially available title that has been published with an aim to being marketed. These may be delivered on CD ROM, on tape, via internet and soon. Over the past few years, a numbers of techniques and related standards have been developed which allow documents to be created and distributed in electric form.

Definitions

Various authors and organizations have defined E-resources as follows:



AACR-2 defined e-resources as “a material (data/ program) encoded for manipulation by computerized devices. Thus material may require the use of a peripheral directly connected to a computerized device (e.g. CD-ROM) or a connection to a computer network (e.g. Internet)”. On similar lines C. Tenopir (2000) has defined e-resources “as those electronic information resources and services that user accesses electronically via a computer network from inside the library or remote to library”. International Coalition of Library Consortia (1998) defines electronic resources as “a broad term that encompasses abstracting and indexing services, electronic journals and other full text materials, the offering of information aggregators, article delivery services, etc. Electronic resources can be accessed through remote networks from information providers or locally mounted by a consortium or one of its member libraries.

According to IFLA/FAIFE (2007) these are “materials that are computer controlled, including materials that required the use of a peripheral (a CD ROM player) attached to a computer; the items may or may not be used in the interactive mode.”

Electronic Resources Concept and Characteristics

The importance of electronic information resources in academic institutions is ever growing. Their primary motto is to provide access rather than ownership. The initiatives like consortia approaches and e-resources in university libraries are expanding and gaining momentum for e.g. Use of UGC INFONET, NPTEL Courseware. University libraries must move with minimal disruption from a library model directed primarily at ownership of materials to one in which access and delivery play a more central role (R.M. Michalko & Hughes, 1991).

Evolution of e-resources in Libraries and Information Centers

The evolution of electronic resources can be reviewed from the advent of computers in 1950's. 'It was not until the early 1960's that the electronic information was first introduced in libraries in the form of electronic bibliographic indexes' (R.D.Gennaro, 1973). These bibliographic records occupied large amount of disks space.

Each technological development during the 20th century gradually led to the development of online catalogues. One of the major developments was Machine Readable Catalogue (MARC). In 1967 the Ohio College Association established the Ohio College Library Centre which is the world's first computerized library network. In 1971 OCLC introduced shared cataloguing database. It supported 54 academic libraries in Ohio. This online cataloguing allowed libraries to share bibliographic records. During 1980's library card catalogues were replaced with online catalogues. 'Meanwhile, the advent of hard disks and



random-access memories in microcomputers prompted the development of number of commercial products for handling bibliographic records and similar material'. (J. L. Mac Lean, 1987)

The emergence of Internet and WWW in early 1990's provided many opportunities for the academic and scholarly communication and increasing popularity of the web on the Internet along with the support of multimedia became rampant. Information from various sources could be accessed at anytime from anywhere. It enabled easy transfer of multimedia information across the globe without any barriers of space and time leading to the emergence of e-resources.

Types of Electronic Resources

There are many approaches of categorization of e-resources such as by distribution medium (online, CD ROM, Web) or by content (bibliographic, full text) or by type of format (e-book, e-journal, database). For this study the approach of categorization of e-resources is based on type of classification used for print media which is most established and popular method of categorization, i.e. primary and secondary sources.

Primary sources: E-books, E-journals, Electronic Thesis and Dissertations (ETD).

Secondary sources: E-Course material, Indexing and abstracting databases, E-Reference databases.

Primary Sources

E Books

E-books are electronic versions of printed books. 'Electronic book' is a term coined by Van Dam of Brown University during 1960. The first E-book was published in 1985 in Germany.

The Association of American Publishers has defined "An e-book is a literary work in the form of a digital object consisting of one or more unique identifiers, metadata and a monographic body of content, intended to be published and accessed electronically." According to Davis (1997) an e-book is a written work readable on a computer screen, downloaded to a personal computer or digital assistant or placed on a reader designed for that purpose for professionally produced and edited text in an electronic format. Similar opinion was expressed by J. Mouw (1998) that an e-book is usually a collection of several digital objects or documents which in turn are packaged and formatted with the intention of being displayed on a hand held device or read by a speech generating application.



