

Medicinal Values of Tanner's Cassia (*Cassia auriculata* Linn.) – A Review

Dr. Kheem Singh Dahiya

Deptt. of Botany, Madhav University, Abu Road

Abstract

Cassia auriculata Linn. Commonly known as Tanner's Cassia is a wild and perennial plant. Ecologically it tolerates a wide range of climate and temperature. In Aryurveda, Naturopathy and Herbal therapy, this plant and its parts are being used traditionally for cure of various human diseases viz. liver toxicity, fungal and microbial infection, inflammation, pyrexia, constipation, conjunctivitis, skin diseases, rheumatism, etc. The medicinal properties of *C. auriculata* are due to presence of hydroxyanthraquinone derivatives. This plant is the main constituent of Kalp Herbal Tea, which is widely used in remedy of diabetes.

Keywords : Tanner's Cassia, hydroxyanthraquinone, laxative, purgative, tannins, kalp herbal tea.

Introduction

The medicinal plants are used traditionally to prevent or cure disease. The medicinal values of the plants are due to presence of phytochemical constituents, which produce definite physiological action on the human body. The history of health care in India goes back to 5000 B.C., when health care needs and diseases were noted in ancient literature like "Rig Veda" and "Atharva Veda". In 1000 B.C., the texts like "Charak Samhita" and "Sushruta Samhita" were documented, in which use of plants and polyherbal formulations was highlighted for health care.

Cassia species are rich sources of polyphenols, anthraquinone derivatives, flavanoids, polysaccharides, saponins, tannin and steroids. Some Cassia species are rich in Glycerides with linoleic, oleic, stearic and palmitic acids. Generally Cassia species are well known for their laxative and purgative constituents, and are also used for the cure of skin diseases. Present review article deals with the study morphology and habitat, and enumerates the medicinal values of *Cassia auriculata*.

Morphology

Cassia auriculata L. is a legume shrub, belongs to sub-family Caesalpinioideae of family Fabaceae. It is also known as Tanner's Cassia, Avaram senna, Ranwara, Avaram and Tarwar. It is a perennial plant growing to height 30 to 60 cm. Stem is solid, strong, brown in color with several branches. Leaves are compound, stipulate, yellowish-green in colour. The plant bears huge yellow flower. The fruit is a legume contains 7 – 10 seeds. The name Tanner's Cassia is due to its bark which is one of the priceless of Indian tans containing tannin.



Fig.1. Flower of *C. auriculata*



Fig.2. Plant of *C. auriculata*

Habitat

India and Sri Lanka are said to be its origin place. *Cassia auriculata* is extensively cultivated in area which is dry and warm (Punjab, Haryana, Utter Pradesh, West Bengal). Ecologically it tolerates a wide range of climate and temperature, yet it prefers to grow and flourish well in warmth. It can thrive on dry stony hills, on black soils, along road side, in degraded forest, waste land, railway embankments, etc. Martin (1983) suggested *C. auriculata* for the development of landscape. It is found in wild state in Rajasthan, Maharashtra, Madya Pradesh, Gujarat, Tamilnadu and Andhra Pradesh.

Medicinal uses of *Cassia auriculata*

According to Ayurveda, it contains Gunna (properties), Laghu (light), Ruksh (dry), Rasa (taste), Kashaya (astringent), Tickta (bitter), Virya (potency) and Sheet (cold). *C. auriculata* is admired as an alternative medicines for its wide usage in Aryurveda, Naturopathy and Herbal therapy. The medicinal properties are due to possession of hydroxyanthraquinone derivatives. The plant is known for its nutrients- cardiac glucoside (sennapicrin), Beta Pinene, Limonene, Terpinol, Bisabolene, Tannins, Citral, Terpenoids, etc.

Joy et al. (2012) revealed that this plant and its parts are useful in treatment of various disorder in human being viz. diabetes, liver toxicity, fungal infection, microbial infection, inflammation, pyrexia, etc. It is also useful in treatment of ulcers, leprosy and liver diseases (Kumar et al., 2002). In Africa, the bark and seeds are said to give relief in rheumatism, eye diseases, gonorrhea, diabetes and gout (Jayaweera, 1981). This plant showed antibacterial antioxidants activities (Anushia et al., 2009). Vedarathy and Rao (1991) reported antipyretic activities of *C. auriculata*.

Uses of *C. auriculata* in various diseases

For diabetes:

(i) Grind the dried bark, flowers, leaves and fruits in equal quantities. Boil this mixture with two glasses of water till the water is reduced to half glass. Take one tablespoon daily. It decreases the blood sugar level. *C. auriculata* is the main constituent of Kalpa Herbal Tea, which has antidiabetic effect.

(ii) Take some drinking water in an earthen pot and soak flowers of this plant. Drink frequently this water. It gives relief from diabetes.

For Acid reflux:

C. auriculata has properties to fight against acid formation in the body. Take the bark, flower, leaves and fruits of *C. auriculata* in equal proportion and grind them to powder. Take 1/2 tablespoon of this mixture thrice a day with lukewarm water for one month regularly.

For fatigue:

Take all parts of *Cassia* in equal proportion and grind them into powder. Taking 1/2 tablespoon thrice a day with hot water for 40 days is beneficial for fatigue.

For High blood pressure:

Take half cup soaked black gram and a sliced fig, pour in two glasses of water in the earthen pot at night. Next morning boil them till the water is reduced to half. Strain and then add 1/2 tablespoon powder of *Cassia* seeds. Drinking it for 40 days regularly is beneficial.

For Constipation:

Take some curry leaves and leaves of *Cassia* and make a paste. Add one tablespoon honey and take immediately after a meal. It gives relief in constipation.

For Conjunctivitis:

The powdered seeds are applied to the eye for chronic purulent conjunctivitis.

For Skin Diseases:

Take fresh flowers and soak in drinking water for few hours. Drinking frequently this water improve complexion in women.

Precaution

Avoid using *Cassia* as herbal medicine during pregnancy, breast feeding and at least 2 weeks before a planned surgery.

References

1. Anushia C., Sampatkumar P. and Ramkumar L., "Antibacterial and antioxidant activities in *Cassia auriculata*", Global Journal of Pharmacology, Vol-3, No-3, 2009, pp 127-130.
2. Jayaweera, DMA, Medicinal plants (Indigenous and exotic) used in Ceylon (Part I & II). The National Science Council of Sri Lanka, Colombo, Vol-7, 1981.
3. Joy V., Paul John Peter M., Yesu Raj J. and Ramesh, "Medicinal values of Avaram (*Cassia auriculata* Linn.)", International Journal of Current Pharmaceutical Research, Vol-4, 2012, pp. 1-3.
4. Kumar R.S., Ponmozhi M. and Nalini M., "Effect of *Cassia auriculata* leaf extract on lipids in rats with alcoholic liver injury", Asia Pacific Journal of Clinical Nutrition, Vol-11, 2002, pp 157-163.
5. Martin E.C., "Landscape Plants in Design. A Photographic Guide", AVI Publishing Company, Westport, Connecticut, 1983.
6. Vedarathy S. and Rao K N., "Antipyretic activity of six indigenous medicinal plants of Tirumola hills", Journal of Ethnopharmacology, Vol-33, 1991, pp 193-196.

