Report on the Proceedings of the
International Conference on Managing
Responsible Research in the Human
Sciences and Information Management

Dates: 12th – 13th August 2016
Venue: Panjab University, Chandigarh (India)

www.pu.ac.in    www.lsme.ac.uk

Held from 12th - 13th August 2016 at the Panjab University, Chandigarh (INDIA)

Peer Review Group
Professor Suresh Sharma
Professor Stephen McKinney
Dr Peter Gray
Professor Paramjit Kaur
Dr Rupak Chakraverty
Dr Shruti Shourie
Dr Amandeep Singh Marwaha
Professor G S Batra

Editorial Board
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Dr Ravi Kumar, Convener
Professor Suresh Sharma
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Dr Dolly Jackson-Sillah
Mr Sree Vallipuram

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Introduction

The London School of Management Education (LSME) jointly organised an International Conference on the 12th & 13th of August, 2016, with the Panjab University in Chandigarh, India. The theme of the Conference was ‘Managing Responsible Research in the Human Sciences and Information Management’. This International Conference was hosted at its well-known and impressive conference facilities at the Golden Jubilee Seminar Hall, Panjab University, Chandigarh.

Every year, the Panjab University organises an event to commemorate the Annual Day of the A.C. Joshi Library in recognition of its significance in India. This International Conference was the main event for the annual commemoration in August 2016, as the RRI theme was aligned with their agenda to introduce innovative ideas for continuous improvement in academia.

LSME has embarked on organising International Conferences to provide a platform for the presentation, discussion and engagement with scholarly research and the dissemination and impact of the research in local and international society. Moreover, the focus of these Conferences on Responsible Research and Innovation (RRI), and its Impact will encourage researchers to identify, and to listen to, the users of research and to demonstrate how users’ needs have helped to shape the aims, design and implementation of research projects. This is a shift away from traditional academic conferences which often situate research in the context of research themes and trends without always considering how research impacts on society or how to disseminate the research to a wider audience and consider the practical application of results to serve public good.

The two-day conference was designed to appeal to persons working in management studies, professional education for the health sciences, teacher education as well as social care and research governance. One of the desired aims was to position the Panjab University and LSME as leaders in the implementation of RRI in India, and internationally. Another desired aim was to enable staff, students and external stakeholders to work together for a more responsible future in research and innovation.

The Conference attracted 180 delegates from over 80 institutions from India and overseas. Over 200 research papers were received and 110 papers were shortlisted for presentation over the four parallel sessions each day. Six prominent VIPs were
present at the opening ceremony. Insightful and educative opening remarks were delivered by Professor Arun Kumar Glover, the Vice Chancellor of the Panjab University who was the Chief Guest, Professor R L Raina, the Vice Chancellor of JK Lakshmipat University in Jaipur (India) who was the Guest of Honour and Professor Mohan Agase, a renowned Psychiatrist and a Director of Films and Television in India, who was the Special Guest on this auspicious occasion. The welcome address was delivered by Dr Raj Kumar, the Organising Secretary for this Conference. The delegates were also addressed by Professor Stephen McKinney of the University of Glasgow and the Chairman of the Conference Committee, Professor Suresh Sharma of Panjab University, Dr Ravi Kumar, the Executive Director of LSME and Conference Convener and Dr Peter Gray, Advisor on European Research Projects in Norway.

The two-day Conference attracted presentations on a wide variety of topics, from accounting to women’s rights. This was entirely in line with the spirit of the LSME’s approach to RRI, which is to bring different researchers together to discuss the detailed content of common themes. The papers collectively provided the opportunity for critical reflection on themes such as:

- Poverty and underachievement
- Social justice and gender equality
- Role of Banking, finance and debt management
- Job satisfaction and human resources
- Relationship between Corporate Social Responsibility and Responsible Research
- Knowledge management and role of libraries.

The highlight of the presentations were special addresses by Canadian and British RRI practitioners and a policy briefing session to introduce the concept of RRI and workshops for postgraduate students. These themes, and the contributions from presenters, provide a powerful framework for future RRI initiatives based around Panjab University, its associated Universities, Colleges and commercial partners, and the Chandigarh Region Innovation & Knowledge Cluster (CRIKC).

Two illustrious academicians presented the valedictory speeches on the closing day. They were Professor O.P. Katare, Director - Research Promotion Cell of the Panjab
University and Professor S.K. Chadha, Director - Central Placement Cell (RPC) and Chairperson of the University Business School (UBS) of Panjab University. This session presented the opportunity to summarise the key themes and future follow-up actions which could provide a roadmap for RRI in the Chandigarh region and foster collaborative arrangements between LSME and Panjab University. This will help build an expanding base for advancing research practice and policy in India, LSME and beyond.

This event showcased LSME’s ability to work closely with international institutions and attract external RRI expertise. As a result, a number of other representatives of various institutions who were present at the Conference have approached LSME to hold discussions to explore future opportunities for collaborative RRI events.

About the Conference

The purpose of this conference is to bring Responsible Research and Innovation (RRI) alive, in a vibrant and challenging scholarly environment. International keynote speakers and presenters from the international research community will be invited to build a consensus view on how to implement RRI in India, in order to realise the immense potential of its researchers to address social and economic issues more effectively, whilst maintaining scientific rigour and integrity.

Why Responsible Research and Innovation is Important

There is currently a worldwide movement towards transformation in research management and governance. This movement has been called ‘Responsible Research and Innovation’ (RRI) and is supported by many leading research funding organisations and by leading universities.

In research management and governance, there is currently a shift from internal to external measurement of impact. Current metrics for impact, including citation indices and similar indicators, refer primarily to the impact of research on other researchers in the same field. The movement towards Responsible Research and Innovation, conversely, argues that research should demonstrate its benefits in more concrete ways and should therefore be more responsible to society as a whole. Stakeholders within society should therefore, have a voice in shaping research agendas, processes and outcomes, including stakeholders (such as
patients, students or consumers) who have previously not had such a voice.

**Objectives**

- How to engage the public in thinking about research and innovation?
- How to engage the public in thinking about information management and knowledge management?
- How to improve gender awareness in research communities?
- How to involve school-level science education in research?
- How to enhance student learning through closer links with research in universities?
- How to deal with wider ethical issues in research?
- How to make research governance more inclusive?
- How to anticipate future trends in research?
- How to deal with the consequences of research and innovation?

The conference will itself be designed to be inclusive and responsive to public concerns about the research process. It will produce accessible summaries of the learning and outcomes from its activities, and will provide the basis for sustained debate and action on RRI in the university, its region and beyond.

**Scale of the Conference**

The conference is designed to appeal to persons working in management studies, professional education for the health sciences, teacher education, social care and research governance. It will position the Panjab University and the London School of Management Education (LSME) as leaders in the implementation of RRI in India, and internationally. The conference will enable staff, students and external stakeholders to work together for a more responsible future in research and innovation.

**About the A.C. Joshi Library of Panjab University, India**

The Panjab University Library, named officially as “A. C. Joshi Library”, after the
name of an illustrious Vice-Chancellor of this University, was established in the U.S. Club, Shimla in the year 1947 after the partition of the country. The Panjab University started shifting its offices to Chandigarh, the new Capital of Punjab, in 1955-56. The foundation stone of the new Library building was laid in 1958 by Dr. S. Radhakrishnan, the then Vice-President of India. The Library in its new premises was formally inaugurated in 1963 by Pt. Jawaharlal Nehru, the first Prime Minister of India. The five storied impressive Library building in red stone and concrete is based on modern principles of architecture. Its modular and functional style fulfils the purpose of a planned Library. While all the reading areas face the North, the Staff Area is on the South side, with the stack area being in between. Its two main Reading Halls facing the Chivalric Hills afford a panoramic view of the natural surroundings. The Library building, centrally air-conditioned and equipped with computer and communication network, houses more than six lakh volumes and has a seating accommodation of 500 readers. Besides the two main reading halls there are reading rooms in the Periodicals and Special Collections Sections, and an Outer Reading Hall for studying personal books. There is a provision of 24 research carrels for teachers engaged in serious research work, and 90 lockers for research scholars. The Library has a collection of over 6.4 lakh publications which include books, bound volumes of journals, theses/dissertations, rare books, reports, government documents, back files of newspapers, and a prized collection of 1490 manuscripts.

The Library is now fully computerized with an integrated system connected to the Campus Network providing Internet and e-mail facility to the University community. The reference collection of the Library is continuously updated and augmented with the acquisition of CD-ROM databases and access to on-line databases on the Internet. An On-line Public Access Catalogue (OPAC) facility is available at the Reference Desk on the First Floor of the Library. OPAC can also be accessed through any terminal on the Campus Network. The Library collection can also be searched through Web OPAC.

The Library subscribes to about 600 current periodicals. Its holdings of back volumes of periodicals go back to the nineteenth century. The Library subscribes to MathSciNet online comprising of current Mathematical publications & Mathematical Reviews, and has access to 225 online full text journals as part of print journals subscription. Also access to approximately 5000 online full text journals is available through INDEST- Consortium and UGC- INFONET.
About the London School of Management Education (LSME)

London School of Management Education is a progressive and innovative training organisation offering high quality and affordable education with the primary aim of promoting development through skill enhancement programmes.

Vision

To play a leading role in the delivery of global educational services in partnership through radical Lifelong Learning training, equipping managers, health and social care professionals, tutors, teachers and trainers, with modern and transformational standards.

Mission

To provide affordable and high quality training for aspiring and practicing managers, health and social care professionals and educationalists, that is innovative and global in perspective.

Values

The School seeks to nurture and sustain a creative and supportive academic environment based upon an ethos of respect and transparency.

LSME is committed to:

- High quality learning experience.
- Developing and sharing expertise to strengthen our capacity.
- Professional relationships based on mutual respect and transparency.
- Equality and diversity.
- Financial robustness.

The School’s philosophy is enshrined in its slogan: transforming people with skills. We aim to introduce our students to the innovative skills required for their careers in business, education or health and social care. LSME is also focusing on becoming a research-led institution that strives to advance knowledge about education, policy, and other relevant fields in academia. It aims to achieve this by being a facil-
itator for encouraging scholarly inquiries that examine “education and the learning processes and human attributes, interactions, organizations, and institutions that shape education and its outcomes”.

LSME has organised two very successful International Conferences in January 2015 and 2016. It was the first institution of its size to hold an International Conference on Responsible Research in Management and Education in the UK. It has pledged to continue organising International Conference in the UK on an annual basis and to provide access to all Conference related documentation and research work on an ‘Open Access’ basis through its website. The attached brochure provides a comprehensive overview of LSME.

**India Conference : 2016**

**Patron**
Professor A. K. Grover
Vice Chancellor
Panjab University, Chandigarh (India).

**Conference Chairman**
Professor Stephen McKinney
University of Glasgow, Scotland, UK.

**Organising Secretary**
Dr Raj Kumar - A.C. Joshi Library, Panjab University.

**Conference Convener**
Dr Ravi Kumar, London School of Management Education, UK

**Joint Organising Secretaries**
Dr Rashmi Yadav - A.C. Joshi Library, Panjab University.
Dr Neeru Bhatia - A.C. Joshi Library, Panjab University.
International Committee Members

Professor Stephen McKinney, University of Glasgow, UK.
Professor Suresh K. Sharma, Panjab University, India.
Dr Peter Gray, Norwegian University of Science & Technology, Norway.
Professor Mokgale Makgopa, University of Venda, South Africa.
Dr Ravi Kumar, London School of Management Education, UK.
Dr Jan H. Apotheker, University of Groningen, Netherlands.
Dr Heather A. D. Mbaye, University of West Georgia, USA.
Dr Sarita Parhi, London School of Management Education, UK.
Dr Dolly Jackson-Sillah, LSME, UK.
Mr Sree Vallipuram, LSME, UK.

Coordination Committee

Dr Raj Kumar - A.C. Joshi Library, Panjab University.
Dr Ravi Kumar - LSME, UK.
Professor Suresh K. Sharma - Statistics, Panjab University.
Professor S.K. Chadha - UBS, Panjab University.
Dr Sarita Parhi - LSME, UK.
Dr Peter Gray - NTNU, Norway.
Dr Amandeep Singh Marwaha - UIAMS, Panjab University.
Dr Anupreet Kaur Mavi - UIAMS, Panjab University.
Dr Manjushree Sharma - UIAMS, Panjab University.
Er Rachita Sambyal - UIAMS, Panjab University.

Treasurers

Ms Navjeet Kaur - A.C. Joshi Library, Panjab University.
Dr Neeraj K. Singh - A.C. Joshi Library, Panjab University.
Keynote Speaker

Dr Peter Gray
Advisor, European Research Projects
Norwegian University of Science & Technology
Norway.

Guest Speakers

Paul Loranger
Education Consultant
Canada.

Martin McAreavey
Bolton University
UK.
Conference Programme

This inaugural International Conference on Managing Responsible Research in the Human Sciences and Information Management was jointly organised by the Panjab University in Chandigarh, India, and the London School of Management Education, UK. The Conference was held over one and a half days from the 12th to 13th August 2016, and was hosted by Panjab University at its Golden Jubilee Seminar Hall within its campus facility in Chandigarh.

The Conference was kicked off by an Opening Ceremony. Each day typically comprised a lecture held in Plenary Session and four Parallel Session in order to accommodate all 120 paper presentations over the one and a half day Conference. The final day ended with two Valedictory Presentations.

DAY ONE OF THE CONFERENCE

The Conference was held in the Golden Jubilee Seminar Hall of Panjab University and this venue was designated as the Main Hall. The first day of the Conference began with the registration of all participants and light refreshments were served to all delegates. The Opening Ceremony began with the traditional lighting of the lamp by the VIP Guests. This was followed by the Panjab University Anthem.

The Organising Secretary, Dr Raj Kumar, presented his welcome address. This was followed by the welcome address from Professor Stephen McKinney who was the Chairman of the Conference Committee. Professor McKinney delivered his address by webcast from Glasgow in Scotland, as he was unable to travel to India. Professor Suresh Kumar Sharma delivered his address on behalf of the International Conference Committee. Dr Ravi Kumar presented his address as Conference Convener. Dr Peter Gray presented an address as Advisor, European Research Projects, and Norway.

The Guest of Honour, Prof. R.L Raina, Vice Chancellor, J K Lakshmipat University, Raipur, was then invited to speak. After his speech, the Chief Guest, Professor Arum Kumar Grover, Vice Chancellor, Panjab University, was invited to speak. Dr Rashmi Yadav who was the Joint Secretary gave the Vote of Thanks.

After the Opening Ceremony, there was a tea break of thirty minutes. This was
followed by the first Plenary Session of Day One which was a Keynote Address by Dr Peter Gray from the Norwegian University of Science & Technology, Norway. His Keynote Address was entitled Responsible Research and Transformation.

At the end of Dr Gray’s Keynote Address, there were short announcements regarding arrangements for the paper presentation sessions that were to follow. There were four Parallel Sessions for Day One of the Conference. Four parallel auditoriums, namely, the Main Golden Jubilee Hall, the UIHTM-Seminar Hall 1, the UIHTM-Seminar Hall 2 and the ICSSR-Conference Room 2 were designated for these parallel sessions. One set of Parallel Sessions were scheduled before lunch and the remaining two sets were scheduled in the after lunch. Hence a total of 12 parallel sessions were scheduled for Day One.

The first set of parallel paper presentations consisted of the presentation of twenty three papers. Dr Peter Gray from the Norwegian University of Science & Technology, Norway, Prof Jagtar Singh from the Punjabi University, Patiala, Prof Suveera Gill from India, and Martin McAreavey from Bolton University chaired each parallel session respectively.

There was a lunch break after the first set of parallel paper presentation sessions and during the lunch break, a photography session was conducted.

The second set of parallel paper presentation sessions began after the lunch break where twenty one papers were presented. These sessions were chaired by Paul Loranger from Canada, Prof. I. V. Malhan, Central University of Himachal Pradesh, Dharamshala, India, Prof. Kanchan Jain from India, and Dr Peter Gray from Norway, respectively. A tea break followed the conclusion of these sessions.

The third and final set of parallel paper presentation sessions of day one began after the tea break where nineteen papers were presented. These sessions were chaired by Dr Sarita Parhi from LSME-UK, Dr. Jaspal Kaur from India, Prof Gunmala Suri from India, and Dr Amandeep Singh from the Panjab University, India, respectively. A thirty minute panel discussion was conducted at the parallel session held in the UIHTM-Seminar Hall 2 before the paper presentations began. Day one of the Conference concluded at the end of these sessions.
An overview of the first day’s Conference Programme is shown in schematic form below:

### International Conference on Managing Responsible Research in the Human Sciences and Information Management

**Dates:** 12th – 13th August 2016  
**Venue:** Golden Jubilee Seminar Hall, Panjab University, Chandigarh (INDIA)

**Programme Day 1 - August 12, 2016 (Friday)**

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<tr>
<td>08:30 – 09:45</td>
<td>Registration</td>
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| 10:00 – 11.00 | Opening Ceremony  
Lighting of Lamp  
PU Anthem |
| 11:00 – 11:30 | Tea Break                                                                |
| 11:30 – 11.55 | Keynote Address by Dr Peter Gray, Norwegian University of Science & Technology, Norway |
| 11.55 – 12.00 | Session Announcements                                                    |
| 12:10 – 13:30 | Paper Presentation Sessions                                               |

- Welcome Address by Organising Secretary Dr Raj Kumar
- Address by Professor Stephen McKinney – (webcast from the UK) Conference Committee Chairman
- Address by Professor Suresh Kumar Sharma, International Conference Committee
- Address by Dr Ravi Kumar, Conference Convener
- Address on RRI by Dr Peter Gray, Advisor, European Research Projects, Norway
- Address by Guest of Honour, Prof. R.L Raina, Vice Chancellor, J K Lakshmipat University, Jaipur.
- Address by Chief Guest, Professor Arun Kumar Grover, Vice Chancellor, Panjab University
- Vote of Thanks by Dr Rashmi Yadav, Joint Secretary
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<th>Parallel Auditorium 1 (Main Hall. Golden Jubilee) Chair: <strong>Dr. Peter Gray</strong></th>
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<td>1. A Study of Job Satisfaction of Teachers Working At The Primary School. <strong>Navdeep Kaur Gill</strong></td>
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<tr>
<td>2. A Preface To CSR In Education In India. <strong>Dhiraj Sharma</strong></td>
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<tr>
<td>3. Attitude Towards Career Guidance And Counseling Among College/University Teachers In The Tricity. <strong>Sucha Singh</strong></td>
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<td>4. An Exploratory Factor Analysis of the Organisational Citizenship Behaviour Scale. <strong>Pintu Kumar Maji</strong></td>
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<td>5. Bullying Among Adolescent Students In Relation To Their Frustration, Family Climate and Birth Order. <strong>Sarabjit Kaur</strong></td>
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<td>6. Responsible Research And Innovation (RRI) In Science Education. <strong>Pratibha Garg</strong></td>
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<td>7. Usage Of Electronic Resources And Consortia In Libraries. <strong>Jagjit Singh</strong></td>
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<td>8. How To Bring About Research Support (RS) Services In Indian Scenario. <strong>Fathima Azra Fazal</strong></td>
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<tr>
<td>10. Knowledge And Information Management In Libraries. <strong>Anita Sharma</strong></td>
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<td>11. Managing Research Data. <strong>Neeraj Kumar Singh</strong></td>
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<th>Parallel Auditorium 3 (UIHTM.Seminar Hall 2), Chair: <strong>Martin McAreavey</strong></th>
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<tr>
<td>12. NPA's In Indian Banks. <strong>Monika Aggarwal</strong></td>
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<td>13. Corporate Social Responsibility: A Study Of Selected Banking &amp; Insurance Institutions In India. <strong>Pratibha</strong></td>
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<tr>
<td>14. A Study Of Gender Diversity Management In Indian Companies. <strong>Santhi Narayanan</strong></td>
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<tr>
<td>15. An Evaluation Of Credit Risk Management System. NPA'S In Indian Banks. <strong>Mamta Ratti</strong></td>
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<tr>
<td>16. An Empirical Study Of Internal Factors Of Performance: An Employee Perspective. <strong>Shivani Kapoor</strong></td>
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<td>17. CSR Perception And Organisational Commitment. <strong>Lipika Bhardwaj</strong></td>
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<th>Parallel Auditorium 4 (ICSSR.Conference Room 2) Chair: <strong>Prof. Suveera Gill</strong></th>
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<tr>
<td>18. Organizational Commitment Among Employees Of Public And Private Banking Sector. <strong>Kiran</strong></td>
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<td>19. A Study Of Innovations In The Indian Retail Sector. <strong>Jagandeep Singh</strong></td>
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<tr>
<td>20. Adoption Of Internet Banking In India: An Application Of Extended Technology Acceptance Model. <strong>Tejinderpal Singh</strong></td>
</tr>
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<td>21. Succession Planning and Diversity Relationship. <strong>Gurpreet Kaur Saini, Gurdeep Singh Batra</strong></td>
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<td>22. Analysis Of Buyers Behaviour In Pre-Owned Car Market: A Study Of Chandigarh Tricity And Ludhiana City. <strong>Mandeep Kaur</strong></td>
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<td>23. Is It Wise Enough To Use Secondary Sources Of Data For Social Sciences Research? <strong>Chhavi Kiran</strong></td>
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<p>| 13.30 – 14.15 | Lunch Break |
| 14.15 – 14.30 | Group Photograph |</p>
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| 14.30 – 15.45         | Parallel Auditorium 1 (Main Hall. Golden Jubilee), **Paul Loranger**  
24. Equipping Youth with Skills for a Brighter Tomorrow. **Kiranjeeet Kaur**  
26. Gender Differences in Adjustment Problems Among Adolescents. **Susheela Narang, Kavita Devi**  
27. Exploring The Potential Of Chindi For Producing Quality Products For Women Empowerment. **Sumita**  
28. Gender Differences In Conflict Management Styles Of Undergraduates. **Amrita Bhullar**                                                                 |
|                     | Parallel Auditorium 2 (UIHTM.Seminar Hall 1), Chair: **Dr. Neeraj**  
Invited Talk. **Prof. I. V. Malhan**, Central University of Himachal Pradesh, Dharamshala.  
29. Asia Pacific Journal of Management Research and Innovation: A Bibliometric Study with Special Reference to Authorship Pattern and Collaborative Research Output. **Anita Chhatwal**  
30. Role Of Librarian In Curbing Plagiarism Vis.A.Vis Research Trends In Plagiarism As Visualized From Scopus. **Deepti Madaan**  
31. Survival Of Librarians In Change Management. **Kulwinder Singh**  
32. Perceptions Of Library And Information Resources: A Comparative Study Of Children Users Of State Central Libraries Of North India. **Neeza Singh**  
33. Transitional Phase of Online Reading Content. **Ajay Kumar Arora**                                                                                       |
|                     | Parallel Auditorium 3 (ICSSR.Conference Room 1), Chair: **Prof. Kanchan Jain**  
34. Assessing IT Efficiency of The Asian Economies: An Application Of Data Envelopment Analysis. **Rachita Sambyal**  
35. Estimating Trading Area Of Retail Agglomerations By Using GIS Application. **Vikas Singla**  
37. Impact Analysis of IT Transformation. **Amandeep Singh Marwaha**  
38. A Study On Consumers & Retailers Awareness On Electronic Waste. **Nidhi Gautam**  
39. Influencing Agents of Socialization For Generation **Y. Bhavna Sharma**                                                                                   |
|                     | Parallel Auditorium 4 (ICSSR.Conference Room 2), Chair: **Dr. Peter Gray**  
40. SIDBI. A Successful Financial Institution in MSME Banking. **Poonam Bassi**  
41. Human Resource Management And Accounting Of Intellectual Property. **Tajinder Kaur**                                                                       |
<p>|                     | 42. Impact Of NPA’S On Banking System With Special Reference To Indian Commercial Banks. A Review Study. <strong>Pooja Pandey</strong>                                                                                                   |
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Day One – Opening Ceremony – Plenary Session

The Conference Session began with the traditional lighting of the lamp followed by the Panjab University Anthem. This was followed by seven speeches and a vote of thanks. The speeches are outlined below:

Speeches

Welcome Address – Dr Raj Kumar, Organising Secretary

It is my great pleasure and honour to welcome our Chief Guest, respected Prof. Arun Kumar Grover, Vice Chancellor, Panjab University, Chandigarh; the Guest of Honour, Prof. R L Raina, Vice-Chancellor, JK Lakshmipat University, Jaipur; Dr. Peter Gray, Adviser European Research Projects, Norwegian University of Science and Technology, Norway; Dr. Ravi Kumar, Conference Convener, Director London School of Management Education, UK; Prof. Suresh Kumar Sharma, Coordinator International Conference Committee; other distinguished guests, ladies and gentleman. I welcome all of you to the function to celebrate the Librarian’s Day and to the International Conference being organised jointly by the A C Joshi Library, Panjab University and London School of Management Education, UK.

12th August every year, is traditionally celebrated as the Library Day in India to commemorate the official birth anniversary of Shri S R Ranganathan, an eminent librarian and one of the pioneers of Library Science in the country, as an acknowledgement of his contribution. Prof. Ranganathan is considered to be the father of library science, documentation, and information science in India and is widely known throughout the rest of the world for his fundamental thinking in the field. The Government of India awarded Padmashri to Dr. S.R. Ranganathan for his valuable contributions to Library Science.

The purpose of this conference is to bring Responsible Research and Innovation (RRI) alive, in a vibrant and challenging scholarly environment. International keynote speakers and presenters from the international research community have been invited to give their views on how to implement RRI in India, in order to realise the immense potential of its researchers. RRI is inter- and Trans- disciplinary, which cuts across multiple specific objectives. The two-day Conference is anticipated to attract 150+ delegates.
Once again I welcome and thank our chief guest for taking time out from his busy schedule to grace the occasion. I welcome all the dignitaries from the academic fields, delegates and library and management professionals come from far and near to attend the function.

I sincerely hope that this event shall be a success and the delegates shall go back with a wider perception.

Address by Dr. Mohan Agashe - Indian Theatre and Film Actor and Former Professor of Psychiatry B. J. Medical College and Sassoon Hospital, Pune

The subject of this conference is very valid “Responsible Research”. The research community is getting alienated from the society because what you are doing is in the betterment of the society and those researches finding that effect at large must be shared with public but in the language they understand.

I am once on a committee of a very important research project of community rehabilitation of the recovered schizophrenia with the help of the council. The project was for 3-4 years. At the end of the project when we submitted the report they were impressed. Then I realised what will happen now? They will write an article to a conference like this, present the paper, then it will go to a journal, it will get published and then it will sit in the cupboard of library till somebody will use it up for reference.

I said it is so important for the relatives of the people who are ill, why don’t you make a small film? So it can be communicated to large number of people. But one thing I said is “please don’t make a film yourself because you don’t know how to make films you only know how to do research. You do research and I will introduce you to somebody who knows how to make films. We don’t come and tell you how to do research; you don’t come and tell us how to make a film”. That film is on you tube and it’s called our stories and it has influenced many people at grass root level. Second, inviting me here as a guest is almost like inviting the leader of the opposition party because I must have some sort of dyslexia because I found in my school, particularly at medical college that it is so difficult to read and understand because cognitively we are not as developed as you are. So, I have always spent most of my time in medical college in finding the smallest possible book.
Learning is the offspring of the interest and intellect whereas metaphorically I am saying that interest is woven and intellect is on experts. You may be tremendously intelligent but if you don’t have interest nothing will happen. But, if you have tremendous interest and even if you are averagely intelligent something will happen. So I think it is better to be a good student then to be with a good teacher. Ten best teachers can’t produce a single thing if none of the students are interested. Ten best students with the worst of teachers still can produce something. Then I think the best thing a teacher can do is to tell how to learn and create that interest. And on the way I found out that how did I find my interest? You must have passed through a number of teachers from their Montessori to PhD. Do you remember them all? I am sure you do. You remember the best ones but not what they taught. What you remember they made the subject so interesting that you studied on your own. I think the purpose is and I learn and how I learn.

Current education system which we have borrowed from somewhere else is so heavily biased towards cognitive development that in the process we have become a society with swollen cognition and shrunken senses because there is no effort in the education system to develop sensitivity. So we have closed all other pathways to learning and becoming wise that sense of smell, sense of taste. And that’s why there was a paradigm shift in the literacy concept from oral skills to written skills. So reading and writing became so important that from the first year of school till the last year of college it’s mandatory to learn in India at least three languages to read and write.

When I was studying medicine, I realised that clinical skills are sensory skills. I would like to end by when your external stimulus is worth with a spoken or written, it goes for processing for only one centre for me and then it’s called cognitive behaviour. That’s where the words are processed and then you send secondary signals to visual cortex and auxiliary cortex to create your own images and sounds. Which means when you see a film your three centres in the brain are active, the images are processed separately, the sound is processed separately and the words are processed separately and concurrent comprehensive understanding happens which is far more important in life. And in fact in daily life subtext is far more important than text. And these are the pathways to enrich your subtext. Even today intellectual communication, logical communication word is the medium, for emotional communication is sound and image just because it has come 100 years after and we get eyes and ears free at birth, so we don’t pay any attention. We
don’t actively listen and see. Eyes don’t see what mind does not so you must learn to see and how to compliment libraries which are full of books and also with the Digital Medias which will enrich education and learning. Like good books and bad books there are good films and bad films. There are one minute films and feature films. The point is that even in the schools we teach how to read and write but Sanskar teaches us what to read and how to read and how to read a subtext whether it’s a book or a film.

So I am sure in your deliberations on Responsible Research you will include audio visual component and when you report your research findings you will include an audio visual component.

I would like to end that when I was a psychiatrist, I didn’t have any business and therefore to make business, I went to schools and I asked the principal to let me talk to the teachers about learning disabilities and dyslexia. None of the schools entertained me saying, none of the student have such kind of disability here, you should go to corporation school. 25 years later when the movie “Taare Zameen Par” came, all the principals of the schools requested me to do a lecture on the same. So what professionals could not do a film could do. That’s the power of a film.

Thank You.

Address by Professor Suresh Sharma - International Conference Committee

Good morning Distinguished and Learned Guests, Ladies and Gentlemen.

It gives me great pleasure to welcome all of you to this International Conference on Managing Responsible Research in the Human Sciences and Information Management. I also wish to express a special welcome to the team from the London School of Management Education who are present here today. The team is led by Dr Ravi Kumar, Dr Sarita Parhi, and Dr Peter Gray. They have worked admirably with the Panjab University in collaborating and jointly organising this Conference to commemorate the AC Joshi Library. This commemoration is held annually in recognition of the significance of this Library in India.

One of the important aspects of this Conference is to address social and economic
issues more effectively through research, whilst maintaining scientific rigour and integrity, with an objective of how to deal with wider ethical issues in research.

I will briefly touch upon Ethics and Responsible Research this morning.

Ethics as an academic discipline is a branch of philosophy that is concerned with answering questions about duty, honor, integrity, virtue, justice, the good life and so on. Research ethics studies the ethical problems, dilemmas and issues that arise in the conduct of research. As a school of thought, objectivism views ethical principles to be universal and applicable at all times and in all situations to everyone. On the other hand, what is ethical varies from culture to culture and situation to situation according to the relativism school of thought. The latter view does not see ethical principles as universal and is flexible in approach. However, ethical decision-making depends on researcher’s insight, knowledge, expertise and experience.

Ethics are not only limited to the participants of the study but also extend up to the general population including the organization involved in research, particular culture and countries related to the topic of interest and those interested in using the findings to their benefit. These broader relationships must be taken into account before making an ethical decision. Ethical decision-making also depends on the goal of educational and managerial research and how the study relates to policy making or interventional practices.

According to Hammersley and Traianou the prime ethical responsibility of the researcher is to pursue worthwhile knowledge; no other goal should be substituted for this, nor should it be compromised by other concerns.

They summarized five commonly recognized ethical principles as:

Minimizing Harm: Researchers must ensure that the research process does not cause any physical or psychological harm to participants such as children and educators or managers involved in the study and must reduce harm where it is foreseeable.

Respecting Autonomy: Allow individuals to decide for themselves whether they would like to be an active part of the study. This principle takes into account the freedom and self-determination of individuals and also requires that the researcher
creates conditions for autonomous choice by explaining the risks, time and benefits involved in the research. In some cases where the subjects belong to a vulnerable group and cannot take the decision to participate for themselves, such as mentally retarded children, the responsibility lies in the hands of the guardians or parents.

Protecting Privacy: The principle of confidentiality is very important to initiate trust and rapport building between the researchers and the participants. It is important to maintain the confidentiality of the identity and information revealed by the participants in the study. Not taking care of this principle, results in feelings of betrayal and an attitude of suspicion towards researchers in general among the research subjects.

Offering Reciprocity: Participants give up their valuable time in order to be a part of the study. Therefore, it is desirable for researchers to reciprocate their subjects’ participation by giving incentives, such as, money or tokens.

Treating People Equitably: It means that the researchers must not discriminate against any particular group of subjects.

Having briefly pointed out some of the salient points that have to be considered before conducting any Research in a Responsible manner, I wish to conclude by saying that all of us should remain focused on doing the right things at all times and I very much look forward to the Research Presentations that place special emphasis on Research Integrity and Ethics.

I also encourage all delegates to have an enjoyable Conference and to get to know the two institutions which have come together to organise this Conference.

Thank you.

**Address by Dr Ravi Kumar – Conference Convener**

Chief Guests, Vice Chancellor Professor Arun Kumar Grover, Distinguished and Learned Fellows, Ladies and Gentlemen, it gives me great pleasure to welcome all of you to this International Conference on Managing Responsible Research in the Human Sciences and Information Management which is being jointly organised by the Panjab University and the London School of Management Education. This is the first collaboration that the London School of Management Education, also known
as LSME, has undertaken with respect to organising an International Conference.

However, LSME has organised two International Conferences in London, England, in 2015 and 2016 and these were initiated with the rationale of providing a platform for the presentation, discussion and engagement with scholarly research and the dissemination and impact of the research in local and international society. More importantly, LSME has decided to focus on Responsible Research and Innovation as well as its Impact so as to provide an opportunity for researchers to present their work in a new and exciting context. Academic conferences often situate research in the context of research themes and trends without always considering how research impacts on society or how to disseminate the research to a wider audience and take into consideration the practical application of results to serve public good. ‘Responsible Research and its Impact’ will encourage researchers to identify, and to listen to, the users of research and to demonstrate how users’ needs have helped to shape the aims, design and implementation of research projects.

LSME has been positioning itself as one of the champions of Responsible Research and Innovation and its Impact. So when the opportunity to collaboratively organise an International Conference with the Panjab University presented itself, LSME did not hesitate to wholeheartedly support the initiative. We have undertaken to work jointly to position the Panjab University and LSME, as leaders in the implementation of RRI in India and internationally. Moreover, isn’t this an immensely wonderful way to commemorate the Annual Day of the A.C. Joshi Library of Panjab University?

Going forward, LSME will look toward collaborating with other global academic institutions in organising similar conferences. In this manner we will organise a London based conference and an internationally based conference on an annual basis. This will be a good way to promote the stated aim of spreading the message of the significance of Responsible Research and Innovation and its Impact as far and wide as possible. It will also serve to develop a global network of RRI champions.

To ensure that access to these conferences is attainable to those academic researchers who are poorly funded, the LSME Conference Registration Fees are also kept very low and in fact below break-even levels. Additionally, all LSME Conferences have formal networking sessions as part of the Conference Programme. As a result, these Conferences provide an opportunity for emerging
researchers who would normally never get an opportunity to attend an International Conference to present their research findings, as well as be presented with opportunities to be involved in collaborative efforts that are taking place in many parts of the world.

Having mentioned Responsible Research and Innovation throughout my speech, some of you may be wondering, what is Responsible Research? Well, Responsible Research, especially in the human sciences, refers to research where positive impact on end users or society in general, is considered to be as important as impact on research communities. This involves opening up all stages of the research process, and involving a wider range of societal actors in the direction, methods, ethics and reporting of research. It provides opportunities for under-represented groups to become engaged in research and to make the case for new research topics to be developed. It therefore challenges academic norms and criteria for success in research. In the field of innovation, or commercialisation of research, a responsible approach implies a more inclusive approach to the development of products, systems, services and policies. Such an approach will demonstrate that social justice, equity and sustainability have been considered in line with the needs of all relevant actors. During the next two days of this Conference, you will be hearing a lot more about the objectives of RRI.

I would also like to add that these series of RRI Conferences also have Outcomes. These are:

1. A conference proceedings that reflects the importance of the inclusion of both ‘results’ and ‘impact’.

2. A network of researchers committed to responsible research and social impact.

3. Open Access to all and any Conference Proceedings and Research Publications published by LSME.

4. Recognition of the organising institutions as champions of Responsible Research.

Another outcome is that LSME has assembled a group of professionals from around the world, with a diverse range of expertise and experience to form the backbone of its RRI. This group will serve to drive the LSME RRI agenda forward.
Just to demonstrate how seriously LSME is taking up the ethos of Responsible Research and Innovation, at the next International Conference which is being organised in London in April 2017, the opening session of the Conference is being hosted in the UK House of Lords. The theme of this third International Conference is Responsible Research and Transformation in Education and Lord Navnit Dholakia has agreed that the best six Research Papers could be presented at the Palace of Westminster on day one of the Conference.

In addition to the collaborative efforts to organise International Conferences, LSME is planning to launch joint research work with global institutions to promote RRI. To facilitate this initiative, LSME will commit to co-fund research work with a global institution each year.

LSME has established links with academics who are part of high profile European Union linked groups of researchers like those involved in the ENGAGE Hub and Project Irresistible. Dr Peter Gray who is present here today is very active in some of these EU Research Communities. I urge those of you who are interested in RRI to meet him and the other similar like minded delegates who are present at this Conference and establish your RRI networks.

I must at this juncture say that all delegates attending the Conference to contribute as Guest Speakers, Keynote Speakers, Special Guest Lecturers, Chairpersons of Sessions and Rapporteurs, are doing so on a pro bono basis – where no fees are charged, and as a result they are wholeheartedly participating to contribute towards the public good. A big thank you to all of you, who have worked very hard to prepare and contribute as resource persons for this Conference.

The success of these series of International Conferences is entirely dependent on all of you. Panjab University and LSME have stepped up to provide the platform. All of you are warmly welcomed and encouraged to come on board and participate in the promotion of Responsible Research and Innovation and its Impact.

I end by expressing my very grateful thanks to the Patron – Vice Chancellor Professor Arun Kumar Grover, the Conference Chairman Professor Stephen McKinney, the Organising Secretary Dr Raj Kumar, and the International Committee Members. They have all stood steadfastly behind this initiative and have contributed many hours of their valuable time towards various aspects of organising this Conference.
Distinguished Guests, Ladies and Gentlemen, have a fruitful and enjoyable conference.

Thank You.

**Address on RRI by Dr Peter Gray - Advisor, European Research Projects, Norway**

Dr Peter Gray spoke very briefly to give a general introduction of RRI as he was delivering a Keynote Address at the first Plenary Session. He stressed the importance of RRI and explained that the best way to enable RRI to start and perpetuate throughout the research community was to set up national RRI hubs in all countries. He pointed out that as a lot of Research was being conducted in India, one of the leading research institutions like the Panjab University should take the initiative to set up a RRI hub and promote RRI. He said that his Keynote Address would cover important ground and allow delegates to take away sufficient information to apply RRI concepts to their Research.

**Professor R.L Raina, Vice Chancellor, J K Lakshmipat University, Jaipur (India)**

Honourable Vice Chancellor Professor Grover and many distinguished members on the dias and off the dias, having been shared a little bio sketch of mine I feel little in a very very embarrassing situation to share with you a couple of thoughts that I don’t know whether I will be able to muster the courage or not on this occasion. Why do I say so because being here before you is indeed a very nostalgic moment for me in the first place. Because I am a student of this university and I take pride in being a student of this university. Number two in the audience I see my teachers, I also see my batchmates. I also see here my students. So what a coincidence to be here talking to you. Third they say as part of organising this conference they are also celebrating the Librarian’s day. What a great moment to be here on such an occasion. I express my most sincere gratitude from the bottom of my heart to the organisers - London School of Management Education and Panjab University for having reposed their faith, trust and confidence in me; for recognising my small little efforts and calling me a guest of honour when there are several stalwarts sitting on the dias and then giving me this opportunity to talk to you on some thing which I hold very close to my heart. When Dr. Aghase talked about written aspect of communication, oral aspect of communication, active listening and so on and so
forth, I thought what a sheer coincidence of sorts that I am here to share with you small little concerns of mine about responsible research. Coming back with these few backdrop items about the issues and the theme of this conference which is managing responsible research and innovation, I will, my dear friends request you to take a peep with me for a while in the past. I am not asking you or requesting you to go to stone age or times earlier than that, but I am requesting you to wake up to an age, to an economy, to an era where we started realizing as to who are we and what is expected of us by this society of which we are a part. And that journey my dear friends will take us to an economy, an era or a context which we called as agri-based context. Why do I refer to the agri-based context because the driver of the context was nothing but labour. Any individual, any organisation, any nation for that matter who had access to that driver ruled the roost because that was the context. We moved on our path of growth and we hit another context which we call as industry-driven context. Why do I refer to that context because the driver of this context was not the driver of the earlier context which was the labour, here the driver of the context was money? Anyone who had access to this key resource because this was the driver of the context ruled the roost. My dear friends, we have travelled quite a lot from the agri-driven context of yesteryears where muscle was the power via industry-driven context where money was the power to the present context which is knowledge driven context. Without getting into the semantic aspect of knowledge, or information or the words of wisdom which my colleague was mentioning, I would say we are in information-intensive context and it is where if you want to make the host or leverage on this resource which we call as knowledge information probably it is high time that we wake up and shake up to the call of these kinds of initiatives or concerns like responsible research. If our research gets democratised to that extent where it is not research by researchers and alone for researchers; when it is research for the ultimate mankind, lot of good things will happen. Because you have seen research day in and day out talking about if we don’t take up issues in the perspective that the theme of the conference is supposed to address, then only by 2050, I am told 25% of the living species, you know living species just not taking care of primary changes will not be there. There are many such areas, I will not have time and permission to elaborate on that probably the 2 days conference will dwell on these areas in greater length.

My submission is through this conference and through the discussions and deliberations in this conference, please let us wake up and see if India is tremendously equipped with the best of the best natural resources, the best of the
best flora, the best of the best fauna, the best of the best human potential, why is 
that every day we wake up and everyday we get to know India is still a developing 
nation. Why can't we wake up some day and the people around the globe call us 
that it's a developed nation? When specifically we have plenty. It is just a little bit 
of mismanagement or under management or doing researches or research and 
researchers, if that takes a little leap forward and addresses the concerns of the 
society; probably we would be better off. We started understanding ourselves that 
we are in need of Roti, Kapdaa and Makaan. Despite being equipped with the best 
of the best, trust me, we still are in search of the kind of roti we should have, the 
kind of kapdaa we should have, the kind of makaan we should have. If those three 
basic requirements have remained the same, what are we doing, where is our 
research heading towards, trust me we talked about child...and child suffering...
and suffering from leukaemia, the science of medicine has been developed to that 
extent that even that 98% can be taken care of, but it can be taken care of by those 
who have access to adequate health care system. We are looking at a country 
where we have abundance of everything but when we for what we need, we do not 
have it. Probably, it is addressing the concerns and the issues of the responsible 
research which will take us to the levels that we are looking forward to; which will 
take the research close to those for whom we need to band up with. Once again 
with these few ideas and thoughts in the beginning, I will express my deepest 
possible sincere gratitude to the organisers for giving me this opportunity to be 
here and treat me as the Guest of Honour. I don't think I have those credentials 
because I am the product of this university and I love to be known as the product 
of this university. If the humble Vice Chancellor permits me, I have not had a word 
with him, I am taking that liberty because having understood his way of handling 
the things, how do I say so, that out of the way he came and said Dr Mohan Aghase 
will address us, that speaks that he has the art in these kinds of horizons so I am 
taking the liberty of, permit me sir, using this opportunity to contribute a little bit of 
my contribution to the department of library science which has given me what I 
am today, a token of about a lakh of rupees which I want the department to have 
it as some kind of endowment and make sure that whatever receipts it gets over a 
period of time be given to the topper of the MLIS programme. I tried very hard to 
be the topper of the programme which I couldn't. In this way, I will remain closely 
associated with the university. I am humbled and express my sincerest gratitude to 
all associated with the programme.
Dignitaries on the dice, invited participants, colleagues, students, ladies and gentlemen!

I am indeed very happy to be amongst all of you. I have many things to tell but I would like to give a brief. I want you to stick to the time and go through all the proceeding of the conference by schedule. Let me add a few things.

First, I am very happy that the London School of Management Education chose to partner with Panjab University. The University is going through good times. The British Council and British High Commission asked about the new developments happening in and around Chandigarh. The Panjab University took an initiative to create an umbrella organisation in Chandigarh innovation and Knowledge Cluster. We have formally written an application to get as a registered society. Long ago before we reached that step, the British Council internationalizing higher education with their division at Bombay. They came over to the University and said that they would like to use this umbrella organization to promote collaboration between British educational institutions and Panjab University recognizing the importance of Panjab University as the nucleus of start of higher education in north-west of India more than 150 years ago.

So in that context during the last few years we are linking with University of Birmingham and Nottingham University have built up several partnerships and also many other institutions in and around Chandigarh. We are doing joint projects, lobbying for joint funds, and we are doing many other things, for instance, this summer as a part of new programme, young students from England are visiting India. In all 500 students are coming in the very first year and 10% of them, in fact 50 of them, are visiting Panjab University. We already have 25 students 200 meters away from here.

So building collaborations, we welcome LSME too. We are actually building collaboration with all the libraries in and around Panjab University. When it comes to engineering, Panjab Engineering College has a very good library base, when it comes to medical, PGI has a very good library base. For management, we have Indian School of Business in Mohali, which is an offshoot of Indian School of Business, Hyderabad, which I can say; I have a proposal about a month ago from Dean of Indian School of Business to bring all the library resources in and around
Chandigarh on a common platform. I think this is an agenda because if we build up this partnership, this is an area we have not promoted in the last few years, but focussing on life sciences, nanotechnology, or medical sciences. Or other things which are related to the smart city UT administration promoting a synergy between Nottingham City Council and UT administration in the background of doing things smart city and waste management. Traffic management, transportation and may be we should add a dimension of what you are calling is research and innovation. Research has to be responsible. Innovation is research and research is innovation. There is no research if there is no innovation. If you are seeking partnership in PU, you are seeking partnership in the entire tricity. I am very happy to promote this on behalf of your ethical experiences. PU has the best of alumni and encourages the best of students to join. No one can stop this University from growing. Not only are there distinguished alumni of the University on the dais, just imagine how many leaders of country this University has contributed. The number of Prime Ministers the University has given, number of Chief Justices in SC of India, number of Governors this University has given, even today 3 Governors are PU alumni, so many ministers in the Indian Government are from the PU alumni and so many from the previous government were from the PU alumni. The alumni of PU are capable of providing for the resources. All we need is a clear guidance to chalk out a strategy for ourselves on how we are to survive, so I conclude here and wish you all the best for the conference.

Thank you!

A Vote of Thanks was delivered by Dr Rashmi Yadav, Joint Secretary of the Conference Organising Committee. This was followed by a mid-morning tea break.

There was a mid-morning Tea Break after the Opening Ceremony.

This was followed by a Keynote address by Dr Peter Gray from the Norwegian University of Science and Technology. The Keynote address was delivered in a Plenary Session.

**Day One – Plenary Session - Keynote Address by Dr Peter Gray**

Dr Peter Gray from the Norwegian University of Science and technology was then invited to deliver his Keynote Address. A summary of his Keynote Address is
 Responsible Research: what, why, how?

The Research Advantage Programme.

A story in three parts

- What is Responsible Research?
- Why do we need Responsible Research?
- How can Responsible Research be realised in practice?

The monkey waits patiently for a train.

The Politics of Research

- All kinds of actors are politically engaged in research, usually by default
- a particular relationship between science and society is necessary in order for science to be responsible…scientists need to conduct their science within the structure of this relationship in order for their practice to be legitimate and proper (Glerup & Horst 2014, emphasis added).

Current Relationship

- Science ‘curriculum’ has emerged from historical precedent, rather than societal demands
- Impact of research measured bibliometrically, e.g. through citation indices
• Funding allocated in proportion to research productivity and ‘excellence’.

New perspectives on the responsible governance of research

Gender - Anticipation
Public engagement - Reflection
Open access/open science - Deliberation
Science education - Inclusiveness
Ethics - Responsiveness
(adapted from EC, 2012) - (adapted from Owen et al 2013)

Hypothesis

• Internal integrity in research is important, but we also need external integrity, or …RESPONSIBILITY

Internal vs External Integrity

• Internal: transparency of method, accurate representation of data, avoidance of plagiarism, acknowledgement of previous studies, honesty of analysis and conclusions, adherence to ethical codes

• External: societal good, extensive consultation, openness, gender considerations, ethical dialogue, inclusion.

Four scientific rationalities

• Demarcation: let’s keep the social and the scientific domains separate
• Reflexivity: let’s think amongst ourselves
• Contribution: let’s think about our outcomes
• Integration: let’s enter into dialogue about our processes
• (adapted from Glerup & Horst, 2014)

Summary: Responsible Research is about ….

• …creating collaborative and outward looking research cultures.
• …changing the governance of research, making it more open and democratic.
• …including more diverse groups in making decisions about research.
• …questioning the purposes and consequences of research.
Authorship and excellence

- The top 10% most productive authors were associated with 82% of all the publications produced during the period [2000-2010] while 50% of authors were associated with just a single publication.
- less than 1% were associated with 74% of all the top 1% publications produced (EC, 2016)
- Sample: 12.8m papers, 2000-2010, Scopus

Citation ≠ impact

As a result of our research...
• How many patients were cured?
• How much more food was produced?
• How much more do we know? (not a trivial question)

Making a difference

• Where has your institution made a difference?
• Can we create new indicators and metrics for social impact?
• How will your institution still be competitive if it changes its research management practices?

The threat of responsible research

• not normal practice in research – yet!
• Funding not guaranteed – but it never is!
• Not all research has obvious or immediate application to societal problems
• Productivity will look worse!

How? >>> Panjab University-Chandigarh and LSME as RRI hubs

Strategy

• Grow expertise in responsible research
• Lead emerging responsible research communities, at national and international levels
• Make RR a component of graduate courses and staff professional development
• Bring together research, teaching and learning

Research training and management

• Often focused on the ‘how’ rather than the why
• Who might benefit from this research?
• Who might be disadvantaged?
• Who are the stakeholders?
Workshops

- Achieve common understanding of RRI principles
- Review state of the art in research at your institution, inc. PhDs
- Bring PhDs and supervisors together across disciplines/topics

Role of Research Management

- Assess available knowledge, expertise, resources
- Identify funding
- Bring researchers together
- Bring researchers and their publics together
- Provide leadership

The Embedded Humanist

- Bringing new perspectives to the lab/research team
- Could be from any social science or humanities discipline
- Helps with public engagement – the embedded spectator?

What stakeholders can do for you

- New ways to communicate your results
- Shaping the direction of your research
- Exploring new perspectives
- Providing evidence of impact.
Libraries and Responsible Research

- Supporting open access and open science
- From libraries to research exchanges, observatories, and active repositories
- Hosting knowledge sharing sessions
- Mashups – the journal remix.

Journal editors and reviewers

- Does your journal have an open access policy?
- Do reviewers use responsible research criteria – e.g. gender awareness, intention, anticipation, impact, engagement?
• Do you prioritise articles which demonstrate impact as well as presenting results?

Themes from this conference

• Poverty and underachievement
• Social justice and gender equality
• Banking, finance and debt
• Job satisfaction and human resources
• Corporate Social Responsibility and Responsible Research
• Knowledge management and role of libraries.

References


The paper presentation sessions followed the Keynote Address by Dr Peter Gray.

**Day One – First Set of Parallel Paper Presentation Sessions**

The first set of parallel paper presentations were held before lunch on day one. These sessions consisted of the presentation of twenty three papers. Each session was moderated by a Chairperson and summaries were recorded by a Rapporteur. There was a short Q&A session after each of the presentations.
The session summaries are outlined below.