E- Journals

With the advent of the Internet, researchers and academics have recognized the capabilities of the information and communication technologies as efficient means to share results and to get around barriers by full transfer of intellectual property rights from the author to the publisher. Electronic journals relatively provide efficient access to information and, thus they are easy to distribute to library patrons than traditional print; in the financial stringent environment of higher education system, electronic journals have become a medium which is cheaper than the traditional printed journals (Ellis and Oldman, 2005). According to Rowley (2006) electronic journals take two different forms: journals that are published in print form, available in digital form and electronic journals which do not necessarily need a publisher, and which can be managed by an editor and the scholarly community.

Database

A database is an organized collection of data. The data are typically organized to model relevant aspects of reality in a way that supports processes requiring this information. For example, modeling the availability of rooms in hotels in a way that supports finding a hotel with vacancies. Database management systems (DBMS) are specially designed applications that interact with the user, other applications, and the database itself to capture and analyze data. A general-purpose database management system (DBMS) is a software system designed to allow the definition, creation, querying, update, and administration of databases. Wellknown DBMS include My SQL, Maria DB, Postgre SQL, SQLite, Microsoft SQL Server, Oracle, SAP, dbase, FoxPro, IBM DB2, Libre Office Base and FileMaker Pro. A database is not generally portable across different DBMS, but different DBMSs can interoperate by using standards such as SQL and ODBC or JDBC to allow a single application to work with more than one database.

Online databases

The most effective way to provide access to electronic books/journals in University libraries is through subscription to online databases which can be accessed through the internet. Online databases are a collection of electronic information sources (e-journals/e-books) by publishers from various fields and disciplines, (Afolabi, 2007). Some of these databases are provided free of charge to libraries in developing countries by their publishers or vendors. Some of these include NARI, <http://www.healthininternetnetwork.org/scipub.php> AGORA: <http://www.agininternetnetwork.org/en/>. Others require subscription fee such as emerald database, <http://www.emeraldinsight.com> and Blackwell-synergy: <http://www.blackwell-synergy.com> among others. Access to these databases provides researchers and



students with thousands of scholarly articles in their fields of specialization or research (Fatoki, 2004). For students to utilize the growing range of electronic resources they must acquire and practice the skills necessary to exploit them (OkelloObura 2010).

E-Journals Through Consortia

Today more and more journals are available in e-format. The full text e-journals available on web have become the most accepted source for locating information by academic and research community. The transformation of journals from print to e-format has added a number of new features but the pattern of their price rise has broadly remained the same when viewed in the light of relatively stable or even decreasing library budgets. It becomes very difficult for the libraries to increase their e-resource base. A new solution has emerged in recent years in the form of consortium. The collective bargaining in consortium has led to large number of e-journals being made available to a large number of institutions at relatively quite low cost. That is why new consortia are frequently emerging in different scholarly fields. The two most successful consortia in Indian scenario are UGC INFONET and INDEST Consortium. The UGC INFONET is providing of 8000 e-journals and 9 Bibliographic Databases to 319 members (182 Universities + 118 Associated Institutions + 5 IUCs + 14 National Law Universities) whereas INDEST provide 10,000 plus e-sources and 16 databases to 57 MHRD funded Institutes + 60 AICTE funded Colleges+ 1233 self supported members. Other significant consortia are CSIR Consortium, FORSA Consortium, IIMs Consortium, and IGCAR Consortium.

Electronic Theses and Dissertations

An Electronic Thesis and Dissertations (ETD) are expressed in a form simultaneously suitable for machine archives and worldwide retrieval as well as its paper predecessor. It provides a technological advanced medium by any word processor for expressing ideas with less expensive, small space, easy handling, high longevity and never collects dust. At user's choice they can be available to anyone who can browse World Wide Web.