An Application of MATLAB: Moving Object Detection and Tracking for Real Time Video

Madhvi Bagga Panwar

Assistant Professor, Madhav University, Abu Road

Abstract

In this paper object tracking for real time video is developed which demonstrates the motion compensated video processing using sum of absolute differences. First an object has taken as reference object or image then the next successive object is compared with the reference object or image. Each time the successive object is compared with the reference object and produces an absolute difference, and then the summation of all these differences shows its sum of absolute difference. This difference shows the change in the two images. Finally by using negative threshold, the change in the motion of sum of absolute differences in the object image is shown. A simulink model is also developed for object tracking for real time video.

Keywords- Absolute, Threshold, Tracking, Real time.

Introduction

Image tracking and activity recognition are receiving increasing attention among computer scientists due to the wide spectrum of applications where they can be used, ranging from athletic performance analysis to video surveillance. By image tracking we refer to the ability of a computer to recover the position and orientation of the object from a sequence of images. There have been several different approaches to allow computers to derive automatically the kinematics pose and activity from image sequences.

In digital video communication systems it is important that a video to be compressed, because of storing capacities as well as bit-rate constraints. The video processing is done using Sum of Absolute Differences and with the image processing block set. First motion vectors between successive frames are calculated and use them to reduce redundant information[5]. Then each frame is divided into sub matrices and apply the discrete cosine transform to each sub matrix. Finally, apply a quantization technique to achieve further compression. The Decoder subsystem performs the inverse process to recover the original video.

Tracking: Possible Issues

Introduction

Video tracking is the process of locating a moving object in time using a camera. An algorithm analyses the video frames and outputs the location of moving targets within the video frame. The main difficulty in video tracking is to associate target locations in consecutive video frames, especially when the objects are moving fast relative to the frame rate[7]. Here, video tracking systems usually employ a motion model which describes how the image of the target might change for different possible motions of the object to track. The role of the tracking algorithm is to analyze the video frames in order to estimate the

motion parameters. These parameters characterize the location of the target.

Component of visual Tracking system

Target Representation and Localization is mostly a bottom-up process. Typically the computational complexity for these algorithms is low. The following are some common Target Representation and Localization algorithms:

- Blob tracking: Segmentation of object interior (for example blob detection, block-based correlation or optical flow).
- Kernel-based tracking (Mean-shift tracking): An iterative localization procedure based on the maximization of a similarity measure.
- Contour tracking: Detection of object boundary (e.g. active contours or Condensation algorithm).
- Visual feature matching: Registration

One approach to reduce the problem space and to make the problem computationally tractable is to provide constraints on the positions of the object. Constraints can be based on temporal information, camera configuration, or any combination of these. Camera configuration constraints are usually expressed by making assumptions on the relative positioning of the subject with respect to the camera.

Optimization Method of Tracking

Most human motion and pose estimation approaches propose some sort of optimization method, direct or probabilistic, to optimize the pose (and/or body model) subject to the image features observed.

Direct Optimization

Direct optimization methods often formulate a continuous objective function $F(X_t, I_t)$, where X_t is the pose of the body at time t and I_t is the corresponding observed image, and then optimize it using some standard optimization technique. Since $F(X_t, I_t)$ is highly non-linear and non-convex there is

almost never a guarantee that a global optimum can be reached. However, by iteratively linearizing $F(X_t, I_t)$ and following the gradient with respect to the parameters a local optimum can be reached[8]. If a good estimate from the previous time step is available, and the pose changes slowly over time, then initializing the search with the previous pose often leads to a reasonable solution.

Probabilistic Inference

It is often convenient and natural to formulate tracking and pose estimation as probabilistic inference. A probabilistic framework has two advantages over the direct optimization methods:

- It can encode the confidence of any given articulated interpretation of the image.
- It allows one to maintain multi-modal predictions both spatially and over time. Multi-modality arises naturally in human motion estimation, since the body in different postures can look very similar (if not identical) in the image.

The number of valid interpretations of the images depend significantly on the features used, imaging conditions and the temporal history. By maintaining a multi-modal pose hypothesis over time, approaches can often benefit by resolving the ambiguities as more information becomes available).

Video generation and Processing

As said that an image is a set of pixels so for the generation of a video the scanning of the each and every pixel is necessary .So video is generated by scanning the pixels and each pixel represented by a value or set of values. The pixels are scanned as shown in the above figure. The scanning starts from the right most pixel to the left most pixel in the first row and then comes back to the next row and then start from the right most pixel. towards the end of the row and so on. Once after the scanning entire image then it again returns back to the starting point as shown.

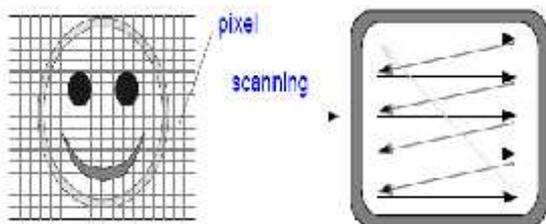


Figure 1: Video Generation

For the best results interlaced scanning is employed in which the image is divided in to two fields, even field and odd field.

Video processing is a very important phenomenon now a days. Many processing methods are widely used either in television systems[3], video post production or even in common life. Despite the fact that professional hardware video processing solutions

exist, software video processing is very popular mainly because of the great flexibility it offers.

By transforming a signal the energy is separated into sub bands, by describing each sub band with different precisions, higher precision within high energy sub bands and less precision in low energy sub bands, the signal can be compressed. The most common transform used is the DCT (Discrete Cosine Transform) which has excellent in energy compaction which means that the energy of the matrix is concentrated to a small region of the transformed matrix [2].

Motion Compensated Video Processing

Overview

Block based motion compensation uses blocks from a past frame to construct a replica of the current frame. The past frame is a frame that has already been transmitted to the receiver. For each block in the current frame a matching block is found in the past frame and if suitable, its motion vector is substituted for the block during transmission. Depending on the search threshold some blocks will be transmitted in their entirety rather than substituted by motion vectors. The problem of finding the most suitable block in the past frame is known as the block matching problem. . Block based motion compensated video compression takes place in a number of distinct stages. The flow chart above illustrates how the output from the earlier processes form the input to later processes. Consequently choices made at early stages can have an impact of the effectiveness of later stages. To fully understand the issues involved with this type of video compression it is necessary to examine each of the stages in detail.

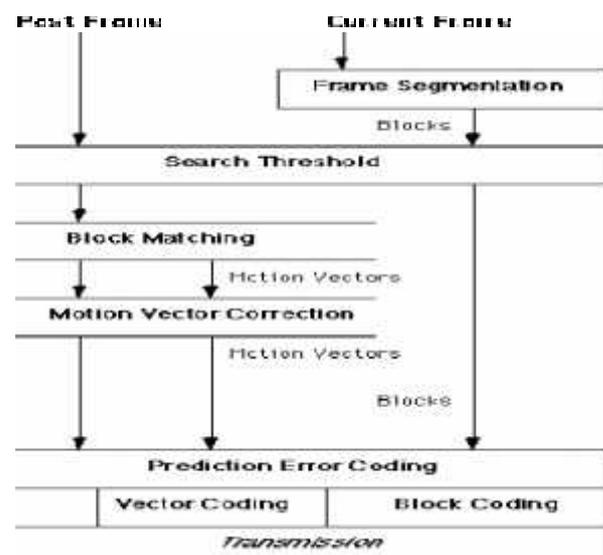


Figure 2: Block Diagram of Motion Compensated Video Processing

These stages can be described as:

- Frame Segmentation
- Search Threshold
- Block Matching
- Motion Vector Correction
- Vector Coding
- Prediction Error Coding

Block Matching

Block matching is the most time consuming part of the encoding process. During block matching each target block of the current frame is compared with a past frame in order to find a matching block.