**Parallel Session 1 - Golden Jubilee Main Hall.**

**Session Chaired By: Dr. Peter Gray**

**Rapporteur: Dr. Suman Sumi**

Parallel Session 1 was chaired by Dr Peter Gray and there were four presentations in this session on research areas pertaining to various aspects of Education ranging from College and University Teachers’ attitude towards Guidance and Counselling; Bullying amongst Adolescents to Responsible research and innovation in Science education. The summaries of these presentations are as follows:

Dheeraj Sharma presented the paper entitled ‘A Preface to CSR in Education in India’. The author discussed the evolution of the concept of Corporate Social Responsibility apart from introducing the basic concept of CSR. He emphasised that CSR, on the one hand is taking care of its customers and employees and on the other hand indicates the responsibility of an organization towards meeting societal challenges. According to him, CSR is an old concept in India as companies like TATA and BIRLA has been supporting the social good in their operations for decades long even when CSR was not popular. In India 74% of top 500 Indian companies are involved in CSR activities in education sector. The estimated spend by these top 500 companies are around Rs. 4000 crores and this figure is increasing day by day. In govt. policies universalisation of education, free primary education, education for all, education for women and adult education are the major objectives. Hardly, people in India know about CSR and its role for the society. CSR in education can show its impact on the public in general but its special treatment may involve the children from the weaker section of the society who because of some disadvantage lagged behind in education. The present study deals with the role of CSR in education sector in India. The study highlighted the basic idea of CSR in education sector, examine the practical evidences of CSR in education sector in India, to know the challenges before the corporate in fulfilling their responsibility towards the society in relation to education, to assess the initiatives taken by the Indian corporate for education in India, to explore the beneficiaries of CSR in education system in India and its influence on the general public.

Dr. Anupreet Kaur Mavi and Sucha Singh jointly presented paper entitled “Attitude towards Career Guidance and Counselling among College/University Teachers...
in the Tricity”. The major findings highlighted the significance of Guidance and counselling services in the future and the prominent fact which emerged from the study related to the difference in attitude of college/university teachers on the basis of gender. They suggested that guidance and counselling not only helps students to develop an understanding of one self and of others, it also supports students to deal with their personal- social, academic and career related concerns. It facilitates development of effective study habits, motivation, identifying learning or subject related problems, helping students to see the relevance of school years in life and for future, developing skills, right attitude and interests to help making a choice in career etc. The paper collected a sample from college/ university teachers numbering 145 of both genders, of teaching any one of the streams (Arts, Science, Commerce, Management, engineering and others) in the Tricity using a questionnaire consisting of statements related to Career Guidance and Counselling .They found that there is significant difference in attitude of college/ university teachers towards guidance and counseling services in the tricity on the basis of gender, there is significant difference in attitude of college teachers as compared to university teachers of the tricity, there is no significant difference in attitude of college/University teachers towards G & C services with regard to the type of college, type of course taught/teaching and the level of course taught.

Dr. Sarabjit Kaur presented paper entitled “Bullying among adolescent students in relation to their frustration, family climate and Birth Order”. This was another empirical study on a currently relevant issue. The study was conducted on school students of Sri Muktsar Sahib and on basis of data analysis and interpretation, recommended that teachers and family members play a significant role in the overall behaviour pattern of adolescents.

Pratibha Garg and Praveen K. Singh jointly presented the paper entitled “Responsible research and Innovation in Science Education’. The paper presenters elaborated upon the importance of Responsible Research and Innovation in secondary education. The researchers focussed on role played by innovation in learning. She elaborated upon the concept of Responsible research and its significance to science education was elucidated upon.
Parallel Session 2 - Auditorium 2 (UIHTM Seminar Hall 1)

Session Chaired By: Prof Jagtar Singh, Punjabi University, Patiala

Rapporteur: Dr. Ajay Kumar Arora

Parallel Session 2 was chaired by Prof Jagtar Singh and there were five presentations. The summaries of these presentations are as follows:

Jagjit Singh presented the paper entitled “Usage of Electronic Resources and Consortia in Libraries”. In this paper, the author outlined the role of libraries and information centers in preserving a large number of electronic data or information in the form of text, images, and numerical for their users. It was highlighted that the library users use all electronic data or information in the form of e-books, e-journals, e-magazines, e-databases, e-proceedings, e-newsletters, e-projects, e-exhibition and web search tools. A large number of resources are available free of cost on the Internet and others are commercial resources which can be subscribed by the libraries with paying a fixed amount. The paper explained all e-resources, features, types, advantages, consortium like UGC-Infonet and N-List Program etc.

Fathima Azra Fazal presented the paper entitled “How to bring about Research Support (RS) Services in Indian Scenario”. She discussed the importance of the institute’s culture and impact it has on the library. It was emphasized that most of the services are intended for the student population in the majority, without accounting for the needs of the researching minority. As the majority of student population in most institutes is undergraduates and postgraduates, the library services are designed keeping them in the forefront. The specific needs of researchers tend to get undermined by this principle. The presenter in her paper concluded the importance of Research Support (RS) Services to fill this gap.

Balbir Singh Brar presented the paper entitled “Implementation of Business Process Reengineering (BPR) in Library a Case Study”. He outlined the concept of business process reengineering in libraries. He explained this phenomenon through a case of R & D Centre library which was informed to deal with two types of activities that is research and training. Library is functioning as special library and academic library. The practical aspects of planning BPR from the perspective of academic libraries as well as research library were elaborated upon. The case studies highlighted the experiences with BPR as part of a strategic change in the management of this type of libraries. The author analyzed the motive and efficiency
for executing BPR in library by Strategic Information Management theory. Presenter of this paper proposed that BPR could lead the library into the operation model of high efficiency and low cost, combine real library holdings materials flow with virtual holding information flow, imply the agility reaction of library service, meanwhile be good for building a library as a learning organization. His study introduces BPR theory and emphasises the implement of BPR in library management. It discusses the possible transformation of library structure and library workflow. It also points out the problems which library must pay attention to in the process of implementing BPR.

Anita Sharma presented the paper entitled “Knowledge and information management in libraries”. She emphasised that to gain knowledge one needs to develop five capacities namely inquiry, creativity, capacity to use technology, entrepreneurship and leadership quality through our teachers, mentors and finally through the storehouse of knowledge--library. She further elaborated that if libraries are able to disburse information and knowledge to the scholars in an efficient way society will be able to produce “autonomous learners” who would be self directed, self controlled, lifelong learners. She outlined that the objective of knowledge management in libraries is to promote relationship between the libraries, between library and user, to strengthen knowledge internetworking and quicken knowledge flow. The presenter discussed the different resources generated in libraries: need of a catalogue, and the methods to achieve the resources. The presenter also explained the existing practices in relation to create new knowledge in libraries especially its organization, preservation and sharing with society which can transform the organization. In the findings she discussed the implementation of knowledge management prospective of view organizing and highlighting the area of knowledge that can be incorporated with integrated knowledge portal.

Neeraj Kumar Singh presented the paper entitled “Managing research data: a key aspect of responsible research” focussed upon the fact that data created from research are valuable resources and usually require much time and money to be produced. The researcher emphasised that research data is valuable for the institutions as it helps institutions to increase impact and visibility of their research and simultaneously helps researchers to keep their data secure, improve the opportunities for collaboration for further research, more research publications and increase citations. He stressed on the fact that the responsibility for data management lies primarily with researchers, but institutions and organizations
should provide a supporting framework of guidance, tools and infrastructure and their support staff must help with many facets of research data management. His presentation discussed some of the key issues related to research data management, roles and responsibilities of the institutions as well as the research scholar, cost and infrastructure, data sharing policies, legal and ethical issues, copyright issues etc.

Parallel Session 3 - Auditorium 3 (UIHTM.Seminar Hall 2)

Session Chaired By: Martin McAreavey

Rapporteur: Anish Kumar Kakirala

The third Parallel Session was chaired by Martin McAreavey and there were five presentations. The summaries of the presentations are as follows:

Pratibha presented the paper entitled “Corporate Social Responsibility: A Study of Selected Banking & Insurance Institutions in India”. In her presentation, she examined the CSR initiatives taken by selected banking & Insurance institutions and checked whether selected Banking & Insurance institution adhere to the guidelines of GRI (Global Reporting Initiatives) & companies act, 2013. Data for this research was collected from secondary sources like annual & CSR reports, RBI guidelines, companies act, 2013 guidelines and various other publications. Top 10 banks on the basis of their market capitalization irrespective of sector and top 10 Insurance companies (both life & general Insurance) on the basis of their premium had been chosen. She concluded that banking & insurance firms are adhering to CSR practices up to a limited extent only and CSR reporting is also partial. Most of the institutions are preparing their CSR policy but their implementation is not up to the mark and they did not specify the amount spend on CSR activities. Most of the Banks & Insurance companies are not even following up the statutory requirements. Only few private Banks adhere to the GRI and companies act, 2013 guidelines, although most banks have been preparing their CSR policy according to companies act, 2013. She also concluded that banking institutions indulged more in CSR activities as compared to Insurance companies. Companies act, 2013 has given new direction and pace to CSR activities but the regulatory authorities should be stringent in enforcing regulatory guidelines in order to make CSR a part of organizations business strategy.

Santhi Narayanan presented the paper entitled “An examination of CSR initiatives
undertaken by Indian Companies’. He examined if the CSR initiatives undertaken by the Indian Companies after the introduction of the Companies Act 2013 seek to cover areas that are mentioned in Schedule VII to the Companies Act 2013. He examined that most of the CSR initiative were mainly focused on education (teaching underprivileged children, providing infrastructure to primary schools), healthcare (Awareness programmes against HIV/AIDS, drug abuse etc, blood donation, maternal health camps, eye check up camps), community livelihood (especially vocational training to women), ensuring environment sustainability (Planting trees, reducing carbon emissions, rain water harvesting, setting up of solar energy plants). Areas like low cost medicines, vocational skills for the differently abled, animal welfare, Protection of National Heritage, setting up of public libraries; measures for benefits of armed force veterans, training to promote rural sports, rural development projects, and contributions to technology incubators located within academic institutions are yet to receive adequate attention from the companies. It is suggested that a company (1) should have a clearly defined CSR vision and mission statement (2) create a CSR policy after consultations with all the relevant stakeholders (3) need to set achievable goals and measurable targets (4) undertake periodic review (4) take regular feedback regarding the implementation (5) undertake audit of these initiatives (6) maintain the accounts of the funds utilized in a transparent manner (7) ensure responsibility and accountability for actions undertaken (8) communicate the initiatives and their success with all the relevant stakeholders and (9) have a committed leadership to the cause.

Dr. Mamta Ratti and Dr. Monika Aggarwal jointly presented the paper entitled “An Evaluation of Credit Risk management system NPA’s In Indian banks”. In their paper they focussed mainly on the impact of NPAs on the banking sector and measures taken to reduce NPAs. Analysis was done on the data collected of Indian scheduled commercial banks. The findings revealed that Public sector banks had huge bad loans as compared to private banks. They concluded that steps to contain bad assets like lower interest rate for borrowers and asset reconstruction companies can play a major role in reducing NPAs and reviving the economy.

Shivani Kapoor presented the paper entitled “An Empirical Study of Internal Factors of Performance: An Employee Perspective”. In her study she examined the impact of three human resources management practices communication, training and development, and compensation within the organization on the internal environment of performance from the employee perspective. A sample of
respondents was selected on random basis from the list of companies listed in NSE-indexed conglomerates with corporate offices in Uttar Pradesh. A questionnaire was developed using 5 point likert scale. The questionnaire was distributed to 200 respondents out of which 169 respondents returned the questionnaire. 147 questionnaires were completed and were found to be fit for analysis. Data so collected was analysed using Principal Component Analysis, factor analysis and correlation analysis to investigate the relationship between HRM practices and employee perception about the internal environment of productivity in this study. Based on the empirical findings, the presented concluded that the HR practices were found to have a significant and positive impact on perception of performance and all the formulated hypotheses are accepted at the significance level of .01.

Lipika Bhardwaj and Dr. Jagdeep Singh jointly presented the paper entitled “CSR Perception and Organisational Commitment”. They discussed and proposed a model that positive perception of employees about CSR initiatives involvement in CSR enhances the normative and affective commitment level of employees.

Parallel Session 4 - Auditorium 4 (ICSSR- Conference Room 2)

Session Chaired By: Prof. Suveera Gill

Rapporteur: Er. Rachita Sambyal

The fourth Parallel Session was chaired by Prof. Suveera Gill and there were five presentations. The summaries of the presentations are as follows:

Kiran presented the paper entitled “Organizational Commitment among Employees of Public and Private Banking Sector”. Her research focused on studying and comparing the factors affecting organization commitment of Public and Private Banking Sector. She emphasised that the success or failure of an organization is closely related to the aim and motivation of its employees and the motivation of employees clearly represents their commitment towards their job. Organizations have an opportunity to ensure that committed employees towards the organization will produce output at a high level. The purpose of the study was to indentify organization commitment among employees involved in banking sector. The study used sample from managerial and operational staff from public and private banks’ employees. The sample comprising of 72 employees (where 12 employees of each bank) was taken. Total 6 Banks has been taken namely ICICI, Axis Bank, HDFC, PNB, SBI, Punjab & Sind bank. Primary data was collected
through questionnaire of Organization commitment developed by Meyer and Allen (1993). Three commitment dimensions were identified: affective commitment, continuance commitment and normative commitment. Secondary data was taken from books and internet. To analyse the assembled data, descriptive statistic and t test were applied. The study observed that there is significant difference between organizational commitment of employees of public and private banking sector. The findings showed that private banks’ employees are more committed in comparison with public banks’ employees and organization commitment is mental connection of individual towards his work &organization.

Dr. Jagandeep Singh presented the paper entitled “A Study of The Innovations In The Indian Retail Sector”. In his paper he discusses the importance of R&D in the retail sector. He introduced that the size of the Indian retail sector was USD 496 billion in 2012 and it grew to USD 648 billion in 2015 and is expected to touch USD 712 billion by the turn of the current year. The study examined the innovations in the Indian retail sector during the last couple of decades. The researcher scrutinized the changes and their impact on the business with the help of various case studies.

Dr. Tejinderpal Singh presented the paper entitled “Adoption of Internet Banking in India: An application of Extended Technology Acceptance Model” was presented by. In this paper he studied the factors affecting the adoption of Internet Banking using extended Technology Acceptance Model. The study identified the impact of various factors on the adoption of internet banking. A sample of 180 bank customers who were using Internet Banking for past 6 months was randomly selected from Chandigarh. The questionnaire consisted of a series of questions on six independent variables which are Perceived Usefulness, Perceived Ease of Use, Trust, Perceived Security, Perceived Privacy and Computer Self-Efficacy. Attitude towards Internet Banking was taken as the Mediating Variable in this study and Intention to Use Internet Banking was the dependent variable. Data collected was analyzed by applying SEM in AMOS 21 and Preacher and Hayes for mediation analysis in SPSS 20. The findings of the study concluded that Perceived Usefulness, Perceived Ease of Use, Trust and Perceived Privacy have a significant and a positive impact on the attitude towards IB and attitude has a significant and positive impact on Intention to use Internet Banking. Analysis across demographics showed that there is no significant effect of gender, education qualification, occupation, and annual household income and age categories on attitude towards IB but they do have a significant effect on the intention to use IB. The mediating effect of
attitude showed a partial mediation on the relationship between the independent variable and the dependent variable. The study recommended that banks should try to make internet banking services more useful and usable. They can achieve this by increasing the customers’ awareness of the usefulness of using internet banking services through advertising and long term customer services. The study further recommended developing the security systems of internet banking services by incorporating latest advancements, protecting personal information, giving unconditional loss guarantees, reducing the possibility of delays of payment and waiting time.

Mandeep Kaur presented the paper entitled “Analysis of Buyers’ Behaviour in Pre-owned Car Market”. The study analyzed the customers’ socio-economic profile of pre-owned car market and identified buyers’ choice/ preferences for dealer type (Certified dealer, local dealer or individual) during purchase of pre-owned cars. The researchers highlighted the buyers’ socio-economic profile and also categorized the buyers into four types i.e. First time car buyers, Second car buyers, Buyers upgrading to big cars and Repeat pre-owned car buyers. The sample area of the study was Chandigarh tricity and Ludhiana city. The sample size of study was 55 respondents who have already purchased the pre-owned cars. Convenience sampling technique was used to collect the sample. A structured questionnaire was designed to collect the responses. The research found that there is 50.9% buyers are second car buyers at low price, 29.1% buyers are first time car buyers, 10.9% are pre-owned car repeat buyers and 9.1% are the buyers upgrading to big car at low price. Organized dealer type is preferred by buyers due to fair price offered, buyer liked the car, good condition of car, due to reputation of dealer and vehicle certification and genuine documentations and buyers preferred individuals to purchase pre-owned car because of trust due to familiarity with the seller, fair price, good condition of car and genuine documentations etc. The study concluded that there is a good scope of this market in upcoming future. People are becoming more interested in purchasing used cars because of budget constraints in the rising inflation in economy and upring the family and personal needs to commuting this could be fulfilled by availability of good conditioned pre-owned cars in the market. The study recommended that there is more to study in the market because this is a potential market and in India the ratio of sold pre-owned car to new car is 1.2: 1 that is more in developed countries so further research can be done to compare the pre-owned car market of different countries to get more interesting results.
Chhavi Kiran presented the paper entitled “Is It Wise Enough to Use Secondary Sources of Data for Social Sciences Research?” She discussed that in today’s era rapid increase in empirical research has given rise to an issue of fetching reliable and valid primary data and due to this reason various researchers have opted for secondary sources of data. Consequently, researchers have to deal with a couple of issues, the first being that the source to be selected for procuring data is not very clear in the minds of researchers. The paper highlighted the fact that undoubtedly secondary data is easy to access as compared to primary data but it is also important to keep in mind various hidden pitfalls of using secondary data in social sciences research.

There was a lunch break after the first set of parallel sessions brought the morning session of the Conference to an end.

**Day One – Second Set of Parallel Paper Presentation Sessions**

The second set of parallel paper presentations were held immediately after lunch on Day One. These sessions consisted of the presentation of twenty one papers. Each session was moderated by a Chairperson and summaries were recorded by a Rapporteur. There was a short Q&A session after each of the paper presentations.

The session summaries are outlined below.

**Parallel Session 5 - Golden Jubilee Main Hall**

**Session Chaired By: Paul Loranger**

**Rapporteur: Dr. Suman Sumi**

The post lunch Parallel Session 5 was chaired by Paul Loranger and there were four presentations. The summaries of these presentations are as follows:

Harmandeep Kaur presented the paper entitled “Ethical Concerns for Developing Social Responsibility of Educational Research in Technological Era”. The paper focuses on how technology is developed and used while educational research and policies help us to understand the impact of technology on education of society for which it is meant. This paper focuses on the social responsibility of the educational
research. It also discusses how it can be made more relevant and useful for the development of society through considering and enforcing ethical considerations in research.

Susheela Narang and Kavita Devi jointly presented the paper entitled “Gender Differences in Adjustment Problems among Adolescents”. The paper emphasised upon the challenges faced by adolescents. The objectives of the study were: (i) to study the adjustment problems among adolescents. (ii) to study the relationship in gender and adjustment. The three dimensions of adjustment i.e. Emotional, social and educational were studied across two sexes i.e. Boys and girls. A sample of 100 students (50 boys and 50 girls) was selected by using random sampling technique. Adjustment inventory for school students (1993) by Sinha and Singh was administered to collect the data. The mean, t-test and co-efficient of correlation were used for the analysis of data. The findings of the study revealed that there is no significant difference between boy and girl adolescents on the variable of emotional and social adjustment but there exist significant difference between boy and girl adolescents in educational adjustment. But there is significant relation between gender and their adjustment. Adolescents present as a vulnerable group of children and therefore this is an important implication for parents and teachers to visualize the adjustment difference of adolescents and help them to improve their academic skills as well as to provide an insight into various problems being faced by the adolescents.

Sumita presented the paper entitled “Exploring the Potential of Chindi for Producing Quality Products for Women Empowerment”. The paper was based on research work conducted in the slums of Sector 25, Chandigarh, which is a part of larger research study- Chindi: An Art of Textile Waste Management. The paper focussed development of tools for converting textiles waste from various sources into Chindi Product. The post test was conducted that showed noticeable improvement in the skills of making Chindi rope, braids and continuous balls with further scope of improving the quality and colour understanding for making quality products.

Amrita Bhullar presented the paper entitled “Gender Differences in Conflict Management Styles of Undergraduates -Ability to manage conflict”. The study was undertaken with a view to study the gender differences in the conflict management styles of undergraduates. The study was a descriptive survey, conducted on the 3rd year humanities undergraduates from the government colleges of Chandigarh.
The major findings of the paper indicated significant differences between male and female undergraduates in the use of their conflict management styles.

**Parallel Session 6 - Auditorium 2 (UIHTM - Seminar Hall 1)**

**Session Chaired By: Prof. I. V. Malhan**

**Rapporteur: Neeraj Kumar Singh**

This Session had five paper presentations. The summaries of the presentations are as follows:

Anita Chhatwal presented the paper entitled “Asia-Pacific Journal of Management Research and Innovation: A Bibliometric Study with Special Reference to Authorship Pattern and Collaborative Research Output”. She presented a bibliometric analysis of the said journal for the period from 2010 to 2014. A total of 232 research articles and 449 authors were examined. The study covered various parameters and elaborated the various aspects such as growth of contributions by volume and year, authorship patterns, author productivity, degree of collaboration, growth of contributions by institution, geographical distribution of authors (India and Abroad), etc. In her findings she pointed out towards the advantages and weakness of the journal which are helpful for its further development. The results of the study revealed that maximum number of contributions i.e., 59 (25.4%) were published in the year 2010. Out of 232 contributions, 112 (48.3%) were joint author contributions. The study also showed that majority of the contributions were from India 208 (89.7%) and rest 24 (10.3%) were from abroad. Majority 165 (71.1%) of the total contributions represent collaborative research. The results indicated that the average degree of collaboration has been arrived at 0.70 during the study period.

Deepti Madaan presented the paper entitled “Role of Librarian in Curbing Plagiarism vis-a-vis Research Trends in Plagiarism as Visualized from Scopus”. Her study explored various issues involved in Plagiarism. She focussed on the role of librarians in spreading awareness and in curbing plagiarism. Her study identified research productivity in plagiarism from 1993 to 2016 using SCOPUS as a bibliographic database and also provided an insight into the citation overview of top 10 papers and the country where maximum research has been undertaken in this domain. She examined earlier researches conducted on plagiarism, the tools and practices for deterring plagiarism discussed by various authors have been...
assessed theoretically.

Dr. Kulwinder Singh presented the paper entitled “Survival of Librarians in Change Management: A Practical Approach”. He discussed that with the advent of information and communication technology the scenario of academic and other libraries has changed the entire world over. He further elaborated that globalisation and continuous arrival of new inventions do impact the working of libraries, needs and services for the users and thus it becomes essential to accept changes and make proper management. This can only happen with adept handling of library services plus it’s all functions by the librarians who have leadership qualities. He stressed that librarians should have the capability to accept change management, convince the staff members to accept the new innovations, adopt positive behaviour, sincere services providers, devoted work-culture and attitude, visionary, aware of latest resources and their uploading instantly.

Neeza Singh presented the paper entitled “Perceptions of Libraries and Information Resources: A Comparative Study of Children Users of State Central Libraries of North India”. Her study focussed on the capacity to which the existing libraries have collected and circulated information resources corresponding to the needs of the children. Her study consisted of descriptive research design and data was collected from children users between 7 and 14 years of age. In her study six State Central State Libraries of North India are covered including Jammu & Kashmir, Himachal Pradesh, Haryana, Punjab, Uttar Pradesh and Chandigarh. She also drafted a comprehensive questionnaire for children members of State Central Libraries of North India. Findings of the study along with relevant suggestions were made which will benefit the authorities and staff of State Central Libraries to know how to develop collection according to children’s demands.

Ajay Kumar Arora and Dr. Suman Sumi jointly presented the paper entitled “Transitional Phase Of Online Reading Content”. He elaborated on the transition from physical newspapers, books and other reading content to the electronic and digital platform. He discussed that to get consumers hooked to the content, many players have adopted a freemium cum premium content model with Startups like Juggernaut and Matrubharti have made forays by targeting niche markets. His study chalked out this transition phase in detail and enumerated the strategies that will help the online content players succeed in the long run.
Rachita Sambyal presented the paper entitled “Assessing IT Efficiency of The Indian Economies: An Application of Data environment Analysis”. Her research investigated if the economies in the Asian region, operate efficiently, i.e., are able to deploy the inputs at their disposal in an efficient manner in order to have an economic and social impact. Two modelling approaches (CRS and VRS) were used to estimate the competitiveness of these regions, viz. data envelopment analysis (DEA). The data of 41 Asian economies was collected on the IT parameters namely Political and regulatory environment, Business and innovation environment, Infrastructure, Affordability, Skills, Individual usage, Business usage Government usage, Economic impacts and Social impacts. The data so collected was analysed through a DEA software to determine the efficiency of the economies with respect to their ICT usage for competitive advantage.

Vikas Singla presented the paper entitled “Estimating Trading Area of Retail Agglomerations by Using GIS Application”. His study aimed at analyzing performance of Chandigarh city’s two most popular retail agglomerations from location perspective. This study limited its scope in estimating trade area of two competing retail agglomerations namely, Sector-17 plaza and Elante mall. Geographic Information System (GIS) was used in the study to achieve the objective of segregation of geographic area of selected retail agglomerations. The analysis of maps provided information regarding demand area in the form of demand surfaces of a particular retail centre with regard to distance, population per ward and median income of each ward. Also, significance of trading area was evaluated when these variables were studied in conjunction. Lastly, interaction of demand surfaces of two competing retail agglomerations indicated competitive equilibrium position. The area below this interaction implied demand area and area above it provided competing area of a particular retail centre.

Vikas Arya presented the paper entitled “Impact of Social Network Media on Brand Attachment and its correlation with consumer buying behaviour”. His paper
explored the role of social networking sites on brand attachment. In the perspective of corporate, it investigated the benefits of social networking sites to gain the brand attachment for organizations and behavioural changes of the consumers. In the continuation, the research further explored if consumer behaviour patterns are changed across the social networking users or not. This study was a descriptive one wherein a survey was conducted by administering a structured questionnaire from social networking sites users through physically as well as to online. The study included respondents for two renowned social media networking sites working globally. The developed model was tested by Structural Equation Modelling using AMOS 18.0. The research described the potential advantages of exploring social networking sites for organization and improvement in their brand attachment which ultimately leads to the positive changes in the consumer buying behaviour. The finding showed that the presence of the organizations on social media networking sites with meaningful and sustained social media promotional activities can have a positive impact on organization’s success in terms of increasing its awareness through traffic increase, business revenue, customer loyalty and purchase intention.

Dr. Amandeep Singh Marwaha presented the paper entitled “Impact Analysis of IT Transformation”. The paper analyzed the Impact of IT transformation on Operating cost of the telecom operator and studied the trends in the business income with the implementation of IT Transformation strategy. The impact of IT transformation is analyzed with the help of following three factors: Operating cost of the Company (reduced Opex and Capex), Trends in the business income (Revenue Growth and Customer satisfaction. Systematic Random Sampling method was used for data collection. A questionnaire was prepared and data was collected from Full Time Employees (FTE’s) working on Service Fulfilment, Assurance & Billing and Product Management processes across below mentioned 5 Telecom Organizations: Reliance Communication Limited, Bharti Airtel Limited, Bharat Sanchar Nigam Limited, Mahanagar Telephone Nigam Limited and Tata Teleservices (Maharashtra) Limited.

SPSS was used for Statistical Analysis using Chi square and ANOVA techniques. It was concluded that with the mitigation of manual activities, work can be managed with less no’s of Full Time Employees and also FTE’s can concentrate on their core functions. Operators should focus on FTE’s skill development so that the performance in core functions can be improved in correlation with Operator and Employee satisfaction.
Parallel Session 8 - Auditorium 4 (ICSSR – Conference Room 2)

Session Chaired By: Dr. Peter Gray

Rapporteur:  Dr. Anupreet Kaur Mavi

This Session consisted of five presentations. The summaries of the presentations are as follows:

Bhavna Sharma presented the paper entitled “Influencing agents of socialization for Generation Y’. She discussed how the values adopted by individuals today shape the values of a nation in the future and introduced the concept of Socialization as a lifelong process, that is, it starts at birth and ends when a person dies. She also conferred that the socialization agents are the family, peers or the media; there are several possible socialization outcomes. Her study analyzed the influencing agents of socialization for Generation Y of the area Solan district. Her research was accomplished through qualitative and quantitative method based on the secondary information as well as primary information (surveys etc).

Tajinder Kaur presented the paper entitled “Human Resource Management and Accounting of Intellectual property”. She study was aimed to study the relevance of human resource accounting as one of the intellectual property. Her paper presented a theoretical framework as well as some empirical research and recent developments in the field of accounting to consider human resource as an asset. The paper presented in detail the developments in the field of human resource accounting. As the Companies Act 1956 is replaced by the Companies Act 2013 and introduction of Indian Accounting Standard-26 which deals with Accounting of intangible assets and IFRS-3 which relates to Business Combinations where the concept of fair value is used to disclose information shows how accounting is coming closer to Human Resource Accounting. She also recommended the law making bodies should make it compulsory for every business to show the information regarding human resource as an additional unaudited part, in its financial statement to make it more understandable and less complex.

Pooja Pandey presented the paper entitled “Impact of NPA’s on Banking System with Special Reference to Indian Commercial Banks: A Review Study”. She reviewed the impact of NPA and the profitability of banks. Her research was focussed on the study of different aspects of NPAs and its management in Indian Banking Industry, and also points out different improvement measures in mitigating
and controlling bad loans. To achieve the above said objectives secondary sources of data are utilized, data was collected from RBI publications, Annual Report, journals and websites. Secondary data is collected from relevant sections of Provisions of banking Regulations Act, SARFEASE Act, Basel Accords and various recommendations of various committees. Her research’s findings emphasized the need for improvement of Indian Banking system. The analysis revealed drastic dependence of macroeconomic indicators on NPAs. The NPAs can be effectively controlled with good credit risk management, integrating visionary measures in improvement of credit evaluation and monitoring system of the banks.

Jaspreet Singh presented the paper entitled “Corporate Social Responsibility & Sustainability In India: A Brief Study”. He discussed that traditionally profit maximization used to be a sole objective of any organization but in a modern era of technology where awareness among general public at its peak, the right to information act (RTI), transparency in events occurred by manufacturing & service sector, & above all the management of the organizations became more vigilant towards its public welfare, although wealth maximization is still on top priority. His study analyzed the performance of top 100 corporate companies & their contribution in Economy & its overall impact on society & on Stakeholders. He also shed some light towards the steps taken by the government to encourage the entrepreneurs to do more & make CSR as a culture which is to be followed by as many, one way or another.

Deepika Jhamb presented the paper entitled “Materialism and Society: Bibliographic Analysis”. The purpose of her study was to understand the term ‘materialism’ explained by various authors in different forms, its association with various constructs i.e. happiness, gratitude, personality traits, life satisfaction, well-being etc. and its impact on human behaviour. To accomplish the above objective, she analyzed the literature on materialism and its positive and negative impact on human behavior and society and presented it in the form of Bibliographic analysis. She concluded that such a comprehensive bibliographic analysis of materialism could be beneficial to various interested parties, namely researchers, educators, managers, and policymakers.

A tea break followed the conclusion of the Second Set of Parallel Sessions. After the tea break, the Third and Final Set of Parallel Sessions of Day One were held.
Day One – Third Set of Parallel Paper Presentation Sessions

The Third Set of parallel paper presentations consisted of the presentation of twenty-one papers. Each session was moderated by a Chairperson and summaries were recorded by a Rapporteur. There was a short Q&A session after each of the paper presentations.

The session summaries are outlined below:

Parallel Session 9 - Golden Jubilee Main Hall

Session Chaired By: Dr Sarita Parhi

Rapporteur: Dr. Suman Sumi

The post lunch Parallel Session 9 comprised three paper presentations. The summaries of these presentations are as follows:

Balbir Singh Jamwal presented the paper entitled “Responsible Research and Innovation Correlated with Social Welfare through Social Work”. His study focused on responsible research and innovation correlated with social welfare through social work. He sensitized that researchers have been conducting researches, but nobody is ready to take responsibility about the authenticity of conducted research and its findings. So, it is necessary that research proposal should be good and according to the demand and it should be beneficial for the society and should be made on the recommendations of the stakeholders. He further discussed that in the responsible research and innovation, whole societal stakeholders are involved in the whole research and innovation, to obtain the relevant knowledge on the consequences of outcomes of their actions, option in terms of societal needs and moral values, to use these considerations (relevant knowledge and evaluate) as functional requirements for design and development of new researches, products and services. He suggested that if teachers are encouraged to try out noble ideas, school and teacher education to identify the social problems and give suggestions to solve them on the basis of social survey, discussions, questionnaires, interviews and using rating scale.

Gurkirpal Singh presented the paper entitled “Improving innovation through Nature based design imagination”. His study was aimed to highlight the impact of present
day innovations on human health, society, psychology, nature, environment, flora, fauna, etc. and to address problems like environmental degradation, pollution, ozone depletion, etc. He further explained that it has its Relevance Because of environmental degradation to an alarming scale such step will help in further controlling the deterioration of natural environment. His aim was to design for “green not greed” shelters which will be nature friendly, food should be organic, clothes should be environment friendly climatic appropriate shelter, food, clothes lead to nature friendly innovations. He used different Methodologies to throw light on Different impacts of innovations from literature. He also discussed the examples from nature: learn from termites how they build homes, learn from ants to dig, learn from nature to recycle waste. humans are students of nature they are just trying to find out the theories behind wonders of nature like gravitational force, magnetic force, ecosystems, symbiosis, day and night cycle, seasons cycle, high-low tide. He concluded that environment friendly innovations to be accepted, patented, advertised, produced.

Keisham Shitaljit Singh presented the paper entitled “Dimensional Patterns in School Management”. The aim of his study was to find out either there are significant differences among the planning and principals’ organizational behavior of higher secondary schools, planning and their communication behaviors, planning and their decision making behaviors. The sample of the study has been constituted to the forty higher secondary schools from the four valley districts of Manipur state. The data was collected by using the five point scale entitled “The Administrative Behavior Scale (ABS)” developed by Dr. Hassan Taj. It is a five point scale consisting of 90 items of four independent components viz., planning, organization, communication and decision making. The collected data was analyzed with the help of t-test. All the tests have been found significant both at .01 and .05 levels of significance therefore hypotheses related with objectives have been found rejected. Hence, there exists significant difference between planning and organizational behavior of higher secondary school principals of the selected four valley districts of the state. Similarly, there is also significant difference between the planning and communication behavior of all the selected schools and between the planning and decision making behavior etc. So, it was concluded that there is significant difference between the different types of the components of the administrative behavior. Principals as leaders are responsible for leading in all educational directions for running successful academic institutions. He or she is responsible to run all areas that relate to the educational programs including
the instructional program. The behavior characteristics of the principals of the principals include the best responsibilities in planning, organization, communication and decision making of their schools. Their organizational components like pride, cohesiveness, climate, feeling about institutional roles correlates with the different dimensions of their administrative behaviors.

Parallel Session 10 - Auditorium 2 (UIHTM - Seminar Hall 1)

Session Chaired By: Dr. Jaspal Kaur

Rapporteur: Dr. Neeru Bhatia

This session began with a panel discussion which was then followed by paper presentations.

M. Masoom Raza presented the paper entitled “M-Libraries: Smart Access and Management of Information”. His study was focussed on the developments in mobile technology and their mechanism of information delivery across different types of libraries in India. His study also addressed the pragmatic issues, which are hindrances in the use of mobile technology in the developing countries and explored the user’s attitude and perception of smart libraries through a well designed questionnaire. The author also identified the scope of adopting and optimising the use of mobile technology in Aligarh Muslim University.

Parallel Session 11 - Auditorium 3 (ICSSR- Seminar Hall 1)

Session Chaired By: Prof Gunmala Suri

Rapporteur: Anish Kumar Kakirala

This Session was chaired by Prof. Gunmala Suri and there were three presentations. The summaries of the presentations are as follows:

In this session three presentations were made.

Ayan Das Gupta presented the paper entitled “Present Day Framework of Physical Infrastructure within the Slum Infested Urban Dominion of Nabadwip along with A Case study On Its Three Micro Spatial Entities”. His research paper investigated the recent scenario of urban governances in terms of drinking water supply, sanitation and sewerage related facilities within the jurisdiction purview of Nabadwip City in
District Nadia, West Bengal, India. The focal aim of the researcher was to throw spotlight on the present physical infrastructure within the stingy slum environs of Nabadwip Municipal Authority. Assessment of the quality of drinking water, focusing on the problems of water-logging, impact analyses with special reference to unscientific sewerage and sanitation systems prevailing in the slums etc were the areas of pivotal focus. In the initial phase, all the relevant literatures have been accessed from the achieve of Nabadwip Municipality, in order to conceive a concrete idea on the research problem. During this phase, the researcher had taken a prolonged interview of the Chairperson and according to him, the most complaining slum-filled ward numbers in Nabadwip were 4, 5 and 6, so far the extension of physical infrastructural services towards them was concerned. Hence, in the second phase those wards were chosen for the perception survey based on structured questionnaire schedule. Purposive stratified sampling technique was adopted for the survey. Lastly all the primary and secondary datasets were compiled with each other judiciously, statistical analyses were done along with the preparation of manifold thematic overlays in RS-GIS software TNT Mips, for getting some authentic inferences. It was found that due to ineffective regulation, the slums have developed on the immediate river banks and railway lands resulting into degrading physical infrastructural environment and unhealthy living ambience. Nabadwip (M) has taken a number of developmental initiatives under miscellaneous Government projects to improvise the faulty physical infrastructural layouts in the slums. The National Slum Development Programme, Integrated Low Cost Sanitation Scheme, IHSDP under JNNURM, SJSRY etc are in operation for improvement of physical governance of Nabadwip. In order to remove the problems of urban physical infrastructure from the slums, not only the wholehearted initiatives of the ULB and other Government Agencies will be sufficient, but also at the same time, the effective ventures will have to be undertaken by the reputed NGOs as well.

Himanshu Hooda presented the paper entitled “Innovative Practices and Managing Responsible Research in the Field of Physical Education and Sports”. He emphasised that the purpose of innovative practices and managing responsible research in the field of physical education and sports is to be based on results from global surveys (Hardman and Marshall, 2002) and the low priorities given to the sector (De Vries, 2003), there is a worrying trend that PE and sports are being marginalized. However, the study highlighted the importance of PE and sports in terms of promoting health, peace and economic development and outlined many
potential areas for innovation, in strong support of the United Nations’ call to promote the Sports for All initiative. He highlighted that the International Council for Health, Physical Education, Recreation, Sports and Dance Asia Region has formulated the following guidelines for the betterment and effectively apply physical education and sports in the perspective fields (ICHPER. SD Asia, 2000a-2000e): PE curriculum, Constraints of women’s participation, Leadership and decision-making, Knowledge, Mass media, Research, Gender equity/high performance sports, Gender equity/employment, Training programmes, PE profession, sports ICT (information and communication technologies).

Amandeep presented the paper entitled “Improving Gender Equality: A Dalit Women Perspective”.

The paper analysed how Dalit women are denied of basic human rights and social justice and they suffer on two counts being a Dalit and also a women. Dalit women all over India had several limitations for leading even normal social life. In the context of new opportunities of contact and official programmes for the development of these women it also analysed how the modes of response shown by dalit women towards the social change and the pattern of mobility influencing their status in society as experienced by them by referring certain life narratives of dalit women. The study proposed to examine how by promoting equality, the different patterns of changes noticed in the status of dalit women in India, with respect to various communities, educational attainments and income backgrounds. Literature based research methodology was adopted and referred to in many texts as literature review such as The Prisons We Broke by Baby Kibble is the first autobiography of a Dalit woman in Marathi The Weaves of My Life by Urmila Pawar’s. The presenter discussed other women dalit autobiographies also.

Parallel Session 12 - Auditorium 3 (ICSSR- Conference Room 2)

Session Chaired By: Dr Amandeep Singh

Rapporteur: Er. Rachita Sambyal

Saroja Kanta Choudhury presented the paper entitled “Innovative Teaching: An Art of Skilled Teachers”. This paper reveals the way teacher’s creativity has been neglected in elementary education in the name of quality. Our educationists, executives and planners say something but not doing the same. Education particularly primary education should based on his environment and mother-tong.
Our system has yet to recognise urban environment is different to rural one. We have to wait for a great educationist of west to speak that environment is different from far off villages of Mizoram. How do we expect that children of both of these places should be taught same thing in same method and language. A country with second largest population of the world wastes time in imparting knowledge of alphabets to millions of children up to 14 years spending million of rupees. However, our educationists are silent in this regard, planners are busy in finding way to spend budget, inspectors and education officers are doing transfer and posting throughout the year. Improving learning outcomes is largely depending on improving learning environment and skill development of teacher.

P. K. Mohapatra presented the paper entitled “Impact of Environmental Situations on Personality Development of Secondary School Students in Rural, Urban, and Tribal Areas of Odisha State”. The paper analysed that Every individual is said to have a personality of his own which is unique and distinct from every other personality. Every individual has a typical and distinctive style of behaving. This unique quality of his behaviour constitutes shape of his personality i.e. feelings, values, reactions, prejudices, attitudes, perceptions etc. Personality provides every aspects of human life and influences every behaviour. Hence, personality is not only what we do in relation to others, but something more than that. Psychologically, personality is all that a person is. It is the totality of his being and includes physical, mental, emotional and temperamental make up. The Purpose of this study is (I) To study the impact of environmental situations on personality development of students in different areas (like Rural, Urban and Tribal) (ii) To compare the impact of environmental situations on personality development among the government and private students. (iii) To compare the impact of environmental situations on personality development of urban and rural area students. (IV) To compare the impact of environmental situations on personality development of urban and tribal students and (V) To compare the impact of environmental situations on personality development. The Study is designed to analyze the Impact of Environmental Situations on personality development of secondary school students in urban, Rural and tribal area of Odisha State. From the study it is found that parent, home, school, teachers, friends, books, society, spiritualism, mass media, politics, computer and internet have the impact for personality development as responded by majority of the rural, urban and tribal area students. More number of urban students responded that politics have a strong impact on personality development where as politics have no
impact for tribal students on personality development. Internet has a strong impact for the urban students and rural students for their personality development. It can be concluded from the responses that the environmental situations have a strong impact on personality development of secondary school students in rural, urban & tribal areas of Odisha state.

Thadayoose presented the paper entitled “Educational Deprivation among Social Groups of Kerala: A Micro Level Analysis within the Human Development Framework”.

The study reveals that the assessment of poverty on the basis of minimum cut-off income used for poor countries fails to show any poverty in generally affluent societies, even when the relatively poor in those societies may lack social participation and may even suffer from hunger and malnutrition. An alternative is to use different poverty lines in different countries. But it is not easy to decide what the appropriate variations would be estimated. The official national poverty lines cannot serve this purpose, since they reflect other influences especially political, and cannot be used for international comparisons. A more practical possibility is to be focus on material deprivation in hunger and malnutrition, not on income goes to food and nourishment, especially for poor people in the society. Despite the variety of income-based measures, the capability approach is clearly distinct from them all in terms of its recognition of the multidimensionality of well being which focuses on the ‘intrinsic ends’ rather than ‘instrumental means’. In this backdrop, an attempt to analyze the various dimensions of poverty, which are closely related to human development indicators, among the different social groups of the society and discussion on non-income dimensions on the wellbeing of the people gets significance. The present study is an investigation into the educational deprivation among social groups of Kerala. It is a micro level study executed within the human development framework. The study mainly examined the enabling environment for education in the study area with the help of Regional Human Development Enabling Index (RHDEI) and Multidimensional Poverty Index (MPI) is used to explore the inter-group variations in the incidence of educational deprivation in the study area. The sample size of the study consist of 120 households belong to different social groups such as SC, ST, OBC and General. The findings of the study reveal the disparity of in educational attainment among different social groups in Kerala which placed top in the ladder of human development among other states of India.
Day one of the Conference concluded after the end of the Parallel Sessions.

**DAY TWO OF THE CONFERENCE**

An overview of the second day’s Conference Programme is shown in schematic form below.

**DAY 2**

**August 13, 2016 (Saturday)**

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAMME</th>
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<tbody>
<tr>
<td>08:30 - 09:00</td>
<td>Registration</td>
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<tr>
<td>09:00 - 09:45</td>
<td>Special Lecture 1 – Paul Loranger</td>
</tr>
<tr>
<td>09:45 - 10:30</td>
<td>Special Lecture 2 – Martin McAreavey</td>
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<tr>
<td>10:30 - 11:00</td>
<td>Tea Break</td>
</tr>
<tr>
<td>11:00 - 12:30</td>
<td>Paper Presentation Sessions</td>
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</table>

**Parallel Auditorium 1 (Main Hall. Golden Jubilee), Chair: Prof. Suresh K. Sharma**

64. Role of Right To Education In Educational Equity And Sustainable Development In India. **Sanjeev Kumar**

65. The Food Bowl of India. Punjab, Much Needed Reforms In Policies. **Ronki Ram, Itika Sharma**

66. Strategies for Personal Awareness. **Kanwaljit Kaur**

67. Responsible Research and Innovation” Bringing the Diversity To Think Together For Emerging India. **Amandeep**

68. Delhi Assembly Election 2015: A Case Study of Dr. Ambedkar Nagar (SC) Constituency. **Anupama Verma**

69. Attitude of Secondary School Teachers towards Inclusive Education. **Mandeep Kaur**

**Parallel Auditorium 2 (UIHTM.Seminar Hall), Chair: Prof. G.S. Batra**

70. Economic Burden Of Outpatient Care Among The Construction Workers Of Punjab. **Pooja Kansra**

71. Determinants Which Create Job Satisfaction and Aversion among Faculty Members. **Kawaljit Kaur Bhatia, Dhiraj Sharma**

72. Role Of Information And Communication Technology (ICT) In Financial Inclusion. **Sandeep Kaur**

73. E.Commerce. A Revolution In Indian Market. **Harsimran Kaur**

74. E.Governance Initiatives: A Reality or Eyewash? **Amanpartap Singh B Pall**
<table>
<thead>
<tr>
<th>Parallel Auditorium 3 (ICSSR Conference Room 1), Chair: Dr. Davinder Pal Singh</th>
<th>Parallel Auditorium 4 (ICSSR Conference Room 2), Chair: Prof. Parmjit Kaur</th>
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<tr>
<th>12:30.13:30</th>
<th>Main Conference Room</th>
<th>Valedictory Session</th>
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<tr>
<td><strong>Valedictory Session</strong></td>
<td>Valedictory Speech by <strong>Prof. O. P. Katare</strong>, Dean – Research Promotion Cell, Panjab University  Valedictory Speech by <strong>Prof. S. K. Chadha</strong>, Director Central Placement Cell &amp; Chairperson University Business School, Panjab University  Presentation of Certificates by Chief Guest  Vote of Thanks by Principal, LSME, <strong>Dr. Sarita Parhi</strong></td>
<td><strong>Lunch</strong></td>
</tr>
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</table>
Day Two of the Conference began with Registration of delegates who could only attend the second day of the Conference.

The 1st Plenary Session of Day Two comprised two Special Lectures delivered by Paul Loranger and Martin McAreavey respectively.

**Special Lecture 1 – Plenary Session – Paul Loranger**

“The new role of the student and Librarian, researcher and teacher in the 21st century”

Giving at the international Conference on Managing responsible Research in the Human Sciences and Information Management at Chandigarh, India on August 13thm 2016 By Paul Loranger

A person from India who believes that the sun is either shining or there is darkness as it cannot possibly be both, has never met a person from Canada. As I speak, the Sun is setting in Alberta while it is rising here.

In order to do justice to this topic and consider two different perspectives on the subject, I have divided this paper into two sections;

1. The new role of the student
2. The new role of librarian, researcher and teacher

**The new role of the student**

In reading about the recent international conference in June of this year on Responsible Research Innovation in education to strengthen the relationship between science and society, this was there summary.

Why is RRI training in higher education institutions necessary to strengthen the relationship between science and society? Educating today’s students, who are members of society and future researchers, is critical for developing a responsible voice of tomorrow. An education beyond the technical core of the subjects is necessary to engage students as committed, active, thinking citizens in the development of our societies. In this context, HEIRRI aims to align the system of research and innovation with the needs, expectations and the values of society.
However, in order to achieve such convergence, future researchers should be trained to understand the ethical, social needs of their communities.

Consequently, HEIRRI addresses RRI inciting critical evaluation instead of the passive acceptance of hard facts. Students are engaged to question their perceived ideas about models of how the world works. Using a problem solving methodology, students can understand the social, economic, and ethical benefits of RRI issues.

This led me to declare the following 21st century student declaration:

- Inevitably, every student is responsible for their education
- To do this, they will need to become researchers as to what role they can play in life
- For this to happen, they will be required to be innovative as we are all a unique species.

When my grandson was five years old, he said to me “Grandpa, come and see my library”. Let us begin by praising our librarians and researchers for what they have collected over the centuries and have affirmed as worthy to be studied by their decisions to make such Knowledge and skills part of our library and teaching practices. The lecture is not about the conveying of data but the truth that lies within that information. No reading material or what I like to call “learning exercise” is accepted to a library without an expectation that it can be reasonably understood as to its message. No assignment on research within a library is ever giving without the express point being made that it can be done alone as a homework task. No exam is ever giving without having first passed through these venerable halls and observed the difference between data and knowledge, processing of data and becoming reasonable skilled as to what is in need to be retained.

But this effort should not end there as it only answers the first two questions of a student’s journey in preparing for life; “What is it that I ought to know?” and “How can I become reasonable in known it?” It does not ask “Why certain knowledge and reasoning is useful in solving problems that I will face in life?” as he sits in front of a blank screen and ask “Now what do I do and why?’ In the new libraries, we require questions to activate these screens as the student begins his inquiries on problems that affect his life. Our assistance within this zone as librarian, researcher

1  http://heirri.eu/
or teacher is not to provide an answer but rather ponder if the student has asked the “right question”. As the student advances to the next stage of discussion in having done some inquiries, again our role is not to provide answers to the problems that they, the students have researched, it is to question if the pieces that they add to the puzzle clarifies or distracts in the understanding of the overall problem. The next task in our overseen of the interaction is the conversion from a problem to viable solutions. This also comes in the form of a question “Are we now at a stage where viable solutions can be put forth and who will be doing what as it now becomes a group project?” In the completion of the project is the final zone of student evaluating of their wisdom of their own effort as we ask the student “Why they acted as they did?” in questioning the development of their own actions.

In questioning one’s actions rather than one’s thoughts, the student moves out of the test zone of metacognition\(^2\) from pondering if he did analyse all that was said to him, to the inquiry of actions that define the problem under study. In doing so, hindsight is activated not to his prior thoughts but actions in the doing of research by the words “let me try”. The student is distinguishes the field trip of the teacher from his presentation within a discipline to many trips the students are making in the study of a problem in their reality through the use of the internet. As facts not opinions of previous knowledge reveal the student’s actual experience of the problem, a real picture begins to emerge in the sharing of those hindsight. He like the six blind men in the desert comes to know the beast, the elephant, the problem, not just one’s interaction with it. This insight is achieved through discussion or common acceptance of what can be the problem.

From these observations of the problems comes ways to resolve it which requires foresight within a group project so as to lead to a solution. Unlike homework where everyone is assigned the same task based on the knowledge and skills required to master a certain discipline as noted by the step by step instructions on a blackboard for a homework assignment, the task of the student on a white board is to single

\[\text{http://gse.buffalo.edu/fas/shuell/cep564/metacog.htm}\]


Sternberg, R. J. (1986a).
out his particular task among many and coordinate his activities with those doing different duties.

If the student performs as to what are his capabilities within this context what I like to call “geosight”, his portfolio will be one which he can describe his own identity. However, unlike a test where the goal is to achieve 100% in recalling the knowledge and skills to be able to do a task, the wisdom in the writing of one’s portfolio is to reveal an identity that is acceptable to oneself at his age.

The adage “If you speak wisdom to a fool, one’s knows who the fool is” explains why so much wisdom is being wasted on young minds. One, they rarely ask for it and two, they would prefer that it relates to the question that they are asking at their level of education.

We have through the decades of interacting with students at various grade levels established guidelines of knowledge and skills that can be mastered at various ages of the student and overall achieve these aims as each discipline became more complex

- Science; Identify phenomenon and reveal how they interact
- Languages ; Identify human symbols and how they can be used to convey a meaning
- Math ; Identify quantities and change in quantities
- Social Studies; identify relationships and responsibilities required to perform them

What is missing in government adding to these guidelines is at what level do the following fit within our existing curriculum?

1. Numeracy; wisdom in using the proper quantities
2. Literacy; wisdom in the manner we communicate with another thing or person
3. Entrepreneur; wisdom of comprehending a problem and viable solutions

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3 https://www.reference.com/education/four-levels-comprehension-27a2759fb41057ad
4. Ethical; wisdom in doing the right thing

As an example, if I give you four diagrams labelled “now”, “yesterday”, “tomorrow” and a picture of teenagers, which one would capture the interest of a grade one student at his literal level of reading?