There are databases of ETDs that caters to academic and scientific community. Eg:

- Vidyanidhi.org
- DSPACE

DSPACE

DSPACE (<http://www.dspace.org>) is a digital repository platform jointly developed by Hewlett-Packard and MIT Libraries collaborating over two years.



DSPACE provides the basic functionality required to operate an institutional digital repository, and is intended to serve as a base for future development to address long term preservation and access issues. On November 2002, the system was launched as a live service hosted by MIT Libraries, and the source code made publicly available according to the terms of the BSD open source license, with the intention of encouraging the formation of an open source community around DSPACE Micah Altman. 2001. Initial developments in this area have been very promising. The software download, system documentation, installation, configuration and customization guide is available at '<http://dspace.org/technology/system-docs/install.html>'.

Secondary Sources

A good number of databases are available that provide access to reference/ bibliographic/ numerical and statistical information. For example many dictionaries, directories, almanacs, encyclopedias and other reference sources are available online in full text and also in CD-ROM formats. There are a number of reference sources available freely online. LISA, Pub Med, Dialog, OCLC First Search, Cambridge Scientific Abstracts, Ovid, EBSCO, World of Knowledge, Scopus are some of the useful indexing/ abstracting databases. There are databases that provide economic and statistical data. E.g. Census databases, Data base on Indian Economy, Asian Development Bank, Reserve Bank of India, Medical databases and GISTINIC.

Electronic newspapers

Many feel that newspaper publishing is undergoing an evolution that will likely change the form of what is currently considered a newspaper. A new medium has been born-the electronic newspaper one that presents a new challenge for librarians. Cataloging-newspapers, like cataloging any type of Internet publication, is continuously evolving to keep pace with the resources. Fields with special applications for e-newspapers are explained below. A short list of World Wide Web resources for electronic newspapers is also included (CCM).

Email

Electronic mail, most commonly referred to as email or e-mail since ca. 1993, is a method of exchanging digital messages from an author to one or more recipients. Modern email operates across the Internet or other computer networks. Some early email systems required that the author and the recipient both be online at the sometime, in common with instant messaging. Today's email systems are based on a store and-forward model. Email servers accept, forward, deliver, and store messages. Neither the users nor their computers are required to be online simultaneously; they need connect only briefly, typically to a mail server, for as long as it takes to send or receive messages.



Digital Libraries

Digital Libraries (DL) are now emerging as a crucial component of global information infrastructure, adopting the latest information and communication technology. Digital Libraries are networked collections of digital texts, documents, images, sounds, data, software, and many more that are the core of today's Internet and tomorrow's universally accessible digital repositories of all human knowledge. According to the Digital Library Federation (DLF, USA - <http://www.dlf.org>), "Digital libraries are organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities".

Impact of Information Communication Technologies on Libraries

Recognizing the fact that the use of information communication technologies opened new avenues for better services in the new digital environment, libraries in higher educational institutions have adopted new technologies. Many organizations like IFLA, Global Libraries Initiatives, Technology and Social Change believe that the library and information communication technologies are at a point in their evolution where each is able to provide significant value to the other. Both share an interest in the use of technology to achieve their ultimate goals. (H. Billings, 1996)

The process of information retrieval, for both librarians and library users is both simple and more complex than ever before. It is simple due to the speed and simplicity of the search mechanisms that return key word matches in seconds. On the other hand it is more complex due to the staggering size of the Internet and lack of organization that is found in online information' (IFLA/UNESCO, 2006).