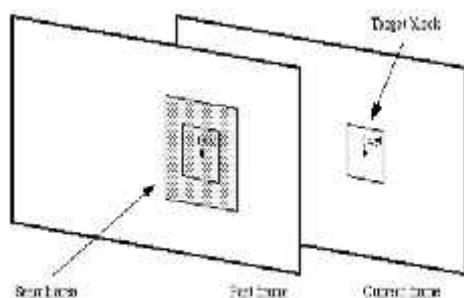


Figure 3: Corresponding blocks from a current and past frame, and the search area in the past frame.

When the receiver reconstructs the current frame this matching block is used as a substitute for the block from the current frame. Block matching takes place only on the luminance component of frames. The colour components of the blocks are included when coding the frame but they are not usually used when evaluating the appropriateness of potential substitutes or candidate blocks. The search can be carried out on the entire past frame, but is usually restricted to a smaller search area centred on the position of the target block in the current frame (see above figure). This practice places an upper limit, known as the maximum displacement, on how far objects can move between frames, if they are to be coded effectively[7]. The maximum displacement is specified as the maximum number of pixels in the horizontal and vertical directions that a candidate block can be from the position of the target block in the original frame.

The quality of the match can often be improved by interpolating pixels in the search area, effectively increasing the resolution within the search area by allowing hypothetical candidate blocks with fractional displacements.

The search area need not be square. Because motion is more likely in the horizontal direction than vertical, rectangular search areas are popular. The CLM460x MPEG video encoder, for example, uses displacements of -106 to +99.5 pixels in the horizontal direction, and -58 to +51.5 pixels in the vertical. The

half pixel accuracy is the result of the matching including interpolated pixels. The cheaper CLM4500, on the other hand, uses ± 48 pixels in the horizontal direction, and ± 24 in the vertical, again with half pixel accuracy. If the block size is b and the maximum displacements in the horizontal and vertical directions are dx and dy respectively, then the search area will be of size $(2dx + b)(2dy + b)$. Excluding sub-pixel accuracy it will contain $(2dx + 1)(2dy + 1)$ distinct, but overlapping, candidate blocks.

Block Based Motion Compensation

Block based motion compensation, like other interframe compression techniques, produces an approximation of a frame by reusing data contained in the frame's predecessor. This is completed in three stages

First, the frame to be approximated, the current frame, is divided into uniform non overlapping blocks, as illustrated below (left)[9]. Then each block in the current frame is compared to areas of similar size from the preceding or past frame in order to find an area that is similar. A block from the current frame for which a similar area is sought is known as a target block. The location of the similar or matching block in the past frame might be different from the location of the target block in the current frame. The relative difference in locations is known as the Motion vector.

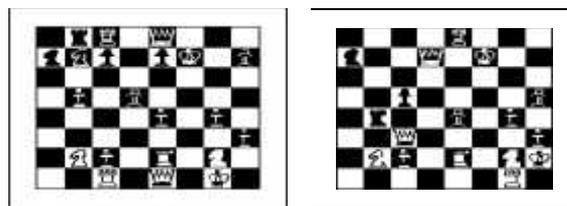


Figure 4: Past Frame - Current frame to be coded

If the target block and matching block are found at the same location in their respective frames then the motion vector that describes their difference is known as a Zero vector. The illustration below shows the motion vectors that describe where blocks in the current frame (below left) can be found in past frame (above left).

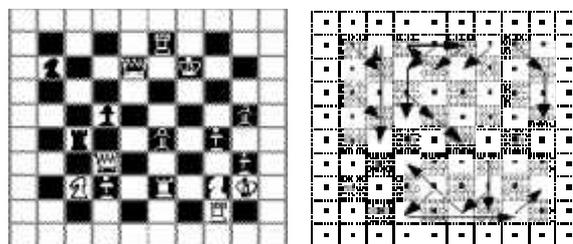


Figure 5: Motion Vectors Indicating Changed Blocks

Current frame to be coded divided into blocks. Motion vectors indicating where changed blocks in the current frame have come from. Unchanged blocks are marked by dots.

Finally, when coding each block of the predicted frame, the motion vector detailing the position (in the past frame) of the target block's match is encoded in place of the target block itself. Because fewer bits are required to code a motion vector than to code actual blocks, compression is achieved.

Sad (Sum of Absolute Difference)

Sum of Absolute Difference (SAD) is an operation frequently used by a number of algorithms for digital motion estimation. A single vector instruction is proposed that can be performed (in hardware) on an entire block of data in parallel. Assuming a machine cycle comparable to the cycle of a two cycle multiply, it has been shown that for a block of 16x1 or 16x16, the SAD operation can be performed in 3 or 4 machine cycles respectively. The proposed implementation operates as follows: first determination in parallel which of the operands is the smallest in a pair of operands. Second the absolute value of the difference of each pairs are computed by subtracting the smallest value from the largest and finally the accumulation is computed.

SAD operation is usually considered for 16x16 pixels (pels) blocks and because the search area could involve a high number of blocks, performing the SAD operation could be time-consuming if traditional methods are used for its computation. Here we implement a new instruction that is capable of producing the direct SAD operation.

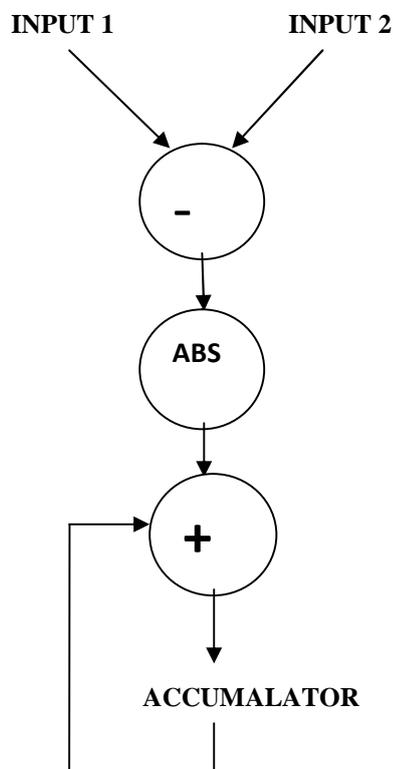


Figure 6: Main Computation in the Sum of Absolute Differences Kernel

As shown in this figure, the main set of computations in the SAD kernel includes subtraction, followed by computing the absolute, and, finally, accumulating with previous results.