At this level, the following actions should be capable of being done by the student;

1. A phenomenal recognition that a now problem exists.
2. It will now require further study to explain it and discussion will help in this process.
3. In groups, solutions become now viable if the students cooperate.
4. The activity is worthy of a diary notation if student participated.

In doing so, does it build a better foundation in the child? In a two dimensional diagram based on knowledge and skills, does the third dimension of added wisdom in learning why in a now situation certain quantitative relationship work while others fail?

At the next level of the middle grades, what new criteria come into play as the student begins to interpret what he reads?

1. Can he look back at past challenges in literacy interpretation?
2. Discuss what was achievable then and now in improving his communication in discussing it?
3. Make tasks more literary precise in finding a solution?
4. Note more specifically his improvement in self from past performances?

Do these progressive criteria improve the foundation of the child? Is the child more literary wise as to his own actions?

At the subsequent level of junior high, what new entrepreneurship are now being contemplated in his future as the student seeks to apply what has shown capable
to perform?

1. What new future scenarios does he envision for himself?
2. What discussions are likely to follow from these projections?
3. Will he consider other’s talents to transform his future aims?
4. Will he note his own combination of talents which allows him to consider various future job possibilities?

Does having a future stabilise the foundation of the adolescent? Is his future now wisely seen in proportion not just to his formal education but what he also pursues on his own?

Lastly, at the senior level, does the question arise if his actions are ethical as he seeks to be acceptable by society?

1. In whom does he want to be liked in human relationships?
2. In whom can he trust from discussion with them?
3. In whom does he see hope in furthering a relationship by having done group projects with them?
4. Can he be true to himself in the doing of his role in society?

Does this wisdom on human relationships better prepare the student towards graduation into present society? Is he beginning to ask not what society can do for him but what he can contribute to his community?

In summary:

If this is the new expected role of the student, what is the new role of librarians, researchers in active student inquiry?

Well I mean one of us who didn’t have that until well down. I was probably part of the stuff you have to do with your liver and that’s not how we were I have to prove it. I’m just nervous. If you know some of these guys. Chances are you’ll be able to talk. You don’t know who he is you know. And the other wise past it was I wouldn’t have an office which they would offer us. Well let’s study hard to watch out for
under a lot of highs situation we say that we do better today challenge that was there is that true. We still do more ways we have better ways that was wonderful but my city by far the better way of doing things that’s the group self or point is to point out you know this recall how we tried to is what we now do today that we can do. Yes on the spot. I think somebody ration is not always about it today we are. Yes we were I was overjoyed always rewarded by. That would help the Taliban. And I’m going to tell you. So you develop something and I think the same thing over over here. They’re expecting change which by the way that did not only go through our own best interests without letting as we say that we have approved the way we did it for the way we do less than we were with them. That’s where we get someone who is OK we have today. Yes but what about the well how do we how well you know if you have to do it. The president always I think possible. Presumably just want to get out. I want to do this while you have evidence that you’re really a viable. That’s the year you were what do we project. It is by here we do it because we tend to say this is a great time with you you must work as to the attacks that we are formed of which facility was done you know which we do see and this is very much how I spent. Oh you know you have to get everything done through all my life for this reason found out was. I’m just going to do my morning Bill. Not because I’m. I’d like to say you’re a little bit off your high that’s the current problem. I still think that’s the extension of two zero zero zero zero zero zero. Why a top baseball problems of our bases out don’t need to fall and they die twice that first that present life without these guys is a good source of itself to be allowed to write you intrude off to the people you want to work with the baby you know I do and most likely it won’t be something that’s what you read and I think somebody will say you know the same wind died because if you do this and it is my fault it is well somebody who’s going to compliment me first. It sounds that this. I don’t like this job but he’s really good at what he does. I’m going to do you know I don’t trust to build up a list of five because it’s going to be keeping all what I want which is the list that the group might want to share it all off solve. Then we get probably what they expected a very new guy they don’t know how to do it as a vote is who think there’s a possibility of a solution that’s just lastly bill that. There was going to cheat a little bit. It was a bit of that if you should happen soon. All this because the last part which is over so I was on life. Right. The century. You have to also think of all that you know if you do all of this ready for this one. This is all golden this interview is going to go through I would say Oh well then why should it be funny to one of those you know our researcher or I wonder how I cope with this you’re still one. I want to do this. Oh good for you or libraries or was this. I thought I’d raise
our prices for every place. There is however So really nothing especially with the final run I believe in the sun so I was writing words out of the problems whatever was not please I thought of the best place for myself being and he will see some good looking like they will be happy if I only have to pay for me taking any hocking were some of them just well you have to see the very real evolution is their insurers and this is really the only engine. We just about zero zero zero zero zero zero zero. Oh it was filthy that’s a lot recently has a British leader. So there are nervous and excited very close attention to this for a reason they’re already obviously after all the size it is you all. Warble are isolated so just listen for a while all of the level of the struggle on the part so that Mr Castro and I will close the US must invasion did I say that role was beside the point was what exactly is or is it has been crossing clouded by or both think and react. Oh yes I don’t hear you really are my readers I don’t know who they voted for very are included viruses is that what I want to do it is a who the writer teacher or student. The students are doing what I ask the teacher. How do I do that he well he didn’t ask this into this is the captain or intruder or the fire puppet who will absolutely love the bit from other recent three listed in a novel because it was written accidentally discovered why students of all to be a factor. Oh tell me that you read it in your life as a writer or as or forty years ago. One day. All through this. He’d write a blog probability to see any evil of a story. Well we don’t 1 day 2 Paul 2 see this in the soil as well like this there was once a victim who will want to buy this wonderful machine had started this little solo made of cheese cast with an idea to survey the hour. This is losing it is also dangerous about the order are what he said was writer editor and our manager in reading for more of that so I’m trying to do it I’ll get my side of it through time it on me. Gideon Meier in him. I didn’t. Dissolve on the Mohammed and one of them has the best interest of the brave move forward with very hard data about what I have and there is I’m sure this is a few of the day forty years ago we started we sat. Well that’s facing Putin’s spirit is that’s him better teachers. These are issues that already. It is any good. We are going to the natural. I want to get in at the moment we discover what fun it is I’m going to send it as a lot of those ideas and talent or that are homeless for the race but I was inspired me to do my hair. Well probably my love of the world and I said you know that’s not always the way to say it into hell. You’re hooked this challenge. So true to me from Wonder well placed to start anything this as I’ll go I’ll read it intently are all fairly twice but I think that it might it does as well. Tara He didn’t ask. There is a sanctuary they want to visit via the stew where it is now however the battered city throws it is for the creators to stop them or to do it right you know to say this is the final film when you realize it was up and I think needed
to be very hard to reverse I want anything to do is love it. Without it having a very very always feeling ready for a life like everybody covered in my life friends is only for the life besides centre it was lifeless I swallowed up this article with it. Oh it’s will tell us more when how right I recall this is when I was so you helplessness when I was a student listed reading through well this is why I read it is with us today from President always half of it due to the wife and I was a bunny rabbit. I noted I tested every minute a woman asked over and over not ready for all activities. I would generate you know well it wasn’t. The student is what I am to anybody’s it is a was there. All right. I remember for them to do with Already the future. Bob and I would deal with the problem. Well of the area activities or activities of a lower grade stock also there is a lot of hope that this doesn’t really does it really. OK I don’t have the right of any reason why I would always want activities for five minutes and needed a way to mean what it wanted to do it was how much well you know the irony here. That’s generally considered necessary when we walk in here and I think this is the latest in our food pyramid because it was through spending too much stock in real life and I really knew it was a lot of a woman he won’t even let you know.

Improving upon yesterday. If you know somebody’s past chances are you will be able to talk to them. You don’t know who he is chances are you won’t be able to talk to them. No we are looking at phenomenon which were not only today but yesterday problems. When we look at the past situations, we say can we do better today? We challenge our self and say yeah this was then and this is now. Should we still wait when we have better ways today? Now we are talking about the phenomenon as I wouldn’t have an office which they would offer us. Well let’s study hard to watch out for under a lot of highs situation we say that we do better today challenge that was there is that true. So you develop something and I think the same thing over over here. They’re expecting change which by the way that did not only go through our own best interests without letting as we say that we have approved the way we did it for the way we do less than we were with them. That’s where we get someone who is OK we have today. Yes but what about the well how do we how well you know if you have to do it. The president always I think possible. Presumably just want to get out. I want to do this while you have evidence that you’re really a viable. That’s the year you were what do we project. It is by here we do it because we tend to say this is a great time with you must work as to the attacks that we are formed of which facility was done you know which we do see and this is very much how I spent. So how do we become wise to the future reality?
We focus on the moments of reflections on possible future phenomenon. A discussion usually follows on what it’s possible based on past and present reality. Groups are formed to identify which future are likely to succeed. It is important to know that together we can do something and alone we cannot. Last point is self-evaluation follows in assessing what preparation will be need to achieve it. What are my chances for future? Why do I need to know that right now? Because I am doing it? I am actually doing problems which I know could solve things. So now we have extension of future entrepreneurs. What are they called future entrepreneurs because they solve the problems of tomorrow? They see something that we need tomorrow and they know how to get that to us. Last but not the least it starts from high school, is social relationships gaining social ethical acceptance. First step in relationships is moment of reflection on with whom to share one’s future. Look for someone who is your complimentary not your competition. Second step is discussion on what led to trust in human relationship. I don’t like this gentlemen here but he is really good in what he does and I am going to need him, and I now I can trust him so therefore I would like to build this relation up, because he is one of the key who will help me what I really want to achieve in a relationship.

Next is within group mindfulness, is sharing of then hope that problem can be solved. Move yourself in the group who thinks there is a possibility of a solution and that a key aspect in this one.

Lastly within one’s portfolio, lies the humanity in whom one can live with oneself. If everybody is cheating and everybody is in dilemma then maybe some problem with them if you can then maybe you should. If you can do this then you can be right for the 21st century.

Ethical relationships

If you want to give you have to also take a one way.

Conclusion is if this is the new expected role of the student, how it will change our role. Now I m shifting perspective from students to researcher, teacher.

VIDEO

Changing role of librarians today.
I would like to look at this process from the librarian, researcher and teacher perspective as we look at the definition of passive and active research from their role in the learning dynamics.

Passive research is analytical. It’s a way of learning about a specific subject that requires observational skills. The primary reason is to gather more information on a topic in the absence of its actual usage. Our role was to;

a. Dispense information on what knowledge is available on a variety of topics
b. Instruct in how to find said information
c. Test or evaluate performance in doing so.

The new role as defined by Richard Sagor in “Guiding School Improvement with Action Research” in 2004 is;

a. a disciplined process of inquiry conducted by and for those taking the action.
b. an engagement in action research to assist the “actor” in improving and/or refining his or her actions.

The aims in becoming a consultant to students are to impart:

a. active guided research through listening to their inquiries
b. active relevant research to be meaningful.
c. active dynamic research that require students’ involvement to be effective.

Please note that I say students and not student because active research involves many not just one individual. This is noted in the story of the “unsolicited gift parable” by Arthur Koestler in 1975 in his book “The Ghost in the machine” whereby a bazaar peddler asked for an abacus to deal with his many customers.

Over the past fifty years, we have indeed improved access to information and substantially reduced the physical labour of retrieving and storing information but

increased the task of librarians, researchers and teachers as to explain what is now available on the internet – passive research and its coordination with present activities – active research. In the process, we have discovered how dynamic is the information that we have stored in our libraries to present day life.

As we as librarians, researchers and teacher focus on each student in the development of knowledge and skills, we need at times to shift our attention especially in the inquiry mode to the way the students learn to work together with others in the present, past, future relationships as they learn numeracy, literacy, entrepreneurship and ethicalness.

Passive quantitative research at the lower grades becomes a question of knowledge and describing of amounts in the now moment. Like looking at ingredients, one learns first their content.

Active quantitative research begins in numeracy. This is learning the ways that the ingredients can be combined together.

Passive correlation/regression research as student reaches the middle grades, are more animated as reactions are being described by each student to a past event that they witnessed. Like segments of a cartoon, we know something is happening but without a deeper study of yesterday’s occurrences, it becomes difficult to explain why it did occur.

Active correlation/regression research starts in becoming Literate to what has happened win the agreed sequencing of the cartoon or slide segments. This is often observed in the complete versus uncompleted sentence or misinterpretation of the word to express what has actually happened.

At the start of Junior High, passive meta-analysis is initiated as tomorrow is brought into the dynamics. This is the result of the observance of a trend that can extend beyond today as witnessed by its continuance from yesterday. Without connecting the dots, the importance of any one trend remains uncertain.

What activates the meta-analysis is the entrepreneurship of the trends as students together, connect the dots and begin to see their relevance to each other. It begs to question if the research is leading to more problems by overly fixated on one trend or finding a solution by noting the variables needed for its future success.
Inevitable included in those variables is the human factor which brings us to passive qualitative research at the senior high level. One can through the study of a person’s actions describe the humanity of that individual. But what is left unexplained is the behaviour of that person in different context with different combination of people.

Active qualitative research is the study of the person among diverse combination of people as they learn more about themselves while living within a community. As primitive tribes learned long ago, respecting taboo and recognising talent leads to a qualitative community. Genius in life is a relative term as exemplified in the story of Einstein and his carpenter. Einstein asked his carpenter to build him two doors; one for himself and the other for his dog. The carpenter suggested one door with a flap. At that instance, who was the genius? We simply do not control life’s dynamics and as Shakespeare says

All the world’s a stage, and all the men and women merely players; they have their exits and their entrances, and one man in his time plays many parts

As You like It, Act II, Scene VII

The Second Special Lecture was delivered by Martin McAreavey in Plenary Session.

**Special Lecture 2 – Plenary Session – Martin McAreavey**

The Special Lecture was entitled ‘A Practitioner View of Responsible Research and Innovation: Possibilities, Problems and Practical Applications.’

An overview of his presentation was as follows:

- RRI – A Paradigm, Aspirational guidelines or a practical toolset?
- RRI Scope (from multiple Perspectives)
- Challenges and Issues facing practitioners
- Praxis / Case study
Why RRI? Don’t believe what you read.
Research, Researching and RRI.

Research, in my field of expertise is:

“The systematic and objective process of collecting, recording, analysing and interpreting data for aid in solving managerial or organisational problems.” (Wilson, 2010)

“Creative work undertaken systematically to increase the stock of knowledge (of humanity, culture and society), and the use of this knowledge to devise new applications” (OECD) (Source: Saunders et al 2012).

RRI appears to achieve this, plus additional rigour.

**RRI Pillars and Principles**

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<tr>
<th>Stilgoe et al. 2013</th>
<th>Wickson/Carrew 2015</th>
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<td>Focus on addressing significant socio-ecological needs and challenges</td>
<td>A dedicated attempt to anticipate potential problems, assess available alternatives and reflect on underlying values, assumptions and beliefs</td>
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<td>Anticipation (what happens, if?)</td>
<td>Reflexivity</td>
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<tr>
<td>Inclusion</td>
<td>A commitment to actively engaging a range of stakeholders for the purpose of substantively better decision making and mutual learning</td>
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<tr>
<td>Responsiveness</td>
<td>A willingness among all participants to act and adapt according to these ideas</td>
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RRI as a set of questions…

The concept of “responsible (research and) innovation” (RRI) can refer to a number of separate but interlinked questions:

- who is responsible?
- what are they responsible for?
- why are they responsible? or
- what are the consequences of these responsibilities?

..are just some of the more obvious ones.

**RRI as Process and Orientation**

[Diagram showing various interconnected topics related to RRI, such as Ethical issues, Formal and informal education, Public engagement, Gender equality, Open access, EDU, ETH, PE, OA, GE, with a title: Responsible Research and Innovation: a cross-cutting issue in H2020]
RRI & Inclusiveness

RRI & Large Scale Research Projects

RRI framework consists of 6 keys:

1. Engagement
2. Gender equality
3. Science Education
4. Open access
5. Ethics
6. Governance
RRI as a Set of Prescriptions

1. Deliberate focus of research & products of innovation to achieve social or environmental benefit.

2. Consistent involvement of society, from beginning to end of the innovation process, including the public & non-governmental groups, who are themselves mindful of the public good.

3. Assessing & prioritising social, ethical & environmental impacts, risks & opportunities, now & in future, with technical & commercial.

4. Able to anticipate & manage problems & opportunities & to adapt & respond quickly to changing knowledge and circumstances.

5. Openness and transparency as integral components (of RRI).
So, shouldn’t all research be like this??

- Methodical, rigorous, outcome-oriented?
- What aspects of RRI can I adopt in my own context (research & Education)?
• What do we need to do that is clearly different to what we do now?
• What issues / limitations might get in the way?
• Can I use RRI to facilitate better outcomes for my students?
• ‘Enhanced Critical faculty’…?

Let’s Consider Impact

Perhaps we should travel back in time...
To this (“IOT”) –

What do we see here?

….& this: the 3rd wave of the internet (IOT) - Internet of Things

Now Consider Uncertainty & Complexity…
Factor in complexity…

Even the simplest research models involve multiple choices

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<th>Constructivist</th>
<th>EPistemology</th>
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<td>Inductive</td>
<td>Approach</td>
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<td>Few</td>
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<td>Simple</td>
<td>Context</td>
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<td>Few</td>
<td>Participants</td>
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<tr>
<td>Applied</td>
<td>Outputs</td>
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Deductive
Large
Long-
Many
Complex
Many
Academic

Consider the impact of ICT on the human condition….
• 30 years ago a researcher asked a question at a British Psychology Society conference, about the potential impact of ICT on cognition.

• Is it possible that viewing everything on screen might change the way people process information and therefore think?

The rise of ‘Add’?

• “We are moving from a world where computing power was scarce to a place where it now is almost limitless, and where the true scarce commodity is increasingly human attention.”

• -Satya Nadella, 2015 (a US-based Digital resource researcher)
The challenge of decreasing attention-span

Liu (2005) found that screen-based reading means more time spent on:

- Browsing and scanning, keyword spotting, one-time reading, non-linear reading, reading more selectively
- Less time spent on in-depth & concentrated reading.

McAreavey (2012) found <7% of business undergraduates engage in ‘habitual recreational reading’

- Sample size – 198
- Average range of ‘sources of knowledge & ideas’ consulted – 3.171
- Most common source – digital media
- Least common source – Books (fiction, non-fiction, reference)
“Overall, digital lifestyles deplete the ability to remain focused on a single task, particularly in non-digital environments.”

(Source: Microsoft ‘Attention Spans 2015)

“But, all is not lost. Connected consumers are becoming better at doing more with less via shorter bursts of high attention and more efficient encoding to memory.”

(but what if you aren’t ‘connected’??)
Younger people are moving faster and are more ‘connected’ than their older counterparts

This process is also speeding up as the internet of things becomes a reality, Raksind and Waller (2015)

Praxis

(How) do I ensure that my own research approach is methodologically sound and broadly in line with RRI philosophy and tenets?
Case Study – Research for a new programme

- March – June 2016
- Research drivers, need & Demand for PG CPD CERT
  - Employers
  - Potential students
- Curriculum design, options evaluation, test assumptions
- Design, market test, prove and launch a completely new programme
- Ensure relevance for diverse stakeholders
- Formal programme development and validation
- Recruit initial cohort (100 students)
Concluding remarks,

- Even Basic Research isn't easy / straightforward – does RRI raise the bar too high?
• Do the increasing rate of (technological) change and decreasing attention militate against effective RRI?
• Engaging and Training next generation researchers faces major challenges.
• Reducing attentional resource / critical faculty.
• Influence of large corporations on what we are ‘allowed to think’.

There was a Tea Break at the end of the Second Special Lecture. The Conference then broke up for the only Parallel Session of Day Two which was also the fourth Parallel Session of the Conference.

**Day Two – First & Final Set of Parallel Paper Presentation Sessions**

The fourth set of parallel paper presentations were held immediately after the mid morning Tea Break of Day Two. These sessions consisted of the presentation of twenty one papers. Each session was moderated by a Chairperson and summaries were recorded by a Rapporteur. There was a short Q&A session after each of the paper presentations.

The session summaries are outlined below:

**Parallel Session 13 - Golden Jubilee Main Hall**

**Session Chaired By: Professor Suresh K Sharma**

**Rapporteur: Dr. Vikas Singla**

Sanjeev Kumar presented the paper entitled ‘Role of Right to Education in Educational Equity and Sustainable Development in India’. His study was concerned with the vital role of right to education in educational equity in the country which leads to sustainable development. The study was purely thematic. The author studied the related articles through internet and chosen the present study to conduct. The National Curriculum Framework, 2005 on ‘Equity’, The Right to Education, 2005 and 2009 are selected to design the study. These are studied and related and important information is quoted in the study. The challenges of Right to Education towards educational equity and sustainable development
are identified and discussed along with available statistics by the author. The author discussed the educational equity taking into consideration the NCF, 2005. Financial constraints, lack of qualified and hardworking sincere teachers, proper infrastructure in institutions, providing equity and quality in education, motivating child labourers towards education are major challenges of implementing right to education in the education system. He discussed that the main problem that persists in today’s milieu is degrading education system in India. On the one hand, children are not getting facilities of education in rural areas while on the other, the affluent section of the population is sending their children to private schools where money reciprocates passing marks and no attention is paid towards properly grooming the student. Thus, excellence can only be achieved by improving the education system on a regular basis as well as maintaining a uniform pattern of equality. The author highlighted the various principles of sustainable development along with the role of education in the sustainable development.

Itika Sharma presented the paper entitled ‘The Food Bowl of India - Punjab, Much Needed Reforms in Policies’. Her research work would be able to examined and assessed the status of Public Policy in the Punjab state and elaborated the study on the strengths and weaknesses of the area of Public Policy. After Norman Ernest Borlaug’s Green Revolution, Punjab’s agriculture has been reduced to a market for chemical corporations, which are now the seed corporations. Chemical agriculture is also very water intensive. It also reduces the capacity of the soil. It is unfortunate that Punjab has been unable to formulate an integrated policy on its economic development. The world agriculture is changing quickly with new rules of the game and with the WTO Agreement on agriculture. She explained that performance of agriculture particularly in case of wheat, coarse cereals, pulses and oilseeds has decelerated during the last decade, which is a cause of concern. Therefore, improving agricultural performance and sustaining it over longer term remains the key priority. Paddy upland rotation is an unavoidable cropping system for Asia to meet the increasing demand for food. However, conventional practices of growing rice and wheat not only deteriorate soil physical properties and decrease water and fertilizer use efficiencies but also cause a stagnation or even reduction in grain yields. Regardless of the cultivation or management measure used in paddy-upland rotation, the different responses of paddy and upland seasons and their interactions, the long-term effects, the particularity of regions, the differences of ecological conditions, economic and ecological benefits, operability and the potential of widely use should be considered.
Anupama Verma presented the paper entitled ‘Delhi Assembly Election 2015: A case study of Dr. Ambedkar Nagar (SC) Constituency’. Her study was based on the spatial analysis of voter turnout and party performance in 2015 assembly election in Delhi. It also analyzed the causes of big victory of Aam Aadami party in Delhi and Dr. Ambedkar Nagar (SC) constituency was selected as a case study. The constituency has record of Indian National Congress’s strong hold but since the origin of Aam Aadmi Party in 2013 Assembly election voters of this constituency move on towards Aam Aadmi Party in 2015 election also. The study is also emphasized the causes of massive victory of Aam Aadmi Party and spatial variations in party performance among 70 assembly constituencies of Delhi. She made an attempt to find out the correlation between socio-economic factors and voting patterns. In 2013 assembly election poll percentage was 65.63% it went up to 67.47% in 2015 which shows the rapid increase of 1.84% in voter turnout. Ambedkar Nagar (SC) constituency recorded 69.76% voter’s turnout. Here Aam Aadmi Party came out as a winning party with 68.39% votes and Bhartiya Janta Party secured second position with 24.81% votes. Under the SC category, the Bawana constituency holds the largest electorate, with a total of 276,393 voters, whereas the Ambedkar Nagar constituency has the smallest number of 1,25,995 voters. Gokalpur constituency recorded highest votes and Delhi Cantt. Constituency recorded lowest votes. It was also observed in the study that all reserved constituencies recorded high voter turnout. Many interesting facts also came out from this study like causes of failure of two old established national political parties (Bhartiya Janta Party and Indian National Congress) in Delhi’s electoral politics. This study is based on secondary sources of data collected from election commission of India, New Delhi and from Chief Electoral office, Delhi. For the purpose of study areal structural approach were used to show the spatial distribution of seats won by contesting parties. Party competition or degree of competition was calculated by Margin of Victory method.

Mandeep Kaur presented the paper entitled ‘Attitude of Secondary School Teachers towards Inclusive Education’. The purpose of her paper was to review the attitudes of teachers towards inclusive education. The analyses of literature review showed evidence of negative as well as positive attitudes of teachers towards inclusive education in different times and places. Success of any programme depends upon teacher’s attitude. Attitude of a teacher is changed time by time through experience; work, by meeting the expertise, through community members. Attitude changes gradually, it is not born with a person. When a person lives in a family or a society, he learns many things that change his views and his thoughts. This is helpful to
change the attitude of a person or a teacher. Without a teacher education is not work effectively. The positive change in attitude of a teacher is useful because teacher thinks about all his students. A majority of studies focused on conditions and factors which affected attitudes or brought a change in attitudes (Smith and Mary, 1995, Eavremids and Brahmnorwich, 2002, Sakeena, 2004, Crishna, 2008). The research undertaken attempted to study the concept of inclusive education and the attitude of secondary school teachers towards inclusive education with respect to gender and locale. A sample of 200 teachers was selected using random sampling technique. Self-made questionnaire was used to collect data. It was found that there is no significant difference in the attitude of male and female teachers but there was significant difference in the attitude of teachers towards inclusive education on the basis of school’s location.

Parallel Session 14 - Parallel Auditorium 2 (UIHTM-Seminar Hall)

Session Chaired By: Professor G. S. Batra

Rapporteur: Dr. Anupreet Kaur Mavi

Pooja Kansra presented the paper entitled ‘Economic Burden of Outpatient Care among Construction Workers of Punjab’. Her study evaluated the economic burden of outpatient care among the construction workers. The study was based on the primary data collected from the three urban districts of Punjab: Amritsar, Jalandhar and Ludhiana. The respondents of the study were 210 construction workers selected from the three districts of Punjab (Amritsar= 70, Jalandhar=70 and Ludhiana =70). The analysis of data analysis was done with the help of frequency, percentage, mean and median. The result of the study highlighted that 50 percent of the respondents suffered from the illness and the main reasons of the outpatient care were cold/cough and cold/fever. It was found that 97 percent of construction workers utilized health facility for the outpatient care. It has been found majority of the respondents visited chemist shop followed by government hospitals, RMP/Local doctor, private clinic, private hospital, hakim/faith healer and homeopathic for the treatment. It has been observed that 59.8 percent of the respondents find difficulty in the accessibility of the healthcare facility and the mean and median distance covered to visit health facility was 2.66 km and 2.00 km respectively. Those who have not utilized the healthcare facility stated the main reason was could not get away due to work, did not had money and minor complaints do not
call professional assistance. It was found that the mean and median healthcare expenditure on the outpatient care was ₹169.07 and ₹80.0 respectively and the mean and median wage loss due to outpatient care was ₹710.71 and ₹600.0 respectively. Majority of the respondents paid for outpatient care from their own money followed by borrowing from neighbors, friends, employer and relatives. This shows that outpatient care involves both the direct and indirect cost to the respondents. On the basis of data analysis it was observed that the respondents were without any social security and relay heavily on out of pocket health care payments. Therefore, to reduce the economic burden of outpatient care the policy makers should provide the preventive healthcare to the construction workers near to their livings and workplaces.

Sandeep Kaur presented the paper entitled ‘Role of ICT in Financial. She discussed that financial inclusion is the buzz word in the current economy in general and banking industry in particular. The Indian banking sector today is stressing with the issue of financial inclusion. Operating cost of providing financial inclusion and charges levied on the users are important dimensions of the process of financial inclusion. Technology can play an important role in reducing operating cost of providing banking services, particularly in the rural and unbanked areas. There are technologies that could drive the growth in financial inclusion. The role of Information Technology can be realized from the fact that it has greater population penetration and its ability to serve at remote location at low cost, which is essential requirement for Financial Inclusion. Her study outlined the role of ICT in financial inclusion. Her study used secondary data from various journals, articles, research paper, annual report of RBI, Census of India 2001 & 2011, etc.

Amanpartap Singh Pall presented the paper entitled “E-Governance Initiatives: A Reality Or Eyewash? His paper intends to probed the various innovative e-governance initiatives and attempts to analyze them for their implementation success, towards linking for a better strategy of acceptance by the citizens. A greater insight is taken of various e-governance projects for meanings, definitions, and clarifications by examining different secondary data and survey reports. The investigation also reveals that e-governance projects are presently being run only in certain departments in India. Nevertheless, it is expected that this approach will gradually be extended to all departments, leveraging the power of IT to streamline administrative functions, increase transparency and reduced duplication of work. In addition, the processes of data collection, analysis and audit will be simplified, and
will become less tedious. E-governance holds the potential to make India move on the path of becoming an information and knowledge society, contrary to popular perception. Its impact could be far-reaching, down to the villages bridging traditional divides as well as providing karmic relief from corrupt officials and politicians and marking the birth of an entire web-based transformed Indian economy.

Parallel Session 15 - Parallel Auditorium 3 (ICSSR-Conference Room 1)

Session Chaired By: Dr Davinder Pal Singh

Rapporteur: Er. Rachita Sambyal

Arpandeep Kaur presented the paper entitled ‘Changing Demographics, Corporate Culture and Leave Policy Preferences: A Case Study of Bank Employees’. Her study was aimed to find out which types of leaves are preferred by executive level employees in private sector banks by: 1) Comparing employees’ response towards leaves offered by the bank & 2) Employees’ response towards different possible leaves. For this all executive level employees working at various banks are taken into consideration and variables associated with Casual Leave, Earned Leave, Medical Leave, and Team Vacation were identified. Conjoint Analysis was employed in the study to determine the preferences of employees among various leave policies and to determine how they value different attributes. The findings of the study gave insight that resulted in innovative ideas among which the team vacation leave came out as most preferred among the employees.

Neha Sharma presented the paper entitled ‘A Review Study on Frauds in Banking Sector’. Her study established a theoretical framework with regards to banking frauds in the Indian context as well as shows the picture of frauds in banking sector outside India. By reviewing various studies in the area of banking frauds the paper built a conceptual framework which further helps to find out various types of frauds and reasons for the same, and will definitely give new scope to further studies. Her study shed light on the area by reviewing various studies in the field of banking frauds. The study helped to find out the growth and trends of frauds in the banking sector and specially focuses on Indian Banking sector, as at present there are very few studies which give an in-depth insight of frauds in banking sector. Further the study also reviewed the different measures taken to prevent these types of activities in banking sectors. Moreover, the role of employee and customer with regard to banking fraud studied which is primarily needed in the context of Indian Banking system. The present study was conducted by collecting secondary data.
from the published and unpublished Sources, Government Publications, journals, magazines, books and periodicals etc. The research findings of study indicated that how banking frauds are shaking employees’ as well as customers’ confidence and how it has taken place for big threats to the whole industry. Also it discussed the major areas which should be further included by the Indian Banks for the prevention of frauds.

Harmandeep Kaur presented the paper entitled ‘The Impact of E-Commerce on Indian Trades’. The aim of her of the paper was to discuss how Indian trades have been improved through E-commerce. The paper was a review paper of related studies on the impact of E-commerce on Indian trades. Different Journal articles on Indian trades and online data related to exports and imports of India was reviewed and discussed in the paper.

Rachna Bajaj presented the paper entitled ‘Study of Fuzzy Logic and Anfis as Predictive Analytical Tool and Their Pertinence in Business Finance’. She discussed how predictive analytics are being used in various fields such as actuarial science, finance, marketing, insurance, retail and health care sector etc. Her paper made an effort to describe the working of Fuzzy Logic and Adaptive Neuro Fuzzy Inference System in the software through examples and their screenshots. She discussed how for development of a predictive model, Fuzzy Logic and ANFIS (Adaptive Neuro Fuzzy Inference System) can also be used. Fuzzy Logic was introduced in 1965 by Lotfi Zadeh. The idea behind using Fuzzy Logic is that it deals with linguistic variable that is a variable whose values are words rather than numbers. Words are less precise than numbers and they are closer to human thinking level. So, Fuzzy logic deals with imprecise data. Nowadays many phenomena in finance and economics are fuzzy. Fuzzy facilitates rule based decision making based on experience of the experts. It takes input along with the membership functions, then applies if-then-rule and provides output. And model based on Fuzzy logic can be trained using Adaptive Neuro Fuzzy Inference System. A combination of the explicit knowledge representation of fuzzy logic with the learning power of neural nets results in NeuroFuzzy. ANFIS introduced by Dr Roger Jang combines the features of neural networks and rule based decision making. Her paper focused on their relevance in the field of finance as a predictive analytical tool.

Ramandeep Bawa presented the paper entitled ‘A Study of Spreading Preference of Malls over Shopping at Traditional High Streets’. Her study was carried out to
investigate the role of mall culture and mall attractiveness affecting the lives of people today. This work was undertaken with a goal to find out the reason or reasons that attract and motivate customers to go to shopping malls. The demarcating change that has led to the preference of shopping malls over high street was studied through detailed interview schedule. The sample size consisted of 120 research scholars from faculty of Arts and Sciences of Panjab University, Chandigarh. Both qualitative and quantitative indicators were used to analyze the data. For the present research work, data was collected through purposive sampling; in-depth interviews and observation method. The major findings showed that Malls nowadays follow a certain design strategy to achieve retail goals. The shopping scene is also changing. Malls are becoming wholesome entertainment centres for the peer group as well as a good place for family entertainment. High streets were once the only hallmarks of shopping but with the rise of mall culture the attraction of customers towards these shopping centres has increased manifolds. The output of the study unfolds that malls today not only provide a perfect shopping environment with a wide range of products but one gets to avail facilities of good eateries, cinema, playing area, place for sitting for senior citizens and all basic amenities like safety, security, parking, rest rooms, air conditioning; all under one roof thus saving a lot of time and money of customers. Furthermore, the study investigated the minimum expenditure incurred on shopping by customers.

Harmandeep Singh presented the paper entitled ‘Governance Disclosure on the Internet by Leading Indian Public Sector Companies’. His study was conducted on top 30 BSE listed public sector companies, to measure the extent of governance disclosure (non-financial information) on their web pages. The content analysis approach to examine the extent of governance disclosure on internet was used. The governance index was constructed and broadly categorized into three dimensions i.e., organisation and structure, strategy & Planning and accountability, compliance, philosophy & risk management. The empirical evidence of the study reveals that all the Indian public sector companies have website and on average 67% companies disclosed some kinds of governance information directly on their websites. The content analysis indicates that public sector is highly concern towards the disclosure of background of company, information on board, company’s strategy & planning and major policies. Whereas, organization structure, chairman message, and management discussions & analysis are the least disclosed attributes. Company wise analysis was done for determining their position in terms of governance disclosure on the web. The companies were distinguished into Maharatans,
Navratans and Miniratans according to the classification of department of public enterprises. The analysis shows that on average 68% Maharatans, 64% Navratans and 70% Miniratans companies disseminated governance information on their websites. Maximum score was achieved by NTPC Ltd (87%) from Maharatans, National Building Construction Corporation Ltd (87%) from Navratans and SJVN Ltd (100%) from Miniratans. On bottom, minimum score was achieved by Bharat heavy electrical Ltd (47%) from Maharatans, Containers Corp. of India Ltd (40%) from Navratans and Mangalore refinery (47%) from Miniratans. Overall higher score was achieved by SJVN Ltd (100%), it disclosed full governance information on web and lower was achieved by Container Corp. of India Ltd (40%). Overall, we found extreme variations across the three categories of public sector companies. The study provides valuable insights with regard to the Indian economy. It explored that Indian public sector companies use the internet for governance disclosure at some extent, but lacks symmetry in the disclosure. This is because there is no such regulation for the web disclosure. The recommendation of the study highlighted that there must be such a regulated framework for the web disclosure, so that stakeholders ensure the transparency and reliability of the information.

Parallel Session 16 - Parallel Auditorium 4 (ICSSR-Conference Room 2)

Session Chaired By: Professor Parmjit Kaur

Rapporteur: Dr. Jagandeep Singh

Anish Kumar Kakirala presented the paper entitled ‘Using Social Media to Leverage Tourist Potential in Rural Areas in India: A Case for Social Entrepreneurship’. The main aim of his research is to understand the harnessing of social media channels to bring forth the business opportunities to rural tourist service providers. He also proposed how rural India if digitized can now have the same marketing platforms hitherto available to large tourism boards and online travel agencies.

Harshdeep Kaur presented the paper entitled ‘Organizational Commitment of Punjab Civil Service Officers in Relation to Demographics’. She discussed why organizational commitment is very important for the employees. She also elaborated how over the years, the concept of Organizational Commitment (OC) has become very popular among the researchers because of its impact on the performance of employees. The aim of her study was to find out the relationship between organizational commitment and demographic variables i.e. if gender, age,
qualification and marital status of PCS and allied PCS officers of Punjab influence their commitment level. Primary data was collected for the research purpose. A non-probability sampling design in the form of a convenient sampling method was adopted. Organizational Commitment Scale (OCS) developed by Meyer & Allen (1993) was used to measure the organizational commitment and suitable results were derived.

Sukhmani Mann presented the paper entitled ‘Influence of Organisational Justice on Turnover Intention in Healthcare’. Her study was focussed to understand the perception of doctors about organizational Justice and its impact on turnover intention a study was conducted amongst the different types of hospitals in Punjab and Chandigarh Tri city area. In her study 200 doctors were interviewed through a questionnaire and the results were presented. These results had certain statistically significant trends and insights, which have a bearing on Human resource policy in healthcare institutes.

Meghna Aggarwal presented the paper entitled ‘Conceptual Framework of Responsible Research and Innovation (RRI)’. Her study tried to explore the meaning of RRI. The presenter identified various approaches to RRI viz. as a public outreach, as an interdisciplinary involvement, as a stakeholder involvement and as a training and education. The research paper has also attempted to know its general responsibilities towards the society. She professed that RRI has multiple meanings in the past researches and innovation funding policies providing considerable opportunity for a plurality of meanings in universities. There are four central characteristics: 1] Scientific research should be focused on addressing societal needs and challenges; 2] Researchers should engage and respond to stakeholders; 3] All actors should anticipate potential problems, identify alternatives, and reflect on underlying values, and; 4] Relevant actors should be willing to act and adapt according to 1–3. According to her, there are two types of responsibilities scientists are subject to. First, scientists have role responsibilities that are specific to their professional status. These responsibilities are inherent in the generation of robust new knowledge and include honest reporting of research data and sharing results with other researchers. Second, as social actors, scientists also have general responsibilities beyond their professional ambit to the rest of society. The core argument is that while “the search for truth” is a good, it does not transcend other goods such as human rights and environmental health. Hence, it is incumbent on scientists to reflect on the broader implications of their
research and the scientific choices they make, balancing their role responsibilities with their general responsibilities. Public discussion of “well-mapped out” research programmes “can help scientists shoulder the burden” of thinking about these issues, suggesting opening up discussion of scientific research at an early stage can be mutually beneficial. All members of society have general responsibilities beyond the specific roles they fulfil, but the potential for science to do good and/or harm, and the preponderance of unknowns that cutting-edge science seeks to address, makes general responsibilities of special importance for scientists. These general responsibilities imply a collective approach to questions including how to define grand challenges, how to think about innovation in terms of values rather than consequences, and how to institutionalise responsiveness to the public. In these terms, RRI broadens the focus of societal actors beyond role responsibilities towards general responsibilities. Scientists are one group that should accept such responsibilities, as they possess intimate knowledge of their own research that should be brought to bear. To ask scientists alone to accept general responsibilities would present them with an increased and inappropriate burden. Sharing this burden requires a collective approach inclusive of other groups and highlighting the relationships between scientists and the public, researchers in other disciplines, and other stakeholders.

At the conclusion of the final set of Parallel Sessions on Day Two, delegates gathered in the Main Conference Room in Plenary Session for the Valedictory Addresses delivered by Professor O. P. Katare and Professor S. K. Chadha.

**Day Two – First Valedictory Speech by Professor O. P. Katare, Dean – Research Promotion Cell, Panjab University**

Greetings to all.

All Statisticians are like stamps. They will reject or accept or oppose the research, and innovation is in rejection and opposition. To this effect, framing questions is more difficult than finding answers.

When everyone was observing that things fall down, Newton, the scientist who gave us the theory of gravitation, was the only fool who questioned this fact. This is innovation. Another important innovator is our humble bird, crow. Crow has become intelligent now, and does not need pebbles to bring up the level of water. Instead, he uses a straw!
Another question that people ask is what is life? What people answer is that it is the sum total of time available to us. One humorous way of answering this is that life is that what is left after what’s app.

Coming to Responsible Research and Innovation, e.g. in nanotechnology, it is actually the consciousness of the efficacy and toxicity of the drug at the same time. It is what we are aware of. Due to this so we tend to follow the guidelines. But human science is insane. Due to this, Responsible Research theme becomes relevant, more so because value system is going down. Because of this, the ecology, environment and psychology is disturbed, and ultimately the collective psychology is disturbed. This is giving rise to problems. One example of research, being done by a parliamentarian, is on the electoral result to see the caste and religious background of voters so that the government policies can be charted out accordingly. This is a type of research where we are actually unmindful of the impact of research.

Essentially, we have to be thinkers, because innovation comes from mind. We have to be responsible. But we seem to have lost this responsibility as our value system is lost. It is thus a matter of our alertness, consciousness, and awareness of the impact of our research on the things and happenings around us. Unfortunately, we seem to have lost our pristine glory in the last 100 years or so, which we had in our yoga system. This system is very important for the researchers. Yoga does not belong to one, but to the whole of world, and we can overcome our difficulties through yoga.

Thus, we are aware of the data we are collecting through our conscious minds, but are not aware of the intangible data that is hidden, and does not come into cognition. This is the basis of collective consciousness and is very small. The only law that prevails in responsible research is that of law of conscience, the law of Vivek. Before taking any decision, we have to think about the impact it will have on the society. This is how Mahatma Gandhi used to analyse his decisions, on the basis of what impact it will have on Daridra Narayan. The purified mind thus becomes an instrument of innovation. Our mind, conscience, and ego make us a responsible researcher and we start taking into account the small intangible data which we normally do not consider.
Day Two – Second Valedictory Speech by Professor S. K. Chadha - Director Central Placement Cell & Chairperson, University Business School, Panjab University

Greetings to all,

Innovation is a key topic and responsible research is an important and a burning area of concern these days. Most important aspect is that research has to be done based on value system, which unfortunately is at a low level now a days.

There are four things that are important in a country. Education that changes our behaviour, Infrastructure, Entrepreneurship and innovation, and Research. One noticeable thing about current research environment is that research done is related to far away countries. We do not do research concerning our own problems, problems related to our own university. Another aspect we talk about is Competitive Reports. Three things in competitive report are Factor conditions, Efficiency and Innovation. First aspect, i.e. Factor conditions, is readily available in our country. Efficiency is low but what is most bothersome is that we do not do anything about innovation. We do not give back to society through our research. As a researcher, we must be responsible and give back to society.

Innovation is thus the need of the hour. Bill Gates, of Microsoft, owns around 70 Billion of assets. Most of this wealth has been donated to the society, and only a fraction has been given to his sons.

Another important aspect is the Academy Industry interface. Alliances are the key now. The problem with today’s researchers is that they are too theoretical and lack relationships. Even we are not teaching relationship and emotional skills to our youngsters. They are only bothered about IQ, which can get those jobs. But they then cannot meet the deadlines and targets of industry as they are poor in emotional and relationship quotient. Thus, if the problems of industry have to be solved by the researchers, there has to be an alignment of Research-Academia-Industry. In addition, support of Government and bodies like CII and PHD Chamber of Commerce has to be there so that they can collaborate to bring about responsible research.

For all this, we need a strong leadership. This is one of the main challenges, and leader should be multi-skilled and innovative. Another important requirement is
that students have to be taught to manage failure. They need to learn from their mistakes. They need to introspect, which is the main key. We need to plan, execute and review all our actions. Thus, we should be responsible for every conduct in our research, and should be able to face all challenges. There are so many examples of famous personalities, Maradona, Armstrong, who cheated because they could not face the challenges. So it is the value system which is the strongest thing in the world, and responsible research is the need of the hour that can be used to solve the problems of society.

After the two Valedictory Speeches were delivered, the Chief Guest, Professor O P Katare, Director Research Promotion Cell of Panjab University was invited to present certificates to all the delegates.

Dr Sarita Parhi from the London School of Management Education delivered the final Vote of Thanks before the Conference was officially closed and all delegates were invited to Lunch.
RESEARCH PAPERS
Abstract

Success of any organization is based on its employee’s performance. Organization having satisfied, trustworthy and happy workforce will surely effect its productivity and profitability which are highly contributed by its human resources. In banks maintaining efficient workforce will help to increase performance of the banks and also provide growth of the whole nation. So it is very important to organize workforce in such a way that they feel more satisfied towards their work and will be more committed to work. This research focuses on studying and comparing the factors affecting organization commitment of Public and Private Banking Sector. The success or failure of an organization is closely related to the aim and motivation of its employees. The motivation of employees clearly represents their commitment towards their job. Organization have an opportunity to ensure that committed employees towards the organization will produce output at a high level. The purpose of this study is to identify organization commitment among employees involved in banking sector. In modern times, Rivals organization can stole, bought or duplicate every asset of an organization. But what cannot be duplicated is the human capital of an organization. This will make the difference within an organization both positive and negative of organizational factors.

Top management must give importance to organization commitment in order to survive in such a competitive business world. To attain this goal present study used sample from managerial and operational staff from public and private banks’ employees. The sample comprising of 72 employees (where 12 employees of
each bank) has been taken. Total 6 Banks has been take namely ICICI, Axis Bank, HDFC, PNB, SBI, Punjab & Sind bank, in which there are three public sector and three private sector banks. Primary data collected through questionnaire of Organization commitment developed by Meyer and Allen (1993). Three commitment dimensions have been identified: affective commitment, continuance commitment and normative commitment. Secondary data had been taken from books and internet. To analyse the assembled data, descriptive statistic and t test are applied. The study observes that there is significant difference between organizational commitment of employees of public and private banking sector. The findings shows that private banks’ employees are more committed in comparison with public banks’ employees. Organization commitment is mental connection of individual towards his work and organization. It is related with employee’s concern in an association with organization.

**Keywords:** Organization Commitment, Affective Commitment, Continuance Commitment, Normative Commitment, Public And Private Banking Sector

**Organization Commitment**

The success or failure of an organization is closely related to the aim and motivation of its employees. The motivation of employees clearly represents their commitment towards their job. Organization have an opportunity to ensure that committed employees towards the organization will produce output at a high level. Organization commitment is mental connection of individual towards his work and organization. It is related with employee’s concern in an association with organization (Fu, 2015). Organization commitment relates with employee’s heartily wish to stay as the members of the organization when they get better opportunity (Danish, 2015).

In simple terms, Organization commitment is loyalty to the organization. “It is the strength of an employee’s attachment or involvement with Organization where he or she is employed “ (Salem 2012). Organization commitment is defined as a powerful belief against the goals and values of the organization, wish to do hard work on behalf of the organization and a strong desire to stay as a member in the organization (Duad, 2014). In the organization, commitment used to predict desired employee behaviour in the area of performance, absenteeism and mental attachment (Bello, 2012). Organization commitment may create a work environment which motivate work regulation and ethical behaviour in an Organization. Work
ethics has been practiced by Organization for maintain the behaviour of employees that help to improve the loyalty of employees. Job performance directly affected by Organization commitment (Komari, 2013). “Employees strong desire to remain as a member of the organization, try hard to meet organization expectations, uphold the values and objectives of the organization” known as Organization commitment (Allen & Meyer 1991), (Komari, 2013). In simple term, Organization commitment refers to employee’s commitment to their Organization (Varghese, 2015).

**Dimensions of Organization commitment:** Three specific commitment types have been identified (Salem, 2012), (Daud, 2014), (Bello, 2012), (Komari, 2015), (Moore, 201), (Narghese Das, 2015), (Nafei, 2015), (Meyer & Allen, 1991).

<table>
<thead>
<tr>
<th>Organization Commitment</th>
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<tr>
<td>Affective Commitment</td>
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<tr>
<td>Continuance Commitment</td>
</tr>
<tr>
<td>Normative Commitment</td>
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</table>

Affective commitment define as individual’s feeling of loyalty towards an organization or company because he or she believes in the organization. It refers to employee’s mental attachment with their organization. Employees agree with the organization’s objective and goals because they feel fairly treated in terms of equity and employees get care, concern and support so job satisfaction can be increased by Affective commitment. One’s emotionally attachment to the organization and it result that enjoy long term membership in the organization (Salim & Agil, 2012). Strong Affective commitment generate continued employment with the organization because the individual want to do so (Moore, 2014). Affective commitment also known as valve commitment strongly believes in acceptance of organization objectives goals and shared values (Nafei, 2015).

**Continuance commitment:** It describes as feeling of employee to remain as a
member with company or organization because leaving cost is too much high. This is cleared by an employees who continue commitment to the organization because he or she not able to match salary and benefits with another company. The cost of leaving to the company, employee may lose of the time vested as well as seniority, so they have to stay. In Continuance commitment Employee’s have to suffer if they leave organization, personal investment like close relationships with co-workers, retirement investments and career (Salim, 2012). It is based on profit and loss considerations if employees leave organization (Komari, 2015).

Normative commitment it based on feeling that employees are committed and loyal to their organization such as family, marriage, country and religion. The view of this commitment deals with an individual demonstration commitment behaviour because they think it is moral and right thing (Salem, 2012). Normative commitments refers to employee’s feeling of obligations to stay in the organization (Daud, 2014). Employees show loyalty and duty towards organization because organization took chance on them when no one ready to take them. It would be unfair to leave the organization.

Review of Literature

Febi Varghese et al. (2015) indentifies that in public sector undertaking in plantation sector in Kerala quality required for organizational commitment of employees. In the organization loyalty count as the important aspect of organization commitment. The present study take sample of 37 officers from Plantation Corporation of Kerala, State Farming Corporation of Kerala and Oil Palm India Ltd. Employees must be supported to share everything even specially with trivial matters of the organization. Top management can polish organization commitment by creating a friendly atmosphere and if they communicate organization’s problem with employees which will impact in them a feel of belongingness. High organization commitment only can be enhanced by a sensitive and carrying organization.

Rizwan Qaiser Danish et al. (2015) empirically examined that the organization climate has noticeable impact on job satisfaction as well as on organization commitment. Researcher taken 179 teachers from colleges and universities of Punjab, Pakistan. Research employed Descriptive Statistics and regression analysis are used to explain variations in job satisfaction and organization commitment. Organization can increase employee’s satisfaction and organization
commitment by enhancing organization climate.

**Seyed Ali Hoseyni Manesh et al. (2015)** indicate the interactions of the components of professional ethics and organization commitment. These are most important principles rapidly progressing on field of business. The result shows that there is average relationship between organization commitment and professional ethic and in general were between accountability, truthfulness, fairness, loyalty, punctuality.

**Yaakob bin Daud (2014)** concluded that organization commitment are mainly contributed by ethical leadership. Leaders must be train to increase their ethical leadership in order to apply more effective management towards organization commitment. Teachers feel more committed to the organization when leaders maintain the well being of them. But when leaders behave unethically, unprofessional, lack in social interaction with their employees, they draw a bad picture about leaders. Researcher have taken 324 respondents from secondary school teachers in Malaysia. Ethical leadership at work (ELW) instrument used to measure ethical leadership developed by Kalshoven (2011) and Employee Commitment Survey (ECS) developed by Meyer and Allen used to measure organization commitment. With the help of SPSS, Multiple Regression Analysis used to analyze data. Ethical leadership influence the teachers to became more committed to the organization but also maintain the cultural freedom of the teachers themselves. This was lesson for them to set their own ethical standards and confidently act on their moral beliefs.

**Zaneb Omer Salem (2012)** concluded that positive relation found between three dimensions of organization commitment and Islamic individual’s ethics among employees in Libyan public banks. Affective commitment deal with emotional attachment of the employees to the organization. It indicate that employees with powerful affective commitment lead to long stay wish organization because employees wish to do so. Financial agenda attach with continuance commitment, employees prefer to remain in the organization due to high leaving cost. Normative organization commitment differ from others, it is a situation where employees feeling of responsibility is everything. They consider remain in the same organization is correct thing. In this study 380 employees (respondents) as a sample size and Regression analysis used to analyze data. Islamic individuals highly correlates with Normative commitment with comparison to affective and continuance commitment. Islamic work ethics includes handwork, dedication to work, cooperation, justice, meeting deadlines at work and might be more committed to his work. Employees
would be more committed to his work and might be more commitment when they strongly agree with Islamic work ethics.