CD-ROM databases

CD-ROM databases allow users access to relevant databases without robust Internet connectivity in libraries. It is therefore cost effective than online databases as information could be accessed off-line without paying for telecommunications fee (Afolabi, 2007). Besides, CD-ROM databases are of immense value over print if the system is networked, as patrons at their terminals could access information without coming to the library. CD-ROM databases are important tools for identifying the bibliographic details of potentially useful documents and ensure easy access to large volumes of literature for research. Majid and Tan (2002) emphasize that the amazing technological advancements have opened new horizons for information creation, duplication, storage, access, distribution and presentation



Internet

According to Jensen's Report (2007), 54 countries in Africa had Internet connectivity. By the year 2009 however, Internet penetration as a percentage of the total population of Africa was still 1.4% compared to the world average penetration of 12.7% (Internet Worldstats.com2009). Gakibayo (2001) carried out a study on Internet usage by students and staff at Mbarara university of Science and Technology and the results of the study indicated low usage. Though the Internet has provided a wider access to global information resources such as online databases, e-journals e-prints and other sources of digital information, these resources are not effectively utilized due to varying factors. According to Missen et al. (2005), the Internet poses African Universities to gain equal footing with their sister institutions in the more developed countries. It is imperative that African Universities be connected if they are not to be rendered irrelevant in the modern academic world. The Internet is very useful as a communications tool in the Universities among librarians and library clientele. It is the most efficient means of electronic document delivery (AlFadhli and Johnson, 2006).

Websites

Web resources are extremely diverse, not only along every conceivable topical and non-topical dimension, but also in terms of the access interface that they present to users. Current search engines ignore crucial non-topical dimensions of web resources that could be used to improve the quality of query results. As an important initial step to exploit such dimensions for web search, we have focused on geographical relevance. For example, we can map every web page to a location based on where its hosting site resides. Then, we can consider the location of all the pages that point to, say, the Stanford Daily homepage. By examining the distribution of these pointers, we can conclude that the Stanford Daily is of interest mainly to residents of the Stanford area, while The Wall Street Journal is of nation-wide interest. Similar conclusions can be drawn for other resources by analyzing the geographical locations that are mentioned in their pages.

Scope of e-resources

The e-resources cover free internet resources and electronic resources purchased or licensed by the libraries from commercial sources, nonprofit organizations, professional organizations or any external institutions.

Electronic resources allow easy access to information. The features of 21 century electronic media are high compact storage, ease of production, multiplication, manipulation of contents from one media to another, ease of transmission, communication and storage. 'The nature of e-resources is to serve as a supplement to the print collection. It strives to satisfy the



information needs of the user with greater speed, accuracy and efficiency (P.VenkataRamana, 2000).

The scope of e-resources includes the following features:

- Electronic resources are not localized.
- They can be used from anywhere by the user and need not know where it is geographically located.
- It can be used simultaneously by many users at the same time.
- It is easy to copy and download them in user file.
- It reduces the distance between the user and the librarian.
- It creates global marketing environment.
- They are less bulky, very flexible, easy to revise, rearrange, reformat and Combine with other documents (Prabha Chandra, 2007).

Advantages of Electronic Resources

Electronic resources offer a number of advantages not only to libraries but also to users, authors, editors, publishers and archivists. An electronic resource offers many advantages like:

- They save enormous time by providing easy and instantaneous access without wasting time for processing, allows interactive facility and allows interaction between author, publisher and user.
- Facilitate easy duplication into new media, saves library storage space, provides hyperlinks to additional resources, allows remote access from anywhere at any time, enables simultaneous access to large number of users and eco-friendly.
- Facilitate easy search options, provides powerful search and retrieval capabilities.

Indian Library Consortia Scenario for e-resources

Library consortium is a group of two or more libraries which have agreed to co-operate with one another in order to fulfill certain similar needs, usually resource sharing. It usually, refers to co-operation, Co-ordination and collaboration between, and amongst libraries for the purpose of sharing information. Consortia are basically, evolving a form of cooperation among the libraries which come together to share resources electronically. It has gained momentum even in developing countries like India. Some of the successful library consortia setup so far in India is:



- UGC- INFONET E-Journal consortium.
http://www.ugc.ac.in/new_initiatives/infonet.html
- Indian National Digital Library in Engineering Sciences and Technology (INDEST) Consortium. <http://www.paniit.iitd.ac.in/indest>

All India Council for Technical Education (AICTE)

The All India Council for Technical Education (AICTE) is the statutory body and a National-level council for technical education, under the department of Higher Education, Ministry of Human Resource Development. Established in November, 1945 first as an advisory body and later on in 1987 it has given statutory status by an Act of Parliament. AICTE is responsible for proper planning and co-ordinate development of the technical education and management education system in India.