Graphical Representation

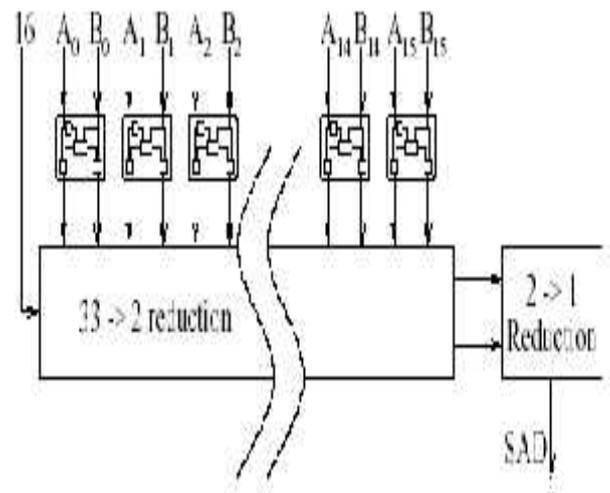


Figure 7: Graphical Representation of a 16 x 1 Unit

Above figure shows a graphical representation of a 16x1 unit, that is a unit operation on 16 couples of elements producing a single output value. The top half shows 16 times steps 1 and 2 in parallel, and steps 4 and 5 are depicted in the bottom half. Step 3 is represented by the addition term at the left. The concept can be expanded to an array capable of computing the SAD of 16x16 pel blocks. In this case, the 2 rows going into the 2-to-1 reduction should go into another 32-to-2 reduction unit, together with the 30 rows of the 15 other units. The result of this 32-to-2 reduction is then reduced by a 2-to-1 final adder. This saves both the execution time and the area of 15 2-to-1 reduction units.

Simulink Models for Video Processing

Motion detection is a key feature for a video surveillance system and can be used to alarm video/audio recording and transmission. However, reliable motion detection techniques should avoid the false alarms. A realistic motion detection technique should tolerate the optical noise reproduced by camera and only respond to the movement in the region of interest (ROI). To measure movement in video scenes, motion detection can use the sum of absolute difference (SAD) and correlation.

Simulink model formation detection using SAD

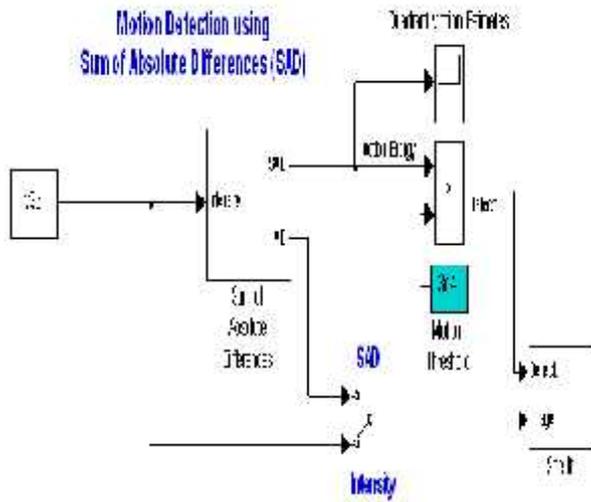


Figure 8 : Model for Motion Detection

Sometimes, the color information can also enhance the performance of motion detection. Many smart video surveillance systems currently in market support this feature.

Simulink Model for Surveillance Recording Based on Motion Detection

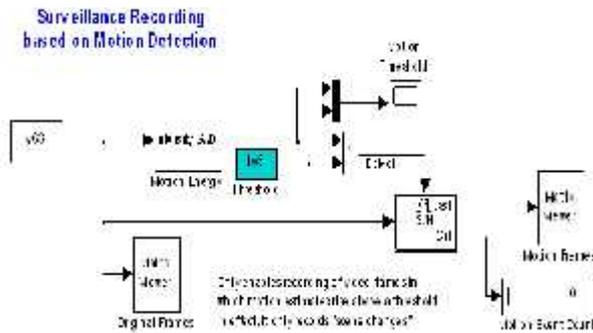


Figure 9: Model for Surveillance Recording Based on Motion Detection.

Results and Conclusion

Result of Object Tracking for Real Time Video In Surveillance Systems:

The object images from Figure 10 are captured when there is a motion. These images will be shown in the form of Video Queue.



Figure 10: Images captured when there is a motion

In Motion Tracking :

All these figures are captured when there is a change in motion and results were shown to the changes that occurred in object motion. Initially frame 1 explains the captured image , frame 2 explains the black and white characteristics of frame 1, frame 3 explains the greyscale information of frame 1, frame 4 shows the negative of the frame 1 and frame 5 shows the objects motion which is tracked.

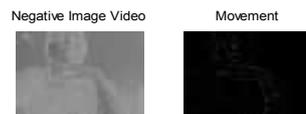


Figure 11: Result of Object Tracking for Real Time Video

Conclusion

In this paper the main attention is on the object tracking for real time video. Sum of Absolute Differences is used and designed it for object tracking for real time video to detect the motion of object in different views. the basic concepts of object tracking, properties and performance of object tracking , in various fields of its applications i.e. image tracking by keeping camera constant or camera in motion and

object constant or object in motion. Some factors are identified which are not performing to its potential. These factors includes faster movements , single object among multiple object etc., and the noise effect and issues of implementing them is crucial for proper functionality. Here after discussion and the result it can be concluded that the Sum of Absolute Differences technique is easier and can be implemented easily and economical compare to the standard algorithms which are used for object tracking.

References

1. Digital Signal Processing By John Proakis, 3rd Edition.
2. B. J. Kim and W. A. Pearlman, "An embedded wavelet video coder using three-dimensional set partitioning in hierarchical trees (SPIHT)", Proc. IEEE Data Compression Conf., , March 1997 pp. 251–260.
3. Adams R. and Bischof L., "Seeded region growing", IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol-16, No-6, June 1994, pp 641 – 647.
4. Chen B. and Lei Y., "Indoor and outdoor people detection and shadow suppression by exploiting HSV color information", IEEE 4th International Conference on Computer and Information Technology, 14-16 Sept, 2004, pp137 – 142.
5. Collins R.T., Lipton, A. J., Kanade T., Fujiyoshi H., Duggins D., Tsin Y., Tolliver D., Enomoto N. and Hasegawa, O., "A system for video surveillance and monitoring", Technical Report CMU-RI-TR-00-12, Robotics Institute, Carnegie Mellon University, 2000.
6. Comaniciu D., Ramesh V., and Meer P., "Real-time tracking of non-rigid objects using mean shift", IEEE Computer Vision and Pattern Recognition, 2000, pp 1-8.
7. Dirks W. and Yona G., "A comprehensive study of the notion of functional link between genes based on microarray data, promoter signals, protein-protein interactions and pathway analysis", Technical Report, 2004.
8. Elgamal A., Duraiswami R., Harwood D. and Davis L.; "Background and foreground modelling using nonparametric kernel density estimation for visual surveillance", Proceeding of the IEEE, Vol-90, July 2002, No-7, pp 1151-1163.
9. Haritaoglu I., Harwood D. and Davis L. S., "Hydra: multiple people detection and tracking using silhouettes", International Conference on Image Analysis and Processing, 27-29 Sept, 1999, pp 280 – 285.