**Weihui Fu et al. (2011)** showed that organization commitment of Chinese employees was significantly affected by ethical behaviour of co-workers and ethical behaviour of successful managers in the organization. Employees who find that behaviour of peers and managers are ethical, they like to stay in the organization. On the other hand, employees are less committed to their organization when they see that their co-workers and managers perform less ethical behaviour. Younger employees had less commitment to their organization than older employees. Young employees are easily leave when they are not satisfied with their job or they get a better opportunity to develop their carrier. Loyalty of Chinese employees born in 1980’s was far below that of older two generations of colleagues (aged 30-47) and (aged 48-65). So Chinese firms must pay more attention to young employees. They should practice like individual incentive schemes, merit based promotions, plan for training and development programs so that employees increase their job skills. Researcher use 214 employees as respondents working at a Chinese state owned steel company. This study indicate that Chinese women were more likely to practice socially desirable response. Future research in business ethics need to pay recognition to social desirability bias. The four facets of job satisfaction had a considerable impact on organization commitment

**Objectives**

- To Study the overall level of Organizational commitment among public and private bank’s employees.
- To Study the level of affective commitment dimensions of public and private bank’s employees.
- To Study the level of Continuance commitment dimensions of public and private bank’s employees.
- To Study the level of Normative commitment dimensions of public and private bank’s employees.

**Organizational Commitment Scale**

This scale is developed by Meyer and Allen (1993). It includes total 18 items and each items to be rated on five point scale ranging from strongly disagree to strongly
agree. This scale is containing three dimensions affective commitment (6 items), continuance commitment (6 items) and normative commitment (6 items).

**Hypotheses**

- There is a significant difference between Organization commitment of public and private bank’s employees
- There is a significant difference between affective commitment dimension of public and private bank’s employees.
- There is a significant difference between continuance commitment dimension of public and private bank’s employees.
- There is a significant difference between normative commitment dimension of public and private bank’s employees.

**Methodology**

The purpose of this study is to identify organization commitment among employees involving in banking sector. To attain this goal present study used sample from managerial and operational staff of public and private sector banks public and private banks. Total 6 Banks has been take namely ICICI, Axis Bank, HDFC and PNB, SBI, Punjab and Sind bank in which there are three public sector and three private sector banks. The sample comprising of 72employees (36-working in public and 36-in private schools) were selected by applying probability sampling from Patiala district. Primary data collected through questionnaire of Organization commitment developed by Meyer and Allen (1993). Secondary data had also been taken from books and internet. To analyze the assembled data, descriptive statistic and t-test are applied.
Results and Interpretation

Table-1: showing Mean, SD and t value of private and public bank’s employees on overall organization commitment.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>T-value (df= 62)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational</td>
<td>Private sector Employees</td>
<td>36</td>
<td>3.21</td>
<td>.552</td>
<td>6.45**</td>
</tr>
<tr>
<td>Commitment</td>
<td>Public sector Employees</td>
<td>36</td>
<td>2.37</td>
<td>.491</td>
<td></td>
</tr>
</tbody>
</table>

Table-1 showing mean difference between organizational commitment employees of Public and Private sector. The mean value employees of private was found to be 3.21 with the SD as 0.55. Similarly, the mean value for the public was found to be 2.37 with SD as 0.49 respectively. The t-value between two means was found to be 6.45 which was significant at 0.01 level of significance. Thus, the first underlined hypothesis of the present investigation that (there will be significant difference between overall organizational commitment employees of public and private banking sector) is proved. The employees of private banks have been found more committed than employees of public banks.

Table-2 showing Mean, SD and t value of public and private school teachers on dimensions of organization commitment.

<table>
<thead>
<tr>
<th>Dimensions of organizational commitment</th>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>T-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective commitment</td>
<td>Private sector Employees</td>
<td>36</td>
<td>2.53</td>
<td>0.51</td>
<td>6.17*</td>
</tr>
<tr>
<td></td>
<td>Public sector Employees</td>
<td>36</td>
<td>3.34</td>
<td>0.55</td>
<td></td>
</tr>
<tr>
<td>Continuance commitment</td>
<td>Private sector Employees</td>
<td>36</td>
<td>2.47</td>
<td>0.50</td>
<td>3.87*</td>
</tr>
<tr>
<td></td>
<td>Public sector Employees</td>
<td>36</td>
<td>3.03</td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td>Normative commitment</td>
<td>Private sector Employees</td>
<td>36</td>
<td>2.44</td>
<td>0.56</td>
<td>5.65*</td>
</tr>
<tr>
<td></td>
<td>Public sector Employees</td>
<td>36</td>
<td>3.59</td>
<td>1.01</td>
<td></td>
</tr>
</tbody>
</table>
Table-2 is showing the mean difference between on various dimensions of organizational commitment employees of Public and Private banking sector. The Mean and SD in the case employees of private banking sector on affective commitment dimension were found to be 2.53 and 0.51, while in the case employees of public banking sector were found to be 3.34 and 0.55 respectively. The t-value between two means was found to be 6.17 which was significant at 0.01 level of significance. Thus, the second underlined hypothesis of the present investigation that (there will be significant difference between affective commitment dimension of public and private bank’s employees) is proved.

The Mean and SD in the case employees of private banking sector on continuance commitment dimension were found to be 2.47 and 0.50, while in the case of employees of public banking sector were found to be 3.03 and 0.65 respectively. The t-value between two means was found to be 3.87 which was not significant even at 0.01 level of significance. Thus, the third underlined hypothesis of the present investigation that (there will be significant difference between continuance commitment dimension of public and private bank’s employees) is not proved.

The Mean and SD in the case of employees of private banking sector on normative commitment dimension were found to be 2.44 and 0.56, while in the case of employees of public banking sector were found to be 3.59 and 1.01 respectively. The t-value between two means was found to be 5.65 which was significant at 0.01 level of significance. Thus, the fourth underlined hypothesis of the present investigation that (there will be significant difference between normative commitment dimension of public and private bank’s employees) is proved.

**Conclusion**

Finally, it is concluded that employees of private banking sector are more committed as compared to the employees of public banking sector. These results are supported by many studies like; Khan (2015) examined that private school teacher’s present higher organization commitment as compared to the public school teachers. There may be several reasons behind this result. Employees of public banking sector have high job security in their organization while in the case of employees of private banking sector they have very low job security. Due to the lack of job security in the employees of private banking sector, put higher commitment to the organization to secure their job for the long period of time. Poor quality of work life developed
boring, laziness, stress and physical distress etc among the employees. These factors are unfortunate affected employees’ commitment at work place. Thus, the study gives extensive scope for the upgrade of quality of work life in public banking sector to boost the employees’ commitment.

**Recommendations**

The survey present that organization commitment, loyalty, bond to the organization are positives. There appear some problem in the organization setup which require to be addressed. Top management should emphasis on employee’s requirements while drafting polices. Maintaining higher level of organization commitment in banks regulate not only the performance of the bank but also effect the growth and performance of the entire economy.

**References**


ADOPTION OF INTERNET BANKING IN INDIA: AN APPLICATION OF EXTENDED TECHNOLOGY ACCEPTANCE MODEL

Dr. Tejinderpal Singh, Assistant Professor, University Business School, Panjab University, Chandigah, India

Abstract

Internet banking has evolved from consumers’ needs to have fast and greater access to banking services. It dominates the landscape of electronic banking as consumers continue to use IB to complete routine banking transactions. The purpose of this paper is to study the factors affecting the adoption of Internet Banking using extended Technology Acceptance Model. For study purpose, a sample of 180 bank customers who were using Internet Banking for past 6 months was randomly selected from Chandigarh. The questionnaire consisted of a series of questions on six independent variables which are Perceived Usefulness, Perceived Ease of Use, Trust, Perceived Security, Perceived Privacy and Computer Self-Efficacy. The findings of the study concluded that Perceived Usefulness, Perceived Ease of Use, Trust and Perceived Privacy have a significant and a positive impact on the attitude towards IB and attitude has a significant and positive impact on Intention to use Internet Banking. The study recommended that banks should try to make internet banking services more useful and usable. They can achieve this by increasing the customers’ awareness of the usefulness of using internet banking services through advertising and long term customer services. The study further recommended to develop the security systems of internet banking services by incorporating latest advancements, protecting personal information, giving unconditional loss guarantees, reducing the possibility of delays of payment and waiting time.

Keywords: Internet Banking, Technology Acceptance Model, Perceived Usefulness, Perceived Ease of Use, Trust, Perceived Security, Perceived Privacy.
Introduction

Changes in globalization and financial liberalization are affecting banks in many ways from over a decade. Also evolution of technology and increasing competition between banks has significantly affected the way they work, banks react to the changes that are taking place in the economy by increasing the choice in the services that are given to the customers and also by focusing more on the technology aspect (Al-Smadi and Al-Wabel, 2011). They are forced to search for new markets for expansion. The competition has increased to such an extent that the one who is not compatible with the changing environment is not able to survive for long.

Hence, banks have started offering electronic banking services so as to increase the efficiency of channels of distribution by way of decreasing the cost associated with the transaction and increasing the speed in which services are delivered. There is a rapid growth of electronic banking especially relating to the Internet, Computer and Smart phones which led to a great change in the way of exchange of products and services

Online banking is becoming increasingly popular in this modern era. This practice can simply be defined as the delivery of banking services through the internet. Internet banking is defined as an internet portal, through which customers can use different types of banking services ranging from bill payments to making investments (Pikkarainen et al., 2004). Internet banking is done using an Internet-based browser be it on any device. PC banking requires a computer user and an internal banking network to pursue the banking transaction. IB is a self-service delivery channel which makes use of web browser technology allowing bank customers to complete their financial transactions and fulfill their needs in real time (Nasri, 2011). It is a cost efficient and easy way to conduct banking transactions and exchange related to buying and selling of goods and services without the limitation of time and place as compared to traditional methods of banking. Despite the many benefits that Internet banking provides to the bank along with its customers, it is still not being used by everyone because of a lack of confidence and trust among the people in the security issues of the transactions emanating from the increasing distance between the bank physically located and the customers. As a result, there is a dire need to focus on the quality of Internet banking services as they have strong influence on the satisfaction levels of the customers and ultimately the profitability of the bank (Seth et al., 2004). The present is an attempt to test the extended TAM
Review of Literature and Hypotheses

Davis (1989) developed the Technology Acceptance Model (TAM). It is basically an extension of the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior. TRA explains the relationships that exist among beliefs, attitudes and intentions. The behavioral intention of a user is determined by his acceptance or rejection of the technology and this intention is influenced by attitude towards the behavior. Technology Acceptance Model supports this explanation.

TAM views that perceived usefulness, perceived ease of use and attitude to use the technology are the most important factors influencing the users’ motivation to use that technology. In fact attitude of a user towards a technology is a major factor that determines whether the user will actually use or reject the technology. Perceived usefulness and Perceived ease of use in turn influence the attitude of the user. This model holds true based on the assumption that the intention to use the technology is a strong determinant of the acceptance or rejection of technology.

Extended Technology Acceptance Model

Venkatesh and Davis (1996) noted that the acceptance research of future technology also needs to study how other external variables affect Perceived usefulness, Perceived ease of use, and user acceptance in order to increase external validity. Many researchers have suggested that some other additional variables in TAM are important to study to derive a better understanding on factors influencing the decision of bank’s users to use internet banking.

Perceived ease of use and Perceived usefulness may not completely reflect the users’ intention to adopt Internet banking, so there is a dire need to search for additional factors that better predict the acceptance of Internet banking. Hong et al. (2001) suggested that by altering these external variables, researchers can have a better understanding of the user beliefs about the system, and eventually their behavioral intention and intention to use the system. The external variables used in this study are Trust, Perceived Security, Perceived Privacy and Computer Self-Efficacy.
Perceived Usefulness

According to Davis et al. (1989), “perceived usefulness is the degree to which an individual believes that using a particular technology would increase his or her job performance.” Also, perceived usefulness is defined as the individual’s perception that using the new system will improve his performance (Davis, 1993). Adams et al. (1992) and Davis et al. (1989) stated that perceived usefulness drives the user acceptance of information systems to a greater extent. Pikkarainen et al. (2004) in their study conducted in Finland, concluded that perceived usefulness was the important antecedent of adoption of self-service technologies in the banking sector. It was further evidenced in number of studies that perceived usefulness has significance impact on the intention to adopt digital banking services. (Chen and Barnes, 2007; Tan and Teo, 2000). The tendency of use of technology increases, if users find that they have an advantage by using that technology. So, people tend to use a technology if they believe it will help them improve their performance which forms the basis of our hypothesis.

**H1: Perceived Usefulness has a significant and a positive relationship with Consumer Attitude towards Internet Banking.**

Perceived Ease of Use

According to Davis (1989), perceived ease of use is defined as the extent to which a person believes that use of a particular technology is free of effort. Rogers (1962) has stated that perceived ease of use represents the degree to which a technology is perceived to be easy to learn, understand and operate. It is one of the important determinants of the user acceptance of technology. It is basically a saving of time, money, and convenience. According to TAM, Perceived Ease of Use (PEOU) is a major factor that influences acceptance of information system (Davis et al. 1989). It was found to influence the level of adoption of the service of Internet banking (Lee, 2009). Aboelmaged, & Gebba (2013) studied the impact of perceived ease of use on adoption of mobile banking and found that there was a significant impact of perceived ease of use on adoption of mobile banking. The significance number of other studies also established the link between perceived ease of use and adoption of e-banking services (Chen and Barnes, 2007, Shallone & Simon Munongo, 2013; Susanto, Chang, & Ha, 2016; Muñoz-Leiva, Climent-Climent & Liébana-Cabanillas, 2017). Hence, people will easily accept a technology which is perceived to be easier to use in comparison to other ones. Studies prove
that there exists a positive relationship between perceived ease of use and usage intention which forms the basis for the respective hypothesis

**H2: Perceived Ease of Use has a significant and a positive relationship with Consumer Attitude towards Internet Banking.**

**Trust**

Trust is the belief that the promise of another person can be believed upon and that, in uncertain situations, the other will act in a spirit of goodwill towards the Trustor (Suh and Han, 2002). Trust is defined as the confidence and belief in the quality of the services offered by the company.

In the e-commerce sector, Trust is plays a more important role than in bricks and mortar (Gefen, et al. 2003). Bae, Doo-Hwan (2010) analyzed the effects of trust and self-efficacy with TAM for intended mobile internet banking use. Thamer et al. (2010), integrates trust perception and self-efficacy to predict the user intention and found that trust plays significant role in adoption of internet banking.

Therefore, in the context of individuals’ trust on Internet banking services, it is expected that individuals with a high degree of trust will be more likely to have positive attitude toward Internet banking services than are individuals with less trust. This leads to proposing the hypotheses regarding trust and attitude towards internet banking.

**H3: Trust has a significant and a positive relationship with Consumer Attitude towards Internet Banking**

**Perceived Security**

Perceived security is defined as a potential loss perceived due to a fraudulent act or hacking which compromised the security of Internet banking (Lee, 2009). In the Internet environment, criminal acts can be performed with extremely high speed, and without any physical contact (Cheung & Lee, 2006). Customers perception that Internet Banking is easily susceptible to fraud damages their confidence of the online system as a whole. The concept of consumer-perceived security of internet banking influences customers’ attitude towards it. According to previous research [Chang & Chen, 2009], security issues have proven important barriers to the use
of online services. Ong (2015) firstly, found in the study that perceived security was an important antecedent of trust and perceived risk and further it was found that perceived security had both direct and indirect effects upon individuals’ adoption of internet banking. Therefore, we can say that the customers’ perceived security is a critical factor that influences Internet banking use leading to the proposed hypothesis

**H4: Perceived Security has a significant and a positive relationship with Consumer Attitude towards Internet Banking.**

**Perceived Privacy**

Because of a rapid increase in the number and choices of products and services offered via the Internet, privacy issues concern the consumers more than before. Many consumers resist giving personal information over the Internet, for example credit card information because they are unwilling to accept that even their own behaviors are not under their full control. The major concern for the customers is gathering and recording user data without their awareness. Consumers believe that the banks are concerned about their privacy issues and do protect them at any cost. “It shows that though their confidence in the respective bank was strong but their confidence in the technology was weak” (Howcroft et al, 2002). Singh (2004) found that the level of risk is high to the consumer as online information as services grow rapidly. Featherman et al. (2010) suggested some ways to reduce the privacy risk and found that privacy risk hinder in the adoption of e-banking services.

Therefore, privacy issue is an important barrier to use of Internet Banking leading to the proposed hypothesis.

**H5: Perceived Privacy has a significant and a positive relationship with Consumer Attitude towards Internet Banking.**

**Computer Self Efficacy**

Computer Self-Efficacy is defined as the judgement of one’s own ability to use a computer system or a new technology. “It is the belief in our own capabilities that we can organize and execute the various activities related to internet that are required to produce the final outcomes” (Eastin & Larose, 2000). It was found in many studies that computer self-efficacy has an important impact on the intention
to use Internet banking especially in developing countries (Salisbury, Pearson & Miller, 2001). Various studies based on TAM model found that there exists a causal relation between computer self-efficacy and perceived ease of use (Hanudin, 2007; Reid et al., 2008). Hanudin (2007), examined and concluded that computer self-efficacy had a positive and significant impact on both perceived usefulness and perceived ease of use on Internet banking. Therefore, following hypothesis has been framed

**H6: Computer Self-Efficacy has a significant and a positive relationship with Consumer Attitude towards Internet Banking.**

**Attitude**

Attitude is defined as the degree to which a person evaluates the behavior in question favorably or unfavorably (Ajzen, 1991). It is an individual’s judgment that whether performing a certain behavior is good or bad and an evaluation that an individual is inclined or disinclined to perform the behavior (Ajzen and Fishbein, 1980). “ Customer’s attitude towards rejection or acceptance of a new system has a critical impact on its adoption ” (Davis, 1989; Venkatesh and Davis, 1996).

Sankari et al. (2015) found that perceived usefulness had direct impact on attitude which further impacted the adoption on internet banking among Lebanon bank customer. Bryson & Atwal (2013) identified the antecedents of attitude towards the adoption of Internet banking in Senegal and found the positive impact of attitude on adoption of internet banking. Attitude of a consumer has a direct and positive relationship with intention to use and to accept the technology in question.

**H7: The Consumer Attitude towards Internet Banking has a significant and a positive relationship with the Intention to Use Internet Banking.**

**Intention to Use**

Intention to use is one of the keys for the successful implementation of technologies. The use of a system reflects the user acceptance/rejection of the technology (Venkatesh and Davis, 2000). Behavioral intention to use determines the use of new technologies and also the adoption of current technologies (Moez, Khalifa and Frini)
Conceptual Framework

Based on the literature review, a model indicating the acceptance of Internet banking was developed. The model consists of six factors that have an influence on the attitude towards Internet Banking which will ultimately influence the Intention to Use Internet Banking.

Figure 1: Conceptual Framework Model

Research Objectives

The specific objective of the study are

1. To assess the relationship of Perceived Usefulness, Perceived Ease of Use, Trust, Perceived Security, Perceived Privacy, Computer Self-Efficacy and the attitude towards Internet Banking and

2. To assess the relationship of Attitude and Intention to Use Internet Banking

Scope of the Study

Present study has been conducted on bank customers of Chandigarh using Internet Banking from the past six months. The theoretical scope of the study was limited to the adoption of Internet Banking and geographical scope was limited to Chandigarh
Research Methodology

Sampling Plan

Target Population

Bank Customers of Chandigarh using Internet banking from the past 6 months was the target population.

Sample Size

The sample size was 180. Out of 200 distributed questionnaires, 180 questionnaires were found correct. Therefore, completion rate of 0.90 was achieved.

Sampling Technique

For the purpose of the current research, Probability Sampling has been used under which Simple Random Sampling has been used in the following sequence.

1. **Simple Random Sampling on sectors**: From the list of all sectors of Chandigarh, 5 sectors were chosen using the random number tables i.e. Sector 37, Sector 38, Sector 24, Sector 25, Sector 22. The starting point in the random table was 00725 horizontal (Row 32 and column 1).

2. **Simple Random Sampling on House Numbers**: Out of all the 5 sectors, 40 houses were chosen again by using random number tables. Section of house has been shown in table.

Sampling Unit

Bank customer of Chandigarh using Internet Banking.

Instrument Used

A well-defined structured questionnaire is used. It is divided into 2 sections. One section consists of the scales used and other of the Demographic information. Scales used are on 5 point Likert Scale ranging from strongly agree to strongly disagree where 1 means strongly agree and 5 means strongly disagree. Following is the description of various constructs being studied and along with the scales used in the questionnaire:
**Measures used under study**

Measures used in the study are shown in Table 1.

*Table 1: Measures used under study*

<table>
<thead>
<tr>
<th>Construct</th>
<th>Definition</th>
<th>Author(s)</th>
<th>No. of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness</td>
<td>“The degree to which a person believes that using a particular system would enhance his or her job performance.”</td>
<td>Davis, F.D. (1989)</td>
<td>3</td>
</tr>
<tr>
<td>Perceived Ease of Use</td>
<td>“The degree to which a person believes that using a particular system would be free of effort”</td>
<td>Davis, F.D. (1989)</td>
<td>3</td>
</tr>
<tr>
<td>Trust</td>
<td>“The belief that the promise of another can be relied upon and that, in unforeseen circumstances, the other will act in a spirit of goodwill and in benign fashion toward the Trustor”</td>
<td>Bhattacherjee. A (2002)</td>
<td>5</td>
</tr>
<tr>
<td>Perceived Security</td>
<td>“A perceived potential loss due to fraud or a hacker compromising the security of Internet banking”</td>
<td>Salisbury et al. (2001)</td>
<td>7</td>
</tr>
<tr>
<td>Perceived Privacy</td>
<td>“It is the customers’ perception regarding their ability to monitor and control the collection, use, disclosure, and subsequent access of their information provided during a transaction”</td>
<td>Smith et al. (1996)</td>
<td>6</td>
</tr>
<tr>
<td>Computer Self-Efficacy</td>
<td>“The judgement of one’s ability to use a computer”</td>
<td>Venkatesh. V(2000)</td>
<td>9</td>
</tr>
<tr>
<td>Attitude</td>
<td>“The degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question”</td>
<td>Taylor, S. &amp; Todd. P.A (1995).</td>
<td>3</td>
</tr>
<tr>
<td>Intention to Use</td>
<td>“It is in a way reflection of the user acceptance of the technology under study”</td>
<td>Taylor, S. &amp; Todd. P.A (1995).</td>
<td>3</td>
</tr>
</tbody>
</table>
Data Collection

Primary Data is collected using well structured formal Questionnaire and survey method was used in which face to face interview was taken of the respondents.

Reliability Analysis

On calculating the Cronbach’s Alpha, it comes out to be more than .70, which is near to excellent.

Table 2: Cronbach’s Alpha for the respective constructs

<table>
<thead>
<tr>
<th>Construct</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Perceived Usefulness</td>
<td>.863</td>
</tr>
<tr>
<td>2 Perceived ease of use</td>
<td>.770</td>
</tr>
<tr>
<td>3 Trust</td>
<td>.738</td>
</tr>
<tr>
<td>4 Perceived Privacy</td>
<td>.800</td>
</tr>
<tr>
<td>5 Perceived Security</td>
<td>.715</td>
</tr>
<tr>
<td>6 Computer Self-Efficacy</td>
<td>.733</td>
</tr>
<tr>
<td>7 Attitude</td>
<td>.833</td>
</tr>
<tr>
<td>8 Intention to Use</td>
<td>.855</td>
</tr>
</tbody>
</table>

Results and Findings

Demographic Profile of Respondents

Table 3 shows that percentage of Males and Females in the sample is 54.4% and 45.6%. Not much variation is taken and ratios are nearer to each other. About 90% of the respondent included in the sample are qualified till Graduation and Post Graduation & above showing the a high level of literacy.

Table: 3 Demographic profile of respondents

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Level</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>98</td>
<td>54.4</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>82</td>
<td>45.6</td>
</tr>
<tr>
<td>Education Qualification</td>
<td>Secondary and Below</td>
<td>8</td>
<td>4.4</td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------------------</td>
<td>---</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td>Senior Secondary</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Graduate</td>
<td>84</td>
<td>46.7</td>
</tr>
<tr>
<td></td>
<td>Post Graduate and above</td>
<td>79</td>
<td>43.9</td>
</tr>
<tr>
<td>Occupation</td>
<td>Student</td>
<td>55</td>
<td>30.6</td>
</tr>
<tr>
<td></td>
<td>Homemaker</td>
<td>15</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>Salaried Class</td>
<td>72</td>
<td>40.0</td>
</tr>
<tr>
<td></td>
<td>Self-Employed</td>
<td>38</td>
<td>21.1</td>
</tr>
<tr>
<td>Annual Household Income</td>
<td>&lt; 250000</td>
<td>54</td>
<td>30.0</td>
</tr>
<tr>
<td></td>
<td>250001-500000</td>
<td>57</td>
<td>31.7</td>
</tr>
<tr>
<td></td>
<td>500001-1000000</td>
<td>48</td>
<td>26.7</td>
</tr>
<tr>
<td></td>
<td>&gt; 1000000</td>
<td>21</td>
<td>11.7</td>
</tr>
</tbody>
</table>

Around 40% of the respondents are Salaried class, 30.6% are students and 21% self-Employed with only 8.3% people as Homemakers. 31.7% of the respondents are in the income group of 2,50,001 – 5,00,000 and 30% people are in income group of < 2,50,000 showing the level of earnings of the people.

**Testing of Extending TAM Model**

The Extended TAM Model has been tested using Path Analysis. The results are shown in Table 4.

*Figure 2: Extended TAM Model*
Table 4: Path Analysis results of Extended TAM Model

<table>
<thead>
<tr>
<th>Variables</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude → PU</td>
<td>.268</td>
<td>.073</td>
<td>3.689</td>
<td>***</td>
</tr>
<tr>
<td>Attitude → PEOU</td>
<td>.169</td>
<td>.072</td>
<td>2.368</td>
<td>.018*</td>
</tr>
<tr>
<td>Attitude → Trust</td>
<td>.199</td>
<td>.073</td>
<td>2.715</td>
<td>.007*</td>
</tr>
<tr>
<td>Attitude → PPrivacy</td>
<td>.098</td>
<td>.079</td>
<td>1.236</td>
<td>.216</td>
</tr>
<tr>
<td>Attitude → PSecurity</td>
<td>.177</td>
<td>.075</td>
<td>2.356</td>
<td>.018*</td>
</tr>
<tr>
<td>Attitude → CSEfficacy</td>
<td>.009</td>
<td>.064</td>
<td>.143</td>
<td>.886</td>
</tr>
<tr>
<td>InteUse → Attitude</td>
<td>.673</td>
<td>.068</td>
<td>9.845</td>
<td>***</td>
</tr>
</tbody>
</table>

*** significant at .001, * significant at .05

Chi Square (6)= 37.3446, 000; CMIN/DIF= 3.24, GFI=.955, AGFI=.830, CFI=.915, RMSEA=.06.

Table shows that a significant and positive relationship has been found of Perceived Usefulness (PU), Perceived Ease of use (PEOU), Trust and Perceived Security with Attitude. Further, a significant and positive relationship has been found between Attitude and intension to use the internet banking. However, no significant relationship has been found between perceived privacy & Computer efficacy with Attitude. The overall fit model has been found good as various indices are found in defined range.

**Acceptance/ Rejection of Hypotheses**

The summary of acceptance / rejection of Hypotheses is present in Table 5.

Table 5: Acceptance/ Rejection of Hypotheses

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Hypothesis</th>
<th>Accepted/Not Accepted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>H1</strong>: Perceived Usefulness has a significant and a positive relationship with Consumer Attitude towards Internet Banking.</td>
<td>ACCEPTED</td>
</tr>
<tr>
<td></td>
<td><strong>H2</strong>: Perceived Ease of Use a significant and a positive relationship with Consumer Attitude towards Internet Banking.</td>
<td>ACCEPTED</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>3</td>
<td><strong>H3</strong>: Trust has a significant and a positive relationship with Consumer Attitude towards Internet Banking</td>
<td>ACCEPTED</td>
</tr>
<tr>
<td>4</td>
<td><strong>H4</strong>: Perceived Security has a significant and a positive relationship with Consumer Attitude towards Internet Banking</td>
<td>NOT ACCEPTED</td>
</tr>
<tr>
<td>5</td>
<td><strong>H5</strong>: Perceived Privacy has a significant and a positive relationship with Consumer Attitude towards Internet Banking.</td>
<td>ACCEPTED</td>
</tr>
<tr>
<td>6</td>
<td><strong>H6</strong>: Computer Self-Efficacy has a significant and a positive relationship with Consumer Attitude towards Internet Banking.</td>
<td>NOT ACCEPTED</td>
</tr>
<tr>
<td>7</td>
<td><strong>H7</strong>: The Consumer Attitude towards Internet Banking has a significant and a positive relationship with the Intention to Use Internet Banking.</td>
<td>ACCEPTED</td>
</tr>
</tbody>
</table>

**Discussion and Managerial Implications**

The results of the study shown that perceived usefulness and perceived ease of use has a significant and a positive impact on customers’ attitude toward internet banking services. This shows that if customers find internet banking services useful and easy to use, then they show positive attitude towards internet banking. Further significant and a positive impact of perceived security and trust on the customers’ attitudes to use internet banking services means if the customers don’t perceive the internet banking services to be secure and trustworthy then they will form a negative attitude towards it. Perceived lack of Security in system of banks disturbs the customers. So banks need to offer knowledge to their customers about transaction’s security and privacy to increase their trust of using the web system and keep their transactions safe.

In the study attitude has been found to have a significant and positive effect on intention to use internet banking which means a positive attitude towards internet
banking will lead them to adopt internet banking. So Banks should popularize the features of internet banking services to create a positive attitude among its customers towards these services. Perceived Privacy and Computer Self-Efficacy are found to have no significant effect on the attitude towards internet banking. It means these factors don’t impact the attitude they hold towards internet banking.

Scope for Future Research

As introduced in the present study, TAM lays open many areas for research centered on understanding of the consumers to adopt Internet banking services. Because of the importance that internet banking holds in today’s fast pacing world, future research can further investigate how other factors like perceived credibility, perceived risk, speed of internet etc affect consumers’ attitudes toward and intentions to use IB services.

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ETHICAL CONCERNS FOR DEVELOPING SOCIAL RESPONSIBILITY OF EDUCATIONAL RESEARCH IN TECHNOLOGICAL ERA

Kaur Harmandeep, Research Scholar (JRF), Department of Education, Panjab, University, Chandigarh

Abstract

In the present era of technology and world of knowledge, educational research is seen as irrelevant and obsolete with meaningless information load, devoid of critical thinking and enthusiasm to create new knowledge. But the fact is that Pure Sciences focus on how technology is developed and used while educational research and policies help us to understand the impact of technology on education of society for which it is meant. Educational research provides a framework to see how that content emerging from other subjects is used in benefit of the society at large. It not only defines and works on achieving educational aims and goals but also focus on developing critical thinking in implementers and policy makers to examine them keeping in mind the universal values of social justice, social responsibility and environmental sustainability. This paper focuses on the social responsibility of the educational research. It also discusses how it can be made more relevant and useful for the development of society through considering and enforcing ethical considerations in research. Descriptive research method was used for the present research and data used was primary and secondary in nature. Primary data was conducted by conducting interview on a sample of 10 Research scholars from Department of Education, Panjab University, Chandigarh. Socially responsible outcomes of the educational research include the identification of the general patterns and relationships in society at large; interpret culturally or historical significant phenomena; explore diversity; contribute to technology development of nation through an interdisciplinary approach which focuses on concerns of threats to the environment, effect of technology use on people, class inequality, state
repression; and giving voice to society. Social responsibility of educational research can be achieved if aims and objectives are reframed keeping in consideration both advancement of technology and benefit to society. Use of ethics in educational research makes its procedure, results and implementations successful, relevant and socially responsible towards the benefit of society.

Keywords: Educational Research, Ethics, Social Responsibility and Technological Era

Introduction

Pure Sciences teach us about how technology is developed and used while social sciences (including educational research) help us to understand the impact of technology. Social science content defines and validates societal aim. It also provoke the individulas to critically examine these aims in the light of universal values of social justice, development and environmental sustainability. Hence, Educational research provide a framework to look at content emerging from other subjects, to see how that content is used in society for its benefit. The research in education carry a normative responsibility to keep the base of human values and respect for diversity in consideration while finding and reporting the results. According to Badley (2003, p.296), false expectations is the case where there is more emphasis on evidence-based research in order to provide urgent solutions to educational problems. It is congruent with the action research idea of the need for a participatory worldview.

If educational and social scientists really have the intention to bridge the gap between practice and theory, the theory and policies of practice (constructing knowledge) and classical scientific theory (measuring knowledge) should be working together and should not be willing to oppose each other any longer. Kunneman (2005) argues from a humanistic perspective that it is a necessity to develop a new challenging scientific theoretical paradigm. In his vision such a paradigm should handle three conditions: the idea of the independency of nature and the related notions of objectivity and experimental testing; factual scientific and technological developments; and the interaction between the scientific and technological developments which is content directed and value driven perspectives.
Methodology

Descriptive research method was used for the present research and data used was primary and secondary in nature. Primary data was conducted by conducting interview on a sample of 10 Research scholars from Department of Education, Panjab University, Chandigarh. Secondary data was collected from articles, books and research journals.

Social Responsibility of Educational Research

Educational research have a responsibility beyond making scientific or practical (valued) knowledge and being accountable to the researchers themselves and to all kind of stakeholders, including communities, societies and the environment. Researchers have a responsibility to oppose the misuse of their work. The social responsibilities of researchers arise as research is carried out in the name of society as an expression and reflection of the society’s needs, interests, priorities and expected impacts. Also while researchers are compensated financially, with intellectual rewards and social status, society expects more than a high quality product. (Bird, 2014). Contingency theory of social responsibility suggests that educational researchers should develop strategies and structures to fit more with certain social and cultural issues of the society. Educational sciences should do or plan on doing what society expects them to do or plan on. Such a fit is based on maximizing profitable knowledge production or the survival of the educational sciences in the academic context and the society as a whole (Hatcher, 2002). While other responsibility theory known as transcendental theory is concerned with human consciousness or the awareness of us in relation to our existence, our world and our believe of reality. The elements of the responsible conduct of research are part of the research environment with which researchers are (or become) familiar and over which they have some control (Bird, 2014).
Table 1 Responses of sample about the social responsibility of the Educational Research

<table>
<thead>
<tr>
<th>Item</th>
<th>Responses</th>
<th>Number of Respondents (out of 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is meant by social responsibility of educational research?</td>
<td>Responsibility towards betterment of the society</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Duty to provide useful information and results</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>To uplift the backward classes through good education and educational policies</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>To make educational level of developing country at par to developed countries</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>To take care of every learner- old or young, poor or rich, underachiever or gifted</td>
<td>1</td>
</tr>
</tbody>
</table>

A broader perceptive about Social responsibility of educational research after considering the responses of sample and review of literature include:

**Identifying General Patterns and Relationships**

This makes educational research to resemble with the hard sciences. This resemblance gives educational research more legitimacy, making it seem more like social physics and less like social philosophy or ideology. Educational policies and acts may be significant because they are common or general; they affect many people, either directly or indirectly. This quality of generality makes knowledge of such policies and principles valuable. Educational research has tried to follow the lead of the hard sciences in the development of its basic research strategies and practices especially when one is searching for general patterns. For example, if we know the general causes of low literacy in specific locality or class, we can work to remove these conditions from our society and improve literacy of that specific region or class. When the goal is knowledge of general patterns, educational researchers tend to distrust what can be learned from one or a small number of cases. As more and more is learned about general patterns, the general stock of education related scientific knowledge increases, and it becomes possible for educationalist to systematize knowledge and make connections that might otherwise not be made.
Testing and Refining Theories

One of the social responsibilities of educational research is to improve and expand the pool of ideas known as theories by testing their implications and to refine their power to explain. Testing is carried by deriving hypotheses from theories and the implications of these theories are then tested with data that bear directly on the hypotheses. Ideas and hypotheses that fail to receive support gradually lose their appeal, while those that are supported more consistently gain greater stature in the pool. Testing theories can also serve to refine them. By working through the implications of a theory and then testing this refinement, it is possible to progressively improve and elaborate a set of ideas. There are many aspects of educational life that attract the attention of educational scientist or educationalist. However, improving the quality of educational theory is an important goal because this pool of ideas structures much thinking and much telling about education institutions, teaching learning process and learners.

Exploring Diversity

Exploring diversity often means that the researchers and educationalists ignores dominant patterns and focuses on the variety of circumstances that exist. Exploring diversity helps in understanding and appreciation of socio-diversity, a concept that parallels the ecological notion of biodiversity. People are less concerned about socio-diversity then about biodiversity (protecting endangered species). For example, some students achieve exceptionally high in certain subjects (specific gifted children). It is important to find out how and why they are successful in order to determine if this knowledge is relevant to other groups.

Giving Voice

Educational research must also contribute to express voice of learners and other educational personals in society. In research of this type, the objective is not only to increase the stock of knowledge about different types, forms, and processes of social and educatioanl life, but to tell the story of a specific groups, usually in a way that enhances its visibility in society. In this case social theories may help the researcher to identify groups without choice, to try to see their world through their eyes to understand their social worlds as they do and may help explain why these groups lack voice. To achieve this understanding, researchers must gain access to the everyday world of the group (poli.haifa.ac.il).
Achieving Social Responsibility of Educational Research

Social responsibility of educational research can be achieved if aims and objectives are reframed keeping in consideration both advancement of technology and benefit to society. Also the emphasis should be on facilitation rather than dissemination. Educationalist must create stronger links between research, development and innovation. The status of research deemed educational would have to be judged, first in terms of its disciplined quality and secondly in terms of its impact. According to Reeves (2011) Poor discipline is no discipline and excellent research without impact is not educational.

Ethical Concerns in Making Social Science Research more Relevant

Table 2 Responses of sample about the meaning of ethics

<table>
<thead>
<tr>
<th>Item</th>
<th>Responses</th>
<th>Number of Respondents (out of 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is meant by ethics in educational research?</td>
<td>Code of conduct</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Rules and limitations</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Norms and behavioural codes for obtaining real and genuine results</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Guidelines for doing proper research</td>
<td>2</td>
</tr>
</tbody>
</table>

According to Resnik (2015), Ethics are norms for conduct that distinguish between acceptable and unacceptable behaviour. Ethical norms serve the aims or goals of research if applied by people who conduct research or other scholarly or creative activities. Ethical issues arise out of the use and potential misuse and abuse of research findings. (Bird, 2014). Misconduct occurs because of various institutional pressures, incentives, and constraints such as pressures to obtain grants or contracts, career ambitions, the pursuit of profit or fame and poor supervision. Professional associations have specific codes of ethics that spell out a set of rules governing research and based on moral principles. Norms promote the aims of research, such as knowledge, truth, and avoidance of error. For example, prohibitions against misrepresenting research data promote the truth and minimize error. The moral integrity of the researcher is a critically important aspect of ensuring
that the research process and a researcher’s findings are trustworthy and valid.

Currently, professional associations such as the American Educational Research Association (AERA), the American Sociological Association (ASA), and the American Psychological Association (APA), outline their own general ethical guidelines, general principles of professional conduct, which deal with issues such as integrity and justice, to more practice-specific concerns, such as privacy and confidentiality of participants and research subjects. Ethical standards are sometimes enforced by university committees called Institutional Review Board (IRB) (Bhattacherjee, 2012). IRB assures that researchers will consider all relevant ethical issues in formulating research plans. It also assure the safety and rights of participants.

Technological advancements such as use of internet and social network communities (facebook, blogs etc) demand for the proper use of ethics.

Table 3 Responses of sample about the ethical considerations of the Educational Research

<table>
<thead>
<tr>
<th>Item</th>
<th>Responses</th>
<th>Number of Respondents (out of 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the different ethical considerations</td>
<td>Concent and confidentiality of the subjects,</td>
<td>2</td>
</tr>
<tr>
<td>for educational research?</td>
<td>Behavioral aspects such as honesty, competency, authenticity on the part of</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>researcher</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proper use of data obtained and observations done, no use of works of others, not modifying the data</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Respect towards human subjects and consideration of their protection</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Not doing research for the sake of publication</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Following the proper research methods</td>
<td>1</td>
</tr>
</tbody>
</table>

The following is a general summary of some ethical principles in educational research

Honesty- educationalists have to honestly report the data, results, methods, procedures, and publication status. They should not deceive colleagues, research
sponsors, or the public by fabricating, falsifying or misrepresenting the data. They must disclose personal or financial interests that may affect research findings.

Objectivity- objectivity is expected or required in experimental design, data analysis, data interpretation, peer review, personnel decisions, grant writing and expert testimony, and other aspects of research.

Integrity- researchers must act with sincerity; strive for consistency of thought and action.

Carefulness- it includes avoiding careless errors and negligence; carefully and critically examine the work done.

Openness – educationalists and researchers must be open to criticism and new ideas.

Respect for Intellectual Property- researchers must honour patents, copyrights, and other forms of intellectual property. It also includes not using the unpublished data or results without permission. If data from other researchers are used, then it is the duty of researchers to give proper acknowledgement or credit for all contributions to research. Research piece should be authentic and researchers must never plagiarize.

Responsible Publication- it includes avoiding wasteful and duplicative publication. Strive to promote social good and prevent or mitigate social harms through research, public education, and advocacy.

Competence- researchers must maintain and improve their own professional competence and expertise through lifelong education and learning; keeping good records of research activities of others.

Human Subjects Protection- When conducting research on human subjects, it is the prime duty of researcher to minimize harms and risks towards participants, respect human dignity, privacy, and autonomy and take special precautions with vulnerable populations.

There are many other activities that are considered as misconduct on behalf of
researchers, such as

- Publishing the same paper in two different journals without telling the editors
- Including a colleague as an author on a paper in return for a favor even though the colleague did not make a serious contribution to the paper
- Discussing with your colleagues confidential data from a paper that you are reviewing for a journal
- Using data, ideas, or methods you learn about while reviewing a grant or a paper without permission
- Not having consent of the participants
- Not keeping the data of participants confidential
- Using an inappropriate statistical technique in order to enhance the significance of your research
- Bypassing the peer review process and announcing your results through a press conference without giving peers adequate information to review your work (Resnik, 2015).

**Conclusion**

In the technology based era and world of knowledge, educational research helps to provide policies, facilities and environments needed to apply inventions and discoveries of science the benefit of the society. Thus it is the social responsibility of the educational research to provide findings and policies for the betterment, upliftment and welfare of the society at large. Applying the bad apple theory, most scientists are highly ethical. But a few researchers who are morally corrupt, economically desperate, or psychologically disturbed commit misconduct. To minimise such acts of misconduct, some guidelines are framed which deal with authenticity of the research work and protection of participants. Deviations from these ethical codes of conduct in research as a result of ignorance or a failure to reflect critically on problematic traditions cause deviations from the social responsibility aspects of educational research. Hence it is the foremost duty of educational institutions, which provide certifications to people to conduct researches, to sensitise towards ethical issues.
References


Homo sapiens, through millions of years of civilization have experienced drastic changes, not only at physical, but also at emotional level. All other species in the history of evolution have been forced to adjust or to leave, but not humans. Over an extended gradual series of changes, the species of human beings began to grow and mature with intelligence and emerged as the zenith in the hierarchal pyramid of civilization and intellect. Conflict has always been an inseparable part of human society. Conflict is a condition of contradiction or incompatibility among any two or more individuals or situations. Homo sapiens with their stoked aptitude, flare for learning, experimenting, innovation and forcing situations to become their slave have mastered the art of solving conflicts through generations. Juxtapositions are a constant companion of humans, both at outer and inner realms but along with all the technical and mechanical advancements, the emotional advancement of humans has made them rule over all other species in this ecosystem. This advancement is the contribution of millions of years of experience of our forefathers and is passed through generations unconsciously. Conflict can have many faces, but our ability to tackle it has become better and better, thanks to our forefathers.

Ability to manage conflict is in fact one of the most important social skills that an individual can possess. In psychological terms, conflict management is the skilful art of dealing with conflict which is unique to every individual. An individual may use different strategies to deal with conflict which we call the conflict management styles. While dealing in a conflicting situation, an individual might try to satisfy his own viewpoint without listening to anybody else; might mellow down and give up; or further might tread a middle path to satisfy himself and the other. The conflict management style that he chooses depends upon him as an individual.

Although many conflict management styles have been proposed by psychologists
from time to time, still the two major categories for classification of conflict management styles are cooperativeness and assertiveness. For the purpose of present study, five conflict management styles given by Thomas and Kilmann (2007), i.e. competing, collaborating, compromising, avoiding and accommodating have been taken into consideration.

In this study, the investigator studied the conflict management styles of humanities undergraduates. The study was also aimed to find whether there are differences in male and female undergraduates as regards their conflict management styles. This line of research is important since the results of study showed that male and female undergraduates differ on the basis of conflict management styles.

**Statement of the Problem**

“Gender Differences in Conflict Management Styles of Undergraduates.”

**Objective of the Study**

The major objective of the study was to compare the conflict management styles of male and female undergraduates.
Hypothesis

The hypothesis formulated to test the objective was:

There exist significant differences in the conflict management styles of male and female undergraduates.

Delimitations of the Study

The present study was delimited to:

1. The undergraduate students of Govt. degree colleges only.
2. The undergraduate students studying in Govt. degree colleges of Chandigarh only.
3. A restricted sample of 954 from the 3rd year humanities undergraduate students only.

Design of the Study

The present study was a descriptive survey, which was conducted on the 3rd year humanities undergraduates from the Govt. colleges of Chandigarh. The present study was essentially a descriptive research because it involved the exploration of phenomena in their natural settings, to describe some type of comparison or contrast and attempted to discover relationships between existing non-manipulated variables. The researcher did not have direct control over the variable used in the study, i.e. conflict management styles. The manifestation of the variables had already occurred. Inferences were made without intervention of the variable.

Sample

The initial sample comprised of 1000 students which included 500 male and 500 female undergraduates, i.e. 250 undergraduates from each college. Each college had 6 to 9 sections in the third year humanities stream. Five sections were selected randomly from each college. Each section had approximately 60 to 85 students. After selecting the sections, 50 undergraduates were selected randomly from each section. After responses of the undergraduates on the Thomas-Kilmann Conflict mode instrument; the test booklets were collected by the investigator. The test booklets were assessed for incomplete, missing or invalid responses. After
eliminating the respondents whose responses were incomplete or invalid, the final sample comprised of 954 undergraduates, out of which 471 were male and 483 female undergraduates.

**Tool Used**

In the present study, the following tool was used for data collection:


**Results and Conclusions**

**Results**

**Descriptive Analysis**

The conflict management style comprises of five different styles; competing, collaborating, compromising, avoiding and accommodating. The conflict management style-wise distribution of undergraduates has been given in Table 1. The pictorial form of Table 1 has been given in Figure 1.

*Table 1: Conflict management style-wise distribution of male and female undergraduates*

<table>
<thead>
<tr>
<th>Conflict Management Style</th>
<th>No. of male undergraduates</th>
<th>Percentage of male undergraduates</th>
<th>No. of female undergraduates</th>
<th>Percentage of female undergraduates</th>
<th>Total sample</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competing</td>
<td>131</td>
<td>27.8%</td>
<td>46</td>
<td>9.5%</td>
<td>177</td>
<td>18.6%</td>
</tr>
<tr>
<td>Collaborating</td>
<td>68</td>
<td>14.5%</td>
<td>106</td>
<td>21.9%</td>
<td>174</td>
<td>18.2%</td>
</tr>
<tr>
<td>Compromising</td>
<td>32</td>
<td>6.8%</td>
<td>32</td>
<td>6.6%</td>
<td>64</td>
<td>6.8%</td>
</tr>
<tr>
<td>Avoiding</td>
<td>48</td>
<td>10.2%</td>
<td>28</td>
<td>5.8%</td>
<td>76</td>
<td>7.9%</td>
</tr>
<tr>
<td>Accommodating</td>
<td>192</td>
<td>40.8%</td>
<td>271</td>
<td>56.1%</td>
<td>463</td>
<td>48.5%</td>
</tr>
<tr>
<td>Total</td>
<td>471</td>
<td>100%</td>
<td>483</td>
<td>100%</td>
<td>954</td>
<td>100%</td>
</tr>
</tbody>
</table>
Table 1 shows conflict management-wise distribution of undergraduate students. The total sample of undergraduates of the present study was 954, comprising of 471 male undergraduates and 483 female undergraduates. Out of 471 male undergraduates, the number of male undergraduates using the competing, collaborating, compromising, avoiding and accommodating conflict management styles was 131, 68, 32, 48 and 192 respectively and their corresponding percentages were 27.8, 14.5, 6.8, 10.2 and 40.8. The percentage of male undergraduates using the competing, collaborating, compromising, avoiding and accommodating conflict management styles were 13.7, 7.1, 3.4, 5.0 and 20.1 respectively of the total sample. Out of 483 female undergraduates, the number of female undergraduates using the competing, collaborating, compromising, avoiding and accommodating conflict management styles was 46, 106, 32, 28 and 271 respectively, which comprised of 9.5, 21.9, 6.6, 5.8 and 56.1 percent of the female undergraduates and 4.8, 11.1, 3.4, 2.9 and 28.4 percent of the total sample. As regards the total sample of 954, the number of undergraduates using the competing, collaborating, compromising, avoiding and accommodating conflict management styles was 177, 174, 64, 76 and 463 respectively which respectively amounted to 18.6, 18.2, 6.7, 7.9 and 48.5 percent of the undergraduates.

From the entries made in Table 1, it can be concluded that the most preferred
conflict management style for the undergraduates is accommodating, which is the most preferred style for the male as well as the female undergraduates. Compromising CMS is the least preferred style for the undergraduates. The least preferred style for male undergraduates is compromising, while that for female undergraduates is avoiding CMS.

Differential Analysis

Results

The hypothesis formulated has been tested with the help of Table 2. The pictorial form of Table 2 has been given in Figure 2.

Table 2: Mean differentials in conflict management styles of male and female undergraduates

<table>
<thead>
<tr>
<th>Conflict Management Styles</th>
<th>M₁ (Male) (N=471)</th>
<th>M₂ (Female) (N=483)</th>
<th>SD₁</th>
<th>SD₂</th>
<th>t-value (df=952)</th>
<th>p value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competing</td>
<td>5.153</td>
<td>4.133</td>
<td>2.171</td>
<td>2.035</td>
<td>7.492</td>
<td>.000</td>
<td>0.01</td>
</tr>
<tr>
<td>Collaborating</td>
<td>6.423</td>
<td>7.267</td>
<td>1.999</td>
<td>1.789</td>
<td>6.880</td>
<td>.000</td>
<td>0.01</td>
</tr>
<tr>
<td>Compromising</td>
<td>6.601</td>
<td>6.681</td>
<td>1.804</td>
<td>1.874</td>
<td>0.674</td>
<td>.500</td>
<td>NS</td>
</tr>
<tr>
<td>Avoiding</td>
<td>5.136</td>
<td>4.224</td>
<td>2.111</td>
<td>2.141</td>
<td>6.625</td>
<td>.000</td>
<td>0.01</td>
</tr>
<tr>
<td>Accommodating</td>
<td>6.688</td>
<td>7.696</td>
<td>1.996</td>
<td>2.160</td>
<td>7.479</td>
<td>.000</td>
<td>0.01</td>
</tr>
</tbody>
</table>
Table 2 represents mean differentials in conflict management styles of male and female undergraduates. The entries made in Table 6.1.1 show that the mean scores of male undergraduates in the competing, collaborating, compromising, avoiding and accommodating styles of conflict management are 5.153, 6.423, 6.601, 5.136 and 6.688 respectively and their respective standard deviations of scores are 2.171, 1.999, 1.804, 2.111 and 1.996. The mean scores of female undergraduates in competing, collaborating, compromising, avoiding and accommodating styles of conflict management are 4.133, 7.276, 6.681, 4.224 and 7.696 respectively and their respective standard deviation of scores are 2.035, 1.789, 1.874, 2.141 and 2.160. The mean differentials between the mean scores of male and female undergraduates in the various conflict management styles, i.e. competing, collaborating, avoiding and accommodating have been found out to be 7.492, 6.880, 6.625 and 7.479 respectively, which are all significant at 0.01 level of significance. However, the calculated t-value between the mean scores of male and female undergraduates in the compromising conflict management style is 0.674, which is statistically insignificant.