- Mission and goals of the institution
- Course objectives
- Student details
- Alliance of the institution
- Industry - Institution interaction
- Evaluation of human resources

Higher Education System in India

The history of education in India is very rich and interesting. Ancient India education system involved sages and scholars who imparted education orally, but after the development of letters, it took the form of writing. Palm leaves and barks of trees were used for education, and this in turn helped to spread the written literature. Temples and community centers often took the role of schools. When Buddhism spread in India, education became available to everyone and this led to the establishment of some world famous educational institutions Nalanda, Vikramshila and Takshashila. These educational institutes in fact arose from the monasteries. History has taken special care to give Nalanda University, which flourished from the fifth to 13th century AD, full credit for its excellence. This university had around 10,000 resident students and teachers on its roll at one time. These students included Chinese, Sri Lankan, Korean and other international scholars.

Higher Education System in Tamilnadu

Role of College Libraries

Colleges form the integral part of higher education, and libraries in colleges are the primary source for learning process. With the shift of emphasis from



teaching to learning, libraries must play their role effectively. A landmark in the development of college libraries was the appointment of library committee of the University Grants Commission and publication of its Report in 1965. Some of the important recommendations of the Committee relate to the financial support of college libraries by UGC (India) and State Government include staff strength and qualifications; book selection and collection, measures to promote reading habit proposal for library building, etc. The National Education Commission 1964-66 (popularly known as Kothari Commission) recognized the importance of libraries in colleges and stated that no new college or department should be started without adequate provision for its library.

A college library plays pivotal role in ensuring the success of higher education and research. The college libraries are the real heart of Indian academic system. In order to cater the need of undergraduate, Post graduate and research students as well as faculty members of the college libraries, it is extremely important to satisfy their individual need.

Resource Sharing and Networking of College Libraries

The tremendous advancement of information technology offers many alternative and opportunities for networking and resource sharing among the geographically dispersed or remotely located libraries. The advent of Internet has been a boost in resource sharing. The pressing need for resource sharing has prompted several national level projects of library networking. Efforts have been already made for networking of the libraries of all the universities and major research libraries of the country through the Information and Library Network (INFLIBNET), program of the University Grant Commission (UGC). The Education and Research Network (ERNET) has been developed to link major academic institutions of the country. In addition to these, a number of other local, regional and national networking schemes in science, technology and other area are being developed.

Role of INFLIBNET in Modernization of Libraries

Information and Library Network (INFLIBNET) centre is an autonomous Interuniversity Centre of UGC (University Grants Commission) under the ministry of Human Resource Development, Government of India. It is national institute in the area of library and information science for promoting library automation, resource sharing and cooperative development among the academic libraries and other R & D libraries in India. The centre is directed towards modernization of libraries and information centers with aims at establishing a mechanism for information transfer and access to scholarship, learning and academic pursuits.



The objective of the centre is to establish a national network of libraries and information centers including universities, institutions of higher learning, research and development, sharing and its utilization at national level. It is basically a cooperative endeavors in resource development, sharing and its utilization at national level. Over the years, the programme has progressed steadily and since May 1996 it is an independent autonomous Inter-University Centre under University Grants Commission (UGC).

Online Public Access Catalogues (OPACs)

The ALA Glossary defines online public access catalogue as 'a computer based and supported library catalogue (bibliographic database) designed to be accessed via terminals so that library users may directly and effectively search for and retrieve bibliographic records without the assistance of a human intermediary such as a specially trained member of the library staff'. Online catalogues were developed in the late 1970s and since then have become widely accepted as the contemporary form of catalogue in the developed world.