Higher Education System with the Custom of Cloud Computing: An Approach to Develop Quickness in the Current Financial Crunch

¹Dr. Sanjay Gaur and ²Mr. Yogesh Patel

¹Associate Professor, Faculty of CS & IT, Madhav University, Abu Road

sanjay.since@gmail.com

²Research Scholar, Faculty of CS, Pacific University, Udaipur

patelyogesh46@gmail.com

Abstract

In the current economic crunch and being challenged by growing needs, Education systems are facing difficulties in providing necessary information technology (IT) support for educational, research and development activities. There is strong need of proper use of IT in education institutions to improve agility and obtain savings. The research includes Cloud Computing as another IT provision, management and security with bearing in mind cost of infrastructure. The strategy includes some stages which focus on the evaluation of data and processes, functions, applications from several major education systems based on some key criteria. The Model takes into account the architecture and criteria such as mission, availability and importance of applications and also the data confidentiality, integrity and availability.

Keywords: Agility, Cloud Computing, Higher Education, Best Cloud Model and Cloud Strategy.

Introduction

The Higher education system acknowledged as one of the leaders of society growth. It works as the bridge between Education System, Government and Industry. Researchers observed during the last few years that the higher education level in the universities transition to research universities. Now current update of the IT infrastructure is the foundation for educational activities and research. Due to this aspect, at the moment universities are challenging with a dramatic increase of costs in higher education, more than the increase rate and a decrease of Education Institutions' budgets, which leads to the heaviness of finding some alternative means of reaching their purpose. As a response, the universities must perform changes in order to be service oriented and in order to optimize the efficiency and effectiveness of all internal operations and interactions with the main stakeholders. Service orientation may be applied to individuals to Education Institutions, but also to technology.

Cloud Computing in Higher Education Institution

The prospective and efficiency of using Cloud Computing in higher education has been recognized by many universities among which we can mention University of California, University of New York, Washington State University's School of Electrical Engineering and Computer Science, higher education institutions from UK, Africa, U.S and in others countries also. It offers to universities the possibility of concentrating more on teaching and research activities

rather than on complex IT configuration and software systems, through a fast IT implementation.

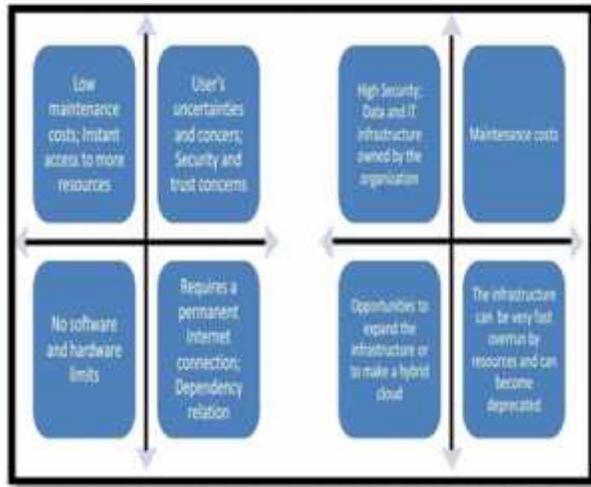
- **Commitment to students:**
- Higher education serves students and those students come to campus with their own devices and prospects about how and when they want to use them. IT Team must now provide greater interoperability between campus and student platforms; 24/7 access to secure, reliable networks; and the ability to create, deliver, and share content campus-wide on N number of devices.
- **Complex finance models:**
- The Higher education finance models are complex and risky, That Model comprised of various combinations of tuition, philanthropy, investments, public funding, and research dollars.
- **Participatory decision-making model:**
- In higher education governance, modeled on a participatory culture often precluding or at least complicating top-down decision-making. Seeking consensus takes time, especially when stakeholders are dealing with decisions about where to allocate limited resources. In this environment, stakeholders need to fully understand the benefits of cloud-based services models.

To support cooperative learning and socially oriented theories of learning, using computer technologies to support collaborative methods of instruction. It offers many benefits to e-learning solutions by providing the infrastructure, platform and educational services directly through cloud providers and by using virtualization, centralized data storage and facilities for data access monitoring. To ensure success in e-

learning, universities use metrics systems adapted to measure the effectiveness of e-learning solutions based on the cloud.

SWOT Analysis

The Cloud computing in education system is just an instrument used to deliver better educational services. This is the objective of this technology and it is not seen as an educational process. It analyzed based on its objectives and based on the social-economic environment.



(1) Figure 1 -SWOT matrix for Cloud Systems (1) and Traditional Infrastructures (2) in Educational Systems

Main Benefits

The use of such system must be analyzed the benefits point of view. After the analysis, one or more models of Cloud Computing may be chosen to be used.

Table 1: Benefits of Using Cloud Computing in Higher Education

Benefits
• The Access to applications from anywhere.
• Support for teaching and learning.
• Software free or pay per use.
• 24 hours access to infrastructure and content.
• Opening to business environment and advanced research.
• Protection of the environment by using green technologies.
• Increased openness of students to new technologies.
• Increasing functional capabilities.
• Offline usage with further synchronization opportunities.

Cloud Architecture for Higher Education

With Thinking, planning, and working in the cloud technology, Universities requires to cope with specific challenges of cloud environment such as uncertain definitions, privacy, contractual and jurisdictional issues, risk and non-performance, inter-operability, network capacity, re-architecting, staff and perceptions. Also, the adoption of cloud architecture involves overcoming barriers, such as: policy and control issues, new services that will move above campus before older self-operated services. The architectural pattern of using Cloud Computing in universities may be described starting from the development and supply of Cloud Computing services and the resources offered to the education institute (figure 2).

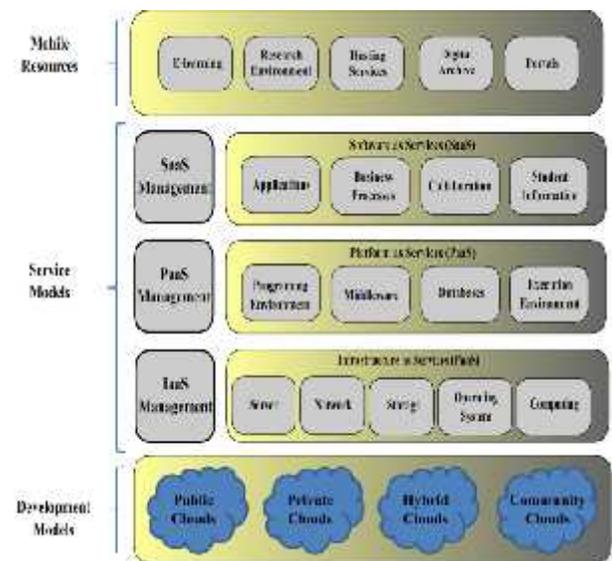


Figure 2 -Cloud Architecture for the university (Education Institutions)

In the cloud models, the main differences between public and private in the educational environment are presented in table 1. Hybrid models are community ones.

Table 2: Differences between Public and Private Clouds

Model Feature	Public	Private
Owned and managed	Service provider	University
Access	By subscription	Limited to students, faculty, staff of the university
Customization and control	None	Yes

The community models which are necessity of drawing up reports, monitoring educational, demographic and financial information starting from the moment of registering students and until the end of the educational stage and also the advantages offered by collaboration in valuing success on the labor market, emphasizing the educational quality, innovation. Creating reports and tendency analysis shall lead to well-founded decisions with respect to disciplines included in the curricula, specialties from the education institution level, creating and/or canceling some master programs based on needs. The next process illustrates in (figure 3).