**Discussion of Results**

Results entered in Table 2 regarding the differences in the conflict management styles of male and female undergraduates indicate that there are significant differences in the mean scores of male and female undergraduates in competing (t=7.492), collaborating (t=6.880), avoiding (t=6.625), and accommodating (t=7.479) conflict
management styles. Further, the difference in the mean scores of male and female undergraduates in the compromising style of conflict management ($t=0.674$) is not significant. In the competing style of conflict management, the mean score of male undergraduates is higher than the mean score of female undergraduates which indicates that the male undergraduates use the competing conflict management style more often than the female undergraduates. This implies that males are more assertive but uncooperative as compared to females. When competing, the male undergraduates pursue their own concerns at the other people’s expense using whatever power seems appropriate to win their position as compared to the female undergraduates.

The results given in this table further show that the mean score of female undergraduates in the collaborating conflict management style is higher than the mean score for male undergraduates, which means that female undergraduates tend to be more assertive as well as cooperative as compared to their male counterparts. This implies that the females attempt to work with the other person to find a solution that fully satisfies the concerns of both. When dealing with an interpersonal problem, the females tend to explore a disagreement to learn from each other’s insights more than their male counterparts.

The results entered in this table reveal that the mean score of male undergraduates in the avoiding conflict management style is greater than that of female undergraduates. It implies that in a conflicting situation, the male undergraduates tend to more diplomatically side-step an issue, or postpone it until a better time or simply withdraw from a threatening situation as compared to the female undergraduates.

Table 2 also shows significant t-value between the mean scores in accommodating conflict management style of male and female undergraduates. The mean score of female undergraduates is higher than the mean score of male undergraduates. It means that in a conflicting situation, the females neglect their own concerns to satisfy the concerns of the other person more than their male counterparts.

In addition, the t-value between the compromising conflict management style of male and female undergraduates is insignificant, which means that while dealing with a conflicting situation, both males and females are equally assertive as well as cooperative. While using the compromising conflict management style, male
and female undergraduates equally address an issue more directly than avoiding but don’t explore it in as much depth as collaborating. This could be attributed to the gender equality amongst the literate masses in today’s world. Both males and females are well aware of their rights and are not insistent to compromise in a conflicting situation.

On the basis of discussion of results, it can be concluded that the male undergraduates tend to be more competing than the female undergraduates. These results are in line with the findings of Baxter and Shepard (1978), Berryman-Fink and Brunner (1985), Coffindaffer, Kavookjian, Scott and Bhanegaonkar (2006), Gayle and others (1991), Rosenthal and Hautaluoma (1988), Rubin and Brown (1975), and Thomas, Thomas and Schaubhut (2008) who have found out that men and women differ in their choice of preferred conflict management style and that the females are less competing than men.

The female undergraduates are reportedly more collaborating than the male undergraduates. These results are in line with the findings of Rahim (1983b) who has reported that women are more collaborating than men. However, these results are contradictory to the findings of Chanin and Schneer (1984), who have found men to be more collaborating than women and Gayle and others (1991) who have reported that no gender differences exist in the use of conflict management style.

Further, the male undergraduates tend to be more avoiding than the female undergraduates. These results are in line with the findings of Brewer, Mitchell and Weber (2002) who have reported that masculine individuals use the avoiding style more than the androgynous individuals. These results are contradictory to the findings of Monroe, DiSalvo, Lewis and Borzi (1991) who have reported that females use avoidance conflict management style more than males.

The female undergraduates are reportedly more accommodating than their male counterparts. These results are in line with the findings of Rosenthal and Hautaluoma (1988) who have reported that women are more accommodating than men. On the other hand, the findings of Rahim (1983b) who found men to be more accommodating than women are in contradiction to the findings of the present study.

Further, there are insignificant gender differences in the use of compromising conflict management style. These results do not support the findings of Berryman-
Fink and Brunner (1985), Coffindaffer, Kavookjian, Scott and Bhanegaonkar (2006), Gayle and others (1991), Rosenthal and Hautaluoma (1988) who have reported that females are more likely to use compromising conflict management style as compared to men.

There are significant differences in the mean scores of competing, collaborating, avoiding and accommodating conflict management styles of male and female undergraduates. These results are in support of the findings of Collins (2001), Cynthia and Claire (1985), Marion (1995), Powell (1988) and Shweta and Jain (2010) who have found significant differences between males and females in the use of conflict management style. However, the findings of Copley (2008), Korabik, Baril and Watson (1993) and Shockley-Zalabak (1981) do not support the present results as they have reported no gender differences in the use of preferred conflict management style.

Hence, the hypothesis namely, “There exist significant differences in the conflict management styles of male and female undergraduates” stands accepted to a great extent.

**Educational Implications**

On the basis of results and conclusions of the present research, many educational implications can be drawn.

Managing conflict effectively is the ability to position an unpopular intention in a way that creates little or no hostility while preserving the opposition’s sense of dignity. Manifestation of conflict management styles is gender-specific. The results of the present piece of research indicate that gender has a considerable effect on the conflict management styles of undergraduates. The results can be useful towards preparing the anecdotal records of the undergraduates. They can also be helpful in understanding the psyche of the undergraduates, who are in constant turmoil with themselves and the outer world in today’s arena. There is a dire need for teachers and educators to know the conflict management styles of the students to handle them effectively.

The results would be beneficial for the undergraduates themselves, especially as they are on the verge of starting their job, and understanding their conflict management style would help them to attain congenial organizational climate in
their work settings.

Keeping this in consideration, implementation of programmes for the undergraduates can be done to alter their conflict management styles to suit their needs. Varied training seminars, workshops and modules for the undergraduates can be developed by the educators to achieve the same which will help them in effective decision making. In today’s lop-sided acquisitive world, this will finally help in the fabrication of better individuals, better citizens of the society.

Along with the students, the study may also provide help to academic staff to arrange lectures on different conflict management styles to provide orientation to the educators. The present study would provide a research base for dealing with undergraduates who use different conflict management style, taking into consideration the interplay of various other factors which affect the conflict management styles. In addition, it would facilitate the parents, teachers, councilors and other professional to understand the wards in a better manner. Numerous instructional techniques can be designed in the colleges to help the undergraduates to best realize their potential and derive the best output from their capabilities. This finally would culminate in the establishment of well adjusted, satisfied and contented individuals in the society.

**Recommendations for Future Research Work**

1. Study can be carried out to find predictors of conflict management styles.

2. Research can be carried out to find the effectiveness of intervention programmes on appropriate use for conflict management styles.

3. The present study was done on a limited sample of 954 undergraduate students. A similar study can be conducted on a larger sample to find the consistency of results.

4. The study included only the third year students. Similar study can be replicated for first year, second year, post graduate students and University students.

5. The study included only the humanities students. A more comprehensive study including the students from other streams can be replicated. A comparative study can be worked out on the students of different streams.
6. The same study can be replicated using other scales for the measurement of conflict management styles.

7. The present study can be carried out for the students from rural colleges and comparisons can be drawn between the urban and rural area students.

8. The present study can be carried out for students from professional colleges as well as working individuals.

Bibliography


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Abstract

Materialism is the only form of Distraction from True Bliss - Douglas Horton

In the current era, human behaviour is constantly changing from non-materialistic approach to materialistic approach. Materialistic approach is excessively concerned with physical comforts or the consequences of wealth and material possessions, rather than with spiritual, intellectual or cultural values. The generation of today is geared up by materialism towards the path of making more and more money. A person with a materialistic mind set overspends to extreme ends. The act of overspending not only affects the downfall of one’s well-being but also of the economy. People are compelled to work harder to afford indulgences beyond their reach. The desire of wealth and possessions further increase the crime rates for thefts, kidnapping and murdering. The purpose of this paper is to understand the term ‘materialism’ explained by various authors in different forms, its association with various constructs i.e. happiness, gratitude, personality traits, life satisfaction, well-being etc. and its impact on human behaviour. To accomplish the above objective, the present paper analyzed the literature on materialism and its positive and negative impact on human behavior and society and presented it in the form of Bibliographic analysis. Such a comprehensive bibliographic analysis of materialism could be beneficial to various interested parties, namely researchers, educators, managers, and policymakers.
Keywords: Materialism, Society, Impact, Bibliographic, Personality

Introduction

Materialism in simple words can be defined as the concern for physical comfort or material wealth excluding the spiritual and intellectual pursuits. The generation of today is geared up by materialism towards the path of making more and more money. A person with a materialistic mind set overspends to extreme ends. The act of overspending not only affects the downfall of one’s well-being but also of the economy. People are compelled to work harder to afford indulgences beyond their reach. The desire of wealth and possessions increase the crime rates for thefts, kidnapping and murdering. The purpose of this paper is to understand the term ‘materialism’ explained by various authors in different forms, its association with various constructs i.e. happiness, gratitude, personality traits, life satisfaction, well-being etc. and its impact on human behavior. To accomplish the above objective, the current paper analyzed the literature on materialism and its positive and negative impacts on human behavior and society and presented it in the form of Bibliographic analysis. Such a comprehensive bibliographic analysis of materialism and its impact on society could be beneficial to various interested parties, namely researchers, educators, managers, and policymakers.

In the current era, human behavior is constantly changing from non-materialistic approach to materialistic approach. Materialistic approach is excessively concerned with physical comforts or the consequences of wealth and material possessions, rather than with spiritual, intellectual or cultural values. There has long been a correlation observed between materialism, a lack of empathy and engagement with others, and unhappiness. Human beings are considered as body-mind encapsulated egos with only materialistic desires and motivation. This kind of creature is modelled as ‘Homo economicus in economics and business. Homo economicus represents an individual being which seeks to maximize his or her self-interest. He or she is interested only in material utility defined in terms of money. For example, a large number of studies published in the journal Motivation and Emotion showed that as people become more materialistic, their wellbeing (good relationships, autonomy, sense of purpose and the rest) diminishes. As they become less materialistic, it rises. Another paper, published in Psychological Science, found that people in a controlled experiment who were repeatedly exposed to images of luxury goods, to messages that cast them as consumers
rather than citizens and to words associated with materialism (such as buy, status, asset and expensive), experienced immediate but temporary increases in material aspirations, anxiety and depression. They also became more competitive and more selfish, had a reduced sense of social responsibility and were less inclined to join in demanding social activities. The researchers point out that, as we are repeatedly bombarded with such images through advertisements, and constantly described by the media as consumers, these temporary effects could be triggered more or less continuously. Another paper, published in the Journal of Consumer Research, studied 2,500 people for six years. It found a two-way relationship between materialism and loneliness: materialism fosters social isolation; isolation fosters materialism. People who are cut off from others attach themselves to possessions. This attachment in turn cut down our social relationships. Materialism forces us into comparison with the possessions of others. This is the dreadful mistake we are making: allowing ourselves to believe that having more money, more stuff enhances our wellbeing and social relationships. The purpose of this paper is to understand the term ‘materialism’ explained by various authors in different forms, its association with various constructs i.e. happiness, gratitude, personality traits, life satisfaction, well-being etc. and its impact on human behavior. To accomplish the above objective, the current paper analyzed the literature on materialism and its positive and negative impacts on human behavior and society and presented it in the form of Bibliographic analysis. Such a comprehensive bibliographic analysis of materialism and its impact on society could be beneficial to various interested parties, namely researchers, educators, managers, and policymakers.

Research Methodology

The purpose of this review is to conceptualize the term materialism explained by various author, its association with various constructs and its impact on society as a whole. To start with, research papers related to materialism and its impact on society were searched from the databases of various publishers, i.e. Wiley, Taylor & Francis, Elsevier, Emerald and Blackwell for conducting significant literature reviews. After the screening of research papers at initial stage, ten papers were selected for bibliographic analysis concerned to the similar problem taken up by the previous researchers. ‘Citation of the paper’ was also considered while choosing a research paper for bibliographic analysis.
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<tr>
<th>Sr. No.</th>
<th>Author's/Year</th>
<th>Objectives</th>
<th>Findings</th>
<th>Limitations/Future Research</th>
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<tr>
<td>1</td>
<td>Shrum et al. (2013)</td>
<td>This paper is a serious attempt to expand the conceptualization of Materialism. The above article has discussed three major issues in detail: functions of materialistic goal pursuit, the processes by which these functions are developed and implemented, and their potential consequences.</td>
<td>The author concluded that materialism is the function of fulfilment of self-identity motives. The various self-identity motives are: self-esteem, continuity, distinctiveness, belonging, efficacy and meaning. Also provided the definition and examples to satisfy those motives via more vs. Less materialistic means.</td>
<td>Expanded view of materialism has the potential to facilitate future research on the antecedents, underlying processes and consequences of materialistic goals pursuit. Such research may better delineate how materialism impacts well-being and may even un-cover aspects of materialism that may have some benefit to well-being.</td>
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<td>2</td>
<td>Hultman et al. (2015)</td>
<td>Hultman et al. investigated the key antecedents of the intention to engage in ecotourism and to pay premium prices for the experience. The authors developed a conceptual model incorporated environmental beliefs, attitudes toward ecotourism, behavioural indications, and willingness to pay premium (WTPP), in combination with materialism and general tourism motivation. Samples of Swedish and Taiwanese tourists have been taken for the survey.</td>
<td>Findings of the above research revealed that attitudes and environmental beliefs connect positively with intention and Willingness to pay premium; however, materialistic values exert a negative effect on WTPP for ecotourism across both samples and on pro-environmental beliefs for the Swedish sample. Materialistic values do not influence ecotourism intention in either sample, and they even positively relate to ecotourism attitudes in the Taiwanese sample.</td>
<td>Although the study has used multiple contexts and incorporated longitudinal aspects, the nature of the constructs and data did not allow for a pooled sample or strict comparative analysis. This result might limit the generalizability of the findings. So the future studies could incorporate additional consumer behavior components while using this model.</td>
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<td>Tsang et al. (2014)</td>
<td>In this paper, Authors have thrown light on why those high in materialism are less happy than those low in materialism, and tried to suggest possibilities for interventions to increase life satisfaction. Tsang et al. found the role of gratitude and need satisfaction in the relationship between materialism and life satisfaction.</td>
<td>Authors suggested that gratitude and need satisfaction played important mediating roles for the negative relationship between materialism and life satisfaction, mediating 50% of the link between materialism and life satisfaction. So, it can be concluded from the results that materialism is negatively associated with well-being and in-fact anything that increases materialism would likely be related to a decrease in gratitude.</td>
<td>The present study is limited by use of a college sample (females) which could have limited generalizability. Areas for future research include searching for additional mediators of materialism and life satisfaction. It can be investigated that whether particular needs such as relatedness are affected by materialism and gratitude and whether decreases in specific needs affect life satisfaction differently. Moreover, authors need to find to the causal relationship between materialism and gratitude with certainty and in opposite direction as well.</td>
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|   | Watson (2013) | With studies 1, 2 and 3, the high neuroticism groups had significantly higher materialism scores compared to the low neuroticism groups. In the case of studies 1 and 3, low agreeableness groups had higher materialism scores compared to the high agreeableness groups. The one exception was study number 2 with a close, but non-significant difference, \( p = .059 \), for high versus low agreeableness.

With both the MVS and the BMS, the highest levels of materialism were with the high neuroticism–low agreeableness combination (group 3) and the lowest level of materialism was with (group 2) high agreeableness–low neuroticism. The other two groups (1) high neuroticism–high agreeableness and (4) low agreeableness–low neuroticism had medium levels of materialism.

SO it can be concluded from the results that materialism is associated with both neuroticism and agreeableness. Both of these traits are associated with materialistic tendencies, but agreeableness does not moderate the relationship between neuroticism and materialism, as agreeableness is a related factor in itself. | The study is limited by the use because data is collected from University students only. While students are a suitable population for the study of materialism, but it cannot be assumed that these findings apply to a more heterogeneous sample. Therefore, additional research with a community sample and with other methods such as experimental designs or experience sampling would strengthen the results of this research. |

| 4 | Watson investigated the personality traits of materialists in relation to profile of agreeableness and neuroticism. In this study, three large samples of Canadian University students were tested comparing four neuroticism–agreeableness profile combination: High materialists had the profile of low agreeableness–high neuroticism; Medium materialists had the profiles of either high agreeableness–high neuroticism or low agreeableness–low neuroticism; Low materialists were high agreeableness–low neuroticism.

For measuring materialism, both the Belk Materialism Scale (BMS), Material Values Scale (MVS) is used in this study.

Study 1: 382 students, average age was 20.61 years, and \( n = 257 \) were female.

Study 2: 630 students, average age of 21.85 years, 421 were female, 40 participants did not indicate their gender.

Study 3: \( n = 429 \) students with a mean age of 20.85 years, \( n = 283 \) were female. | |
<p>| 5 | <strong>Efrat &amp; Shoham (2013)</strong> | This study proposed the theory of planned behavior and materialism, based on its three constructs (envy, possessiveness, and non-generosity), as antecedents of aggressive driving. A total of 220 participants (55.3% male, 44.7% female) from twelve large industrial organizations in northern Israel participated in this study. | Results of the above study indicated that while planned behavior is a good predictor of the intention to behave aggressively, it has no impact on the tendency to behave aggressively. On contrary to this, materialism was found to be a significant indicator of aggressive driving behavior. As per author’s view. Several previous studies have also linked aggression with materialism or one of its constructs, envy, possessiveness, and non-generosity. The study has been suffered from two major issues. First, the sample size was small and Second, the sample might be seen as somewhat bias because it included respondents with higher incomes and education than the Israeli population at large. |
| 6 | <strong>Lopez &amp; Villardefrancos (2013)</strong> | Lopez &amp; Villardefrancos examined whether materialism is a mediating variable in the relationship between the Five-Factor Model (neuroticism, extraversion, openness, agreeableness, and conscientiousness) and excessive buying. The survey has been conducted based upon convenience sampling technique and research was comprised of 667 women from Galicia (Spain). | It has been confirmed from the results that materialism mediates the effect of all the Big-Five personality traits in excessive buying, with conscientiousness being the only exception as it has shown the negative influence on excessive buying. The various analyses (regression and path analysis using AMOS) has shown that the influences of agreeableness, openness, and extraversion personality traits on excessive buying are completely mediated by materialism. Specifically, the results indicated that low levels in openness and/or agreeableness and high levels in extraversion increase materialism values endorsement which in turn predicts a higher risk of excessive buying. Other than using large sample and inclusion of other antecedent variables, this studies provided various scopes for future research in this area: Firstly, authors suggested that the facets of subjective well-being (e.g., happiness, self-actualization, depression) could be a good starting point for acquiring more detailed picture of relationships between materialism and addictive buying. Secondly, designing and testing causal models that include other alternative conceptualizations of materialism (e.g., Belk’s perspective as a personality trait and Kasser &amp; Ryan’s approach as goal or aspiration) would also be a welcome breakthrough in this field of knowledge. |
|   | Christopher et al. (2009) | Christopher et al. conducted a survey to explore the possibility that feelings of control mediate the established inverse relationship between materialism and well-being. The authors hypothesized that materialistic people will experience lower levels of psychological well-being in part because they tend to experience weaker feelings of control than do less materialistic people. To test the hypothesis, a sample of 440 adult Americans complete in all aspects has been chosen in this study. | The authors concluded that people who hold strong materialistic values, experience lower levels of well-being in the form of higher levels of negative affect. Furthermore, materialistic people’s tendency to hold an external locus of control significantly attenuated this established relationship. Interestingly, materialism was related only to negative affect, not to positive affect. Further results suggest that to alleviate the negative affect of materialistic experience, it might be worthwhile to train materialistic people to have a less external locus of control. | The generalizability of this study is limited to Americans with internet access. In addition, authors assessed well-being using only one component of its conceptualization (i.e., affective well-being). Likewise, it is possible that this affective dimension of well-being might in fact mediate the relationship between materialism and other aspects of well-being. Moreover, the above research established links between materialism, locus of control, and affective well-being, setting the table for future research to dissect the temporal relations between these variables. |
| 8     | Strizhakova &amp; Coulter (2013) | In this paper, the authors examined the “green” side of materialism in emerging BRIC markets and developed (U.S. and Australian) markets. They tried to accessed upon cultural identity theory, global consumer culture theory, and sustainability research to discuss the relationship between materialism and “environmentally friendly tendencies,” defined to include not only market-based tendencies (i.e., concern about environmentally friendly products, willingness to pay more for environmentally friendly products, and perceptions about global brands as environmentally friendly) but also the more general likelihood to engage in environmentally friendly behaviors. The sample included 1872 adults from the emerging BRIC market (Brazil = 319, Russia = 328, India = 305, China = 295) and the developed market (USA = 302, Australia = 323) who participated in online data collection. | It has been observed from the above study that materialism has a strong positive effects for environmentally friendly products, the willingness to pay extra for environmentally friendly products, perceptions of global companies as environmentally friendly, and the likelihood to engage in environmentally friendly tendencies for the global segment across all three conceptualizations of global cultural identity. The results further indicated non-significant relationships between materialism and environmentally friendly tendencies for the local and alienated segments and for those with weak global connectedness in both the developed and emerging BRIC markets. | Future study can be conducted on investigation of whether globally oriented materialistic consumers truly care about the environment or are simply responding to a fashionable “green” trend is of interest. Additional investigations related to this cohort, constructs related to materialism, such as conspicuous consumption, and the importance of status and fashion trends in identity creation would be of interest. |</p>
<table>
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<th>Flouri (1999)</th>
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<td>The study by Flouri (1999) proposed an integrated model of the development of materialism in the specific context of family socialization and impact of parental values and parental styles. The sample size of the study was: Two hundred forty-six college students (112 male, 133 female) aged 16–23 years old who lived in a medium-sized Southwestern town in the UK. Furthermore, students were asked to take one or two FREEPOST envelope(s) that contained also anonymous questionnaires for their parent(s) just to match the teenagers’ responses to those of their parent(s).</td>
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<td>This study showed that materialism in adolescents is positively related to peer influence which in turn is related to both “dispositional” factors, such as neuroticism and economic socialization at home. On the other hand, it is also related to decreased religiosity, which in turn is associated with both feelings of economic insecurity and neuroticism. There is also a direct relation between materialism and lack of parental guidance in money management, which enhance the feelings of economic insecurity and feelings of being unloved by the family. Finally, materialism is negatively associated with satisfying interpersonal relationships and feelings of self-worth.</td>
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<td>The results of this study potentially could have been stronger if other factors that contribute to the development of values, such as schools, peer groups, churches, and the media, had been examined. Amount of television viewing the content of TV viewing was left unexamined which may play a significant role in development of materialism.</td>
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This study examined the moderating impact of materialism on the relationship between discretionary activities (creative activities, experiential purchases, and material purchases) and happiness. The authors hypothesized that materialistic persons would associate more happiness with discretionary material purchases and that persons lower in materialism would associate other types of discretionary activity (experiential purchases and creative activity) with happiness.

203 participants (110 females) undergraduates from a large university and a large community located in the southwest of the United States were taken in this study. The experimenter informed the participants that the purpose of the study was to explore his/her reaction to a recent life event.

The findings provided partial Consistent with our predictions that person high in materialism reported more happiness associated with material purchases than creative activity and this difference reversed with persons low in materialism. On contrary to this, individual differences in materialism did not affect the amount of happiness produced by experiential purchases, i.e., both high and low materialists associated experiential purchases with high levels of happiness. A similar pattern of results was obtained when self-relevance was examined. The findings supported the prediction that materialistic persons would associate material purchases with more happiness and rate them as more self-relevant than creative activities.

A major limitation of this study is its reliance on retrospective self-reports of happiness that are vulnerable to a variety of memory distortions. The addition of a more contemporaneous measure of happiness would enrich our understanding of the relationship between discretionary activity and happiness.

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**Conclusion**

Materialism is a complex, multi-faceted phenomenon (Larsen et al., 1999), extensively studied by scholars from various fields, such as advertising, anthropology, consumer behaviour and marketing, economics, psychology, political science, and social sciences (Mannion and Caolan, 1995). From the above discussion, materialism has been viewed from socio-cultural as well as individual
perspective. Also, it has been noted that materialism has different connotations: negative (e.g., Micken and Roberts, 1999), positive (e.g., Scott, 2009). The various eminent authors i.e. Christopher et al. 2009, Tsang et al. (2014) and Segev et al. (2015) found that materialism has a negative impact on wellbeing of consumers and society as a whole.

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Abstract

This paper aims to highlight the impact of present day innovations on human health, society, psychology, nature, environment, flora, fauna, etc. and to address problems like environmental degradation, pollution, ozone depletion, etc. It has its relevance because of environmental degradation to an alarming scale such step will help in further controlling the deterioration of natural environment. Aim is to design for “green not greed”. Shelters should be nature friendly, food should be organic, clothes should be environment friendly climatic appropriate shelter, food, clothes lead to nature friendly innovations.

Different Methodologies throw light on Different impacts of innovations from literature had been high lighted to bring about general awareness among masses for bring about behavioral change. All the innovations must go through zero tolerance environmental impact assessment by multiple agencies. Examples from nature: learn from termites how they build homes, learn from ants to dig, learn from nature to recycle waste. Humans are students of nature they are just trying to find out the theories behind wonders of nature like gravitational force, magnetic force, ecosystems, symbiosis, day and night cycle, seasons cycle, high-low tide. Researchers had reported that human health is benefitted by interaction with nature like plants in offices, walk in parks, playing in nature, forest walk, children playing in nature parks, students ability to perform in classes improved by interaction with nature, attention deficit disorder was cured with the help of nature involvement. Exercise in presence of nature had been reported to improve performance and wellbeing, thus nature innovation ideas can be borrowed and their application in day to day life for public health can be incorporated.
Design innovation should be in sync with nature, minimal changes should be made to alter for setting up projects. Our impact on this earth should be minimal and support to keep nature intact maximal.

It has been found that many of the innovations had lead to deterioration of environment in the name of development/ advancement/betterment. Whatever we are creating is there in nature already so why spoil nature’s balance and pollute it in the name of development. Villages were self sufficient in terms of resources but we made cities and polluted them in the name of industrialization/development.

Following Conclusions and Recommendations were put forth Environment friendly innovations to be accepted, patented, advertised, produced, aim should be Green instead of Greed.

**Keywords:** Organic, Vernacular, Green

**Introduction**

“Humans will be truly sustainable when our cities are functionally indistinguishable from our forests” Janine Benyus

This can be achieved by inspirations from nature since:

- Nature runs on sun light
- Nature uses only the energy it needs
- Nature fits form to function
- Nature recycles everything
- Nature curbs excesses
- Nature guards survival
- Nature promotes symbiosis

**Aim:** To highlight the impact of present day innovations on human health, society, psychology, nature, environment, flora, fauna, etc. and to address problems like environmental degradation, pollution, ozone depletion etc.

**Relevance:** Because of environmental degradation to an alarming scale such
step will help in further controlling the deterioration of natural environment.

**Methodology:** Different impacts of innovations from literature had been highlighted to bring about general awareness among masses for bringing about behavioral change. All the innovations must go through zero tolerance environmental impact assessment by multiple agencies.

Some examples of applications from inspiration from nature: (refer annexure 1)

Termite Air conditioning

**Ventilation Inspired by Termites**

Perhaps the most famous example of biomimicry when it comes to heating and cooling is ventilation inspired by termites. A few years ago, scientists observed that big termite mounds in Africa stay remarkably cool inside, even in blistering heat. The insects accomplish that feat with a clever system of air pockets, which drive natural ventilation through convection.

Architect Mick Pearce and engineering firm Arup borrowed that idea to build Eastgate Centre, a large office and shopping center in Zimbabwe that is cooled with the outside air. The system uses only 10 percent as much energy as conventional air-conditioning to drive fans that keep the air circulating. (Howard, 2013)

**Countercurrent Heat Exchange Inspired by Birds**

Ducks and penguins that live in cold climates have an innovative adaptation that helps them survive the elements. The veins and arteries in their feet have a countercurrent configuration, which ends up warming the blood that is closer to the animal’s core and cooling the blood at the edges of its extremities. By keeping cooler blood closer to the snow and ice, such birds lose less body heat overall.

Shell tube heat exchangers in industrial-scale heating and cooling systems use a similar type of flow pattern to maximize efficiency, as Clayton Grow, author of *The Writing Engineer* blog, has pointed out (Howard, 2013).
Moisture Absorption Inspired by Ticks

Grow notes that a system called a liquid desiccant dehumidifier also seems to follow a form of biomimicry. Such a system is designed to pull humidity from the air inside a building (traditional air-conditioning also reduces humidity). It uses a liquid salt solution—something similar to what the brown dog tick secretes to absorb water from the air (Howard, 2013).

Bullet train Nose Design

Water problem solution for desert

Stenocara gracilipes, also known as the fogstand beetle, is a species of beetle that is native to the Namib Desert of southern Africa. This is one of the most arid areas of the world, receiving only 1.4 centimetres (0.55 in) of rain per year. The beetle is able to survive by collecting water on its bumpy back surface from early morning fogs.

To drink water, the S. gracilipes stands on a small ridge of sand using its long, spindly legs. Facing into the breeze, with its body angled at 45°, the beetle catches fog droplets on its hardened wings. Its head faces upwind, and its stiff, bumpy outer wings are spread against the damp breeze. Minute water droplets (15-20 µm in diameter) from the fog gather on its wings; there the droplets stick to hydrophilic (water-loving) bumps, which are surrounded by waxy, hydrophobic troughs. Droplets flatten as they make contact with the hydrophilic surfaces, preventing them from being blown by wind and providing a surface for other droplets to attach. Accumulation continues until the combined droplet weight overcomes the water’s electrostatic attraction to the bumps as well as any opposing force of the wind; in a 30 km/h breeze, such a droplet would stick to the wing until it grows to roughly 5 mm in diameter; at that point it will roll down the beetle’s back to its mouthparts. (Parker & Lawrence, 2001).

A US start-up has turned to nature to help bring water to arid areas by drawing moisture from the air. NBD Nano aims to mimic the way a beetle survives in an African desert to create a self-filling water bottle capable of storing up to three litres every hour. The insect harvests moisture from the air by first getting it to condense on its back and then storing the water. Using nature as an inspiration for technology,
known as biomimicry, is increasingly widespread.

A number of companies have recently been researching nature-inspired solutions to real-life problems.

Electronics firm Qualcomm studied light reflection on butterfly wings to design its Mirasol e-reader display.

And Canadian company Whalepower mimics humpback whale flippers in its wind turbines and fans to reduce drag.

San Diego Zoo in California recently opened a Centre for Bioinspiration.

And there is a Biomimicry Institute in Montana, US, where consultants work with companies, helping them to apply nature-inspired solutions to particular problems. (bbc.com, 2012).

Another self-filling water collector that mimics the beetle is the Dew Bank Bottle.

Designed by Kitae Pak, the stainless steel, dome-shaped invention resembles the beetle’s body. The bottle should be placed outside in the evening allowing the steel body to cool; the morning dew generated by the warming air will condense on to the cool surface of the bottle and the collected water is channeled down into the chamber where it is stored for drinking purpose.

Inspired by the beetle’s fog harvesting qualities the designers Arturo Vittori and Andrea Vogler created Warka Water. Warka Water is a 9 m tall bamboo tower that holds a plastic mesh net, during the night hours the tower collects water form the humid air and stores it in a reservoir at the bottom.

According to the designers; the carefully shaped tower produces water for less cost. Its lightweight structure is designed with parametric computing, but can be built with local skills and materials by the village inhabitants. (morawatersystem.com, 2014).

Bacteria free surface for hospitals

Clean surfaces
The core idea is that nature, imaginative by necessity, has already solved many of the problems we are grappling with. Animals, plants, and microbes are the consummate engineers. They have found what works, what is appropriate, and most important, what lasts here on Earth. This is the real news of biomimicry: After 3.8 billion years of research and development, failures are fossils, and what surrounds us is the secret to survival.

We are learning, for instance, how to harness energy like a leaf, grow food like a prairie, build ceramics like an abalone, self-medicate like a chimp, create color like a peacock, compute like a cell, and run a business like a hickory forest.

**Findings:** It has been found that many of the innovations had lead to deterioration of environment in the name of development/ advancement/betterment. But what the answer to these problems leads us to get inspirations from nature about design solutions.

Biomimicry (from bios, meaning life, and mimesis, meaning to imitate) is a new discipline that studies nature’s best ideas and then imitates these designs and processes to solve human problems. Studying a leaf to invent a better solar cell is an example. I think of it as “innovation inspired by nature.”

The conscious emulation of life’s genius is a survival strategy for the human race, a path to a sustainable future. The more our world functions like the natural world, the more likely we are to endure on this home that is ours, but not ours alone.

If we want to consciously emulate nature’s genius, we need to look at nature differently. In biomimicry, we look at nature as model, measure, and mentor.

**Nature as model:** Biomimicry is a new science that studies nature’s models and then emulates these forms, process, systems, and strategies to solve human problems – sustainably. The Biomimicry Guild and its collaborators have developed a practical design tool, called the Biomimicry Design Spiral, for using nature as model.

Nature as measure: Biomimicry uses an ecological standard to judge the sustainability of our innovations. After 3.8 billion years of evolution, nature has learned what works and what lasts. Nature as measure is captured in Life’s Principles and is embedded in the evaluate step of the Biomimicry Design Spiral.
Nature as mentor: Biomimicry is a new way of viewing and valuing nature. It introduces an era based not on what we can extract from the natural world, but what we can learn from it.

**Conclusions and Recommendations:** Environment friendly innovations to be accepted, patented, advertised, produced, aim should be Green instead of Greed. And the answer to this is Biomimicry.

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M-LIBRARIES: SMART ACCESS AND MANAGEMENT OF INFORMATION

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Introduction

According to global research firm eMarketer “India will exceed 200 million smartphone users, topping the US as the world’s second largest smartphone market by 2016 due to increasing penetration of affordable smart mobile devices in the country.”. As Information and Communication Technology has changed the ‘traditional library’ to ‘modern library’ to give people a new way to access the valuable information. Mobile technology is being adopted by the people with incredible rate and it has quickly become a predominant mode of access for information needs (Lilia Murray, 2010). This technology may revolutionise the library access and use of the available resources in library. In 21st century, a growing number of people using internet facilities through Mobile/Smartphone’s, tablets, Personal Computers etc. Students are the majority of the users of Smartphone’s in our country. So this chance can be used by the libraries to start mobile technology in libraries to enhance the scope of library facilities in one fingertip in the developing country like India. The main aim is to identify trends in the way people currently interact with information using their mobile phones, and then extrapolate ways that libraries could support those mobile information needs (Mills, 2009). Uses of mobile technology also enhance the quality of library service in academic libraries as research and development is concerned.

1. Application of Mobile Phone

The Information and Communication Technology are inseparable part of the new world and has impressive impact on the human live throughout the world.
Wireless technology and mobile phones are inextricable mix of technology. Mobile phone serves more than a communication tools. Smart mobile phone also serves like services of Digital Camera, Audio Recorder, Video Recorder, Multimedia messaging, E-mail client, web client, Gaming platform, Document viewer, Computer adjunct, Music player, TV, Bar code reader etc. In very near future mobile will be a powerful tool and becomes a dominant device for CCC (communication, computing and content). It makes a considerable impact on health service, banking, tourism, education and day to day life activities. Now it the time of M-learning which means library services through Smartphone’s or mobile device and it can enable the ‘Library on hand’ trend stronger.

2. University Libraries and Mobile Users

The 2009 “Horizon Report” called mobile technologies “an opportunity for higher education to reach its constituents in new and compelling ways.” As academic or university libraries are the hub of research and development activities, mobile libraries may play an important role in fulfilling the aims and objective of the institution. There are 46 central university, 343 state universities, 125 deemed universities, and 232 state universities [http://www.ugc.ac.in/](http://www.ugc.ac.in/) in India. Total 746 universities are there in India and all the university provide library and information services to its users. According to a survey conducted by software services firm TCS (Tata Consultancy Service) about 70 percent students today own smart phones with a larger user base in smaller cities than the metropolitan cities. It also shows that ‘the increasing comfort levels with digital technology, social networking, smart phones and gaming, which helps us create conditions to unleash their creativity and innovativeness,” TCS. Now a days we can constantly see the students use E-mail, Facebook, Twitter and other social networking sites through constant web connection feature. Many universities in developed countries started giving services through mobile like Ryerson University, a Canadian university with 25,000 student base, started to offer a mobile library service in 2008.

3. Services through M-Libraries

3.1. Database searching: Academic libraries provide different types of database browsing services through library websites. Library users only have to enter the search terms and get the result. Advanced search options are also there for database browsing. This service can be accessed through small screen mobile device. Services like OPAC (Online Public Access Catalogue), original document
search etc. OCLC’s WorldCat mobile application allows users to search for the desired books through a web application on Smartphone or mobile phone.

3.2. SMS notification Services: Short messaging Service has great importance in day-to-day life of human being. It is used in delivering instant short messages among people. Its impartibility can be used for providing latest news, events and notices via Smartphone or tablet. SMS notification may also be automatically generate with integrated library management software. The library users can get notified instantly with alerts such as alerts for new books to the notice of users for suggestion, informing availability of reserved documents, let know about overdue books, fines, renew books ,reminders to return library material, , library circulars, loan request, e-journals subscribed, change in timings, information about important events etc. Such kind of service provided by Murray State University Libraries. [http://lib.murraystate.edu/](http://lib.murraystate.edu/).

3.3. Text Reference Services: Libraries using AltaRama’s Reference by SMS Service receive a unique mobile phone number that can be advertised as the text number for that library. Rather than going to a mobile phone, texts can be automatically sent to an email address specified by the library. Murray L (2010). Normally library receives lots of query that requires brief responses and reference librarian can provide instant answer and add link to it. Ask a Librarian is another kind of Text reference services in this advanced technological era.

3.4. QR Code in Smartphone: A QR code is a matrix type of bar code which can be readable by Smartphone and mobile phone with camera. In United States of America academic institution and libraries implemented this technology. Any alphanumeric text often used to store urls, text, etc., known as ‘mobile tagging’. Library exhibits include a QR code link to video, websites, survey etc. It also can be linked with library stacks, magazines/journals etc.

3.5. Mobile Audio and Video Tours: Earlier users have to take an appointment with librarian to take the patron serves as a guide. Obviously that was a time taking process, but now in libraries provides mobile audio and video tours for the patrons or non patrons of the library. A user may be living in a remote location or distance geographical location can be not present in on site workshop but they get access the library tours on their mobile phone. Mobile audio and Library video
tours is produced quickly and is less expensive. It also saves the time of staff from explaining the facilities provided by the library. These audio and video can be downloaded through mobile devices. It is very helpful for the non-user of a particular library.

3.6. E-books and Mobile Reading: A huge number of academic libraries are offering Kindles and other eBook readers for circulation, often with popular fiction titles loaded on the mobile devices (Lippincott, 2010). According to Murray L (2010) “University of Nebraska-Omaha is experimenting with instant ILL delivery through eBook reader devices and public libraries have popular fiction eBooks available for checkout through their OPACs; these are often set to expire from the reading device after a certain amount of time”. Numbers of publishers are delivering e-books accessed via mobile device. This publisher provides access to various databases and e-resources such as e-Books, dissertations, e- Journals. Audio books, streaming music, films, images and article databases which can be get accessed via mobile device. Audio books may be downloading from library website for differently able peoples. E-books may also be available through commercial eBook readers such as the nook, the Kindle and the Sony Reader.

3.7. My Mobile: It is a set of personal library and information services that can be customised the reflection of personal interest and research needs. This service may be traced in the Wageningen UR Library. [https://www.wageningenur.nl/en/show/What-is-My-Library.htm](https://www.wageningenur.nl/en/show/What-is-My-Library.htm) In this system user can add databases, add favourite articles or books, add journal articles alerts, save the search query, post a comment, off campus access and document ordering etc.

4. Mobile Devices Used in a Library

- Smartphones
- Cell Phones
- Tablets
- PDA (Personal Digital Assistant)
- Ipod and MP3 players.

Library websites which are designed for viewing on Smartphone/Mobile devices.

American University Library, [https://guidebook.com/g/aulibrary/](https://guidebook.com/g/aulibrary/)
5. M-Learning in India

UNESCO holds the Second UNESCO Mobile Learning Week (MLW) from 18 to 22 February 2013 at its Headquarters in Paris, France. Evolution in education and training at a distance can be characterized as a move from d-learning to e-learning to m-learning. According to recent studies Indian mobile phone users on an average spends 3 hours and 18 minutes every day with the Smartphone. With the proliferation of mobile technology in everarea of life it is very essential and need of the hour to change to upgrade the current library service delivery system with the help of mobile technology. India has the second largest mobile phone users base ,i.e, 900 millions mobile phone users. With the decreasing the cost of smartphone, this figure is also increasing. Government of India promoting e-learning and one of the great examples is “National Program on Technology Enhanced Learning (NPTEL)” by the ministry of Human Resources Development. Both e-learning and M-learning are very closely related and the main difference is the device use to view the content. After successful 3G net subscriber it is transform to 4G “India is expected to have 9 crore 4G subscribers and 18 crore 4G smartphones by 2018 and Bharti Airtel, Vodafone and Idea Cellular will gain from this growth if Reliance Jio Infocomm delays the launch of its 4G services”, says a report by Bank of America Merrill Lynch. Major mobile manufacturer such as Nokia, Sony, Samsung and Motorola has linked up with Bharti Airtel, Reliance, Vodafone and other service provider for mobile content. Mobile apps has a great impact on the users of smartphone in india. Many institutions websites give their service through mobile app, it may be in different platform such as Android, ios, Windows etc. Many more m-learning application are available in these store. Most of the companies extended their services even a standard GRE (Grade Record Examination ) papers are also
available. Much of the computer facilities are available in smartphone like Windows Power Point Presentation, Word, Excel etc.

Hewlett Packard has awarded ‘technology for teaching’ grant to the Jadavpur University in Kolkata to develop teaching in the university. HP also granted for HP Tablet PCs, optical drivers and wireless networking cards, printers as well as funding for project fellow to work on the project. This initiative helps the university to develop m-learning centers through which M.Tech. Course content can be accessed in hand held devices. Jadavpur University already has a digital Library and content management development system using m-learning authoring tools. Anna University, Chennai was also selected for global award in India. An IT training institute in India. Aptech Learning Service, has also developed m-learning platform to serve the educational needs of institutions.

6. Challenges in using Mobile Technology in Libraries

There are also some hindrances in use of the mobile technology in libraries
especially in the developing countries like India. Such as

- Connectivity and battery life.
- Screen size of the mobile device.
- Slow speed of bandwidth.
- Files supported by specific mobile device.
- Limited memory.
- Copyright issues
- Risk of sudden data loss.
- Demographic boundary etc.
- Unaware about functions of mobile etc.

7. Review of Related Literature

Use of mobile libraries in developed countries is very impressive but developing country like India. Various studies have been conducted to study about the mobile technology in libraries in India and abroad.

Kumar, A (2014) conducted a study on success of mobile technology in Jawaharlal Nehru University and found that 95 per cent of students have a smart phone and clearly reveals that the majority of students accept that mobile technology has become very important – even more important than food, at least in the short term.

Nowlan,G (2013) in his study “Going mobile: creating a mobile presence for your library” and found that ‘95.4 percent of students that responded to the survey had a smartphone and 75 percent of them used their mobile phone to access the web’.

Trivedi and Suthar (2011):

[…] discuss opportunities to increase the boundaries of anytime and anywhere learning for students and present the proposed M-Library system design of the Smt. Hansa Mehta Library (HML), the University Library of M S University of Baroda, Gujarat and Services.

According to David Chamberlain et al.(2015)
[...] conduct a survey of NHS health libraries in the United Kingdom in order to summarise how mobile technologies are being used, how they are promoted and how they are delivered, highlighting good practice and solutions to issues.

**Malathy and Kantha (2014)** indicates that library service should be flexible and open so that users approach to and information needs can be met with the new technology like mobile technology. They also suggest about to adopt new mobile technology services by the library as early as possible.

**Noa Aharony (2014)**

[...] made a comment that ‘because of the exponential increase in the use of mobile applications, it is intriguing to examine the interaction between students’ attitudes towards m-learning and personal variables’.

**Holt and Walker (2011)** present an overview of how Butler Community College and Wichita State University libraries provide an access point for mobile technology research and it also knows that how to make a basic mobile site.

### 8. Objectives of the Study

The objectives of the present study were:

- To find out the use of Smartphone for library services.
- To discover the training or assistance required or not to browse library web pages through mobile device.
- To identify the services that could be delivered through Smartphone.
- To determine the hindrances faced by the M-libraries in providing information services through mobile phone.
- To identify the types of services which, can serve through smartphones.

### 9. Methodology

To accomplish all the objectives, a well designed questionnaire survey of students was conducted, from March 2016 to May 2016, students were contacted individually and given a questionnaire, together with a rational for the study and a request for cooperation. 200 students were randomly selected; and out of which 175 responded. This survey was conducted in Aligarh Muslim University (AMU),
AMU occupies a unique position amongst universities and institutions of higher learning in the country. It was established in 1920, and evolved out of the Mohammedan Anglo-Oriental College (MAO College) which was set up in 1877 by the great visionary and social reformer, Sir Syed Ahmad khan. (http://www.amu.ac.in/fact.jsp). Spread over 467.6 hectares in the city of Aligarh, Uttar Pradesh, Aligarh Muslim University offers more than 300 courses in the traditional and modern branches of education. (http://www.amu.ac.in/fact.jsp). It has more than 28,000, students, 1,342 teachers and some 5,610 non-teaching staff on its rolls. The university now has 12 faculties comprising 98 teaching departments, 3 academies and 15 centres and institution.(http://www.amu.ac.in/fact.jsp).

10. Data Analysis and Interpretation

Table 10.1. Response rate of respondents. (Gender wise and total)

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Distributed/Received</th>
<th>Total no. Of Questionnaires</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Distributed</td>
<td>200(100)</td>
<td>100(100)</td>
<td>100(100)</td>
</tr>
<tr>
<td>2.</td>
<td>Received</td>
<td>175(87.05)</td>
<td>90(90)</td>
<td>85(85)</td>
</tr>
</tbody>
</table>

Note: Figures shown in parentheses indicate percentages.

Table 10.1 indicates that 200 questionnaires were distributed and 175 were received. Response rate of total students, i.e., 90% and 85% responses from male and female respectively.

Table 10.2. Have and Have not smart/tablet/mobile phones.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Have/Have Not</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Yes</td>
<td>82(91.11)</td>
<td>76(89.41)</td>
<td>158(90.28)</td>
</tr>
<tr>
<td>2.</td>
<td>No</td>
<td>08(8.89)</td>
<td>09(10.59)</td>
<td>17(9.72)</td>
</tr>
</tbody>
</table>

Note: Figures shown in parentheses indicate percentages.

It is evident from Table 10.2. that majority of students have mobile/tablet/smart
phones. About 158(90.28) students are having smart phones and 17(9.72) do not poses any smart phones. Nearly 91.11 percentage of male and 89.41 percentage of female respondents use smart or mobile phones in day today life. Very few, i.e, 8.89 percentage of male and 10.59 percentage of female students does not use smart phones. It shows that 90.28 percent of students using smart phones.

Table 10.3. Level of use of tablet/smart/mobile phone.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Level of use of smart phones</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Very Important to be connected</td>
<td>53(64.63)</td>
<td>60(78.94)</td>
<td>113(71.51)</td>
</tr>
<tr>
<td>2.</td>
<td>Handicap without it.</td>
<td>31(37.80)</td>
<td>35(46.05)</td>
<td>66(41.77)</td>
</tr>
<tr>
<td>3.</td>
<td>Cannot imagine life without mobile</td>
<td>20(20.00)</td>
<td>25(32.89)</td>
<td>45(28.48)</td>
</tr>
<tr>
<td>4.</td>
<td>Keep smart phone always close</td>
<td>52(63.41)</td>
<td>59(77.63)</td>
<td>111(70.25)</td>
</tr>
<tr>
<td>5.</td>
<td>Dont Know</td>
<td>02(2.43)</td>
<td>03(3.94)</td>
<td>05(3.16)</td>
</tr>
<tr>
<td>6.</td>
<td>Any other</td>
<td>03(3.65)</td>
<td>03(3.94)</td>
<td>06(3.79)</td>
</tr>
</tbody>
</table>

Note: Figures shown in parentheses indicate percentages

It is very interesting to see in Table 10.3 that 41.77 percent of respondents are feeling handicap without a smart phone. A high 71.51 percent of students think that smart phones are very important for connection with others. Around 77.63 percent of female respondents feels always keep smart phone close to themselves. And 70.25 percent of respondents use to keep their smartphones close to themselves. This study also reveals that about 28.48 percent of students accept that they cannot imagine life without a smart phone. Only 3.16 percent of respondents express that they don’t know the level of use.
Table 10.4. Access to websites or web pages through smart phone.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Access to Website/Web page</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Yes</td>
<td>72(87.80)</td>
<td>60(78.94)</td>
<td>132(83.54)</td>
</tr>
<tr>
<td>2.</td>
<td>No</td>
<td>10(12.20)</td>
<td>16(21.06)</td>
<td>26(16.46)</td>
</tr>
</tbody>
</table>

Note: Figures shown in parentheses indicate percentages

Table 10.4. indicates the opinion expressed by the students who access library web sites or web pages through smart phone. Around 83.54 percent of respondents access library web sites or web pages through smartphones. Near about 78.94 percent of female students use smart phones to access library website. On the contrary 87.80 percent of male respondents do the same. It is also clearly reveals that only 16.46 percent of respondents do not use smart phone for access to the library website or web pages.

Table 10.5. Need for Training or Assistance to search the information

<table>
<thead>
<tr>
<th>S.No</th>
<th>Need for Training</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Yes</td>
<td>80(97.56)</td>
<td>73(96.05)</td>
<td>153(96.83)</td>
</tr>
<tr>
<td>2.</td>
<td>No</td>
<td>02(2.43)</td>
<td>03(3.95)</td>
<td>05(3.17)</td>
</tr>
</tbody>
</table>

Note: Figures shown in parentheses indicate percentages

Table 10.5. depicts that majority of students are welcome the need for training or assistance to search for the information through smartphone. Around 96.83 percent of respondents are agreeing to have training or assistance and only 3.17 percent of students does not need any kind of training.

Table 10.6. Have Problems of library connects you through smart phone

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Problems to Connect</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Yes</td>
<td>14(17.07)</td>
<td>19(25.00)</td>
<td>33(20.88)</td>
</tr>
<tr>
<td>2.</td>
<td>No</td>
<td>68(82.92)</td>
<td>57(75.00)</td>
<td>125(79.12)</td>
</tr>
</tbody>
</table>
Note: Figures shown in parentheses indicate percentages

Table 10.6. It is evident that majority of respondents agreed that they do not have any problems in connecting library websites through their smartphone. 79.12 percent of total students are very satisfied with the library connection. On the other hand 20.88 percent of respondents are facing problems in connecting library.

Table 10.7. Reasons for Not wanting to connect

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Reasons for Not wanting to connect</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Don’t want to get disturbed</td>
<td>3(21.42)</td>
<td>7(36.84)</td>
<td>10(30.30)</td>
</tr>
<tr>
<td>2.</td>
<td>Don’t like to connects except known</td>
<td>7(50.00)</td>
<td>5(26.31)</td>
<td>12(36.36)</td>
</tr>
<tr>
<td>3.</td>
<td>Don’t want to use smartphone for different purposes</td>
<td>2(14.28)</td>
<td>6(31.57)</td>
<td>8(24.24)</td>
</tr>
<tr>
<td>4.</td>
<td>Any other</td>
<td>2(14.28)</td>
<td>1(5.26)</td>
<td>3(9.10)</td>
</tr>
</tbody>
</table>

Note: Figures shown in parentheses indicate percentages

Table 10.7. It reveals that the reasons of students for not wanting to connect with library. About 36.36 and 30.30 percent of students think they do not like to connect except known one and do not want to get disturb respectively. About 24.24 percent of students do not want to use their smartphones to connect library websites.