Library Network

An information network is a set of interrelated information systems associated with communication facilities, which are cooperating through more or less formal agreements and institutional agreements, in order to jointly implement information handling operation, with a view to pooling their resources and to offer services to the user. They generally follow identical or compatible rules and procedures. A library network consists of six major components:

- Information resources.
- Reader of users of information.
- Schemes for intellectual organization of data/documents.
- Methods for the delivery of information to user- the output.
- Formal organization – cooperation, whether voluntary or obligatory, in information exchange and utilization.
- Bidirectional communication links Based on these components, the essential requirements of INFLIBNET can be identified as :

University Grants Commission (India)

The University Grants Commission (UGC) of India is statutory organization set up by the Union government in 1956, charged with coordination, determination and maintenance of standards of university education. It provides recognition to universities in India, and disburses funds to such



recognized universities and colleges. Prof. VedPrakash, a noted academician and education administrator, is the incumbent Chairman of UGC, India. Its headquarters are in New Delhi and six regional centres in Pune, Bhopal, Kolkata, Hyderabad, Guwahati and Bangalore.

History

UGC was recommended in 1945 and formed in 1946 to oversee the work of the three Central Universities of Aligarh, Banaras and, Delhi. In 1947, the Committee was entrusted with the responsibility of dealing with all the then existing Universities. After independence, the University Education Commission was set up in 1948 under the Chairmanship of S. Radhakrishnan and it recommended that the UGC be reconstituted on the general model of the University Grants Commission of the United Kingdom. UGC was formally inaugurated by AbulKalam Azad, the Minister of Education, Natural Resources and Scientific Research on 28 December 1953. The UGC was however, formally established in November 1956, by an Act of Parliament as a statutory body of the Government of India. In order to ensure effective region-wise coverage throughout the country, the UGC has decentralized its operations by setting up six regional centers' at Pune, Hyderabad, Kolkata, Bhopal, Guwahati and Bangalore. The head office of the UGC is located at Bahadur Shah Zafar Marg in New Delhi, with two additional bureaus operating from 35, Feroze Shah Road and the South Campus of University of Delhi as well. UGC Act 1956.

Professional councils

UGC, along with CSIR currently conducts NET for appointments of teachers in colleges and universities. It has made NET qualification mandatory for teaching at Graduation level and at Post Graduation level since July 2009. However; those with Ph.D are given five percent relaxation. Accreditation for higher learning over Universities under the aegis of University Grants Commission is overseen by following sixteen autonomous statutory institutions:

- All India Council for Technical Education (AICTE)
- Distance Education Council (DEC)
- Indian Council of Agricultural Research (ICAR)
- Bar Council of India (BCI)
- National Council for Teacher Education (NCTE)
- Rehabilitation Council of India (RCI)
- Medical Council of India (MCI)



- Pharmacy Council of India (PCI)
- Indian Nursing Council (INC)

University Libraries in India

According to University Handbook (31st ed.) we have 279 University-level institutions (AIU Member) including 60 deemed Universities, 188 are conventional Universities including 32 institutions for specialized studies in various disciplines, 37 institutions provide education in agriculture, 38 engineering and technical institutions, one journalism, four law, 16 health science and 10 are Open Universities. In addition, there are more than 13,150 affiliated colleges, 88.21 lakh students and 4.27 lakhs teachers; it is really a great challenge to ensure effective coordination and communication.

These all have library systems to support education, learning and research and meet information needs of their academic and research community. These are the hub for information storage and dissemination.

UGC-INFONET

UGC-INFONET E-Journals consortium initiative was undertaken by the UGC to facilitate free access to scholarly e-journals and databases in all fields and disciplines by the research and academic community across the country through joint partnership of UGC, INFLIBNET and ERNET. This includes interlinking Universities and Colleges in the country electronically with a view to achieving maximum efficiency through Internet enabled teaching, learning and governance. All universities and colleges who are under the purview of UGC have been provided UGC-INFONET connectivity and access to scholarly e-Journals and Databases. More than 4,500 full text e-journals are available now. As of May 2006, 122 universities are accessing resources from the programme. The access is based on IP range. This effort has had a noticeable impact on the research and academic community.