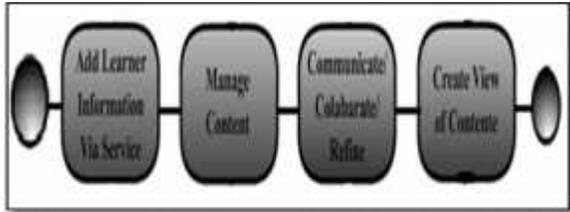


Figure 3 - Student Adds Information about their Learning in the Cloud

The Cloud Computing in higher education presupposes the existence of three key elements, namely virtualization, intelligence from the network and a robust eco-system. These offer the basis for obtaining operational efficiency, security, activity continuance, scalability, interoperability leading at the end to innovation.

Strategy to Adopt a Cloud in Higher Education

Transferring towards cloud technology needs a well-defined strategy that supports such environments capabilities. Representing an important part of the organization IT strategy, migration must be aligned to new system. The success of the strategy execution depends on the existence of a service-oriented architecture at the level of the institution that offers the necessary infrastructure for cloud implementation. Transferring towards cloud has no intelligence from the financial point of view because it primes to high costs with re-engineering of existent systems. Starting from the recent researches related to the transition to Cloud Computing and the experience of universities in using it, we suggest a migrating strategy towards cloud, formed of the following stages (figure 4):

- A. Educating Staff for Cloud Computing System.
- B. Analysis the needs of education system with regards to IT needs, structure and usage.
- C. Experiment with Computing Technology.
- D. Selecting the Cloud based Education solution for higher education.
- E. Implementation of Technology.
- F. Management of the Cloud Computing solution.

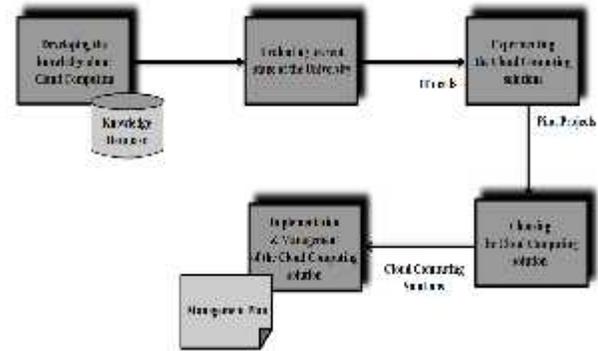


Figure 4 - Cloud Approach in Higher Education

A. Educating Staff for Cloud computing system.

The first step consists of developing the knowledge base by participating at seminaries, conferences, discussions with the suppliers and consulting the most recent researches in the field. The success of the phase depends on the allocation of sufficient resources for research, for understanding how it functions in different organizational structures from universities and between institutions, the benefits and risks, policies and the best usage practices of it. The research is conducted by a team formed mainly of IT staff who forever communicates with the users of the solution regarding the objectives, the progress, costs and benefits of the Cloud Computing solution.

B. Analysis the needs of education system with regards to IT needs, structure and usage

The first step consists in accepting the university IT infrastructure. The service oriented architecture represents the base for understanding the data, services, processes and applications that may be transferred or need to be maintained within the university. With respect to the IT needs, their structure and usage, the analysis may start from the categories of users who interact with the present IT infrastructure (figure 5) and their necessities.

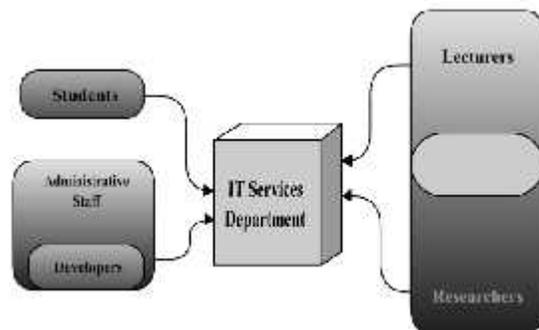


Figure 5 -Structure of the Main Users of IT Services in a Typical University

The Cloud Computing solution will allow to all categories of users access to stored files, e-mail, database and other applications, which leads to a more efficient use of information. This represents a transition from remote services offered to users in the traditional version to promising some “selfservice” systems, which is beneficial in the Cloud perspective. The objective is to identify the emergent technologies, resourceful from the point of view of costs that satisfy the necessities of the students and university staff. The hardware and software needs shall then be analyzed from the perspective of the three cloud models (figure 6).

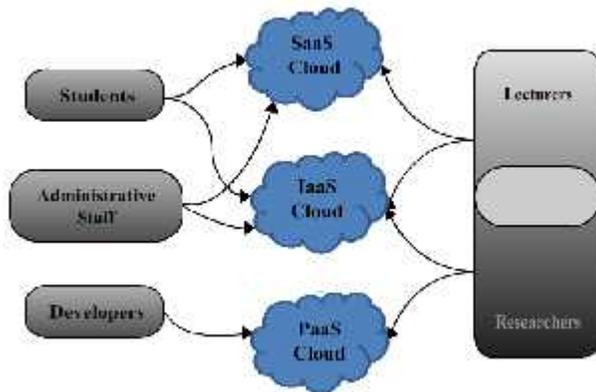


Figure 6 -Structure of the Main Users of IT Services in a Typical University Now Using

The Services of Cloud Computing

Researchers will benefit from the advantage of using the latest technologies, experimenting the results and communication, while paying for using this services. Developers may design, build and test applications which are executed on the infrastructure of the cloud provider and deliver those applications directly from the servers of the provider to the final users.

System administrators obtain general processing, storage, database management and other resources and applications through the network. The administrative staff will benefit from services and infrastructure 24/24, from everywhere at low costs.

C. Experiment with Cloud Computing Technology.

The transition to cloud may be achieved gradually, starting from testing a pilot project in cloud and then externalizing the applications chosen for cloud. It needs to do some research and development with new technology by considering in old education system. The first step consists of settling some cloud targets, such as development and environment testing or storing some data inside the cloud. The maintenance of low costs for using the solution must be permanently taken into account.

D. Selecting the Cloud based Educationsolution for higher education.

The first step consists of identifying the data (figure 7) and applications, functions and main processes within the university. These may be grouped according to the three large categories of activities from the university: teaching, research and administrative support for the first two activities.

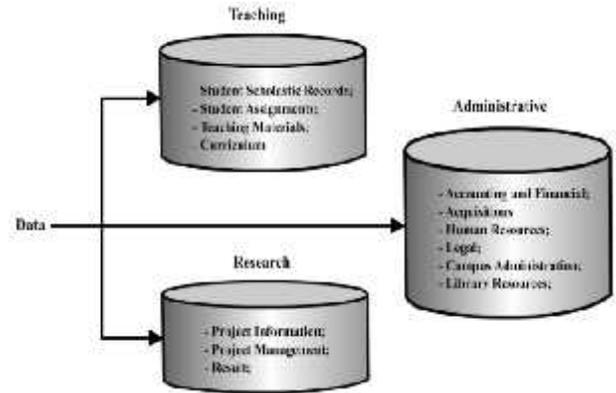


Figure 7 - Data in a University

Step two is represented by the evaluation of the elements identified in the first step according to several criteria, such as mission, importance within the education institutions, sensitivity, confidentiality, integrity, availability, in order to determine the candidate elements for cloud.