Table 10.8. Using library catalogue through smart /mobile phone

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Use of Library Catalog</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Yes</td>
<td>65(79.26)</td>
<td>60(78.94)</td>
<td>125(79.11)</td>
</tr>
<tr>
<td>2.</td>
<td>No</td>
<td>17(20.74)</td>
<td>16(21.04)</td>
<td>33(20.89)</td>
</tr>
</tbody>
</table>

Note: Figures shown in parentheses indicate percentages

Table 10.8 indicates that 79.11 percent of students are using library catalogue through smartphone, whereas 20.89 percent of students do not use library catalogue through Smartphone.
Table 10.9. Preferences of information service / services through mobile or smartphone

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Preferences of Services</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>E-articles, E-books.</td>
<td>70(85.36)</td>
<td>62(81.57)</td>
<td>132(83.54)</td>
</tr>
<tr>
<td>2</td>
<td>Using Library Catalogue</td>
<td>52(63.42)</td>
<td>31(40.78)</td>
<td>83(52.53)</td>
</tr>
<tr>
<td>3</td>
<td>Book reservations</td>
<td>23(28.04)</td>
<td>32(68.42)</td>
<td>55(34.81)</td>
</tr>
<tr>
<td>4</td>
<td>Download e-journal articles and e-books</td>
<td>76(92.68)</td>
<td>52(68.42)</td>
<td>128(81.01)</td>
</tr>
<tr>
<td>5</td>
<td>Pay Fines</td>
<td>12(14.63)</td>
<td>06(07.89)</td>
<td>18(11.39)</td>
</tr>
<tr>
<td>6</td>
<td>Library news, programmes and events</td>
<td>10(12.19)</td>
<td>03(03.94)</td>
<td>13(8.22)</td>
</tr>
<tr>
<td>7</td>
<td>Reminders</td>
<td>09(10.97)</td>
<td>03(03.94)</td>
<td>12(7.59)</td>
</tr>
<tr>
<td>8</td>
<td>Feedback</td>
<td>15(18.29)</td>
<td>06(07.89)</td>
<td>21(13.29)</td>
</tr>
<tr>
<td>9</td>
<td>Any others</td>
<td>03(03.65)</td>
<td>02(02.63)</td>
<td>5(3.16)</td>
</tr>
</tbody>
</table>

Note: Figures shown in parentheses indicate percentages

Table 10.9. It has been observed that the preferences of information or services accessed by the respondents using Smartphone. It is very interesting that about 81.01 percent of students want to have the service to download e-journal articles and e-books. About 83.54 percent of respondents are in the process of browsing for e-books and e-articles. It is also very evident that (63.42) percent of male students browsing library catalogue in comparison of (40.78) percent for female students. 34.81 percent of respondents are in favour of book reservation services.

Table 10.10. Location of use of Library Services

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Location of Use</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>On Campus</td>
<td>62(75.60)</td>
<td>62(81.57)</td>
<td>124(78.48)</td>
</tr>
<tr>
<td>2</td>
<td>Within Library</td>
<td>29(35.36)</td>
<td>52(68.42)</td>
<td>81(51.26)</td>
</tr>
<tr>
<td>3</td>
<td>At Residence</td>
<td>39(47.56)</td>
<td>31(40.78)</td>
<td>70(44.30)</td>
</tr>
<tr>
<td>4</td>
<td>While Travelling</td>
<td>29(35.36)</td>
<td>39(51.31)</td>
<td>68(43.03)</td>
</tr>
<tr>
<td>5</td>
<td>Any other</td>
<td>04(4.87 )</td>
<td>24(31.57)</td>
<td>28(17.72)</td>
</tr>
</tbody>
</table>

Note: Figures shown in parentheses indicate percentages

Table 10.10 reveals that the user use Smartphone from various places or locations. About 78.48 percent of students are in favour of use of mobile in campus, 51.26
percent and 44.03 percent of students use it within library and while they are at residence respectively. About 43.03 percent of respondents use it while they travel.

Table 10.11. Have Multimedia Messaging Services (MMS) through smart phone

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>MMS Services</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Yes</td>
<td>68(82.92)</td>
<td>70(92.10)</td>
<td>138(87.34)</td>
</tr>
<tr>
<td>2.</td>
<td>No</td>
<td>14(17.08)</td>
<td>06(07.90)</td>
<td>20(12.66)</td>
</tr>
</tbody>
</table>

Note: Figures shown in parentheses indicate percentages

Table 10.11. reveals clearly that majority of students, i.e., 87.34 percent wanted to have MMS services from library using smart phone and only 12.66 percent of students differ not to have MMS services.

Table 10.12. Receive Text Reference Service through smart phone

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Text Reference Service</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Yes</td>
<td>68(82.92)</td>
<td>51(67.10)</td>
<td>119(75.31)</td>
</tr>
<tr>
<td>2.</td>
<td>No</td>
<td>14(17.08)</td>
<td>25(32.90)</td>
<td>39(24.69)</td>
</tr>
</tbody>
</table>

Note: Figures shown in parentheses indicate percentages

Table 10.12 depicts that 75.31 percent of total students are in favour of receiving text reference services, whereas 24.69 percent of students do not agree to have this service.

Conclusion

Mobile technology has made communication and information access very convenient and timely to users from the comfort of their own homes and offices, and from wherever they are while on the move with their cellular phone units or PDAs. M-Libraries have the capacity to make any library a true 21st-century information hub. The Internet and networking of libraries and information centres have facilitated information access 24x7 at one’s fingertips. Libraries in various countries are successfully providing library and information services through mobile phones. Libraries today are covering most of the technologies given by mobile industry like PDA’s, Blackberry, iPod, Cell-phones, and mobilising library contents in a portable form suitable for small screen and delivering short services in the form
of contents/ information with device’s multiple searching features. Now a day’s most popular mobile devices have user forums where libraries can keep current with new mobile developments. The use of smart phones have outnumbered the personal computers in India and now the applications and attitude need to be developed among the users towards the changing access pattern and information delivery mechanism. This study is only confined to Aligarh Muslim University campus, Aligarh, so that the result of research is limited to this environment. The considerable growth in the use of mobile phone among the students, it can be boon for the libraries in providing their services in a small screen on hand held environment. Access to the information is very important but it is the duty of the university administration and libraries to provide quality service to the students through mobile for quality research and development activities.

References


ROLE OF EDUCATION IN SUSTAINABLE DEVELOPMENT

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Abstract

This paper is concerned with the role of education in the sustainable development in the country. The central Govt. is trying to make necessary modification in the education system of the country regarding making it job oriented rather than job seeking. That is why to ensure the education for sustainable development. People around the world recognize that current economic development trends are not sustainable and that public awareness, education, and training are keys to moving society toward sustainability. In the paper the principles of sustainable development like Development today must not undermine the development and environmental needs of present and future generations, the full participation of women is essential to achieve sustainable development. The creativity, ideals and courage of youth and the knowledge of indigenous people are needed too. Nations should recognize and support the identity, culture and interests of indigenous people, Peace, development and environmental protection are interdependent and indivisible and Warfare is inherently destructive of sustainable development, and Nations shall respect international laws protecting the environment in times of armed conflict, and shall cooperate in their further establishment and role of education for attaining sustainable development are discussed in brief.

Keywords: Education, Sustainable Development

Education for Sustainable Development

Sustainability education (ES), Education for Sustainability (EfS), and Education for
Sustainable Development (ESD) are interchangeable terms describing the practice of teaching for sustainability. Education for Sustainable Development is the term most used internationally and by the United Nations (McKeown, R., 2002). Agenda 21 was the first international document that identified education as an essential tool for achieving sustainable development and highlighted areas of action for education not in India but all over the world.

Various approaches to Education for Sustainable Development encourage people to understand the complexities of, and synergies between, the issues threatening planetary sustainability and understand and assess their own values and those of the society in which they live in the context of sustainability. Education for Sustainable Development seeks to engage people in negotiating a sustainable future, making decisions and acting on them. While it is generally agreed on that sustainability education must be customized for individual learners (Huckle, J. and Sterling, S. R., 2006), according to Tilbury and Wortman (2004), the following skills are essential to Education for Sustainable Development:

- **Envisioning** – being able to imagine a better future. The premise is that if we know where we want to go, we will be better able to work out how to get there.
- **Critical thinking and reflection** – learning to question our current belief systems and to recognize the assumptions underlying our knowledge, perspective and opinions. Critical thinking skills help people learn to examine economic, environmental, social and cultural structures in the context of sustainable development.
- **Systemic thinking** – acknowledging complexities and looking for links and synergies when trying to find solutions to problems.
- **Building partnerships** – promoting dialogue and negotiation, learning to work together.
- **Participation in decision-making** – empowering people.

Education is an essential tool for achieving sustainability. People around the world recognize that current economic development trends are not sustainable and that public awareness, education, and training are keys to moving society toward sustainability. Beyond that, there is little agreement. People argue about
the meaning of sustainable development and whether or not it is attainable. They have different visions of what sustainable societies will look like and how they will function. It is curious to note that while we have difficulty envisioning a sustainable world, we have no difficulty identifying what is unsustainable in our societies. We can rapidly create a laundry list of problems - inefficient use of energy, lack of water conservation, increased pollution, abuses of human rights, overuse of personal transportation, consumerism, etc. But we should not chide ourselves because we lack a clear definition of sustainability. Indeed, many truly great concepts of the human world - among them democracy and justice - are hard to define and have multiple expressions in cultures around the world.

In the Toolkit, we use three terms synonymously and interchangeably: education for sustainable development (ESD), education for sustainability (EfS), and sustainability education (SE). We use ESD most often, because it is the terminology used frequently at the international level and within UN documents. Locally or nationally, the ESD effort may be named or described in many ways because of language and cultural differences. As with all work related to sustainable development, the name and the content must be locally relevant and culturally appropriate.

An important distinction is the difference between education about sustainable development and education for sustainable development. The first is an awareness lesson or theoretical discussion. The second is the use of education as a tool to achieve sustainability. In our opinion, more than a theoretical discussion is needed at this critical juncture in time. While some people argue that ‘for’ indicates indoctrination, we think ‘for’ indicates a purpose. All education serves a purpose or society would not invest in it. Driver education, for example, seeks to make our roads safer for travelers. Fire-safety education seeks to prevent fires and tragic loss of lives and property. ESD promises to make the world more livable for this and future generations. Of course, a few will abuse or distort ESD and turn it into indoctrination. This would be antithetical to the nature of ESD, which, in fact, calls for giving people knowledge and skills for lifelong learning to help them find new solutions to their environmental, economic, and social issues.

Sustainable Development: Sustainable development is a difficult concept to define; it is also continually evolving, which makes it doubly difficult to define. One of the original descriptions of sustainable development is credited to the Brundtland Commission: “Sustainable development is development that meets the needs of
the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987, p. 43). Sustainable development is generally thought to have three components: environment, society, and economy. The well-being of these three areas is intertwined, not separate. If you consider the three to be overlapping circles of the same size, the area of overlap in the center is human well-being. As the environment, society, and economy become more aligned, the area of overlap increases, and so does human well-being (esdtoolkit.org). For example, a healthy, prosperous society relies on a healthy environment to provide food and resources, safe drinking water, and clean air for its citizens. The sustainability paradigm rejects the contention that casualties in the environmental and social realms are inevitable and acceptable consequences of economic development.

Sustainable development is often divided to (1) ecological, (2) economical, (3) social, and (4) cultural sustainability. The different elements of sustainable development are in a close interaction, having an effect on each other. The ecological sustainability means that the ecosystem, the global system as a whole (climate etc.) and all local ecosystems, are protected. For instance, as long as there are species disappearing cause by human behavior and reckless usage of non-renewable natural resources, there isn’t sustainable development in the ecological sense.

In economical sustainable development the growth should be stable and balanced. We should not be in depth and consume only according to the sustainability of the ecological system. For instance, it is reasonable to ask is the climate change is a result of unsustainable economical development?

Social sustainability would mean that all people of the world would have basic living conditions: health, well-being, education, dignity and freedom to do sustainable choices. If you follow any world news you know that we are far from this.

Reaching cultural sustainability we are not doing much better than with the social sustainability. Cultural sustainable development would mean that we protect the cultural diversity of the world. All cultures should have a right to persist and develop. With the fact, that humankind is loosing language every two week we are far from a cultural sustainability.

Principles of Sustainable Development: Many governments and individuals have
pondered what sustainable development means beyond a simple one-sentence definition. The Rio Declaration on Environment and Development fleshes out the definition by listing 18 principles of sustainability.

- People are entitled to a healthy and productive life in harmony with nature.
- Development today must not undermine the development and environmental needs of present and future generations.
- Nations have the sovereign right to exploit their own resources, but without causing environmental damage beyond their boundaries and borders.
- Nations shall develop international laws to provide compensation for damage that activities under their control cause to areas beyond their borders.
- Nations shall use the precautionary approach to protect the environment. Where there are threats of serious or irreversible damage, scientific uncertainty shall not be used to postpone cost-effective measures to prevent environmental degradation.
- In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process, and cannot be considered in isolation from it. Eradicating poverty and reducing disparities in living standards in different parts of the world are essential to achieve sustainable development and meet the needs of the majority of people.
- Nations shall cooperate to conserve, protect and restore the health and integrity of the Earth’s ecosystem. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.
- Nations should reduce and eliminate unsustainable patterns of production and consumption, and promote appropriate demographic policies.
- Environmental issues are best handled with the participation of all
concerned citizens. Nations shall facilitate and encourage public awareness and participation by making environmental information widely available.

• Nations shall enact effective environmental laws, and develop national law regarding liability for the victims of pollution and other environmental damage. Where they have authority, nations shall assess the environmental impact of proposed activities that are likely to have a significant adverse impact.

• Nations should cooperate to promote an open international economic system that will lead to economic growth and sustainable development in all countries. Environmental policies should not be used as an unjustifiable means of restricting international trade.

• The polluter should, in principle, bear the cost of pollution.

• Nations shall warn one another of natural disasters or activities that may have harmful trans boundary impacts.

• Sustainable development requires better scientific understanding of the problems. Nations should share knowledge and innovative technologies to achieve the goal of sustainability.

• The full participation of women is essential to achieve sustainable development. The creativity, ideals and courage of youth and the knowledge of indigenous people are needed too. Nations should recognize and support the identity, culture and interests of indigenous people.

• Warfare is inherently destructive of sustainable development, and Nations shall respect international laws protecting the environment in times of armed conflict, and shall cooperate in their further establishment.

• Peace, development and environmental protection are interdependent and indivisible.

**Role of Education in Sustainable Development**

Educational system (schools, colleges and universities) should primarily contribute to social and cultural sustainability, and from that angle which provide skills and knowledge to solve the problems of ecological and economical challenges.
Understanding human behavior, social structures, culture and cultural differences is critical when we aim to reach sustainable development. Having solid knowledge on science, technology and economics is needed, too, but it is not enough.

Educational system should guarantee, that all the people of the world will have critical thinking skills and a set of basic skills and knowledge that will empower them to choose sustainable lifestyle. Education should provide people with ability to balance with the different aspects of sustainable development.

Paradoxically the real problem lays in the point when people move from absolute poverty to have more material resources. In absolute poverty people often have ecologically and culturally sustainable life. The unbalance is in the social and economical sustainability; unstable economical situation, no health, no well-being, no education, no dignity, nor freedom of choice.

When people get more material resources they also get more social good. Same time their effects on ecological and cultural sustainability often gets unbalanced. Suddenly the things that use to be good from the sustainable development point of view becomes problems: people start to have a greater impact on issues related to ecological and cultural sustainability: They start to consume more, ask for cheaper products, produce more waste and same time lose connection to their original cultural heritage.

To provide people with skills and knowledge that will help people to keep the balance in sustainable development is a task of the educational system. People should be “educated” enough to recognize how the achievements in social and economical development will effect on ecological and cultural development (flosse, blogging.fi). Thus, the author considers sustainability to be a paradigm for thinking about a future in which environmental, societal, and economic considerations are balanced in the pursuit of development and improved quality of life as showed in Figure 2.
Education for Sustainable Development allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future. Education for Sustainable Development means including key sustainable development issues into teaching and learning; for example, climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. It also requires participatory teaching and learning methods that motivate and empower learners to change their behaviour and take action for sustainable development. Education for Sustainable Development consequently promotes competencies like critical thinking, imagining future scenarios and making decisions in a collaborative way.

Education for Sustainable Development requires far-reaching changes in the way education is often practiced today. UNESCO is the lead agency for the UN Decade of Education for Sustainable Development (2005-2014) (unesco.org).

The ‘Rio Principles’ give us parameters for envisioning locally relevant and culturally appropriate sustainable development for our own nations, regions, and communities. These principles help us to grasp the abstract concept of sustainable development and begin to implement it.

**Conclusion**

There is a growing recognition that the issues of excellence and sustainable
development are inextricably linked. A school that is able to respond to the needs of all of its students is also a school that is best able to promote excellence. Schools must take into account the diversity of society in the country in order to enhance students’ achievement as per directions of right to education. The intent of an inclusive curriculum is to ensure that all students – regardless of gender, racial and ethno cultural background, social class, sexual orientation, or ability – develop confidence and are motivated to succeed. Such a curriculum equips all students with the knowledge, skills, and values needed to live and work in an increasingly diverse society which lays the foundation of sustainable development. In addition, it encourages them to appreciate diversity and to challenge discriminatory attitudes and behaviour. Mink, Pasty rightly says that the problem with our education system is not that parents do not have a choice, but, the problem is that inequities continue to exist. There is strong need to enforce the implementation of all the paradigms of right to education to ensure the sustainable development in India. But expansion by itself will not serve the purpose of dream India. Quantity without quality and sustainability has no significance. The main problem that persists in today’s milieu is degrading education system in India. On the one hand, children are not getting facilities of education in rural areas while on the other, the affluent section of the population is sending their children to private schools where money reciprocates passing marks and no attention is paid towards properly grooming the student. Thus, excellence can only be achieved by improving the education system on a regular basis. This will certainly help in reaching the sustainable development.

References


THE FOOD BOWL OF INDIA - PUNJAB, MUCH NEEDED REFORMS IN POLICIES

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Dr. Itika Sharma, Post Doctoral Fellow (UGC), Department of Political Science, Panjab University, Chandigarh

Keywords: Agriculture, Policy

Abstract

The endeavour of the present research work would be able to examine and assess the status of Public Policy in the Punjab state and elaborate the study on the strengths and weaknesses of the area of Public Policy.

After Norman Ernest Borlaug’s Green Revolution, Punjab’s agriculture has been reduced to a market for chemical corporations, which are now the seed corporations. Chemical agriculture is also very water intensive. It also reduces the capacity of the soil. It is unfortunate that Punjab has been unable to formulate an integrated policy on its economic development. The world agriculture is changing quickly with new rules of the game and with the WTO Agreement on agriculture.

Performance of agriculture particularly in case of wheat, coarse cereals, pulses and oilseeds has decelerated during the last decade, which is a cause of concern. Therefore, improving agricultural performance and sustaining it over longer term remains the key priority.6

Paddy upland rotation is an unavoidable cropping system for Asia to meet the

6 India’s Agrarian Crisis and Smallholder Producers’ Participation in New Farm Supply Chain Initiatives: A Case Study of Contract Farming, Vijay Paul Sharma, W.P.No. 2007-08-01, IIM Ahmedabad, August 2007.
increasing demand for food. However, conventional practices of growing rice and wheat not only deteriorate soil physical properties and decrease water and fertilizer use efficiencies but also cause a stagnation or even reduction in grain yields. Regardless of the cultivation or management measure used in paddy-upland rotation, the different responses of paddy and upland seasons and their interactions, the long-term effects, the particularity of regions, the differences of ecological conditions, economic and ecological benefits, operability and the potential of widely use should be considered.

Policy set the goal and the directions on the basis of which administration activities itself. Public Policy is the domain of the State and State as the main actor is responsible to frame policies to address to the various issues related to the Society and the State. Public Policy, in the developing countries like India, has remained in the background for the reasons like caste, religion and regions. Above all the lack of political will marred the process of policy making in the country and the states.

**Objective**

The state government deals with the state list and enacts policies on issues enshrined in the List II of the Constitution yet. The State governments have not been able to go all about the making of just and needed policies. The State of Punjab being boarder state and state known for its agricultural potentials has seen many upheavals. Thus, the present topic has all the reasons to evaluate the issue of Public Policy.

**Methodology**

The present study has assessed to the agriculture policy of Punjab state. For the purpose of the study both primary and secondary data has been study. Swaminathan Commission, Kalikar report and various agriculture policies of Government of Punjab will be used for data purpose.

**Future Scope/ Limitations**

Punjab which was a food deficit state became the ‘food basket’ of the country. Because of low production risk and assured marketing of wheat and rice, about 80 percent of the arable area has come under these crops. For a long period, this cropping system continued yielding a high growth in agricultural production and
farm incomes. The production potential of the available technology of these crops has almost been fully exploited. There is now near stagnation in growth, decline in real farm incomes and over exploitation of natural resources i.e soil and water. The very sustainability of the wheat-rice production system is under threat. Climate change and urbanisation are posing a new challenge for agricultural growth. Bathinda region has become cancer belt due to increase use of pesticides.

Since, the topic is related to policies study, so primary data availability is limited which can be considered as limitation of the study.

Introduction

The significance of agriculture in India arise also from the fact that the development in agriculture is an essential condition for the development of the national economy. Thus, any change in the agricultural sector – positive or negative- has a multiplier effect on the entire economy. The agricultural sector acts as a bulwark in maintaining food security and in the process, national security as well. To maintain the ecological balance, there is need for sustainable and balanced development of the agricultural and allied sectors. Recognising the crucial role played by this sector in enabling the widest dispersal of economic benefits, the Tenth Plan has emphasised that agricultural development is central to rapid economic development of the country. The central government’s role is in formulating policy and providing financial resources for agriculture to the states to hold water and needs more irrigation. It destroys soil fertility by destroying soil organisms which makes soil fertile. There are no earthworms, no mycorrhizal fungi that make humus. Punjab soil is degraded and dying.

Dr. Norman Ernest Borlaug was an American biologist, humanitarian and Nobel laureate who have been called “the father of the Green Revolution”. During the mid 20th century, Borlaug led the introduction of these high-yielding varieties combined with modern agricultural production techniques to Mexico, Pakistan and India. As a result, Mexico became a net exporter of wheat by 1963. Between 1965 and 1970, wheat yield nearly doubled in Pakistan and India, greatly improving the food security in those nations. These collective increases in yield have been labelled the Green Revolution, and Borlaug is often credited with saving over a billion people worldwide from starvation. He was awarded the Nobel Peace Prize in 1970 in recognition of his contributions to world peace through increasing food supply.
Green Revolution technologies have allowed the food supply of Asia to satisfy the demand of its rapidly growing population in the past decades; however, the pressure on soil and other resources has intensified. The cultivated area is continuously decreasing because of soil pollution, land abandonment, urbanization and other reasons. Meanwhile, the population demand for food continues to increase. Under such a situation, increasing cropping intensity from monoculture to double or triple cropping in a year is an efficient way to guarantee food security on the amount of agricultural land now available.

After Green Revolution cost of cultivation under high yielding varieties agriculture continued to increase while productivity. The rural debt in Punjab is estimated to be more than Rupees 35000 crores which has resulted in farm suicides. As per the latest survey conducted by Punjab Agriculture University, Ludhiana, about 5000 farmers and farm labourers have committed suicides during the last 10 years. The high debt burden on small and marginal farmers has destroyed many and they have had either to sell or mortgage their land. This has resulted in suicide by many farmers.

Punjab’s agriculture has been reduced to a market for chemical corporations, which are now the seed corporations. Chemical agriculture is also very water intensive. It also reduces the capacity of the soil. It is unfortunate that Punjab has been unable to formulate an integrated policy on its economic development. The world agriculture is changing quickly with new rules of the game and with the WTO Agreement on agriculture.

Performance of agriculture particularly in case of wheat, coarse cereals, pulses and oilseeds has decelerated during the last decade, which is a cause of concern. Therefore, improving agricultural performance and sustaining it over longer term remains the key priority.7

Paddy upland rotation is an unavoidable cropping system for Asia to meet the increasing demand for food. However, conventional practices of growing rice and wheat not only deteriorate soil physical properties and decrease water and fertilizer use efficiencies but also cause a stagnation or even reduction in grain

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7 India’s Agrarian Crisis and Smallholder Producers’ Participation in New Farm Supply Chain Initiatives: A Case Study of Contract Farming, Vijay Paul Sharma, W.P.No. 2007-08-01, IIM Ahmedabad, August 2007.
yields. Regardless of the cultivation or management measure used in paddy-upland rotation, the different responses of paddy and upland seasons and their interactions, the long-term effects, the particularity of regions, the differences of ecological conditions, economic and ecological benefits, operability and the potential of widely use should be considered.

**Action Plan for the State Governments**

State Government should try to implement property rights, enforce contractual obligations to foster competition, and the provision of public goods such as agricultural research, technology, information and infrastructure. State Agricultural Universities will play an important role in better quality seeds to farmers will have to be prioritize to reduce yields gaps. Research based agriculture production which focuses on state agricultural extension system that includes universities and krishi gyan/ vigyan kendras. Notify amendments in Agricultural Produce Market Committee Act must be introduced to allow variety of market tools including contract and cooperative farming.8

The Agriculture production in the state has reached a plateau. The soil health in the state has been deteriorating with the continuation of rice-wheat rotation by farmers due to assured profits rotation by farmers due to assured profits as compared to other crops. The higher yield realization per unit area is also responsible for reduction of nutrients in the soils. As irrigation facilities have been over used to increase agriculture production of the state mainly wheat and paddy, the ground water has decreased drastically since the last few decades.

Policy adviser and noted economist Sardara Singh Johal feels the 2017 assembly elections in Punjab are an opportunity for the political parties to come up with an integrated approach to deal with the three key problems of drugs, unemployment and farming crisis looming large over the state.

“As agriculture has become financially unviable, youth turning to drugs in Punjab villages. A way out of this vicious circle will be to encourage on location, off-farm employment, which allows families with small land holdings to take up an additional vocation to generate additional income. Youth today have no interest in small farm holdings and they don’t have resources to buy more land” said Johal, Chancellor

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of Central University of Punjab (CUP), Bathinda.

Emphasizing on diversification, he said stress should be on high-value crops. “Then money will flow to the farmer and he can improve farming. This could rid us of rural indebtedness too. Besides, the government should set up service centres from where people can rent machinery and equipment on so that farmers don’t need to make heavy investment by taking heavy loans”. Further, to channelize the energies of youth, he feels each village should have a play ground where they have a play ground where they can be involved with minimal investment. He said it was a matter of showing political will and vision and any party that translates such a plan on the ground will reap political dividends by creating a vote bank”.9

Wheat Rice Rotation Implications

The strategy for increasing agricultural production followed in Punjab was based on putting large cultivated areas under wheat and rice; use of high yielding seeds, water and fertilizers; and efforts to improve input-use efficiency for reducing the cost of production, particularly wheat and rice. Both the crops are water-intensive, thus leading to large-scale depletion of groundwater in many areas. Both crops are heavy consumers of macro and micro nutrients, thus degrading the soil. The wheat-rice rotation adversely affects physical characteristics of the soil as, due to puddling of paddy, an impervious layer is formed in the soil, which does not allow root penetration to deeper layers, thus restricting nutrient use. The wheat-rice rotation consumes heavy doses of fertilizers, pesticides and weedicides which create ecological problems of environmental pollution, fauna and flora imbalances and builds up residual toxicity in soil, water and air. The spread of monoculture of wheat and paddy has rendered these crops vulnerable to pest and weed attacks, thus making them more susceptible to pests and diseases.

The Challenges

The predominant rice-wheat system in Punjab, which provided good returns to the farmers till a few years back and contributed greatly towards food security of the country, has created a number of serious problems. The intensive land usage under these crops has resulted in rapid depletion of ground water mainly Central Punjab. Because of this farmers have to make increased investment in agriculture through replacement of shallow tubewells fitted with centrifugal pumps by deep tubewells

9 Solve drug issue, unemployment farm crisis, SS Johl, The Times of India, Chandigarh, 3 feb 2016
fitted with submersible pumps. The consumption of energy for pumping water from deeper layers for the same irrigated area is also increasing continuously; electricity being free, the financial burden on the state exchequer is also increasing.

The plateauing of yields of principal crops and increased cost of inputs such as fertilizers, pesticides etc and higher labour wages have led to increase in the cost of production and thereby, a squeeze in farmer’s income. Higher cropping intensity and monoculture of wheat and rice has led to depletion of both major micro nutrients, emergence of new insect pests, diseases and weeds. Evidently, diversification from mono cropping of wheat and rice to other crop rotations for conservation of both soil and water is essential.

One third of the farmers in the state cultivate about 8 percent land and operate on land holdings of less than five acres. Such holdings are economically unviable due to high fixed capital investment such as machinery and high price of market supplied inputs. The income from such holdings is very low and these farmers are unable to meet their essential demands, education, health and other needs of the family. With every new generation pressure on land increases and holdings are further fragmented. At the same time there are very few openings for such farmers to take up off-farm employment.

Since food security would continue to be the top agenda for the country and in view of the impending Food Security Bill, the annual requirement of grains for Central Pool is likely to increase. However, with the increase in food production in food deficit states of the country, the marketing of food grains produced in Punjab is likely to face serious challenge.

Currently large area grown under rice, with the prevalent production practice which is very intensive, is the main cause of depletion of ground water and causing problems of sustainability. For maintenance of water balance, the quantity of underground water pumped should be equal to the average annual recharge. According to estimates of Punjab Agricultural University, about 1.6 million hectares can be safely put under paddy as against the current area of about 2.8 million hectares. Evidently, 1.2 million hectares area under paddy needs to be diversified to other crops requiring less water. The issues blocking diversification have been economic returns from alternative crops; and adequate mechanisms to transfer the same to field. A significant investment is required in Research and Development (R&D) as well as marketing infrastructure, which at present is lacking for alternate crops.
There are emerging uncertainties of weather, climate change and global warming. Though the impacts are yet to be quantified, rise in temperature will have a direct bearing on water availability and crop yields, thereby impacting the agricultural sector. The population growth will require higher production of food grains. At the same time demand for water and energy from other sectors will also increase. This is a very alarming scenario.

Unemployment and under-employment in rural areas is matter of serious concern. Industrial sector in the state has failed to create sizeable employment for wards of farmers and rural labour. There is an urgent need to increase the avenues of employment in rural areas through agro-based rural industrialization, secondary agriculture and diversification of crop system towards high value crops and on farm post-harvest value addition. The policy of empowerment of the rural poor through skill development, better health and education services, vocational training and a conducive industrial policy is urgently required which will encourage establishment of industry in rural areas and ensure employment for local people\textsuperscript{10}.

Reform Areas in Punjab Agriculture

However, reform is needed in agriculture policy of Punjab keeping in mind Price Policy. Subsidies and Investments in agriculture must be given prime importance. Irrigation and Water Management according to soil quality and weather conditions with Research, Extension and Technology and diversification to Hi-value Agriculture and Marketing. For farmers welfare freeing up of land lease markets and computerisation of land reforms should be prioritize for improving the economy of farmers. An appropriate land acquisition policy should be prepared keeping in view the livelihood security of the farmers and economic development of the State.

The technology developments are essential to achieve enhanced production potential both in the crop and livestock sector, encouraging crops/ varieties having low water requirements, high value crops i.e fruits and vegetables and dairy farming. As soybean and pulses offer a long term potential source for diversification and sustainability, there is need to focus on a breakthrough in their productivity.

Rationalizing of input subsidies and removal of all restrictions in terms of stock limits, movements, and levies in transporting food grains should be implemented

\textsuperscript{10} Agriculture Policy for Punjab, Government of Punjab, Committee for Formulation of Agriculture Policy for Punjab State, March 2013.
by encouraging the optimal use of natural resources for long term sustainability of agriculture. Enhancing the productivity of crops and live-stock through strengthening research, public and private investments and development programmes.

More encouragement to the cultivation and addressing the problems of high value crops. Addressing the constraints through restructuring of the incentives, market orientation, credit delivery system and value addition to produce both at industrial scale and at the village level by restructuring of various development departments for coordinated implementation of various activities. In order to improve farm economy, the farmers have to be assisted to adopt high value crops, namely vegetables and fruits.

The low cost net houses technology for cultivation of vegetables, which improves quality and productivity of vegetables and increases the income, needs to be further improved and extended on a large scale to cover as large a proportion of small farmers as possible. Small farmers remain under employed/ unemployed for most of the time and must be given some skill training to ensure off-farm employment. Research should be prioritise and mandates of PAU and Rashtriya Krishi Vikas Yojna (RKVY) and allocation of funds for research, to both PAU and GADVASU must be increased to give much needed thrust to the development of new technology.

The main focus should be on breeding of crop varieties requiring less water and which are resistant to pests and diseases with better quality, tolerance to biotic and abiotic stresses, high nutritional value and suitable for processing. In view of climatic change special efforts are needed to develop suitable technology for prediction of extreme weather events such as excessive rainfall in a short period, frost, hailstorms etc. with participation of Public Private Partnership in delivery of services should be promoted.

The Punjab State achieved an outstanding growth in agriculture, particularly rice and wheat that contributed extensively to the food security of the country. Of-late problems of over-exploitation of natural resources of soil and water have emerged which are a cause of serious concern. There is decline in real farm income and near stagnation in growth. The agriculture in the State is in a crisis and a policy framework which improves the productivity, profitability and sustainability of farming is the only way forward to accelerate the growth. The Government of Punjab constituted a “Committee for Formulation of State Agriculture Policy” so
as to prepare a road map for future agricultural development in the State. The policy paper suggests the measures for encouraging the optimal use of natural resources and improvement in the economy of the farmers. A shift to high value agriculture and a more prominent role of livestock sector are a must but it will require increased investments in Research and Development and infrastructure. The State has to play a dynamic role in market development\textsuperscript{11}.

**Action Plan to be initiated by the State Government**

The State Government must provide better quality seeds to farmers will have to prioritize to reduce yields gaps. In this State Agricultural Universities will play an important role. The government must revamp state agricultural extension system that includes universities and krishi gyan/ vigyan kendras. Amendments must be introduced in Agricultural Produce Market Committee Act to allow variety of market tools including contract and cooperative farming.

In the key note address Sarvesh Kaushal (Chief Secretary of Punjab) stated, that there is a deficiency of social science research which is of more contemporary relevance. He emphasized on setting up a task group of Academic and Research institutions, policy planners and state functionaries for Governance reforms. The main function of this group will be to generate knowledge for formulation of informed public policies on issues like enhancement of agriculture productivity, augmentation of state revenue, creation of employment and increase in employability of youth through skill development, improving quality of public services including education and health, environment sustainability, special issues relating to inclusive growth with special reference to Women, Dalits and poor. Above all, special focus shall be given to social issues like drug addiction, female feticides, farmer’s suicide, out-migration for comprehensive research based policy formulation. Evolving citizen centric implementation strategies. To formulate corresponding capacity development packages for government functionaries and other support institutions and developing networks for dissemination of government policies and programmes\textsuperscript{12}. There are paradoxes in Punjab such as Punjabis are most globalised yet it has no linkage with industry, there is low poverty in general yet there is high poverty among Dalits. Our economy has evolved from a command

\textsuperscript{11} Dr. G.S. Kalkat, Chairman, Committee for Formulation of State Agriculture Policy, March 22, 2013

\textsuperscript{12} Roundtable discussion held on ‘Challenges to Social Policy; Agenda for Social Science Research’ at the Institute for Development and Communication (IDC) and in association with the Mahatma Gandhi State Institute of Public Administration, Sector26, Chandigarh.
economy to a liberal economy and our policies need to be adjusted.

SELECT REFERENCES


Planning Commission, Ninth Five Year Plan (1997-2002), Vol. II.

Planning Commission, Tenth Five Year Plan (2002-2007), Vol. II.

Abstract

Ninety percent of the families earn their livelihood from the informal sector and this sector contributes to two-fifths to the GDP of the country. But, a large number of workers employed in informal live and work under unhygienic conditions and do not get health care benefits. Therefore, present study evaluates the economic burden of outpatient care among the construction workers. The study was based on the primary data collected from the three urban districts of Punjab: Amritsar, Jalandhar and Ludhiana. The respondents of the study were 210 construction workers selected from the three districts of Punjab (Amritsar= 70, Jalandhar=70 and Ludhiana =70). The analysis was made with the help of frequency, percentage, mean and median. It was found that 50 percent of the respondents suffered from the illness and the main cause of outpatient care was cold/cough and cold/fever. It was observed that 97 percent of construction workers utilized health facility for the outpatient care. The respondents visited chemist shops followed by government hospitals, RMP/Local doctor, private clinic, private hospital, hakim/faith healer and homeopathic for the outpatient care. It was found that the mean and median healthcare expenditure on the outpatient care was ₹169.07 and ₹80.0 respectively. The mean and median wage loss due to outpatient care was ₹710.71 and ₹600.0 respectively. Majority of the respondents paid for outpatient care from their own money followed by borrowing from neighbors, friends, employer and relatives. This clearly indicates that outpatient care involves both the direct and indirect cost to the respondents. On the basis of data analysis it was observed that the respondents were without any social security and relay heavily on out of pocket health care payments. In order to reduce the economic burden of outpatient care the policy
makers should provide the preventive healthcare to the construction workers near to their livings and workplaces.

**Keywords:** Economic Burden, Direct Cost, Indirect Cost, Copying Mechanism.

**Introduction**

Good health is important not only as an end itself, but allows an individual to enjoy a high quality life and to contribute productively to a country’s economic and social progress (Ray, 2014). Health security is recognized as an integral element of poverty alleviation programs across the globe (Ahuja & Indranil, 2004; Ray, 2014). Health security is defined as low exposure to risk, access to health services and ability to pay for medical care and medicine (Unni & Rani, 2002; Saltman, 2008). Health insecurity hampers the ability to work, income and basic human needs. It was observed that a single event of hospitalization accounts for 20 to 60 percent of annual income of the household (Krishnan, 1996; Nagpal, 2014). Illness to poor may place at risk either their physical or mental health on the one hand and financial stability on the other (Saltman, 2008). Illness creates impoverishment through income losses and medical expenses which triggers a spiral impact on the asset depletion, indebtedness and cuts essential household consumption (Nandraj et. al. 1998; Sunder & Sharma, 2002; Chaudhuri & Roy 2008; Garg & Karan, 2009).

The healthcare burden involves both direct as well as indirect cost. It has been found that besides the direct expenses incurred by workers in the form of medicines, tests, travel charges, etc. the indirect costs associated with illness such as loss of wages added to the burden of households (Pradhan & Prescott, 2002; Wagstaff & Doorslaer, 2003; Ghosh 2010). Households have to adopt different coping strategies which ranged from selling assets, borrowing, mortgage of productive assets, ignoring illness and non-treatment. These coping strategies have an adverse effect on the welfare and livelihood of the informal sector. This broadens the insecurities of the informal sector households which survive on low wages and uncertain income opportunities (Ghosh, 2010).

Therefore, evidence on the economic cost of illness is essential to evaluate the extent of health insecurities. Keeping this in mind the present paper measures the direct and indirect cost of the illness. To accomplish the objective the present paper was divided into six broad sections. Section I introduces the types of
healthcare cost and its implications. Section II deals with review of the work done on the healthcare cost and health insecurities. Section III describes the research methodology adopted in the present study. Section IV explained the empirical findings. Section V concludes the discussion along with policy implications.

Review of Literature

Lakhwinder and Gupta (1997) examined the health seeking behavior and community perception towards health services in the four tribal districts of Rajasthan Banswara, Dungarpur, Udaipur and Sirohi. It was observed that reproductive health problems and general health problems like fever and malaria were administered at home or at a faith healer and herbalist. The respondents did not take treatment for problems associated with ante-natal, natal and post-natal periods. The problems of dental cough and cold were totally ignored. The main barrier to utilize health services were lack of transportation, unsympathetic attitude of the staff dispensing the health services and shortage or non-availability of medicines locally. Ray et al. (2002) examined the out of pocket healthcare expenditure in Chhainsa of Haryana. It was found that utilization of private healthcare services directly associated with the socio-economic status of the household. The mean and median per-capita annual out of pocket healthcare expenditure was in ₹131 and ₹40.2 respectively. Fantahun & Degu (2003) assessed the perceived morbidity and examined the factors associated with utilization of health services in Amhara Region of Ethiopia. It was observed that important reasons for non-utilization of healthcare services were that the disease did not need treatment in the health institutions and directly visiting the drug vendors and traditional healers. The results of the multivariate analysis highlighted that urban residence and educational status of the head of household significantly related to the utilization of modern health institutions. Ghosh (2010) explored the health insecurities of workers employed in the sector informal of Delhi. It was found that illness imposed a high and regressive cost burden on the informal sector. Mondal et al. (2010) examined the determinants of catastrophic out of pocket expenditure on health care and its implications on the household economic status of West Bengal. The result proved that multiple episodes of illnesses in the households, prevalence of chronic morbidity, hospitalization event, childbirth, household size, location were the main determinants of catastrophic healthcare expenditure. Bhojani et al. (2012) estimated the out-of-pocket healthcare expenditure of urban poor on chronic disease in Bangalore, India. It was observed that 16 percent of the respondents incurred a catastrophic out of
pocket healthcare expenditure due to outpatient care. The incidence and intensity of catastrophic healthcare expenditure were inequitably high among the urban poor. Kumar (2012) examined the risk of catastrophic expenditure (COPE-T), medical expenditure (COPE-M) and distress financing of road traffic injuries in Hyderabad. The prevalence of COPE-M and COPE-T was 21.9 percent and 46.0 percent respectively. The result revealed that admission to private hospitals and non-availability of health insurance was significantly associated with risk of catastrophic out of pocket medical expenditure. The study revealed that burden of OOP medical expenditure was associated with number of days hospitalized. Naing et al. (2012) examined the healthcare-seeking behavior of migrants in Thailand. The study indicated that the odds of visiting a healthcare facility was in favor of female, married and migrant who stayed longer in Thailand. The study compared the utilization of public and private health facilities across the groups. It has been found that education increased the probability to visit private health facility. Prinja et al. (2012) examined the inequities in health status, service utilization and out-of-pocket (OOP) health expenditures in north India. It was found that nearly 57 and 60 per cent households from poorest income quintile in Haryana and Punjab respectively faced catastrophic out of pocket hospitalization expenditure. The lower prevalence of catastrophic expenditure was associated with higher income groups. Public sector incurred high costs on hospitalization in selected three states. Medicines constituted 19 to 47 per cent of hospitalization expenditure and 59 to 86 per cent OPD expenditure borne OOP by households in public sector. The public sector hospitalizations had a pro-poor distribution in Haryana, Punjab and Chandigarh. Jayakrishnan et al. (2013) examined the occupational health problems of building and civil construction workers of Kozhikode district of Kerala. The important determinants of health utilization were literacy and marital status in the both groups. The prevalence of water and vector borne diseases, respiratory, dermatological, eye problem and injury were high among the unskilled and semiskilled construction workers. But tuberculosis, malaria, jaundice and typhoid were highest among the general population. Whereas, fever, respiratory infections, eye disease malaria and TB were associated with the building workers and injury and hearing loss was associated with civil workers.

Research Methodology

The study was based on the primary data collected from Punjab. Data was collected from the three urban districts of Punjab namely Amritsar, Jalandhar and Ludhiana.
For the collection of data a structured questionnaire was prepared. The respondents of the study were 210 construction workers selected from three districts of Punjab (Amritsar= 70, Jalandhar=70 and Ludhiana =70). The workers employed in the informal sector were selected due to the fact that they are more prone to illness and at the same time due to low and irregular nature of income are unable to pay for the illness. The respondents within the districts were selected randomly. The economic burden of illness was examined with the help of frequency, percentage, mean and median.

**Empirical Analysis**

Table 1 exhibits the demographic profile of the respondents. It was found that the respondents of below 30 years were 36.7 percent, 30-40 years 23.3 percent, 40-50 years 18.6 percent, 50-60 years 16.2 percent and 60 and above are 5.2 percent only. Majority of them falls under the annual income of ₹50000- ₹1,00,000. About 76 percent of them were married and majority of them were Hindu and Sikh. The education profile indicates that majority of the respondents were illiterate, up to secondary, primary, without any formal education, senior secondary, graduation and post-graduation.

*Table 1: Demographic Profile of the Respondents*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in years)</td>
<td></td>
</tr>
<tr>
<td>Up to 30 years</td>
<td>36.7</td>
</tr>
<tr>
<td>31-40 years</td>
<td>23.3</td>
</tr>
<tr>
<td>41-50 years</td>
<td>18.6</td>
</tr>
<tr>
<td>51-60 years</td>
<td>16.2</td>
</tr>
<tr>
<td>60 years and above</td>
<td>5.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual Income</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to ₹50000</td>
<td>8.6</td>
</tr>
<tr>
<td>₹50001- ₹1,00,000</td>
<td>81.4</td>
</tr>
<tr>
<td>₹1,00,001- ₹1,50,000</td>
<td>9.5</td>
</tr>
<tr>
<td>₹1,50,001- ₹2,00,000</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Marital Status

<table>
<thead>
<tr>
<th>Status</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>21.0</td>
</tr>
<tr>
<td>Married</td>
<td>76.2</td>
</tr>
<tr>
<td>Divorce</td>
<td>1.0</td>
</tr>
<tr>
<td>Widow</td>
<td>1.9</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

Religion

<table>
<thead>
<tr>
<th>Religion</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sikh</td>
<td>50.0</td>
</tr>
<tr>
<td>Hindu</td>
<td>40.5</td>
</tr>
<tr>
<td>Muslim</td>
<td>5.7</td>
</tr>
<tr>
<td>Christian</td>
<td>3.8</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

Education

<table>
<thead>
<tr>
<th>Education</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>34.3</td>
</tr>
<tr>
<td>No formal education (but can read &amp; write)</td>
<td>10.0</td>
</tr>
<tr>
<td>Up to primary (Class 5)</td>
<td>25.2</td>
</tr>
<tr>
<td>Above primary, up-to secondary</td>
<td>26.2</td>
</tr>
<tr>
<td>Senior secondary school</td>
<td>3.3</td>
</tr>
<tr>
<td>Graduate</td>
<td>0.5</td>
</tr>
<tr>
<td>Post graduate</td>
<td>0.5</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Author’s calculation based on primary survey.

Table 2 shows that 50.0 percent of the construction workers suffered from the illness and the main reason of the outpatient care were cold/cough and cold/fever. The results of self-reported severity shows that 58.1 percent of the construction workers stated illness was not serious, 35.2 percent stated that illness was quite serious and only 6.7 percent stated that illness was very serious.
Table 2: Distribution of the Respondents by Type and Severity of Illness

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Illness</strong></td>
<td></td>
</tr>
<tr>
<td>Cold/Cough</td>
<td>42.9</td>
</tr>
<tr>
<td>Cold/Fever</td>
<td>22.9</td>
</tr>
<tr>
<td>Headache</td>
<td>4.8</td>
</tr>
<tr>
<td>Wound</td>
<td>2.9</td>
</tr>
<tr>
<td>Malaria</td>
<td>6.7</td>
</tr>
<tr>
<td>Typhoid</td>
<td>1.0</td>
</tr>
<tr>
<td>Stomach related problem</td>
<td>7.6</td>
</tr>
<tr>
<td>Cholera</td>
<td>2.9</td>
</tr>
<tr>
<td>Breathing problem</td>
<td>1.0</td>
</tr>
<tr>
<td>Chicken pox</td>
<td>1.0</td>
</tr>
<tr>
<td>Dehydration</td>
<td>1.9</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>1.9</td>
</tr>
<tr>
<td>Gastric problem/ Acidity</td>
<td>1.9</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>0.0</td>
</tr>
<tr>
<td>Body ache/ backache</td>
<td>0.0</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100</td>
</tr>
<tr>
<td><strong>Severity of Disease</strong></td>
<td></td>
</tr>
<tr>
<td>Not serious</td>
<td>58.1</td>
</tr>
<tr>
<td>Quite serious</td>
<td>35.2</td>
</tr>
<tr>
<td>Very serious</td>
<td>6.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Author’s calculation based on primary survey

Table 3 describes that 97.1 percent of construction workers utilized health facility for the outpatient care. It has been found majority of the respondents visited chemist shop followed by government hospitals, RMP/Local doctor, private clinic, private hospital, hakim/faith healer and homeopathic for the treatment. It has been observed that 59.8 percent of the respondents find difficult to access healthcare facility. The mean and median distance covered to visit health facility was 2.66 km and 2.00 km respectively. Those who have not utilized the healthcare facility stated
the main reason was could not get away due to work, did not had money and minor complaints do not call professional assistance.

Table 3: Distribution of the Respondents by Utilization and Access to Health Facility

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Have you taken treatment for illness</strong>*?</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>97.1</td>
</tr>
<tr>
<td>No</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
<tr>
<td>Type of health facility visited</td>
<td></td>
</tr>
<tr>
<td>Chemist shop</td>
<td>42.2</td>
</tr>
<tr>
<td>Government hospital</td>
<td>25.5</td>
</tr>
<tr>
<td>RMP/local doctor</td>
<td>23.5</td>
</tr>
<tr>
<td>Private clinic</td>
<td>1.0</td>
</tr>
<tr>
<td>Private hospital</td>
<td>3.9</td>
</tr>
<tr>
<td>Hakim/Faith healer</td>
<td>2.9</td>
</tr>
<tr>
<td>Homeopathic</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
<tr>
<td>Visited facility was easily accessible?</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>59.8</td>
</tr>
<tr>
<td>No</td>
<td>40.2</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
<tr>
<td>Distance covered to visit health facility</td>
<td></td>
</tr>
<tr>
<td>Mean distance (km)</td>
<td>2.66</td>
</tr>
<tr>
<td>Median distance (km)</td>
<td>2.00</td>
</tr>
<tr>
<td>Reason for not seeking care</td>
<td></td>
</tr>
<tr>
<td>Could not get away due to work</td>
<td>33.3</td>
</tr>
<tr>
<td>Did not have money</td>
<td>33.3</td>
</tr>
<tr>
<td>Minor complaints do not call professional assistance</td>
<td>33.3</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
<tr>
<td>Any self-treatment taken?</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>33.3</td>
</tr>
<tr>
<td>No</td>
<td>66.7</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>
Source: Author’s calculation based on primary survey.

Table 4 measures the direct healthcare expenditure and the coping mechanism. It has been found that the mean and median expenditure on treatment was ₹169.07 and ₹80.0 respectively. It was observed that 66.7 percent of the respondents paid for outpatient care from their own money, 16.7 percent through neighbors, 7.8 percent through friends, 1.3 percent through employer and 5.6 percent from relatives.

Table 4: Distribution of the Respondents by Healthcare Expenditure and Coping Mechanism

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of money spend on outpatient care</td>
<td></td>
</tr>
<tr>
<td>Mean expenditure on treatment (₹)</td>
<td>169.07</td>
</tr>
<tr>
<td>Median expenditure on treatment (₹)</td>
<td>80.0</td>
</tr>
<tr>
<td>Coping mechanism</td>
<td></td>
</tr>
<tr>
<td>Own money</td>
<td>66.7</td>
</tr>
<tr>
<td>Borrowed from neighbor</td>
<td>16.7</td>
</tr>
<tr>
<td>Borrowed from friends</td>
<td>7.8</td>
</tr>
<tr>
<td>Borrowed from employer</td>
<td>1.3</td>
</tr>
<tr>
<td>Support from relatives</td>
<td>5.6</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Author’s calculation based on primary survey.

Table 5 revealed that 12.4 percent of the construction workers suffered wage loss due to outpatient care. The mean and median man-days loss was 2.8 and 2.0 days respectively. While the mean and median money loss to the respondents due to outpatient care was ₹710.71 and ₹600.0 respectively.

Table 5: Distribution of the Respondents by Indirect Cost of Outpatient Care

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you take leave / suffer wage loss due to illness*?</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>12.4</td>
</tr>
<tr>
<td>No</td>
<td>87.6</td>
</tr>
</tbody>
</table>
If yes, how many man days did you loss?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean days</td>
<td>2.8</td>
</tr>
<tr>
<td>Median days</td>
<td>2.0</td>
</tr>
</tbody>
</table>

How much money did you lose?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (₹)</td>
<td>710.71</td>
</tr>
<tr>
<td>Median (₹)</td>
<td>600.0</td>
</tr>
</tbody>
</table>

Source: Author’s calculation based on primary survey

Conclusion

From the above discussion it was observed that the outpatient care imposed a huge burden on the respondents. The respondents had not only incurred the direct cost but also indirect cost. It was found that 50 percent of the construction workers suffered from the illness at the time of the survey and the main reason of the outpatient care were cold/cough and cold/fever. It was found that 97 percent of construction workers utilized health facility for the outpatient care and majority of the respondents visited chemist shop followed by government hospitals, RMP/Local doctor, private clinic, private hospital, hakim/faith healer and homeopathic for the treatment. The mean and median expenditure on treatment of illness was ₹169.07 and ₹80.0 respectively. The respondents adopted different mechanisms to cope up the healthcare expenditure. mean and median money loss to the respondents due to outpatient care was ₹710.71 and ₹600.0 respectively. This clearly shows that the indirect burden of illness on the respondents is more compared to the direct burden of illness. The respondents were without healthcare benefits and relied heavily on the out-of-pocket healthcare expenditure. This led to tremendous burden on them and resulted indebtedness and liquidation of their productive assets. A central focus of the study is that informal sector households without any formal health insurance protection, bears the dual burden of healthcare expenditure as well as loss of income during illness. This is more critical when large proportion of our population is poor and many households were pushed into poverty trap due to catastrophic health expenditure. This widens the health insecurities of the informal sector households which survive on low wages and uncertain income opportunities. This study points to the policy makers to ensure the health safety and financial protection of the informal sector workers against the impact of illness. Therefore,
deliberate steps must be taken by the government to ensure that healthcare access is improved and sustained particularly for these income groups.