INDEST- AICTE Consortium

The "Indian National Digital Library in Engineering Sciences and Technology (INDEST) Consortium" was set-up in 2003 by The Ministry of Human Resources Development (MHRD). 38 centrally funded Govt. institutions including IITs, Sc, NITs and some other institutions are the core members of the INDEST-AICTE Consortium. The Ministry provides funds required for providing access to electronic resources to the core members through the consortium headquarters set-up at the IIT Delhi. The total no. of members through the consortium has now grown to 483 (including 38 IIT'S, IISC, NIT'S and other institutes; 63 members from AICTE; 99 self supported Engineering colleges and institutes and 285 institutions have recently joined under the new



scheme). The consortium subscribes to over 6500 electronic journals from a number of publishers and aggregators.

Conclusion

The study basically based its self on examining how student perceive the digital library services and how the students make effective use of it. The study went further to examine the means through to which search and used the digital resources provided by the digital library. These all have library systems to support education, learning and research and meet information needs of their academic and research community. These are the hub for information storage and dissemination.

References

1. Rajyalakshmi, .D. (2007). Information Professionals- Knowledge and Skills, for Information Management. *ILA Bulletin*, 43(4), 8-15.
2. Lynch, C. A & Preston, C.M. (1990). Internet access to information resources. *Annual Review of Information Science and Technology*, 25, 263-312.
3. Davis, T (1997). Evolution of selection activities for Electronic Resources. *Library Trends*, Vol. 45, 391-40
4. Mouw, J. (1998). Changing roles in the Electronic Age. *Library Acquisitions Practice and Theory*, 22(1), 15-22.
5. Satija, M. P. (2003). *World Wide Web: Handbook for Librarians*. New Delhi, EssEss Publications
6. Jamali, Hamid R. & David Nicholas & Ian Rowlands. (2009). Scholarly e-books: The views of 16,000 academics. Results from the JISC National E-book Observatory. *Aslib Proceedings*, 16(1), 33-47.
7. IFLA/UNESCO (2006). *IFLA/UNESCO Internet Manifesto Guidelines: September 2006*. [Http://www.ifla.org/faife/policy/iflastat/InternetmanifestoGuidelines.pdf](http://www.ifla.org/faife/policy/iflastat/InternetmanifestoGuidelines.pdf). (Access ed on 19.2.2011)
8. Billings, H. (1996). Library collections and distance information: New models of collection development for the 21st Century. *Journal of Library Administration*, 24(1and 2), 3-17.
9. International Coalition of Library Consortia (1998). Statement of current perspective and preferred practices for the selection and purchase of Electronic information. www.library.yale.edu/consortia/statement.html. (Access date 15.2.2011).



10. AIFadhli, M.Sand, Johnson, I.M (2006), "Electronic document delivery in Academic and research organization in the Gulf States: a case study of Kuwait", Information Development, Vol. 22No.1, pp.32-37.
11. Carrie, A.M.R., Neto, M.D. (2004) "The role of e-print archives in the access to and dissemination of Scientific grey literature: Liza-a case study by National library of Portugal", Journal of information Science, Vol.28 No. 3, pp.207
12. Rowley, J. (2000) The question of electronic journals. Library Hi Tech. 18(1),46-54.
13. Afolabi, M.O. (2007), Paper presented at Electronic Information for libraries Network (eIFL.net) workshop ObafemiAwoloUniversity, Ile-Ife, Nigeria October.
14. Fatoki, O. C. (2004), Impact of library resources and Internet on undergraduate Students' research: University of Ibadan, Nigeria, Nigerian Libraries, Vol. 38 No. 1, pp.21-33.
15. Majid, S. (1999), "Computer literacy and use of electronic information sources by academics: a case study of International Islamic University Malaysia"Asian libraries 8(4), 100-111.