The last step consists of choosing the Cloud model (private, public, community, and hybrid) for each of the functions, processes and applications identified. Considering the fact that most organizations use hybrid patterns of Cloud System, maintaining key elements from their infrastructure in house, under direct control and externalizing less sensitive components.

E. Implementation of Technology;

The solution implementation may be done in iterative phases, through a continuous transition of the data, services and processes towards cloud, with the eventual return from cloud to operations internally hosted. It is performed based on some continuous evaluations of the cloud technology benefits upon the university. At the same time, implementation supposes establishing a flexible program of risk management, testing the solution performance and implementation.

F. Management of the Cloud computing solution;

Managing of the cloud model, which can accelerate adoption, is the point where you can maximize the true benefits of cloud computing: lower operating and capital expenses, increased business agility and

responsiveness, and scalability. This is done through activities such as:

1. Architectural reviews
2. Security audits
3. Cost-reduction exercises
4. Process improvements
5. Tool customization
6. Post-deployment or Day 2 support

Conclusion

The Present economic scenario force to organizations to consider adopting a cloud based education system solution. Universities or Education Institutions have

begun to adhere to this initiative and there are proofs that indicate significant decreasing of expenses due to the implementation of cloud based education system solutions. The aim of our work was to identify the particularities of using Cloud technology within higher education. Mainly, we have been considered benefits of cloud architecture and proposed a cloud adoption strategy proper for universities. Future research will include a study regarding the level of acceptance and the implementation effects of Cloud computing in Universities & learning institution.

References

1. Ivan I., Vintil B., Ciurea C. and Doinea M., "The Modern Development Cycle of Citizen Oriented Applications," *Studies in Informatics and Control*, Vol-18, No-3, 2010, pp 263-270.
2. Sasikala S. and Prema S. . "Massive Centralized Cloud Computing (MCCC) Exploration in Higher Education," *Advances in Computational Sciences and Technology*, Vol-3, No-2, 2010, pp 111–118.
3. Sultan N., "Cloud Computing for Education: A New Dawn?," *International Journal of Information Management*, Vol-30, 2010, pp 109–116.
4. Thorsteinsson, G., Page, T. and Niculescu, A. "Using Virtual Reality for Developing Design Communication," *Studies in Informatics and Control*, Vol-19, No-1, 2010, pp 93-106.
5. Tout, S., Sverdlik, W., and Lawver, G. "Cloud Computing and its Security in Higher Education," *Proc ISECON*, Vol-26, 2009.

To Assess the Quality of Life of patients with Low Back Pain- An Observational Study

¹Dr.RajKiranTiku and ²Dr.Bhumika Kaul

¹Assistant Professor, Madhav University, Aburoad, Rajasthan.

²Consultant Physiotherapist, Shyami Muktanand Giri Charitable Hospital, Dehradun, Uttarakhand.

Abstract

In order to assess the Quality of Life of an individual in terms of the socio- demographic information (Age, gender, residential area & occupation), mobility, personal hygiene, usual activities, pain or discomfort, mental status of the LBP patients has to be studied. An observational study is conducted from various hospitals and orthopaedic clinics at Dehradun. A total of 40 subjects were recruited for the study on the basis of inclusion and exclusion criteria after signing the informed consent form. The outcome of the study of quality of life questionnaire (WHOQOL-BREF), MOLBPDQ, VAS, Socio Demographic Data Sheet (SDDS) and Clinical Data Sheet (CDS) analyzed statistically. The male respondents constituted 87.5% of the total sample while the female respondent accounted for 12.5% of total sample. With regard to age of respondents, 40% were aged between 40 to 45 years, 35% were in age range of 35 to 40 years, where as 17.5% between 28 to 34 years & 7.5% were 21 to 27 years. The results of present study demonstrated that there are certain socio demographic factors and clinical factors associated with each dimension of quality of life of non-specific low back pain persons.

Keywords- WHOQOL-BREF, MOLBPDQ, CDS.

Introduction

Low back pain (LBP) affects 80% of the population at some time, and is one of the most frequent reasons both for consulting a primary care physician and for taking time off work. The LBP- epidemic 3, observed in most industrialized countries, and the huge resulting costs led to substantial research starting in the 1960s concerning determinants, preventive manoeuvres, and treatments. However, this research mainly focused on biomechanical determinants and was largely sterile. In the meantime, practice variations, treatment fads and rising disability were observed the recent US and UK guidelines for management, which propose a de-escalation in diagnostic and therapeutic approaches to this condition, illustrate the failure of the traditional, biomechanical paradigm for conceptualization and management of LBP. The role of psychosocial factors in the development of chronic disability and the demand for health care and financial compensation has increasingly become recognized and a bio psychosocial analysis of LBP has been suggested. It would therefore be useful to explore Health-Related Quality Of Life (HRQOL) in relation to LBP. HRQOL measurement instruments have been developed over the past 20 years to assess self-perceived health status and its components, such as physical functioning, psychological functioning (emotional and mental well-being), social functioning (relationships with others and participation in social activities), perception of health status, and pain. Measurements of self-perceived health status have been widely used to

evaluate the broad impact of various diseases on patients and the effectiveness of interventions.

Quality of life (QoL) is a term understood differently by workers in many professions for whom it is relevant. QoL cannot be measured by a single variable and has substantial overlap with concepts such as social functioning, disability, social support and well-being. Although the subjective nature of the quality of life assessment is regarded as problematic, it is still widely used, mainly to keep research costs low. QoL as a measure is important for: planning clinical care of patients; outcome measurement in clinical trials and health services management; health needs assessment of populations in descriptive studies; and for resource allocation and health economics. Of all these uses the most important are in health services research and as an outcome measure in clinical trials.

The higher the score on the WHOQOL-BREF, better the quality of life. Scores in younger respondents in this study were found to have better QoL. Young people have fewer responsibilities to think about as they are being catered for most times by their parents. The health problems and subsequent decrease in functional capacity that affects old age are not usually present in younger people. The finding of no significant association between marital status and quality of life in this work is at variance with what have been reported. However, gender as shown in other studies did not have significant association with QoL. Participants who engaged in religious activities reported poorer quality of life. This result is also at

variance with what has been documented that individuals involved in significant social networks like religious organizations, have access to social resources such as assistance and support.

The quality of life in patients with chronic low back pain is lower in comparison with general population and even in comparison with the quality of life in patients with other chronic diseases (e.g. hypertension, diabetes, asthma). Recent study has shown that disability and quality of life do not share a simple linear correlation. In general, disability of patients with chronic low back pain is predicted by pain duration, and the quality of life of such patients is predicted by disability. Functional status, as well as psychological factors, seems to determine the health-related quality of life. Previous studies have shown that the quality of life of patients with low back pain is affected by female sex growing age occupation, physical and emotional stress and level of pain.