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household of the metropolis. Centre for Enquiry into Health and Allied Themes. Mumbai, Chap.6.


ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN FINANCIAL INCLUSION

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Abstract

Financial inclusion is the buzz word in the current economy in general and banking industry in particular. The Indian banking sector today is stressing with the issue of financial inclusion. The main reason motive is to provide the financial services to large population of India. Operating cost of providing financial inclusion and charges levied on the users are important dimensions of the process of financial inclusion. Technology can play an important role in reducing operating cost of providing banking services, particularly in the rural and unbanked areas. The role of Information Technology can be realized from the fact that it has greater population penetration and its ability to serve at remote location at low cost, which is essential requirement for Financial Inclusion. The paper attempts to evaluate the role of Information and Communication Technology infrastructure in driving the growth for financial inclusion using linear regression method over a period of 2000-2015. The results indicates that ICT infrastructure facilities including internet usage, mobile phones and telephone lines are positively associated with the level of financial inclusion which is represented by number of bank account holders. This indicates the fact that connectivity and information play an important role in financial inclusion.

Keywords: Financial inclusion, banking, information and communication technology.
Introduction

The concept of financial inclusion has a special significance for a growing economy like India as bringing the large segment of the productive sectors of the economy under formal financial network. The banking industry has shown tremendous growth in volume and complexity during the last few decades. Despite amplified thrust by the government on increase of branch network across the country since 1969, still the fruits of the banking not reached to the common man which is evident from the below:

- Half of the residents are out of the banking system and unable to prove their identity on account of poor financial back ground and belong to Below Poverty Line (BPL) segment.
- 60% of farmers do not have access to credit from Banks.
- Poor pay usurious interest at 40% to 50% to Money Lenders. Even Micro Finance Institutions charge 20-30% interest.

In the above backdrop, the concept “Financial Inclusion” has attained utmost importance in the recent years. Financial Inclusion is delivery of banking services at an affordable cost to the vast sections of disadvantaged and low-income group without discrimination.

According to the Planning Commission (2009), “Financial inclusion refers to universal access to a wide range of financial services at a reasonable cost. These include not only banking products but also other financial services such as insurance and equity products.”

It means not only to extend banking facilities to rural people but also to provide it at their convenient time and location. Operating cost of providing financial inclusion and charges levied on the users are important dimensions of the process of financial inclusion. Technology can play an important role in reducing operating cost of providing banking services, particularly in the rural and unbanked areas.

The Information Technology (IT) saga in Indian Banking sector commenced from the mid eighties when the Reserve Bank of India (RBI) took upon itself the task of promoting computerization in banking to improve customer services, book keeping, Management Information System (MIS) to enhance productivity.
Review of Literature

The literature available for financial inclusion is not limited. Various studies have been conducted and the glimpses of some of them are:

**According to Rakesh Mohan (2004).** There is currently a clear perception that there is a vast.

Number of people, potential entrepreneurs, small enterprises and others, who are excluded from the financial sector, this leads to their marginalisation and denial of opportunity for them to grow and prosper.

**V. Leeladhar (2005).** Various strategies have been adopted by banks to enhance the coverage of their services to accelerate financial inclusion. However, the cost effective is to tie up with micro finance institutions and local committees, to encourage no frills account, restructuring of business strategies to integrate the specific plans to promote financial inclusion.

**Shree Devi and Meena (2011)** In recent years, technology has grown rapidly the connecting the whole world. Technology can play a vital role in providing services to the poor in remote areas. Banks and other institutions can upgrade their technology on latest techniques to deliver the services. Technology can save time and transaction cost. The customer need not travel to bank branches to operate their accounts. They can use ATMs credit cards, Touch screen and smart cards to access their accounts. Usage of bio-metric technology, local language in ATMs will further facilitate poor and illiterate people.

**Arun (2013)** made attempt to understand how the financial inclusion is happening in India by discussing and analyzing various initiatives by the Government, Reserve Bank of India, Banks and the role played by ICT. Various models have been tested for financial inclusion, however BC model has emerged out to be the most effective model for the financial inclusion so far and has managed to reduce the transaction costs and tackle the barriers of financial inclusion. With an expected rural penetration of 100 percent by 2020, mobile banking along with an innovated BC model will give magnanimous outreach to the banks and help them in providing cost effective products and services. Hence, ICT has a greater role to play in financial inclusion.
Rajamohan and Subha (2014) discussed the information technology in financial inclusion. They discussed that Combinations of regulatory and competitive reasons have led to increasing importance of total banking automation in the Indian banking sector. Information Technology has been used under the different avenues in banking. IT is involved in communication, connectivity, Business Correspondents, Business Facilitators, National Payment Corporation of India (NPCI), Unique Identification Authority of India (UIDAI), Mobile Banking, Model E-Server Centers, and T-Banking.

Kaur and Singh (2015) conducted the empirical research on the Role of ICT Infrastructure in Financial Inclusion: An Empirical Analysis. This paper found that ICT infrastructure facilities including telephone lines, mobile phones and internet usage are positively associated with the level of financial inclusion, which is represented, by number of bank account holders. This indicates the fact that connectivity and information play an important role in financial inclusion. However, personal computers did not show any significant relationship with financial inclusion in our estimation. This may be attributed to the fact that having a PC in household does not necessarily mean that it is being used for accessing banking services.

Garg (2015) conducted the research on Role of Banks in Financial Inclusion. The paper found that the financial inclusion has increased as compared to earlier due to the efforts of banks. But the impact in reality is not upto that mark. According to Census 2011, about 50% of the deposit accounts in the country are not operated at all. RBI surveys says that 47% of the business correspondents cannot be traced and are not motivated to help the public because of low commission.

Thus, a number of studies have been undertaken about financial inclusion in India. It is highlighted from the past studies that there are inequalities in financial inclusion. According to census 2011 about 50% of deposit accounts in the country are not operated at all. One of the reasons for slow progress in financial inclusion is absence of reach and coverage by banks. This gap now can be bridged through the user of information and communication technology. Therefore, this study is undertaken to know the role of ICT playing in financial inclusion in the country.

Need of ICT in Financial Inclusion

The banking industry has shown tremendous growth in volume and complexity
during the last few decades. Despite amplified thrust by the government on increase of branch network across the country since 1969, still the fruits of the banking not reached to the common man which is evident from the below:

- As per census 2011, only 58.7% of households are availing banking services in the country. In India, almost half the country is unbanked.
- Only 55 per cent of the population has deposit accounts and 9 per cent have credit accounts with banks. India has the highest number of households (145 million) excluded from Banking.
- Only a little less than 20% of the population has any kind of life insurance and 9.6% of the population has non-life insurance coverage. Just 18% had debit cards and less than 2% had credit cards.

Operating cost of providing financial inclusion and charges levied on the users are important dimensions of the process of financial inclusion. Technology can play an important role in reducing operating cost of providing banking services, particularly in the rural and unbanked areas. Many public sector banks have undertaken the major technological initiatives. But their low IT capabilities often impede their ability to provide the financial services to rural India. ICT has not just helped to reduce the transaction costs but it is acting as a tool to facilitate financial inclusion overcoming the barriers such as limitations of physical infrastructure and high cost of maintaining setup.

**Aims and Objectives of Study**

The main aim of this study is to highlights role of ICT to enhance the extent of financial inclusion in India.

- To evaluate the role of Information and Communication Technology infrastructure in driving the growth for financial inclusion

**Database and Methodology**

The empirical analysis is based on linear regression analysis over a period of 2000-2015. The study attempts to show the relationship between number of bank accounts and ICT variables including internet users, mobile subscribers, telephone lines and personal computers in India. The equation is
BC = $\beta + \beta_1\text{Tele} + \beta_1\text{Mob} + \beta_2\text{Int} + \beta_2\text{PC} + \mu$

- $\beta$ is intercept
- BC = Number of Bank Accounts (in 1000)
- Tele = Telephone lines (per 100)
- Mob = Mobile Subscribers (per 100)
- Int = Internet users (per 100)
- PC = personal Computers households (per 100)

**Role of ICT in Financial Inclusion**

Government and Reserve Bank have taken many proactive steps to remove the inadequacies in the system to enhance financial inclusion. Information and Communication Technology has been widely used for the development of the Indian banking sector

**Electronic Clearing Service (ECS)/National ECS (NECS):** ECS is an electronic mode of payment / receipt for transactions that are repetitive and periodic in nature. “ECS is used by institutions for making bulk payment of amounts towards distribution of dividend, interest, salary, pension, etc.

**National Electronic Funds Transfer (NEFT):** NEFT is a payment system facilitating one-to-one funds transfer. Under this service, “individuals, firms and corporate can electronically transfer funds from any bank branch to any individual, firm or corporate.

**Real Time Gross Settlement (RTGS) System:** The Real Time Gross Settlement is a continuous (real-time) settlement of funds transfer individually on an order by order basis (without netting). ‘Real Time’ means the processing of instructions at the time they are received rather than at some later time.

**Immediate Mobile Payment System (IMPS):** Using this service, electronic interbank funds can be transferred through mobile phones as well as internet banking & ATMs instantly, during 24X7 period. Under this service, customer of one
bank can transfer money from its bank account to the customer of another bank through mobile phone in real time.

**Mobile Banking:** The term mobile banking consists of activities that result in an entity’s access to the range of banking products (related to savings or credit) by using a cell phone. Application can be downloaded on smart phones for making bill payments (electricity bill, dish recharge etc.).

**Electronically Know Your Customer (e-KYC):** In the year 2013, RBI permitted e-KYC as a valid process for KYC verification In order to reduce the risk of identity fraud, documentary forgery and have paperless KYC verification.

**Micro ATMs:** In order to make the ATMs viable at all centers, there is a need to deploy low cost ATMs with basic features such as cash withdrawal and balance enquiry and should be located at places where rural folk pays frequent visits such as petrol pumps, mandis etc.

**Biometric ATMs:** Introduction of Biometric ATMs enables the illiterate and semi-literate customers to avail ATM facilities. ATM dispenses cash and other services only after verifying the thumb impression of the cardholder with that of finger print available with the bank’s server.

**Information and communication technology based accounts through business correspondents:** Recognizing the efficiency of technology in reaching huge masses in viable manner, banks have made effective use of information and communication technology to provide banking services through business correspondence model as intermediary. Nearly 248000 business correspondent agents had been deployed by banks as on March 31, 2014 under financial inclusion programme. Nearly 477 million transactions were carried out in BC-ICT accounts for the year ended March, 2015, as compared to 328.6 million transactions for the year ended March, 2014.

**E-Seva Centers:** Banks may enter agreement with the respective state governments for sharing of resources, so that our rural/semi-urban customers can undertake financial transactions (Cash Deposit/Withdrawals) at these centers, which will be updated at Banks’ server every day.

**T Banking:** The presence of Television in all households is the order of the day
and now it has become one of the most cost effective modes to disseminate information across the country. Banks may explore the possibility of making use of cable network to extend banking services to remote rural areas and this can be used as non-branch service delivery channel.

Therefore, ICT is playing key role in boosting the financial inclusion in the country. One of the reasons for slow progress in financial inclusion is absence of reach and coverage by banks. This gap now can be bridged through the user of information and communication technology.

Table 1: Financial Inclusion Plan-Summary Progress of All Banks Including RRBs

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Year ended March 2010</th>
<th>Year ended March 2014</th>
<th>Year ended Mar 2015</th>
<th>Progress April 2014 - Mar 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Banking Outlets in Villages – Branches</td>
<td>33,378</td>
<td>46,126</td>
<td>49,571</td>
<td>3,445</td>
</tr>
<tr>
<td>Banking Outlets in Villages – Branchless mode</td>
<td>34,316</td>
<td>337,678</td>
<td>504,142</td>
<td>166,464</td>
</tr>
<tr>
<td>Banking Outlets in Villages –Total</td>
<td>67,694</td>
<td>383,804</td>
<td>553,713</td>
<td>169,909</td>
</tr>
<tr>
<td>Urban Locations covered through BCs</td>
<td>447</td>
<td>60,730</td>
<td>96,847</td>
<td>36,117</td>
</tr>
<tr>
<td>Basic Savings Bank Deposit A/c through branches (No. in millions)</td>
<td>60.2</td>
<td>126.0</td>
<td>210.3</td>
<td>84.3</td>
</tr>
<tr>
<td>Basic Savings Bank Deposit A/c through branches (Amt. in ₹ billion)</td>
<td>44.3</td>
<td>273.3</td>
<td>365.0</td>
<td>91.7</td>
</tr>
<tr>
<td>Basic Savings Bank Deposit A/c through BCs (No. in millions)</td>
<td>13.3</td>
<td>116.9</td>
<td>187.8</td>
<td>70.9</td>
</tr>
<tr>
<td>Basic Savings Bank Deposit A/c through BCs (Amt. in ₹ billion)</td>
<td>10.7</td>
<td>39.0</td>
<td>74.6</td>
<td>35.6</td>
</tr>
<tr>
<td>BSBDAs Total (No. in millions)</td>
<td>73.5</td>
<td>243.0</td>
<td>398.1</td>
<td>155.1</td>
</tr>
<tr>
<td>BSBDAs Total (Amt. in ₹ billion)</td>
<td>55</td>
<td>312.3</td>
<td>439.5</td>
<td>127.3</td>
</tr>
<tr>
<td>OD facility availed in BSBDAs (No. in millions)</td>
<td>0.2</td>
<td>5.9</td>
<td>7.6</td>
<td>1.7</td>
</tr>
<tr>
<td>OD facility availed in BSBDAs (Amt. in ₹ billion)</td>
<td>0.1</td>
<td>16.0</td>
<td>19.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Variables</td>
<td>Beta</td>
<td>t-Statistic</td>
<td>P-Value</td>
<td>Durban-Watson Statistic</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------</td>
<td>-------------</td>
<td>---------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>(Constant)</td>
<td>72.86</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet users (per 100 people)</td>
<td>.786</td>
<td>4.572</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Mobile cellular subscriptions (per 100 people)</td>
<td>.883</td>
<td>3.652</td>
<td>.004</td>
<td>1.70</td>
</tr>
<tr>
<td>Telephone lines (per 100 people)</td>
<td>.884</td>
<td>2.781</td>
<td>.018</td>
<td></td>
</tr>
<tr>
<td>PCs (per 100 people)</td>
<td>-.177</td>
<td>-2.131</td>
<td>.056</td>
<td></td>
</tr>
</tbody>
</table>

The result of regression analysis of number of bank account holders on ICT Infrastructure variables including internet users, mobile subscribers, telephone lines and personal computers is displayed in Table 2. The analysis reveals the fact that physical infrastructure facilities like, Internet, mobile phones and telephone is highly significant (positively) in enhancing financial inclusion. The results of regression analysis show that, three ICT variables including internet users, mobile subscribers and telephone has significant linear relationships with number of bank account holders as shown by the p-values in the table. The value of R2
(0.90) explains that the 90 % of ICT infrastructure variables had highly significant relationship with the financial inclusion. The F-test value is significant at 1% level that indicates that model is good fit for the data. Durban-Watson statistics value of 1.70 shows that there is no problem of presence of auto-correlation.

**Conclusion and Findings**

The paper highlights the role of technology in achieving the aim of financial inclusion. The empirical analysis reveals that ICT infrastructure has significant contribution to the achievement of financial inclusion. This indicates the fact that connectivity and information play an important role in financial inclusion.

In this way, technology has led to the emergence of cost-effective alternatives to the bank branch with Low cost ATMs, use of internet, point-of-sale terminals and mobile banking technologies, which have become very popular, in the last one decade. Recent Jan Dhan Yojna launched by the government in 2014 is a significant initiative in financial inclusion. Further, the paper recommended the government should undertake appropriate policy measures to ensure the access to physical infrastructure for increasing the outreach of banking services in rural urban area.

**Suggestions**

ICT is the key driver among the various initiatives taken by government and RBI for financial inclusion. This paper recommended that the people who are illiterate and do not have knowledge about bank services as credit facilitates and low interest rate. It is important that banks should start addressing these issues through organizing campaigns, addressing these issues would help in greatly reducing the financial exclusion. Today banks are providing the liquidity services. It is also important banks should offer other innovative products that have customer value.
Reference


Figure: 1

![Bank Accounts (In 1000)](chart)

Source: Annual reports of RBI (2000 -2015)
Figure: 2


Figure: 3
Source: [http://www.tradingeconomics.com/india/](http://www.tradingeconomics.com/india/)

**Figure: 4**

![Telephon Line (Per 100)](http://data.worldbank.org/indicator/IT.CEL.SETS.P2)


**Figure: 5**

![Personal Computer Households (Per 100)](http://www.nationmaster.com/country-info/)

STUDY OF FUZZY LOGIC AND ANFIS AS PREDICTIVE ANALYTICAL TOOL AND THEIR PERTINENCE IN BUSINESS FINANCE

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Abstract
Use of predictive analytics is gaining momentum these days. Predictive analytics have already been employed in engineering and various science fields. Their use is limited in management science. For development of a predictive model, Fuzzy Logic and ANFIS are being used these days. Application of ANFIS in finance is gaining interest. This paper highlights the use, features and working of Fuzzy Logic and ANFIS.

Introduction
Predictive analytics make use of data, statistical algorithms and machine-learning techniques to foresee the future results based on past data. Predictive analytics does not tell you what will happen in the future. It identifies the possible future outcomes with an acceptable level of reliability.

The underlying purpose to employ predictive analytics is to surpass descriptive statistics and reporting on what has happened to providing a best assessment on what might happen in the future. The end result is simplified decision making and generation of new approach that lead to better actions.

Predictive models use acknowledged results to develop (or train) a model that can
be used to predict values for different or new data. Fuzzy Logic and ANFIS toolbox in Matlab can also be used to develop a predictive model.

Review of Literature

1. Zadeh LA et al. (1996) endeavored to summarize basic ideas underlying soft computing and its relation to fuzzy logic, neural network theory and probabilistic reasoning. Here the meaning of fuzzy logic, theory of linguistic variable and the calculi of fuzzy rules and fuzzy graphs have been explained. The exemplar for fuzzy logic is human mind. Through these concepts and methods, fuzzy logic provides a model for modes of reasoning which are fairly accurate rather than exact (11).

2. Lahsasna (2009) examined the transparency and accuracy of credit scoring model and optimized using two different fuzzy model types, namely Takagi –Sugeno (TS) and Mamdani Type. The transparency and accuracy of both the ensuing fuzzy credit scoring models have been concurrently optimized using two multi-objective evolutionary techniques. As a final point a generic software called Evo-FNS(EVOLUTIONARY sFUZZY NEURO SYSTEM) was developed which can be used for fuzzy identification, prediction or classification and knowledge extraction (data mining tool) (5).

3. Tomasz Korol(2012) proved in this paper that fuzzy logic is a very useful and powerful tool for financial analysis. The use of fuzzy logic in finance was nearly mysterious until 2006. The researcher made a first attempt to use fuzzy logic in predicting enterprise and consumer bankruptcy in worldwide literature. The model developed in this paper can be used by finance managers as a decisional tool in the process of evaluating the financial situation of enterprise and consumers. The conclusion of this study can also be applied to other European, American or Asian Companies and consumers (9).

Objectives of the Study

1. To understand the Fuzzy logic and its applications in finance

2. To understand the working of input variable, membership functions, rules
based Fuzzy Inference System and the output variable.

3. To understand the training of fuzzy inference system using ANFIS.

Analysis and Discussion

1. UNDERSTANDING OF FUZZY LOGIC AND ITS APPLICATIONS IN FINANCE

Fuzzy logic is a new and innovative technology, one that over the past few years has already revolutionized the development of technical control systems:

- In appliances, fuzzy logic saves energy and provides ease of use.
- In automotive systems, it provides user adaptability, so that the performance of the car is optimized for a personal driving style.
- In industrial control systems, fuzzy logic simplifies complex automation tasks.

Fuzzy logic have already gained much more public interest in the past in its engineering applications than business and financial applications, an even larger potential exists here. By introducing a means of coping with “soft facts”, “soft criteria,” and “fuzzy data”, you can implement human-like decision making in your applications. Applications of fuzzy logic in finance:

Finance:

- Balance Sheet Auditing
- Creditworthiness Evaluation
- Customer Profitability Analysis
- Cash Control
- Risk Assessment
- Company Rating
- Stock and Currency Exchange Forecasting
- Fraud and Forgery Detection

Fuzzy logic enables software to make human-like decisions. And the experiences of more than a single person can be merged into one system. In real life, one can
not define a rule for each possible situation. Exact rules that cover the respective situation perfectly can only be defined for a few distinct situations. Hence, in given case, humans combine the rules that describe similar cases. This approximation is possible due to the flexibility in the definition of the words that constitute the rules. Likewise, abstraction and thinking in analogies is only rendered possible by the flexibility of “human logic”.

To implement this human logic in system solutions, a mathematical model of human logic is required. There are limits to what fuzzy logic can do. The full scope of human thinking, vision, and creativity cannot be copied with fuzzy logic. Thus, if you can describe in rules the desired decision context for certain distinct cases, fuzzy logic will effectively put this knowledge into a complete solution.

The fuzzy logic model consists of three main sections and it is known as Fuzzy logic inference system (FIS) :

Fuzzification, Inference and Defuzzification.

**Fuzzification:** Linguistic variables have to be defined for all the inputs. Possible values of a linguistic variable are known as terms or labels. For each linguistic variable each term is defined by the membership function.

**Fuzzy logic inference using if- then rules:** In this step rules are framed for the current situation and the values of the output linguistic variables are computed.

The computation of the fuzzy inference comprises two elements:
**Aggregation:** Computation of the IF part of the rules.

Composition: computation of the THEN part of the rules.

**Defuzzification:** The results of the fuzzy logic inference are given as linguistic variable value. To use this value for comparison or ranking it has to be translated into a numerical value. This step is called Defuzzification.

2. To understand the working of input variable, membership functions, rules based Fuzzy Inference System and the output variable.

The basic working of input variable, membership functions and output variable can be understood with the help of screenshots as displayed below:
3. UNDERSTANDING OF ANFIS AND ITS APPLICATION IN FINANCE

To enhance fuzzy logic system with learning capabilities, it can be integrated with neural net technologies. This combination is called “NeuroFuzzy” and it brings in the advantages from both technologies. Fuzzy logic is a technology that mimics the human decision making process on the very high abstraction level of natural language. On the contrary, neural nets try to copy the way a human brain works on the lowest level, the “hardware” level. Neural nets use a number of simple computational units called “neurons” that each try to imitate the behavior of single human brain cell. The information enters the neural net at the input layer. The objective of a neural net is to process the information in the way in which it has been trained. The learning algorithm then transforms the individual neurons of the net and the credence of their connections in such a way that the behavior of the net reflects the desired behavior.

In simple words, both neural nets and fuzzy logic are powerful design techniques that have their strengths and weaknesses. A brief look at the properties of both in a comparison table depicts the following results:
Neural Nets | Fuzzy Logic
---|---
Knowledge Representation | Implicit, the system cannot be easily interpreted or modified(-) | Explicit, verification and optimization are easy and efficient (+++)
Trainability | Train itself by learning from data sets(+++) | None, you have to define everything explicitly(-)

Table 1: A combination of the explicit knowledge representation of fuzzy logic with the learning power of neural nets results in NeuroFuzzy.

ANFIS (Adaptive Neuro Fuzzy Inference System) can be used to train and analyse the data. ANFIS uses a hybrid learning algorithm to tune the parameters of a Sugeno-type fuzzy inference system (FIS). It integrates both neural networks and fuzzy logic principles. The toolbox function ANFIS constructs a fuzzy inference system (FIS) employing a given input/output dataset, whose membership function parameters are adjusted using either a back propagationalgorithm alone or in combination with a least squares type of method. This adjustment permits fuzzy systems to learn from the data we are modeling.

For example, it can be used to analyse credibility of loan applicants by using various parameters as input variables and training them using already processed loan applications and final decision to accept/reject as output variable.

Implications of the Study

1. These days many phenomena in finance and economics are fuzzy. With the use of fuzzy logic, vague and ambiguous concepts can also be defined.

2. This study provides a mechanism for representing linguistic constructs such as “many”, “low”, “medium” etc using fuzzy theory.

3. This study facilitates combination of Fuzzy logic with the training capability of neural networks to be used in various fields such as Creditworthiness Evaluation, Risk assessment, Stock Market forecasting and Company Rating etc.
Conclusion

Fuzzy Logic and ANFIS has a lot of potential in business and finance. In India, its use is very limited. Perfect combination of both techniques can harvest beautiful results in credibility assessment, stock market predictions and fraud and forgery detection etc.

Bibliography


A STUDY OF SPREADING PREFERENCE OF MALLS OVER SHOPPING AT TRADITIONAL HIGH STREETS

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Abstract

The present study was carried out to investigate the role of mall culture and mall attractiveness affecting the lives of people today. This work was undertaken with a goal to find out the reason or reasons that attract and motivate customers to go to shopping malls. The demarcating change that has led to the preference of shopping malls over high street was studied through detailed interview schedule. The sample size consisted of 160 research scholars from faculty of Arts and Sciences of Panjab University, Chandigarh. Both qualitative and quantitative indicators were used to analyze the data. For the present research work, data was collected through purposive sampling; in-depth interviews and observation method. The major findings showed that Malls nowadays follow a certain design strategy to achieve retail goals. The shopping scene is also changing. High streets were once the only hallmarks of shopping but with the rise of mall culture the attraction of customers towards these shopping centres has increased manifolds. The output of the study unfolds that malls today not only provide a perfect shopping environment with a wide range of products but one gets to avail facilities of good, eateries, cinema, playing area, place for sitting for senior citizens and all basic amenities like safety, security, parking, rest rooms, air conditioning; all under one roof thus saving a lot of time and money of customers. Further more, the findings revealed Elante as
the most preferred mall. Moreover, Malls are becoming wholesome entertainment centres for the peer group as well as a good place for family entertainment.

**Keywords:** Customers, High street, Mall culture, Shopping malls.

## 1. Introduction

Retailing is one of the oldest professions in India and is one of the pillars of its economy. With increase in population, urbanisation, education, job opportunities and advances in transportation, communication and information technology, the Indian retail industry has become one of the fastest growing markets in the world. During the 20th Century retailing was carried out through mom and pop stores/shops of varied sizes in well demarcated market places. The typical size of a shop ranged from 50 square feet to 500 square feet. Connaught place in Delhi, MG road in Bangalore, Mount Road in Chennai, Linking Road in Mumbai and Sector 17 Market Plaza in Chandigarh were the hallmarks of retailing till 1990. With the advent of liberalisation the Indian market has paved way for international brands and companies that showcase their products in noble, sophisticated and aristocratic manner; this has led to the emergence of new retail format known as Shopping malls. Now a days consumer wants a wonderful buying with wide range of products with varied prices and quality catering to all age and class groups. The retailing business has witnessed an enormous growth due to the mushrooming of supermarkets, high streets as well as centrally air-conditioned shopping malls. Consumers are the major beneficiaries of the retail sector boom. The emergence of malls, as an one place destination for shopping, aesthetics, recreation, socialization, eateries, window shopping, visual merchandising displays, hanging up with friends and family, convenience of shopping under one roof has turned the face of the retail industry in India. The shopping malls enables one to shop variety of products’ under one roof and offers an enticing and pleasurable shopping experience in term of comfort, convenience, ambience and entertainment. In fact, malls play a significant role in the life of the consumers thereby influencing their lifestyles (Terblanche, 1999). Malls are not only a centre for shopping but have also become a centre for social and recreational activities (Ng, 2003). Stores, food courts, restaurants, cinemas, children’s play areas, interactive entertainment, social use areas, relaxation spaces and promotional areas form major components of any mall (Terblanche, 1999).
Kirkup & Rafiq (1999) define the shopping centre as a place that offers the target group of consumers a desired and conveniently accessible combination of stores in one place, in a unanimous environment ensuring safe and comfortable shopping atmosphere with added pleasure and entertainment. Again, a shopping centre is a place that houses a combination of tenants in a common shopping area with safety and a wide range of entertainment.

Harris (2005) defines a shopping mall as a shopping centre enclosed within a large structure, often 2 or 3 storey high, normally designed around a central atrium, have numerous stores as well as entertainment facilities such as movie theatres, fast food outlets, restaurants and Public areas.

International Council of Shopping Centres ICSC (2013) defines a shopping centre as an object which is centrally managed and which comprises operations of at least 10 independent stores (tenants); the area (rented or useful space) allocated to them makes up at least 5 thousand square metres and the anchor tenant occupies up to 70 per-cent of the rented area.

1.1 Evolution of shopping malls

The Grand Bazaar of Istanbul and Isfahan were built in the 15th century and are still the largest covered markets with more than 58 streets and 4000 shops. The Oxford Covered Market in Oxford, England opened in 1744 and still runs today. Gostiny Dvor in Saint Peterburg opened in 1785. It consists of more than 100 shops covering an area of over 570,000 sq feet.

Large cities created arcades and shopping centres in the late 19th and early 20th century. The Burlington Arcade in London has been there since 1819. The Arcade in Providence, Rhode Island introduced the concept of Shopping Malls to United States in 1828. The Galleria Vittorio Emanuele II in Milan, Italy followed in 1860s and is closer to large modern malls in spaciousness.

Arcade and Moscow’s GUM was built in 1890, the first off-street parking was built in Baltimore neighbourhood in 1907.

Country Club Plaza was built in suburban Kansas City; Missouri by J.C.Nichols in 1922. It was constructed as a business district with a group of stores only accessible by cars. It has a unified architecture and lighted parking lots. In 1931 Highland Park
Shopping Village was developed by Hugh Prather in Dallas, Texas. It was the first group of stores having its own parking lot with the stores facing away from access road.

Southdale Centre was established in 1956. This was the first modern shopping mall in Edina, Minnesota. It was the first fully enclosed mall with two-level design. It had central air-conditioning and heating, a comfortable common area (atrium), and two competing department stores (ICSC, 2000).

1.2 India’s entry into shopping malls

In the year 1990, Spencer Plaza was inaugurated from old Spencer Commercial Complex in Chennai. The seven-floor mall has a mix of retail, office space, and entertainment facilities. There is a complete absence of floor-wise retail concept of zoning as tenants and owners have set shops with all kinds of retail outlets everywhere.

In the year 1999, Ansal Plaza was launched as a joint venture of the Housing and Urban Development Corporation Ltd. (HUDCO); a government corporation and the Ansal group in Delhi. It is a three-storey complex and encloses an amphitheatre. Although architecturally it looks different from modern shopping malls with enclosed corridors it scores well on parameters such as tenant mix and zoning.

In the year 1999, Crossroads was developed by Piramal Group of Industries in Mumbai. It is a three-storey construction dominated by retail, food, and entertainment. Of the three pioneers, its construction is closest to the modern shopping malls (Singh and Srinivasan, 2012).

1.3 Mall scenario

Malls had an iconic status in the U.S. Mostly located in the suburbs they had robust infrastructure and promoted weekend trips drive culture for shopping and leisure. Many became famous because of size or merchandise or as a place for socialising. According to U.S. National Report forecast (2012) malls in the US are passing through a difficult phase mainly because of the recession. Shopping centres in Europe have been growing steadily since 1980 with the highest growth recorded in the year 2008. Since 2008 there has been a decline in the growth of shopping centres in Europe (European Shopping Centre Development Report, 2011). The
overall growth of shopping malls in Asia region is good. China & India are leading the race in terms of mall growth. In India, North and South India lead in terms of addition of mall space and number of malls.

According to Images F& R reports (2007) from three malls in 1999 in India, the country grew to have a total of 172 operational malls in 2010 offering 52.2 million square feet of mall space. The country is likely to have a total of 750 operational malls providing 350 million square feet of mall space by 2015 year end. The report surmises that small tier cities like Ahmadabad, Jaipur, Nagpur, Lucknow, Indore, Ludhiana and Chandigarh are also coming up with shopping malls.

In North Delhi NCR has seen high growth in malls. In south, Chennai and Bangalore lead the race. In the west, Mumbai, Thane and Pune dominate the retail scenario. In east highest development is seen in Kolkata. Delhi –NCR Region has the largest number of operational malls in the country (Frank, 2012).

1.4 Components of Mall Management

Singh and Srinivasan (2012) spelled out the components of management as:

- Positioning
- Zoning
- Promotions, Entertainment and Marketing.
- Facilities Management – Infrastructure, Ambience, Traffic.

1.4.1 Positioning of a mall refers to the location of the shopping mall. It also concerns with the categories of services offered to consumers based on the demographics, psychographics, income levels and competition in neighbouring areas. Levy and Weitz (2001) consider retail positioning as a decision and implementation of a retail mix to create an image of the retailer in the customer’s mind relative to its competitors. Chattopadhyaya and Sengupta (2006) while studying shopping malls in Kolkata found that distinctive positioning of shopping malls is attributed to appropriate marketing strategies and this also results in increased customer patronage. Sannapu and Singh (2011) define mall positioning as a process of fulfilling of dual expectations of each of the stake holders – shoppers, retailers and mall developers.

1.4.2 Zoning refers to the division of mall spaces into zones for the placement of
various retailers. Ghosh and Mclafferty (1991) explain that formulating the right tenant mix based on zoning help attract and retain shoppers by offering multiple choices and satisfy their multiple needs. Tenant selection should be such that the presence of different retailers creates a synergistic effect resulting in better business for all.

Kirkup and Rafiq (1994) studied tenant-mix and its relation with excitement. While studying tenant-mix in new shopping centres in UK they concluded that strong, distinctive and consistent tenant-mix is crucial for success of a shopping centre. Shoppers prefer malls with rich and diverse tenant-mix.

1.4.3 Promotion, Entertainment and Marketing include promotional activities, entertainment centres and event organising form an integral part of mall management. Ansal Plaza, the first mall in Delhi is an example of a successful mall led by good promotions and marketing mall management practices. (Megraj, 2007).

A study by Haynes and Talpade (1996) of four different U.S. malls with 30,000 square foot and larger family entertainment centres (FECs) found that the primary purpose for coming to the mall was the FEC. The researchers concluded that the entertainment centres seem to draw younger families visiting malls more for social and entertainment purposes and that customers spend additional time at the food court and mall stores.

In this era of failing malls and department store slumps, retailers seek help from event marketing to enhance image and patronage operating in a retail setting (LeHew and Fairhurst, 2000; Parsons, 2003; Wakefield and Baker, 1998). Terblanche (1999) stated that features like entertainment, relaxation and spending good time with friends draw consumers toward shopping malls. Entertainment facility is also endorsed by Bloch et al. (1994). Having a cinema in a shopping centre, and specific areas for holding special events add to the entertainment factor in a shopping mall (Bellenger et al., 1997). When a shopper has multiple alternatives available, promotional activities have a significant impact on mall traffic; in essence, promotional activities (e.g., mall fashion shows) help differentiate otherwise similar malls (Parsons, 2003).

Promotions that offer shoppers direct experience result in increased persuasion, which in turn result in enhanced purchase intent. The event may appeal to emotion
with sensory depth, breadth, and richness. Thus, the persuasive nature of events may elicit shoppers’ willingness to shop. (Faber and Stafford, 2004).

Yan and Eckman (2009) in their study on consumer practice evaluated shopping centres with unique design, architecture, entertainment, and restaurants to be more attractive.

1.4.4 Facilities Management refers to the integration of people, place, process and technology in a building. It broadly includes management of infrastructure, ambience and traffic. Infrastructure refers to the management of facilities provided to the tenants within a mall. Ambience includes the overall experience provided to the consumers i.e. management of parks, layout and the overall look of a mall. Traffic includes managing foot traffic into the mall and parking facilities. Wakefield and Baker (1998) in their research identified four factors which contributed the most to the mall excitement namely ambience, design, layout and variety. They further explained that each factor is composed of multiple attributes which include architecture, temperature control, variety of stores, music, ease in locating stores and lighting. These features influence the desire to stay at a mall.

Kaufman, (1996) stated that operating hours and time taken to reach the retail outlet are one of the main criteria which the consumers look for while selecting a shopping outlet. He also stated that consumers are getting more and more inclined towards a “one stop destination” for their shopping purpose. Berman and Evans (1995) stated that shopping mall is a one stop station which allows consumers to make comparison on goods and services offered.

Venkateswarulu and Uniyal (2007) proposed a set of attributes for shopping malls in the city of Mumbai (India). They found that attractiveness of a mall depends on appeal and convenience, amenities and atmospherics, ambience, personnel, parking and seating. They also suggested some new attributes like restrooms (utilities), smell (odour), security and size of stores.

Singh and Prashar (2013) conducted a study on shopping experience in Dubai. Shopping experience comprises of five factors: ambience, convenience, physical infrastructure, marketing focus, safety and security. These researchers found that Shopping malls can offer unique and differentiated shopping experience to their shoppers by carefully selecting facilities and services.
II. Objectives

The present work endeavours to study the mall culture and find out the role of attractive malls on shopping pattern of customers today. The research has been planned to identify the factors that motivate and influence a customer to visit a mall; to find out the transformation of malls into a place for socialisation, relaxation and spending time with family and friends. The paper further aims to find out the most preferred mall and preference for purchasing from shopping malls over high street. High street was once the only preference of customers but due to growing number of malls there has been a verge of preference towards shopping malls.

III. Research Methodology

Primary data was collected by administering a detailed interview schedule. Personal interviews were taken and observations were also made. The sample size consisted of 160 research scholars from faculties of Sciences and Arts of Panjab University, Chandigarh. Sciences included departments of Anthropology, Physics, Botany, Chemistry, Zoology, Geology and Nano-science and Arts covered departments of History, Psychology, Geography, Economics, Political science and Education. Both qualitative and quantitative indicators were used to analyze the data. In-depth interviews were conducted where questions asked related to the factors motivating customers towards shopping malls, the most preferred mall, the changing shopping patterns and preference of malls over high street for shopping and whether malls were really becoming places of wholesome entertainment for families today. Pretesting was followed by reframing of certain questions for added clarity. There were no rejected questionnaires as the field investigator personally filled the answers to all the questions asked. Chandigarh was chosen as locale of the study, as it is one of the most planned cities in India. It is an important commercial hub of the state of Punjab. The shopping malls in Chandigarh brilliantly cater to the needs of the shopaholics and the fashion lovers. Ranging from the famous brands like Prada, Gucci, Levis, and Pepe to the traditional local products, one would get it all at the Chandigarh shopping malls. The shopping centres in Chandigarh would surely take one through a unique shopping experience.

IV. Research Findings and Discussion

The profile of the respondents was analysed in Table 1. Respondents were
interviewed regarding their age, marital status, education, number of members in a family, income of family, religion, caste, family type, faculty they are enrolled in and whether they stay in hostels or they are day scholars.

Table 1: Demographic profile

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<th>AGE</th>
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<td>26-28</td>
<td>87</td>
<td>54.4</td>
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<tr>
<td>29-31</td>
<td>28</td>
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<td>32-34</td>
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<tr>
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<tr>
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<tr>
<td>4</td>
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<td>0-5Lkh</td>
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<tr>
<td>5-10Lkh</td>
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<td>31.9</td>
</tr>
<tr>
<td>10-15Lkh</td>
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<td>27.5</td>
</tr>
<tr>
<td>Income</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>15-20 lkh</td>
<td>29</td>
<td>18.1</td>
</tr>
<tr>
<td>20-25 lkh</td>
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<td>10.0</td>
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<tr>
<td>26-30 lkh</td>
<td>8</td>
<td>5.0</td>
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<tr>
<td>Above 30</td>
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**RELIGION**

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<tr>
<td>others</td>
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<td>3.8</td>
</tr>
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<td>Total</td>
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**CASTE**

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<th>Percent</th>
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<tr>
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<td>15.0</td>
</tr>
<tr>
<td>Bania</td>
<td>16</td>
<td>10.0</td>
</tr>
<tr>
<td>Brahmin</td>
<td>23</td>
<td>14.4</td>
</tr>
<tr>
<td>Jat</td>
<td>39</td>
<td>24.4</td>
</tr>
<tr>
<td>Rajput</td>
<td>25</td>
<td>15.6</td>
</tr>
<tr>
<td>others</td>
<td>33</td>
<td>20.6</td>
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<tr>
<td>Total</td>
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**FAMILY TYPE**

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<tr>
<th>Family Type</th>
<th>Frequency</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Nuclear</td>
<td>104</td>
<td>65.0</td>
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<tr>
<td>Joint</td>
<td>56</td>
<td>35.0</td>
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<tr>
<td>Total</td>
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</tbody>
</table>

**DEPARTMENT**

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<th>Department</th>
<th>Frequency</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Sciences</td>
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<td>51.9</td>
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<tr>
<td>Arts</td>
<td>77</td>
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<tr>
<td>Total</td>
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**RESIDENCE**

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<th>Residence</th>
<th>Frequency</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>HOSTLER</td>
<td>93</td>
<td>58.1</td>
</tr>
<tr>
<td>DAYSCHOLAR</td>
<td>67</td>
<td>41.9</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>100.0</td>
</tr>
</tbody>
</table>
The analysis showed that of the 160 respondents (females and research scholars), 54.4% belonged to the age group of 26-28. 23.1%, 17.5% and 5% were from 23-25, 29-31 and 32-34 age group respectively. Out of which, 73.7% of the respondents were unmarried and 26.3% were married. Based on the family size, 21.7% of the respondents have up to 3 members in the family, whereas 35% and 28.8% of the respondents have up to 4 and 5 members in the family. Moreover about 8.8% and 4.4% have up to 6 and 7 members in the family. Only a very small percentage, about 1.3% has above 7 members in the family.

Regarding family income, 31.9% and 27.5% of the respondents have an income less than 10 lakhs and 15 lakhs respectively. Moreover, 18.1% and 10% earn less than 20 lakhs and 25 lakhs respectively. A very low percentage, 5% and 3.1% of the respondents belong to income levels between 25-30 lakhs and above 30 lakhs respectively. However, 31.2% belonged to Sikh religion whereas 65% belonged to Hindu religion. A very low percentage (3.8%) of the respondents belonged to other religions. Based on the caste-wise distribution, 24% belonged to Jat community. 15.6% and 15% to Rajput and Arora/Khatri community. While 14.4% were Brahmins. Only 10% were Banias. 20.6% of the respondents belonged to other category. These other communities were S.C./S.T/Ramgaria etc. It was further seen that 65% of the respondents belong to Nuclear family whereas 35% of the respondents belong to joint family. 48.1% of the respondents were from faculty of Arts. Whereas, 51.9% of the respondent were from faculty of Science. Henceforth, 41.9% of the respondents stay with their families or out of hostels whereas, 58.1% of the respondents live in hostels away from their parents.

The preference of customers for shopping at malls or open spaces is presented in Table 2. Preference of respondents to shop at Malls, Sector17 plaza, Sector 22 market and other sector markets was analysed from the data.

Table 2: Customers preference for shopping at Malls/High Street Open Markets

<table>
<thead>
<tr>
<th>Usually go for shopping</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malls</td>
<td>33</td>
<td>20.6</td>
<td>20.6</td>
<td>20.6</td>
</tr>
<tr>
<td>Sector 17</td>
<td>12</td>
<td>7.5</td>
<td>7.5</td>
<td>28.1</td>
</tr>
<tr>
<td>Sector 22</td>
<td>7</td>
<td>4.4</td>
<td>4.4</td>
<td>32.5</td>
</tr>
</tbody>
</table>
It was seen that the most preferred destination for shopping was the Malls and Sector 17 plaza together (26.3%). Sector 17 plaza is actually a strip mall/highstreet market and is one of the oldest market places of Chandigarh. Even when the malls had not arrived it was a high end popular destination for people. This strip mall/highstreet market and other malls raised in extravagant buildings have stores that sell national and international quality branded products. These stores are not located in other sector markets and not even in sector 22 market which is another historical landmark market of the city. However, preference for Malls, Sector 17 and sector 22 market is third on the preference list with (18.8%) after Malls (20.6%) and Malls and Sector 17 (26.3%). Very few respondents gave preference to shop in just Sector 17 (7.5%) or just Sector 22 (4.4%).

The result showed that the malls have become a common place for leisure, family get together and entertainment. High street is still popular among shoppers but changing needs of customers has given rise to Mall Culture.

Further the respondents were asked whether they prefer malls or highstreet for shopping. One of the respondents who preferred ‘Malls over highstreets’

(Aanchal Batra, age 27, Sciences, Hindu Khatri, Married, Punjab) mentioned

“Malls are for enjoyment, shopping, fun and are stress busters. One gets all facilities under one roof. Sector 17 is just for shopping and there is no entertainment in sector 17, so we don’t take our guests to 17 now, we rather take them to malls”

When respondents were interviewed, Some respondents rated malls and 17
equally.

(Ankita, age 28, Unmarried, Rajput, Hindu, Himachal Pradesh, non hostler, Science) stated that

“Elante and Sector 17, both are very spacious and sell a variety of brands, I don’t understand the reason why people have shifted from 17 to Elante”

Just 1.3 % of the respondents preferred any other markets. One of the respondent, (Anita Gupta, age 27, Bania, Hostler, Unmarried, Nuclear family) mentioned that

“I don’t prefer malls, I feel rates in malls are much higher, I have seen same sandal at price of 500 in 15 sector, @ of 900 in 17 and 1500 in Elante. Malls are far off, Easy accessible is Sector 17, 15 and 22”.

Keeping the above data and narratives in view, it is opined that majority of the respondents prefer to shop in malls and sector 17 plaza (either or both) and represent mall culture. Only, a very low percentage felt that although they wanted varieties in styles they still desired to remain within a pre determined price range and felt that middle rung markets usually stock stylish products at reasonable prices.

Table 3 represents the number of visits made by customers to Malls or High street for shopping.

*Table 3: Frequency of visits made by customers to Malls and High Street Markets for Shopping*

<table>
<thead>
<tr>
<th>Frequency of Visits</th>
<th>Frequency of Visits to Malls</th>
<th>Percentage (%)</th>
<th>Frequency of Visits to High Street Markets</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once a week</td>
<td>9</td>
<td>5.6</td>
<td>25</td>
<td>15.6</td>
</tr>
<tr>
<td>Once in 2 weeks</td>
<td>31</td>
<td>19.4</td>
<td>43</td>
<td>26.9</td>
</tr>
<tr>
<td>Once in 3 weeks</td>
<td>12</td>
<td>7.5</td>
<td>12</td>
<td>7.5</td>
</tr>
<tr>
<td>Once in a month</td>
<td>57</td>
<td>35.6</td>
<td>39</td>
<td>24.4</td>
</tr>
<tr>
<td>Once in 2 months</td>
<td>25</td>
<td>15.6</td>
<td>20</td>
<td>12.5</td>
</tr>
<tr>
<td>Once in 3 months</td>
<td>14</td>
<td>8.8</td>
<td>9</td>
<td>5.6</td>
</tr>
</tbody>
</table>
Once in 4 months | 8 | 5.0 | 6 | 3.8  
Any other, Specify | 4 | 2.5 | 6 | 3.8  
| 160 | 100.0 | 160 | 100.0  

It can be seen from the data that the Indian customer has begun his journey on the “Mall road”. Malls are flourishing as a natural course of this action. Sector 17, once the only high street market, is facing fierce competition from Shopping malls. Due to changing shopping needs, the pattern of shopping has received a swift change. The figures showed that 35.6 % of the people prefer going to malls for shopping whereas 24.4 % prefer going to High street market once in a month. However, on weekly basis, 5.6 % of the respondents prefer going to malls for shopping as against 15.6 % of people who prefer going to High street markets. The reason for this is attributed to nearby accessibility and convenience of shopping. This is followed by 19.4 % shoppers visiting the malls as compared to 26.9 % shoppers visiting highstreet every 2 weeks. Except weekly, 2 weekly and four monthly visits, more number of visits were made to malls as compared to highstreets. It is further seen that 15.6 % respondents go to the malls as compared to 12.5 % respondents visiting highstreet every 2 months. It is possible that family needs and requirements are such that they choose to visit the malls after every 2 months. If the data is analysed, seeing the visits to malls every 15 days, monthly and 2 monthly collectively. It is seen that more than 70 % of the people are a part of this mall culture which is a very significant percentage as compared. These figures reflect the emerging mall culture in the population.

The Table 4 analysed the ranking/preference towards shopping malls by the respondents.

Table 4. Rating of malls

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Centra</th>
<th>DT</th>
<th>Elante</th>
<th>Funre-public</th>
<th>North Country</th>
<th>Piccadly</th>
<th>Sector 17</th>
<th>Waves</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.3</td>
<td>.6</td>
<td>64.4</td>
<td>.6</td>
<td>5.6</td>
<td>2.5</td>
<td>33.1</td>
<td>.6</td>
</tr>
<tr>
<td>2</td>
<td>4.7</td>
<td>18.1</td>
<td>23.1</td>
<td>3.8</td>
<td>15.6</td>
<td>6.9</td>
<td>30.6</td>
<td>.6</td>
</tr>
<tr>
<td>3</td>
<td>14.1</td>
<td>26.2</td>
<td>2.5</td>
<td>7.5</td>
<td>10.0</td>
<td>8.8</td>
<td>18.8</td>
<td>2.5</td>
</tr>
<tr>
<td>4</td>
<td>21.9</td>
<td>13.1</td>
<td>2.5</td>
<td>20.6</td>
<td>5.0</td>
<td>15.6</td>
<td>6.9</td>
<td>6.9</td>
</tr>
<tr>
<td>5</td>
<td>20.3</td>
<td>10.0</td>
<td>.6</td>
<td>13.1</td>
<td>6.2</td>
<td>20.0</td>
<td>2.5</td>
<td>11.2</td>
</tr>
<tr>
<td>6</td>
<td>11.7</td>
<td>5.0</td>
<td>.6</td>
<td>13.1</td>
<td>7.5</td>
<td>8.1</td>
<td>2.5</td>
<td>15.0</td>
</tr>
</tbody>
</table>
Respondents were asked to rate malls on a scale of 1 to 8. It was analysed from the data that 64.3% respondents considered Elante as first preferred destination for shopping, as when asked from the respondents about considering Elante as first preference, they said that it is the most happening place in Chandigarh with all brands and facilities under one roof. In case of second preference, the maximum respondents gave rating to Sector 17 mall (30.6%), as respondents felt that Sector 17 was earlier called the heart of Chandigarh, but now adays, one can’t find all brands and eating houses in sector 17. D.T. mall was rated as the third preference(26.2%), when asked from the respondents about their preference for D.T. mall, they said there was one time when we have totally stopped going to this mall but as of know it has again gained its revival and it has been called a premium outlet mall as one would get all brands on discount.

Fun republic was rated as fourth preference(20.6 %). Piccadly mall was given the fifth preference (20 %) whereas waves mall was rated as the sixth preference and centra mall as the seventh(19.3%). When the respondents were asked about their preference of these malls, they said they prefer these malls for movies. North Country mall was the least preferred of all malls as it is far away from the university campus.

Some respondents prefer Elante mall more than any place,

(Uma, aged 27, Unmarried, Haryanvi Jaat, Arts,) believed that “I prefer Elante more than any place, It is more time saving and money, You get all facilities and brands under one roof, no worries about weather and relieves your stress”.

(Apneet aged 30, Jat sikh, Science, Day scholar, Nuclear family) mentioned “Waves, Piccadly, Fun republic and Centra mall, We prefer more for movies”.
About North Country mall, When they opened it, 75% of the mall space was vacant, that gave a first impression that it is not fully occupied. It is on outskirts near kharar (Punjab) and is very far away, But it has very good architecture, greenery and spacious.

(Ratika, age 26, Hindu Rajput, Joint family, Hostler , Sciences) said that

Malls are better, one would get variety, one would get cheapest products to the most expensive products under one roof along with air conditioning also. Further when asked about her views about D.T. mall, she said I used to love it, watch movies in D.T but after opening of Elante, I have stopped going to D.T but again started visiting this mall, when it got covered to Premium outlet mall.

Some of the respondents preferred Malls over Sector 17.

(Veerpal, aged 28, Arts, Unmarried, Jat sikh, Joint family, Day scholar) believed that Malls are well organised, you get everything under one roof. I liked the exterior of D.T. mall, Till date I prefer Elante, I like the entrance of NCM with flowers everywhere.

Sector -17 is rushy, and not so clean as malls, you don’t get all brands there.

When asked the respondents why they preferred Sector 17 more than Malls

(Harpreet kaur, aged 28, Unmarried, Jat sikh, Joint family) belonging to Chandigarh, mentioned

“I feel sec-17 is a better market, A part from shops they have recreation, fountains, open air and it has branded and non branded stores both whereas I believes it caters to high end customers, middle class people I believe don’t prefer malls as they are more restricted to shopping only”.

Keeping the above narratives in view, Mall culture has form part of our lives today. It is not that people do not prefer high street but they feel more comfortable to be a part of mall culture.

The Table 5 showed the factors that motivates shoppers to visit a mall.
Table 5: Factors that Motivate customers to go inside a Mall

<table>
<thead>
<tr>
<th></th>
<th>Aesthetics</th>
<th>Cleanliness &amp; Orderliness</th>
<th>Convenience of shopping under same roof</th>
<th>Food</th>
<th>Movies</th>
<th>Socialisation</th>
<th>Window shopping</th>
<th>Visual merchandising displays</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11.9</td>
<td>28.1</td>
<td>3.1</td>
<td>59.4</td>
<td>8.1</td>
<td>25.0</td>
<td>5.0</td>
<td>9.4</td>
</tr>
<tr>
<td>2</td>
<td>12.5</td>
<td>23.8</td>
<td>10.0</td>
<td>8.1</td>
<td>20.0</td>
<td>22.5</td>
<td>10.0</td>
<td>20.0</td>
</tr>
<tr>
<td>3</td>
<td>11.2</td>
<td>8.8</td>
<td>12.5</td>
<td>11.9</td>
<td>17.5</td>
<td>12.5</td>
<td>10.6</td>
<td>16.9</td>
</tr>
<tr>
<td>4</td>
<td>15.0</td>
<td>8.8</td>
<td>11.2</td>
<td>5.6</td>
<td>18.1</td>
<td>15.6</td>
<td>11.9</td>
<td>11.9</td>
</tr>
<tr>
<td>5</td>
<td>9.4</td>
<td>13.8</td>
<td>15.0</td>
<td>5.6</td>
<td>9.4</td>
<td>4.4</td>
<td>13.1</td>
<td>8.8</td>
</tr>
<tr>
<td>6</td>
<td>8.8</td>
<td>9.4</td>
<td>13.8</td>
<td>1.9</td>
<td>5.0</td>
<td>6.2</td>
<td>13.1</td>
<td>8.8</td>
</tr>
<tr>
<td>7</td>
<td>10.6</td>
<td>5.0</td>
<td>12.5</td>
<td>3.8</td>
<td>8.8</td>
<td>3.8</td>
<td>10.6</td>
<td>7.5</td>
</tr>
<tr>
<td>8</td>
<td>9.4</td>
<td>1.9</td>
<td>10.6</td>
<td>1.9</td>
<td>6.2</td>
<td>5.0</td>
<td>13.8</td>
<td>5.0</td>
</tr>
<tr>
<td>9</td>
<td>11.2</td>
<td>.6</td>
<td>10.6</td>
<td>1.9</td>
<td>6.9</td>
<td>5.0</td>
<td>11.2</td>
<td>11.2</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>99.4</td>
<td>100.0</td>
<td>100.0</td>
<td>99.4</td>
<td>99.4</td>
<td>99.4</td>
</tr>
<tr>
<td>Missing</td>
<td>.6</td>
<td>.6</td>
<td>.6</td>
<td>.6</td>
<td>.6</td>
<td>.6</td>
<td>.6</td>
<td>.6</td>
</tr>
</tbody>
</table>

Motivating factors | Mean  | Std. Deviation |
---                 |       |                |
Convenience of shopping | 2.31  | 2.050          |
Cleanliness & Orderliness | 3.18  | 2.082          |
Movies | 3.41  | 2.375          |
food | 4.23  | 2.342          |
Widow shopping | 4.40  | 2.541          |
Visual merchandising displays | 4.51  | 2.495          |
Aesthetics | 4.81  | 2.605          |
Coffee & Bakery | 5.35  | 2.292          |
Socialisation | 5.38  | 2.402          |
Valid N (listwise) |       |                |

It was analysed that 59.4 % of the respondents felt convenience of shopping under
one roof as the most important motivating factor, 23.8% felt cleanliness and orderliness as second motivating factor followed by movies (22.5%). 17.5% of the respondents gave third preference to food followed by window shopping (16.9%). However, Visual merchandising displays (18.1%) were rated as fourth motivating factor followed by food (18.1%). Moreover 15% of the respondents rated Coffee & Bakery as Fifth factor followed by Socialisation (13.1%) as sixth factor and Aesthetics (10.6%) as seventh motivating factor.

Kaufmann (1996) in their study also considered convenience of shopping under one roof as an important motivation factor for choosing a mall. Loudon and Bitta (1993) also seek convenience as an important factor who put time and effort in finding a parking space, particular department or product.

Oom and Sim conducted a study of nine shopping malls in Singapore in 2003 and examined the impact of cinemas on malls, Cinema was rated as the 5th important reason for visiting the mall s compared to our study, Movies are rated as third important option, whereas in our study 25% of the respondents movies as their first motivating factor for visiting a mall, and the same percentage i.e. 25% “said that they were at the mall to see a movie” according to the study conducted by Ooi and Sim

Some of the respondents who preferred aesthetics and cleanliness gave different views

“Malls are very well decorated during festivals”

“Malls are very spacious, have very good architecture, design and greenery appeals us”

One of respondent mentioned “One gets a very clean atmosphere in the mall”

(Kanchan age 25, unmarried, Hindu Rajput, non hostler, Joint family), I feel malls provides everything under one roof, one gets all brands and facilities under one roof, Hum movies dekhne jate hai sath me, shopping kar lete hai (we go to watch movies along with that we do shopping also).
(Rachna, age 26, unmarried, Hostler, Nuclear family) mentioned that one gets variety of products under one roof. Khana, pina, buisuit, bakery (food, drinks, biscuit, bakery) all under one roof along with safe parking. One can have coffee after the movie, all entertainment in one go.

The figures clearly showed that shopping under one roof not only provides all brands at one place but also has provision for air conditioning, play area for kids, washrooms, availability of food, beverage and basic daily products, all within one area thus saving a lot of time and money.

The Table 6 showed the preference of visiting mall in the company of family and friends.

**Table 6: Preference of respondents to visit a mall in the company of peers or members of the Family**

<table>
<thead>
<tr>
<th>Visit mall with</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends</td>
<td>13</td>
<td>8.1</td>
<td>8.1</td>
<td>8.1</td>
</tr>
<tr>
<td>family</td>
<td>33</td>
<td>20.6</td>
<td>20.6</td>
<td>28.8</td>
</tr>
<tr>
<td>Both friends and family</td>
<td>108</td>
<td>67.5</td>
<td>67.5</td>
<td>96.3</td>
</tr>
<tr>
<td>Alone</td>
<td>5</td>
<td>3.1</td>
<td>3.1</td>
<td>99.4</td>
</tr>
<tr>
<td>Any other</td>
<td>1</td>
<td>.6</td>
<td>.6</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>160</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

The findings unfolded that the maximum number of respondents (67.5 %) preferred going to mall with both friends and family. Only, 20.6 % of the respondents preferred going to malls with family. Whereas 8.1 % of the respondents preferred going to shopping malls with friends.

Moreover only, 3.1 % of the respondents preferred visiting alone to shopping malls.

When respondents were asked about their preference of visiting mall,

One of the respondents, Japinder aged 26, Science faculty, Hostler, Arora sikh, Unmarried, Nuclear family said that I prefer to visit mall with both family and friends for shopping, watching movies and having fun with them.
Another respondent, Raj kumari, age 34, married, Hindu Rajput, Joint family, sciences, non hostlers mentioned that I feel comfortable in malls and I prefer to shop with my family as I get stuff for my husband, myself and daughter.

From the figures, it was analysed that the entire families has got a place where they can spend the whole day- shopping, eating, watching movies and getting wholesome entertainment and thus mall culture has increased family bonding within the family.

V. Conclusion

It is often said that “change is the only factor which is sure to come”. Advancement in technology and economic liberalisation has brought a major change in the lifestyle and consumption behaviour of customers. Connaught Place in Delhi, MG road in Bangalore, Mount road in Chennai, Linking road in Mumbai, Sector – 17 market in Chandigarh were the hall marks of retailing till 1990s. High-street markets were the only places for shopping. The rising urban population and increasing demand for open spaces have lead to mushrooming of multi-storeyed shopping malls across the country. The concept of shopping has changed. Expectations of customers have increased. They want a pleasurable shopping experience with active purchasing. The Indian Retail Sector is booming and the shopping malls are fast becoming shopping cum entertainment centres.

The results of the present study reveal that Shopping malls have gained maximum popularity and preference among visitors/ shopper. Research indicates that majority of the consumers prefer visiting shopping malls over High street markets or any other market. While High street markets might still be popular among some shoppers but due to the availability of comfort and amenities in malls the latter prove to be more attractive destinations for shoppers. Elante mall was rated as the most preferred destination for shopping followed by Sector 17 and other malls. The main purpose for visiting a mall is shopping followed by wholesome entertainment. From the data of this study, it can be seen that convenience of shopping under one roof is the most important dimension that attracts customers to malls. The other dimensions are cinema shows, cleanliness, eateries, coffee houses and no weather worries. Visual merchandising display is also an important motivating dimension affecting footfall and sales in mall. Shopping malls not only provide suitable place for the visitors to rest but also add an element of fun and
excitement in their shopping activity. The ambience, security, safety, architecture, parking, reduced shopping time, are other factors that attract shoppers to malls. Due to change in shopping and lifestyle patterns, malls have been transformed into a place for socializing, relaxing, entertainment for the entire families. Consumers perceive malls as a one stop destination for fulfilling their various daily needs. It is a one common place for hanging out with friends, having food with family, catching up with a movie and updating oneself about brands and their product ranges.

A well planned and implemented strategic positioning is critical for the success of malls in India. Also well designed mall with appealing aesthetics may not be sufficient to ensure a malls success. Hence there is a need to differentiate a mall from its competitors. To ensure that a mall attracts retailers and consumers, professional mall management is a necessity. The mall market is an extremely competitive one, having a high degree of internal and external competition. To lure retailers and consumers to its premises a developer has to ensure that the property follows the best practices in the market especially in terms of mall management.

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GOVERNANCE DISCLOSURE ON THE INTERNET BY LEADING INDIAN PUBLIC SECTOR COMPANIES

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Abstract

Nowadays, internet satisfying the people with different services related to different fields. The profit as well as non-profit organization use internet for various business purposes. One of the major is communicates various financial as well as non-financial information on their respective websites. Most of the public and private sector organizations in India provide financial information on the web. This study is conducted on top 30 BSE listed public sector companies, to measure the extent of governance disclosure (non-financial information) on their web pages. The content analysis approach to examine the extent of governance disclosure on internet was used. The governance index was constructed and broadly categorized into three dimensions i.e., organisation and structure, strategy & Planning and accountability, compliance, philosophy & risk management. The empirical evidence of the study reveals that that all the Indian public sector companies have website and on average 67% companies disclosed some kind of governance information directly on their websites. Further, we found extreme variations in the web disclosure between the three categories i.e. The Maharatans, The Navratans and Miniratans. But, result of Analysis of Variance (ANOVA) indicates that there is no such significant difference between the three categories. The study provides valuable insights with regard to the Indian economy. It explored that Indian public sector companies use the internet for governance disclosure at some extent, but lacks symmetry in the disclosure. It is because there is no such regulation for the web disclosure. Thus,
the recommendation of the study highlighted that there must be such a regulated framework for the web disclosure, so that stakeholders ensure the transparency and reliability of the information.

**Keywords:** Internet, Corporate Reporting, Governance, Public Sector.

### Introduction

In India, governance has been defined as the policies, procedures and rules governing the relationships between the shareholders, directors and managers in a company, as per the present applicable laws. The basic framework for governance regulations are provided by Companies Act, 1956 and SEBI in 1992. SEBI got regulatory power by the Indian parliament to regulate the capital market in India. To ensured the best practice of corporate governance in India SEBI worked with various committee over the period of time and finally revised the Clause 49 in 2003 for the effective governance practice by the all listed Indian companies.

With the rapid expansion of internet it became a new way of communication globally, influence both developed and developing nations. The business world or corporate sectors use the internet for the business communication (Lymer, 1997; Xiao et al., 1997; Marston and Leow, 1998; Ashbaugh et al., 1999). The current paper examines the corporate governance disclosure practices on the internet by non-financial public sector companies. Companies Act, 1956 defined public sector companies are those where the direct holding of the Central Government or of other CPSEs is 51% or more. The paper specifically concern on the transparency of governance information of public sector companies.

### Literature Review

While there is growing literature on the nature and extent of Internet use for financial and non-financial disclosure. A large amount of literature is available for financial reporting through, but specifically on governance disclosure few studies were conducted in developed economy. In Indian context no such study is conducted.

Lymer, 1997 analyzed the 50 largest UK listed companies and reported that 92% had websites and 68% reporting financial information. Marston and Leow,
1998 examined FTSE-100 UK companies and reported companies utilizing their websites for disclosure and further found the positive relationship between company size and financial information on the internet. Ashbaugh et al., 1999 examined 290 non-financial AIMR firms and found 87% firms had websites and 70% of them are engaged in internet financial reporting, further they conclude that firm with websites are larger and profitable as compare to non websites firms. Lymer et al., 1999 surveyed web based financial reporting practices of the 660 public corporations in 22 countries in Europe, Asia Pacific, North and South America. It was found that 86 percent of the sampled companies had websites while 410 (72%) companies had some form of financial reporting on their websites. FASB, 2000 studied 100 Fortune companies and found 99% had websites and 94% utilize their web pages for financial information. Marston, 2003 examined 99 Japanese companies and found 92% had websites and 69% disclosed financial information. Shiri et al., 2013 surveyed 48 financial and 36 non-financial attributes of reporting among companies listed on Tehran stock exchange and concluded the non-financial disclosure is weak among Iran companies. Ibrahim, 2014 examined the Internet disclosure practices among 76 largest Nigerian companies and found positive statistical significant relationship between internet disclosure and firm size and industry type. Whereas, negative association was found between internet disclosures and firm listing age, growth, ROI, and ownership diffusion.

The above stated studies investigated the financial information on the company’s websites, few studies has been conducted with regard to governance disclosure. Jiang et al., 2009 investigated 30 Dow Jones companies on governance disclosure and found companies disclosed information in limited manner. Gandia, 2008 examined 92 non financial Spanish companies and observed only 20% companies report governance information on their respective websites they further analyses the determinants of corporate governance and found size of board, CEO duality and free float has no impact on governance disclosure in Spanish companies. Stewart et al., 2012 analyses 36 Australian state government department and found 72% reports about organizational structure and 67% has link to strategy and planning on their websites. Silva and Onusic, 2014 studied the determinants of e-disclosure among 314 non financial Brazilian companies and on average 66% companies had investor portal on their website and disseminating financial and governance information at some extent. He further confirms that larger and long listed companies disseminated more financial and corporate governance information on web sites. Botti et al., 2014 studied corporate governance quality
and Internet financial disclosure among 32 French companies and found 28% sampled firm’s board of director as well as committee monitor the efficiency of web based disclosure.

The above stated literature data covering developed and emerging economy, while with regard to India few studies has been conducted (Garg and Verma, 2010; Singh 2009; Singh, 2013) on financial and non-financial disclosure on Indian companies websites which included governance disclosure. Thus, present paper aim to fill the gap of literature and adding the existing literature by study the corporate governance disclosure through web by Indian public sector non-financial companies and measure the nature and extent of governance disclosure on internet of selected companies.

**Research Methodology**

**Sample**

The present paper is based on the 30 non financial public sector undertakings in India. This, companies are selected on the basis of market capitalization. The fact to select companies on market capitalization, as firms with websites and provide some information on it, were larger and more profitable as compare to firms without websites (Ashbaugh et al., 1999).

**Data Collection and Analysis**

For the data collection firstly, it is checked whether the sampled companies have website or not. If the sample company fulfills the first criteria, then it is measured through corporate governance index (CGI). For determining the content of corporate governance on websites, the environment of regulatory framework in India was analysed. The important items as per clause 49 of SEBI Act, 1992 and some other voluntary items (Garg, 2005; Singh, 2009; Gandia, 2008 and Stewart et al., 2012) are included in corporate governance index. The index is distributed broadly into three categories organisation and structure, strategy & Planning and accountability, compliance, philosophy and risk management. The corporate governance checklist is shown in Table 1.

In the present study, the corporate governance disclosure is analysed through the direct observation of websites. The criteria for assigning score is we checked
whether the checklist attributes were present on the homepages of companies or direct link was given to the required information. We assigned 1 if the required information is available on the websites otherwise 0. The total score is calculated by the number of attributes present on the websites of companies. The maximum score a company can achieve is 15 and minimum of 0.

Table 1: Corporate Governance Disclosure Index and Disclosure Score

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Score</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Organization and Structure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Companies Background</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>Board of Director</td>
<td>29</td>
<td>97</td>
</tr>
<tr>
<td>Information on BOD</td>
<td>20</td>
<td>67</td>
</tr>
<tr>
<td>List OF Board Committee</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Organisation structure</td>
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<td>27</td>
</tr>
<tr>
<td><strong>Strategy &amp; Planning</strong></td>
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<td></td>
</tr>
<tr>
<td>Mission</td>
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<td>87</td>
</tr>
<tr>
<td>Vision</td>
<td>25</td>
<td>83</td>
</tr>
<tr>
<td>Chairman Message</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td><strong>Accountability, Compliance and Risk Mgt</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEO/CFO certificate</td>
<td>14</td>
<td>47</td>
</tr>
<tr>
<td>Code Of Ethical Conduct</td>
<td>25</td>
<td>83</td>
</tr>
<tr>
<td>Shareholding Pattern</td>
<td>27</td>
<td>90</td>
</tr>
<tr>
<td>Management discussion &amp; analyses</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Policies</td>
<td>26</td>
<td>87</td>
</tr>
<tr>
<td>Investor Contact</td>
<td>23</td>
<td>77</td>
</tr>
<tr>
<td>Information On Board Meetings</td>
<td>25</td>
<td>83</td>
</tr>
</tbody>
</table>

**Hypothesis Development**

In order to measure the extent among public sector companies in more depth we classified the public sector companies on the basis of their turnover and power of board. The classification is based on department of public enterprises of Indian government. The null hypothesis for the classification is as follow:

H1. There is no significant association between the type of public sector companies
and the extent of governance disclosure on web.

**Result and Discussion**

1. The disclosure of governance information on website

**A. Content Wise**

The result of content analysis depicts that all the public sector companies provided some kinds of governance information on their web pages. Only few companies have different section of corporate governance on their websites, mostly companies provided this information under the Investor relation section. We analysis only those governance attributes which are available on web pages or hyperlink is provided to the required information. The disclosure score achieved and their percentages by the companies for three categories are shown in Table 1.

**Organisational and structure Information**

This section measured the general information of company such as their background, broad of director, board committee etc. the result indicates that 100% companies disclosed on company history and background, 97% companies provided information on board of director and 67% about their profile. On the other hand fewer public sector companies (27%) provided the structure of organisation or management on their websites. Only 20% companies has direct link to their important board committee which is very low. We find companies disclosed about their board committee in their annual report, but our study concerned only information available directly on web pages. These results are parallel to the findings of (Hussainey and al-nodel, 2008) that, majority of companies provided detailed information of company board and some companies on organizational structure.

**Strategy and Planning**

It has been found that companies were highly concern towards the disclosure of the strategy and planning. Still this is the voluntary information, beside this 87% companies disclosed information about their mission and 83% companies disclosed on vision. Information on chairman message is less commonly provided
by companies.

**Accountability, Compliance and Risk Management**

The good governance shows the accountability and transparency of the company’s affairs to the entire stakeholder equally. This section measured the disclosure on accountability and compliance toward regulation. Information on shareholding pattern, code of management conduct, company’s policies, investor contact and information on board meetings such as notice, result etc are provided on the web. It has been found that more than 80% of the sample companies has direct link to the aforesaid information on their websites. Surprisingly, with manner to compliance only 14 (47%) companies has provided CEO/CFO certificate on web. Furthermore, fewer companies have link to management discussion and analysis on the web. The result is consistent with the findings of Stewart et al., 2012, the fewer departments had section or link to compliance and risk management on their web pages.

**B. Company Wise**

Specifically, The BSE public sector undertaking has been classified on the basis of their annual turnover and powers to board into three categories i.e., The Maharatans, The Navratans and Miniratans. The objective for classification of public sector companies is to facilitate expansion of their operations. In our sample all 7 Maharatans, 13 Navratans and 10 Miniratans are included. Panel A of table 3 shows the descriptive statistics for the three groups of public sector companies. The mean of disclosure score for the three groups ranging between 9 to 10 which indicates very little variation among three groups. The highest disclosure score is 15 and the lowest is 6 which highlights the variation in governance disclosure among the public sector companies.

The company wise total disclosure score is computed under each of category. The percentage of total score is also computed for better comparison. The result indicates that total 30 companies disclosed some kinds of governance information on their respective web pages. On average 68% Maharatans, 64% Navratans and 70% Miniratans companies disseminating governance information on their websites. The variation is seen in the disclosure of governance information between the companies. Maximum score is achieved by NTPC Ltd (87%) from Maharatans,
National Building Construction Corporation Ltd (87%) from Navratans and SJVN Ltd (100%) from Miniratans. On bottom, minimum score is achieved by Bharat heavy electrical Ltd (47%) from Maharatans, Containers Corp. of India Ltd (40%) from Navratans and Mangalore refinery (47%) from Miniratans. Overall higher score is achieved by SJVN Ltd (100%), it disclosed full governance information on web and lower is achieved by Container Corp. of India Ltd (40%). Thus, the result highlighted that these companies utilizing the internet for higher transparency on corporate governance. It indicated the valuable insight that the regulated framework by SEBI has.

Table 3

<table>
<thead>
<tr>
<th>Panel A Descriptive Output</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies</td>
<td>Mean</td>
<td>Median</td>
<td>Min.</td>
<td>Max.</td>
<td>SD</td>
</tr>
<tr>
<td>Maharatans</td>
<td>10.14</td>
<td>10</td>
<td>7</td>
<td>13</td>
<td>2.11</td>
</tr>
<tr>
<td>Navratans</td>
<td>9.62</td>
<td>10</td>
<td>6</td>
<td>13</td>
<td>2.10</td>
</tr>
<tr>
<td>Miniratans</td>
<td>10.50</td>
<td>10.5</td>
<td>7</td>
<td>15</td>
<td>2.27</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B Company Wise Disclosure of Corporate Governance Information on Websites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies</td>
</tr>
<tr>
<td>Maharatans</td>
</tr>
<tr>
<td>Coal India Ltd.</td>
</tr>
<tr>
<td>Oil &amp; Natural Gas Corporation Ltd.</td>
</tr>
<tr>
<td>NTPC Ltd.</td>
</tr>
<tr>
<td>Indian Oil Corporation Ltd.</td>
</tr>
<tr>
<td>Bharat Heavy Electricals Ltd.</td>
</tr>
<tr>
<td>Gail (India) Ltd.</td>
</tr>
<tr>
<td>Steel Authority Of India Ltd.</td>
</tr>
<tr>
<td>Navratans</td>
</tr>
<tr>
<td>Bharat Petroleum Corporation Ltd.</td>
</tr>
<tr>
<td>Power Grid Corporation of India Ltd.</td>
</tr>
<tr>
<td>NMDC Ltd.</td>
</tr>
<tr>
<td>Power Finance Corporation Ltd.</td>
</tr>
<tr>
<td>Container Corporation of India Ltd.</td>
</tr>
</tbody>
</table>
full potential in the governance practices. Each company has higher concern on the strategy, planning, compliance stated by SEBI.

In order to test the hypothesis H1, analysis of variance test was conducted. The descriptive statistics for three groups present in Table 4. The mean score of Internet disclosure are almost similar among three categories. The ANOVA test result suggests that there is not any web disclosure difference among three groups of public companies as significant value (0.622) is higher than 0.05 levels. Thus the null hypothesis cannot be rejected which means there is no difference in the governance disclosure through web between the three categories of public sector companies.
Table 4: Analysis of Variance Output

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4.533</td>
<td>2</td>
<td>2.266</td>
<td>.484</td>
<td>.622</td>
</tr>
<tr>
<td>Within Groups</td>
<td>126.434</td>
<td>27</td>
<td>4.683</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>130.967</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Conclusion

The paper explored the results of a study that examines the websites of Indian public sector companies to determine the nature and extent of corporate governance information. First, our study reveals that all the Indian public sector companies have websites and on average 67% public companies disclosed some kind of governance information directly on their websites. Second, information on background of company, board of director, board meeting, mission & vision of company, shareholding pattern and policies are highly disclosed by the sampled companies. On contrary few companies disclosed about companies organisation structure, management discussion and analysis on their websites. Third, company wise score is computed on the classification provided by department of public sector enterprise. The result shows that on average 66% attributes are disseminated by public sector companies on their websites. The higher disclosure from sampled companies is achieved by SJVN Ltd, and lower by the Container Corporation of India Ltd. The high level of variation is seen between the companies on the disclosure of governance information on their websites. The variation may caused by various factors such as size of board, inclusion of independent director, ownership structure or some other determinates, we do not tried to measured the cause.

The study provides valuable insights with regard to the Indian economy. It explored that Indian public sector companies use the internet for governance disclosure at some extent, but lacks symmetry in the disclosure. It is because there is no such regulation for the web disclosure. Thus, the recommendation of the study highlighted that there must be such a regulated framework for the disclosure. Secondly, companies disseminated the information but not with the appropriate root. Some companies, governance information is available directly on the home
page, some disclosed under the investor relation category. Fewer companies have separate corporate governance category.

We acknowledge that the study has a number of limitations which should be kept in mind when interpreting the findings. First, study is based on only 30 public sector companies. Second, only non-financial companies were included. Third, the study is considered few attributes some other governance attributes may affect the result.

References


Management and Accounting, 14(1), 26-63.


ORGANIZATIONAL COMMITMENT OF PUNJAB CIVIL SERVICE OFFICERS IN RELATION TO DEMOGRAPHICS

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²Professor, School of Management Studies, Punjabi University, Patiala

Abstract

Organizational commitment is very important for the employees. Organizational commitment is a major issue in all types of organizations these days. The aim of this study is to find out the relationship between organizational commitment and demographic variables i.e. if gender, age, qualification and marital status of PCS officers influence their commitment level. Primary data was collected for the research purpose in the form of a questionnaire. A non-probability sampling design in the form of a convenient sampling method was adopted. According to the analysis of data, there is evidence of significant relationship between organizational commitment and demographic variables (gender, age and marital status). Specifically, demographics have a direct influence on the continuance commitment of the officers.

Introduction

Organizational commitment is an integral component of Human Resource management. The impact of organizational commitment on performance of the employees has made this construct a very important one for discussion and research purpose as we clearly know that committed employees perform better in comparison their counterparts who are not that committed. Organizational commitment has a direct relationship with the success of any organization in the
present scenario. Over the years, the concept of Organizational Commitment (OC) has become popular among the researchers of organizational and industrial psychology (Cohen, 2003). Moreover, commitment to an organization has been found to be related to a variety of organizational outcomes such as: increased employee performance and job satisfaction, reduced turnover and withdrawal cognitions, lower.

Absenteeism rate and increased organizational citizenship behavior (Fornes, Rocco, & Wollard, 2008; Meyer & al., 2002, Trunk et al., 2013, Babnik et al., 2014).

In simple words, organizational commitment is employee’s commitment towards his/her respective organization. In organizational behavior and industrial and organizational psychology, organizational commitment is the individual’s psychological attachment to the organization. It is the psychological bond between an individual and his/her organization that influences individuals to act in ways consistent with the interests of the organization (Hunt et al., 1989). This psychological link between the employee and his or her organization makes it less likely that the employee will voluntarily leave the organization (Feldman, 1995). Organizational commitment has been widely defined as identification and involvement with the organization centering on firstly, believing in the organization’s values and goals, secondly, exerting effort on behalf of the organization, and thirdly, a desire to remain with the organization (Mowday et al., 1979). Organizational commitment has also been defined as “a psychological state that characterizes an employee’s relationship with an organization and has implications for the decision to continue membership of the organization” (Meyer & Allen, 1991). There are three components of organizational commitment:

1. Affective commitment which refers to the employee’s identification or strong emotional attachment and involvement in the organization;
2. Continuance commitment which refers to an awareness of the costs associated with leaving the organization;
3. Normative commitment which reflects an obligation to continue belonging to the organization.

Organizational commitment has become an important issue in today’s highly competitive
business environment as because it is the human capital which has the potential to give the organizations the competitive edge with its ability to respond, adapt or change to keep pace with rapid technological advancements, workforce diversity, education advancements, organizational restructuring and the new ways of doing business.

**Literature Review**

Commitment comes into being when a person by making a side bet, links extraneous interests with a consistent link of activity (Becker, 1960). In general, the organizational commitment is considered as a useful measure of organizational effectiveness (Steers, 1977). Mowday et al. (1982) established that there are two perspectives of organizational commitment dominate the literature i.e. the behavioral perspective and the attitudinal perspective. The behavioral approach to commitment is concerned mainly with the process by which individuals develop a sense of attachment not to an organization but to their own actions. Attitudinal commitment sees commitment as an attitude reflecting the nature and quality of the linkage between an employee and organization.

Over the years, many researchers have associated demographic factors with organizational commitment (Angle et al, 1981; Mathieu et al, 1990; Allen et al, 1993; Salami, 2008; Azeem, 2010; Forkuoh et al, 2014). Research has shown that commitment has been positively related to personal characteristics such as age (Mathieu & Zajac, 1990), length of service in a particular organization (Luthans, McCaul & Dodd, 1985) and marital status (John & Taylor, 1999) and negatively related to the employee’s level of education (Glisson & Durick, 1988).

In addition, commitment has been found to be related to certain job characteristics such as task autonomy (Dunham, Grube & Castaneda, 1994), feedback (Hutchison & Garstka, 1996) and job challenge (Meyer, Irving & Allen, 1998) and certain work experiences such as job security (Yousef, 1998), promotion opportunities (Gaertner & Nollen, 1989), training and mentoring opportunities (Scandura, 1997), and supportive and considerate leadership (DeCottis & Summers, 1987). Finally, research studies have revealed that commitment is influenced by perceptions of organizational importance to individual employee’s social and personal development (McFarlin & Sweeney, 1992).
Objectives of the Study

The objectives of this study are:

To establish the relationship between demographics (age, gender and marital status) and organizational commitment of the officers.

To find out if demographics have an equal effect on affective, continuance and normative commitment and if not so, then which one is influenced more.

Research Methodology

Population

The total number of Punjab civil service officers makes up the population for this study.

Sample Size

Data was collected from 30 PCS officers.

*Table 1: Demographic characteristics of the sample*

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Characteristics</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>21-30</td>
<td>14</td>
<td>46.66</td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>10</td>
<td>33.33</td>
</tr>
<tr>
<td></td>
<td>41-50</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>18</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>12</td>
<td>40</td>
</tr>
<tr>
<td>Marital status</td>
<td>Married</td>
<td>20</td>
<td>66.66</td>
</tr>
<tr>
<td></td>
<td>Unmarried</td>
<td>10</td>
<td>33.33</td>
</tr>
</tbody>
</table>

From Table 1, it is clear that the majority of respondents belong to the age group of 21-30 representing 46.66% of the sample. Majority are men representing over 60% of the sample. Majority are married representing 66.66% of the sample.
**Sampling Technique**

Convenience sampling method was adopted and considered to be appropriate to gather information for this study.

**Research Instrument**

Organizational Commitment Scale (OCS) developed by Meyer & Allen (1993) was used to measure the organizational commitment. It is an 18 tem 6-point scale (1 = strongly disagree and 6 = strongly agree) to obtain information with three subscales which measures three types of commitment i.e. Affective commitment, Continuance commitment and Normative commitment with 6 items under each category.

**Proposed Hypotheses**

Personal characteristics included in this research are Age, Gender and Marital status. Figure 1 shows the relationship diagram for the proposed hypotheses.

- H1: There is a significant effect of age on affective commitment.
- H2: There is a significant effect of age on continuance commitment.
- H3: There is a significant effect of age on normative commitment.
• H4: There is a significant effect of gender on affective commitment.
• H5: There is a significant effect of gender on continuance commitment.
• H6: There is a significant effect of gender on normative commitment.
• H7: There is a significant effect of marital status on affective commitment.
• H8: There is a significant effect of marital status on continuance commitment.
• H9: There is a significant effect of marital status on normative commitment.

**Statistical Analysis**

Descriptive and inferential statistics are used for analysis of the data. SPSS version 19.0 for Windows was used to perform all the procedures. As a preliminary step to data analyses, descriptive statistics such as the mean scores, standard deviation and Cranach’s alpha about the OCS scale were examined. Further, additional analyses to determine if there are any statistically significant differences in the mean scores for affective, continuance, and normative commitment based on demographics were determined. These analyses include ANOVA for age and Mann Whitney-U test for gender and marital status.

**Results and Discussion**

Table 2 shows Descriptive statistics in the form of arithmetic means, standard deviations and Cronbach’s alpha coefficients for respondents.

*Table 2: Descriptive statistics of OCS*

<table>
<thead>
<tr>
<th>Variables</th>
<th>No. of items</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
<th>Cronbach’s alpha coefficients</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective commitment</td>
<td>6</td>
<td>3.8777</td>
<td>1.09</td>
<td>11</td>
<td>36</td>
<td>0.70</td>
<td>30</td>
</tr>
<tr>
<td>Continuance commitment</td>
<td>6</td>
<td>3.5</td>
<td>0.95</td>
<td>12</td>
<td>31</td>
<td>0.448</td>
<td>30</td>
</tr>
<tr>
<td>Normative commitment</td>
<td>6</td>
<td>3.622</td>
<td>0.64</td>
<td>11</td>
<td>28</td>
<td>0.114</td>
<td>30</td>
</tr>
<tr>
<td>Total commitment</td>
<td>18</td>
<td>3.66</td>
<td>0.89</td>
<td>11</td>
<td>36</td>
<td>0.460</td>
<td>30</td>
</tr>
</tbody>
</table>
Table 2 shows the arithmetic means for the three OCS variables. Affective commitment has the highest mean followed by normative commitment and continuance commitment. That means that the majority of workers feel that they would be very happy to spend the rest of their career with this organization. It also means they are very happy with the organizational culture/facilities and committed to their organizational responsibility. The average total commitment of 3.66 (table 2) shows that the employees are relatively committed to the organization. The reliability score (Cronbach’s alpha coefficients) of all the sub-scales of OCS are reported as 0.70, 0.45 and 0.11 with total internal consistency of the OCS as 0.46.

Table 3 below shows the correlation between the three OC scales.

Table 3: Correlation between OCS factor and total commitment

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective Commitment</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuance Commitment</td>
<td>0.137</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Normative Commitment</td>
<td>0.407</td>
<td>-0.552</td>
<td>1</td>
</tr>
<tr>
<td>Total commitment</td>
<td>0.904</td>
<td>0.457</td>
<td>0.342</td>
</tr>
</tbody>
</table>

The results show the correlation between the three OC scales. It shows that there is a Moderate correlation between different dimensions of the OCS.

Table 4 shows the effect of age on organizational commitment. ANOVA is used to analyze the effect of organizational commitment on age.

Table 4: ANOVA and age

<table>
<thead>
<tr>
<th></th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective commitment</td>
<td>0.746</td>
<td>30</td>
</tr>
<tr>
<td>Continuance commitment</td>
<td>0.000</td>
<td>30</td>
</tr>
<tr>
<td>Normative commitment</td>
<td>0.282</td>
<td>30</td>
</tr>
<tr>
<td>Total commitment</td>
<td>0.100</td>
<td>30</td>
</tr>
</tbody>
</table>

The results show that a significance difference is found among different age groups of officers in case of continuance commitment thereby accepting H2. The mean ranks reveal that young people (belonging to the age group 21-30) show less continuance commitment and are more likely to leave their organization if
they get better opportunities and get a chance to leave their current organization. No significant differences were found among different age groups in context of affective commitment and normative commitment thereby rejecting H1 and H3. The results reveal that officers belonging to the age group of 31-40 years and 41-50 years are more likely to continue working with their current organization and are not likely to leave it. The reason to this commitment might be that they do not get better options compared to the opportunities that are more likely to be received by the younger ones and hence the cost attached to leaving the current organization is higher for them in comparison to their younger counterparts.

Table 5 reveals the effect of gender on organizational commitment. As the data of gender differences of the participants in organizational commitment dimensions are not distributed normally, Mann Whitney-U test is performed.

Table 5: Mann Whitney-U test for OCS and gender

<table>
<thead>
<tr>
<th></th>
<th>Gender</th>
<th>N</th>
<th>Mean rank</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective Commitment</td>
<td>Male</td>
<td>18</td>
<td>6.67</td>
<td>0.342</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>12</td>
<td>8.89</td>
<td></td>
</tr>
<tr>
<td>Continuance commitment</td>
<td>Male</td>
<td>18</td>
<td>9.78</td>
<td>0.044</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>12</td>
<td>5.33</td>
<td></td>
</tr>
<tr>
<td>Normative commitment</td>
<td>Male</td>
<td>18</td>
<td>6.94</td>
<td>0.259</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>12</td>
<td>9.58</td>
<td></td>
</tr>
</tbody>
</table>

The result shows a significant difference is found between male and female employees at significance level (P =0.05) in case of continuance commitment with mean rank of males higher than the females and hence H5 is accepted whereas, in case of affective and normative commitment, no significant differences were found among male and female officers. The results show that male officers show more commitment towards their organization in this respect. This situation can be interpreted that women think that the source of their commitment and identity is associated with their family roles (Aven et al. 1993).
Table 6: Mann Whitney U test for OCS and marital status

<table>
<thead>
<tr>
<th></th>
<th>Gender</th>
<th>N</th>
<th>Mean rank</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective Commitment</td>
<td>Married</td>
<td>20</td>
<td>8.10</td>
<td>0.902</td>
</tr>
<tr>
<td></td>
<td>Unmarried</td>
<td>10</td>
<td>7.80</td>
<td></td>
</tr>
<tr>
<td>Continuance commitment</td>
<td>Married</td>
<td>20</td>
<td>9.60</td>
<td>0.045</td>
</tr>
<tr>
<td></td>
<td>Unmarried</td>
<td>10</td>
<td>4.80</td>
<td></td>
</tr>
<tr>
<td>Normative commitment</td>
<td>Married</td>
<td>20</td>
<td>7.30</td>
<td>0.387</td>
</tr>
<tr>
<td></td>
<td>Unmarried</td>
<td>10</td>
<td>9.40</td>
<td></td>
</tr>
</tbody>
</table>

The result shows a significant difference is found between married and unmarried employees at significance level (P =0.05) in case of continuance commitment with mean rank of married officers higher than the unmarried ones which means that married people are more committed towards their organizations and are not likely to leave their organizations thereby accepting H8. In case of affective and normative commitment, no significant differences were found among married and unmarried officers. The results can be justified on the ground that married people have more family responsibilities and need more stability and security in their jobs and, therefore, are likely to be more committed to their current organization and continue working there as compared to their unmarried counterparts.

Table 7 shows Hypotheses Results

Table 7: Hypotheses Results

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: There is a significant effect of age on affective commitment.</td>
<td>Rejected</td>
</tr>
<tr>
<td>H2: There is a significant effect of age on continuance commitment.</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3: There is a significant effect of age on normative commitment.</td>
<td>Rejected</td>
</tr>
<tr>
<td>H4: There is a significant effect of gender on affective commitment.</td>
<td>Rejected</td>
</tr>
<tr>
<td>H5: There is a significant effect of gender on continuance commitment.</td>
<td>Accepted</td>
</tr>
<tr>
<td>H6: There is a significant effect of gender on normative commitment.</td>
<td>Rejected</td>
</tr>
<tr>
<td>H7: There is a significant effect of marital status on affective commitment.</td>
<td>Rejected</td>
</tr>
</tbody>
</table>
H8: There is a significant effect of marital status on continuance commitment. | Accepted

H9: There is a significant effect of marital status on normative commitment. | Rejected

Findings

This study shows that demographic characteristics have an effect on different dimensions of organizational commitment. The results on the level of commitment show that majority of the employees are moderately committed. The study reveals that older employees/officers (in this case, above 20 years of age) are more committed to their respective organizations when compared to the younger counterparts (less than 30 years). This research confirms the findings of (Al-Kahtani, 2002) and (Azeem, 2010) who found out that age is positively related to organizational commitment and older employees tend to be more committed compared to younger ones. The result can be justified on the grounds that younger employees have more job opportunities compared to older employees and hence are more likely to leave the present organization if they get better opportunities to move ahead. Also older employees are perceived to have invested much in the organization and hence their turnover intension reduces as the years go by. As (Amangala, 2013) argues “commitment increase with age and there is a positive relationship between age and organizational commitment”.

This study also reveals that male officers are found to be more committed compared to their female counterparts. This finding is consistent with the findings of (Kumsaey, 2014) who reported that, males were found to be more committed to their respective organization compared to females. The results show that gender has a significant relationship with organizational commitment.

The results also suggest that married officers have higher commitment towards this organization then the unmarried ones. Salami (2008) suggested that individual workers who are married are much committed than individuals who are single. The reason can be that married people have more family responsibilities and need more stability and security in their jobs and, therefore, are likely to be more committed to their current organization and continue working there as compared to their unmarried counterparts.
Out of the three components i.e. affective, continuance and normative commitment; continuance commitment plays a major role i.e. most of the employees perceive that the risks involved in leaving the current organization are pretty high and that is the reason why majority officers are committed to their respective organization.

**Conclusion**

This study provides information on organizational commitment in relation to demographic variables. Since individuals differ in terms of their commitment levels to organizations, it becomes important for the employers to take this thing into consideration and take the necessary measures to enhance commitment based on individual differences. It is important that the management puts in great deal of time and effort in order to understand different factors such that officers are encouraged to their best and hence they give their best. The organizational policies can be geared towards the improvement of employees’ commitment in order to enhance performance since the commitment directly affects the performance level.

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INFLUENCE OF ORGANISATIONAL JUSTICE ON TURNOVER INTENTION IN HEALTHCARE PROFESSIONALS

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Guest Faculty UIAMS. Panjab University, Chandigarh

Abstract

Turnover is exceptionally high amongst healthcare professionals in our country. We see frequent movement of medicos from one organization to another.

With an intent to understand the perception of doctors about organizational Justice and its impact on turnover intention a study was conducted amongst the different types of hospitals in Punjab and Chandigarh Tri city area. In this study 200 doctors were interviewed through a questionnaire and the results were presented.

These results have certain statistically significant trends and insights, which have a bearing on Human resource policy in healthcare institutes.

Keywords: Turnover intention, Organisational Justice, Healthcare Human Resource Policy.

Hospitals are unique organisations as they have very large human resource deployed with them. Not only is the number of personnel employed very high, they also range from highly qualified trained doctors to trained support staff. It is imperative to have a strong human resource department in the hospitals to retain the staff and keep them motivated for high patient satisfaction and delight index.
from the hospital services.

There usually exists dual reporting authorities in the complex hospital matrix organization. It is a very dynamic workplace where training can be of use but mostly situations have to be handled as and when they arise. The end users – patients or so called customers of the hospitals are the ones who are visiting the hospital are in a stressful situation and not merely there by choice. This leads to a very high emotional quotient involved with regard to addressing the sensitivity of the patients. Other aspects as ethics, confidentiality, privacy also play a very key role in these organizations.

There needs to be excellent interdepartmental and intradepartmental functioning so that the whole hospital functions smoothly. Good communication systems are a key to this.

The major departments of the hospital are divided into medical and non medical categories. The medical services have to depend on the non medical aspects such as billing, food and beverage etc for best patient care. Patient Feedback forms a very essential part so that the feedback can be incorporated for changes and improvement. Medical staff – nurses and doctors have to constantly communicate with the non-medical staff such as biomedical engineering, maintenance, security services etc. The comfort level of the employees without their organization directly impacts their commitment to work, their satisfaction levels and their motivation towards the job. Many times dissatisfaction for various reasons might reflect on patient care and the other aspects a congenial staff interaction.

North India was once home to small and mid-sized nursing homes as well as doctor-owned hospitals; the last decade has been a watershed for the North region with major corporate chains scrambling to grab a piece of the pie of opportunity. A rising middle class that’s growing increasingly health conscious, steep rise in lifestyle diseases such as diabetes and heart ailments coupled with an increasing penetration of medical insurance has further helped growth of the healthcare sector.

Relevance of the Study

There is a shortage of 5,00,000 doctors and 10,00,000 nurses alone in India based on international standards, whereas Indian medical education capacity is 31,000
per year. The cost of manpower resources is increasing each day. Companies are literally bidding for good talent and attracting them with tempting salaries and designations.

India will take at least 17 more years before it can reach the World Health Organization’s (WHO) recommended norm of one doctor per 1,000 people. The World Health Statistics Report (2011) says the density of doctors in India is six for a population of 10,000. India is ranked 52 among 57 countries facing human resource crunch in healthcare.

This study addresses a major concern among healthcare institutions, that is to contain the turnover of most skilled resource they have, i.e. Physicians. The study is being conducted across the tricity area and Punjab across government, trust and corporate hospitals. The study looks into perception of organisational justice as a factor for turnover intent.

Organizational Justice

Organisational justice refers to the employees’ perception in regards to the treatment meted to them in the organization. Relating the perception that the doctors have for distributive justice, procedural justices as well as interactional justices relates to their turnover intention. The turnover intention of the doctors is being viewed as two divergent categories – 1) the doctors who have little intention to quit the organization 2) the doctors who have strong intention to quit the organization.

The data was collected from 200 doctors was further divided into suitable categories according to the following

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**Organisational Justice**

- **Distributive Justice:**
  - Fairness of Decision Outcomes

- **Procedural Justice:**
  - Fairness of Decision Making Process

- **Inter-actional Justice:**
  - Empathetic Treatment during the Communication Process
• Type of organization.
• Gender.
• Age Groups.
• Total working hours.
• Tenure at the organization.
• Suitable statistical techniques were used for analyzing the data.
• Out of the total questionnaires distributed 197 doctors filled the forms.
• 3 forms had missing data and were found unusable.
• 18.5% of the doctors were from the government organizations.
• 49% belonged to the trust type of organization and
• 31% belonged to the corporate type of organization.
• According to the data males filled 42.5% of the questionnaires.
• Females filled 40% of the questionnaires.
• Around 17.5% did not mention their gender while filling up the forms.
• As per the data collected the age group of the doctors was categorized into the following categories of less than 35 years, 35-45 years, 45-55 years and above 55 years.
• 42% of the doctors fall in the category of less than 35 years.
• 34% of the doctors are of the category of 35-45 years.
• 7.5% of the doctors are from the age group of 45-55 years.
• and finally 5.5% of the doctors fall in the category of above 55 years.
• Around 11% of the doctors did not specify their age group.
• From the data the next parameter of total number of working hours of the doctors spent in the hospital was categorized as follows –
• 4-8 hours in which 52% of the doctors were working.
• 8-10 hours in which 42% of the doctors were working.
• Only 3% of the doctors worked in hospitals for more than 10 hours.
• And around 3% of the doctors did not mention their total hours spent in the hospital.
The next category of the data defines the number of years spent of doctors with the current employer

This was categorized in time spent as upto 1 year in which were 24.5 % of the doctors

The next was the category of spending 1 -3 years in which were 25.5 % of the doctors.

The doctors who had spent 3-5 years with the organization were close to 11.5 %

The ones who had spent more than 5 years with the same organization were around 38%

Only 1 doctor had not mentioned his total years spent in the hospital.

**Results**

According to the objective of the paper it was intended to understand the following -

1. To examine the perception of doctors regarding organizational justice and its dimensions

**Perception regarding distributive justice which means fairness of decision outcomes**

- As with everything dealing with the social exchange theory, it has as its outcome satisfaction and dependence of relationships. The social-exchange perspective argues that people calculate the overall worth of a particular relationship by subtracting its costs from the rewards it provides.
  - Worth = Rewards – Costs
- If worth is a positive number, it is a positive relationship. On the contrary, a negative number indicates a negative relationship. The worth of a relationship influences its outcome, or whether people will continue with a relationship or terminate it. Positive relationships are expected to endure, whereas negative relationships will probably terminate. In
a mutually beneficial exchange, each party supplies the wants of the other party at lower cost to self than the value of the resources the other party provides. In such a model, mutual relationship satisfaction ensures relationship stability.

- Outcome = Rewards − Costs
- Outcomes in work context might take the form of wages, social approval, job security, promotion and career opportunities, while inputs include education, training, experience and effort. Employees tend to make this judgment in relative terms comparing it with their peers.

**Perception regarding Interactional justice which means empathetic treatment during the communication process.**

Interactional justice refers to the quality of the interpersonal treatment received by those working in an organization, particularly as part of formal decision-making procedures. Bies and Moag (1986) identify some key aspects of interactional justice, which can enhance people’s perceptions of fair treatment -- truthfulness, respect, propriety and justification.

Well-designed systems that promote distributive, procedural and interactional justice profit both the employee and the employer. The specific gains may be seen in a number of areas.

**Perception regarding procedural justice that means fairness of decision making process**

Procedural justice is concerned with fairness of the decision process leading to a particular outcome. People may be willing to accept an unwanted outcome if they believe the decision process was conducted according to organizational justice principles.

The mean values for all the categories of distributive, procedural and interactional justice for all doctors in the sample were calculated as under.
<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
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<td>30.00</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>7.74954</td>
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<td></td>
<td></td>
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<tr>
<td>Valid N (listwise)</td>
<td>189</td>
<td></td>
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</table>

These are inline with international studies**

Further t-test was applied for the two categories of doctors who have little turnover intention and the ones who have high turnover intention.

<table>
<thead>
<tr>
<th></th>
<th>turnover_intention</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
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<tr>
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<td></td>
<td></td>
<td></td>
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<td>Distributive_Justice</td>
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<td>18.0504</td>
<td>3.12847</td>
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<td>distributive justice</td>
<td>2.00 strong intention</td>
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<td>14.7091</td>
<td>3.90950</td>
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<td>56</td>
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<tr>
<td>Interactional_Justice</td>
<td>1.00 little intention</td>
<td>139</td>
<td>31.9640</td>
<td>6.78811</td>
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<tr>
<td>Interactional Justice</td>
<td>2.00 strong intention</td>
<td>55</td>
<td>26.9636</td>
<td>8.85472</td>
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</tbody>
</table>

A very clear trend can be noticed wherein the means on various dimension of organisational justice among physicians who have lesser intention to quit are higher. Whether it is statistically significant or not has to be determined by further
treatment.

<table>
<thead>
<tr>
<th>t-test for Equality of Means</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Distributive_Justice</td>
</tr>
<tr>
<td>Procedural_Justice</td>
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<tr>
<td>Interactional_Justice</td>
</tr>
</tbody>
</table>

H0 – There is no difference between doctors perception regarding distributive justice.

H1 - There is difference between doctors perception regarding distributive justice.

The results show that the means for perception of distributive justice the category of doctors who have little intention to quit is 18 whereas the second group of doctors who have strong intention to quit have the mean value of only 14.7 clearly marking that the difference is statistically significant as p<.05. we thereby accept the alternate hypothesis that distributive justice is being perceived differently among doctors bifurcated on basis of intent to quit the present job.

H0 – There is no difference between doctors perception regarding procedural justice.

H1 - There is difference between doctors perception regarding procedural justice.

Similarly, in the case of procedural justice the doctors who have little intention to leave have the mean 20.4 whereas the ones who have strong intention to quit have the mean value of 17.6. this again is highly statistically significant, indicating that doctors who plan to continue perceive procedural justice to be better.

H0 – There is no difference between doctors perception regarding Interactional justice.

H1 - There is difference between doctors perception regarding Interactional justice.
In the case of interactional justice, the group of doctors with little intention to leave have mean value of 31.9 and the ones who have strong intention to quit have the mean value of 26.9. which also is highly statistically significant. We again accept the alternate hypothesis which finds the difference in perception.

Hence the results are clearly indicative to the perception of doctors towards the three aspects of justice namely procedural, interactional and distributive.

The physicians who plan to quit are the one who either have been given a raw deal or at least have the perception of not being treated fairly, equivocally and empathetically. This brings out a glaring flaw in present system, which can be corrected using principles of organizational justice.

This clearly shows the trend of perception of distributive justice among physicians in various institutional settings.

Conclusions

From the above results we can clearly summarize that the perception of organisational justice plays a vital and very relevant role in the retention of health care personell. it stands out as a fact that it is perception of injustice ,as per literature ,which is a precursor to turnover intent among doctors. Not only human resource department needs to be wary of equitable distribution of work but of rewards as well. The promotions, pay work hours, behaviour of associated staff and even parking woes add to perception of injustice as was discovered at the time of interaction with doctors, while collecting data. Physicians due to work pressure are a harried lot and even minor infractions add to perception.

The human resource department needs to have an indepth look into the perception of the doctors for the three aspects of procedural ,interactional and distributive justice in order that they could device ways and means to be able to retain their staff.

References


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All papers have undergone an extensive Peer Review process, are long and detailed and contain the full citations and information about the authors.

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