Biomechanical factors influence pain, but psychosocial factors have more influence on the development and duration of disability. For this reason, a bio psychosocial analysis of LBP has been suggested; necessitating the evaluation of health related quality of life (HRQOL) in patients with LBP. Biological and psychosocial factors have been reported to affect the HRQOL of patients with LBP. Also, it has been reported that HRQOL in patients with LBP is more dependent on functional status and psychological factors, than on physical impairment.

Nowadays, psycho-diagnostic procedures are considered indispensable tools in the diagnosis and management of chronic non- malignant pain. Chronic pain is related to high levels of anxiety, depression, social and occupational dysfunction. Fear-avoidance models have been developed to describe this relation. The latter, in turn, leads to avoidance behaviour, disuse, disability and depression.

Research Outline

A formal study has been conducted for the sake of proper outcome. In that study sample size consisted of 40 (Both Male and Female) subjects with non- specific low back pain for only Assessment of Quality of Life. Sources of Subject were taken from various hospitals & orthopaedic clinics at Dehradun. Purposive sampling procedure has been followed in the interest of only assessing Quality of life of persons with non-specific low back pain.

The Study required non-invasive investigations and interventions to be conducted on patients. The investigations to be concluded include physical examination of back, palpation, assessment of pain by:

- Visual Analogue Scale [VAS]
- Informed consent form
- Modified Oswestry Low Back Pain Disability Questionnaire. [MOLBPDQ]
- WHO-QOL Scale (26 Items) an abbreviated version of the WHOQO.
- Socio Demographic Data Sheet (SDDS)
- Clinical Data Sheet (CDS)

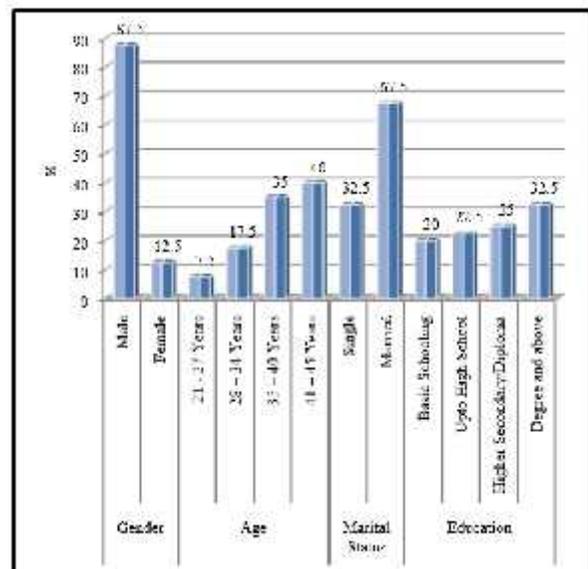
The data collected from the Quality of life participants was coded, edited, classified and analyzed using statistical package for social sciences (SPSS) version 15. The obtained data was analyzed using descriptive statistics like frequency mean, standard deviation and parametric tests like ANOVA and t-test. Pearson's Correlation co- efficient analysis done in order to find out the association between independent and dependent variables.

Pre test of the data collection instrument has been conducted through pilot study in the interest of relevant data collection and appropriate communication; further necessary modification has been done in the Socio demographic data and clinical data questionnaire.

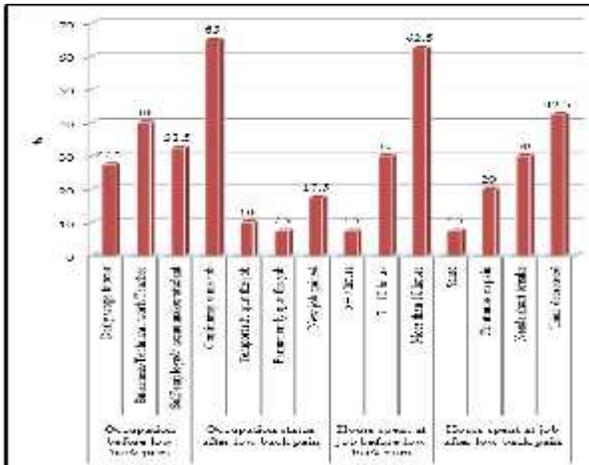
Results and Discussions

Statistically the male respondents constituted 87.5% of the total sample while the female respondent accounted for 12.5% of total sample. With regard to age of respondents, 40% were aged between 40 to 45 years, 35% were in age range of 35 to 40 years, and where as 17.5% between 28 to 34 years & 7.5% were 21 to 27 years.

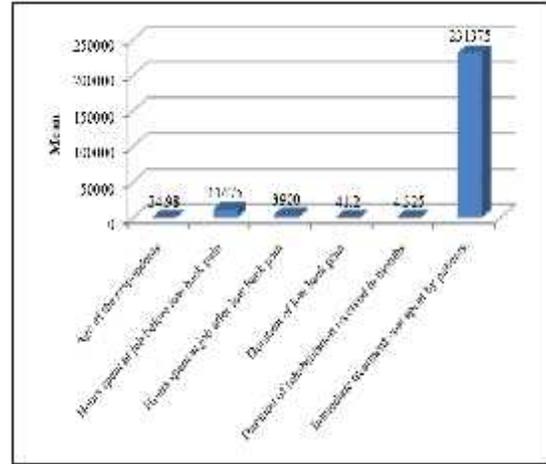
Graph1.1- shows age distribution



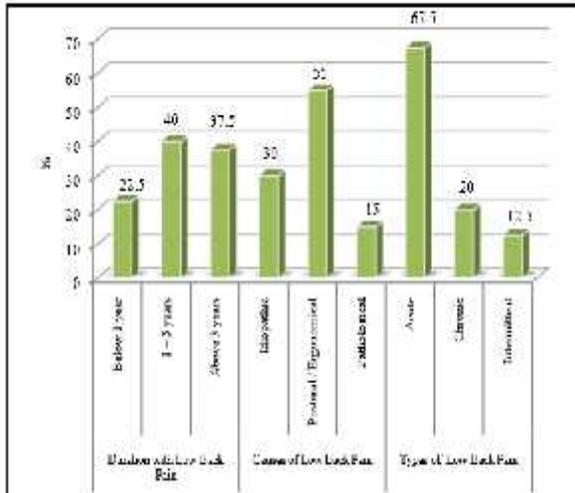
Graph1.2- Occupation impact on LBP



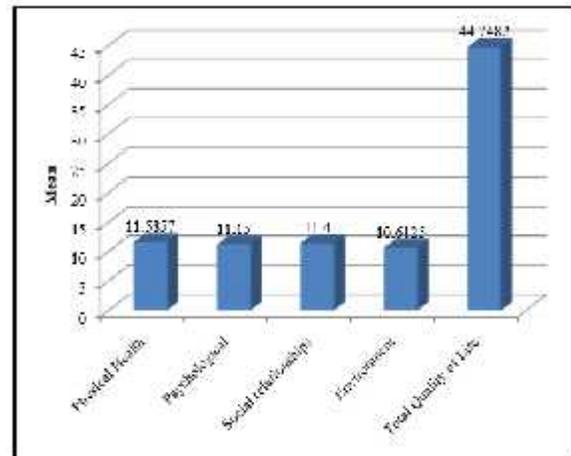
Graph1.5- socio demographic profile



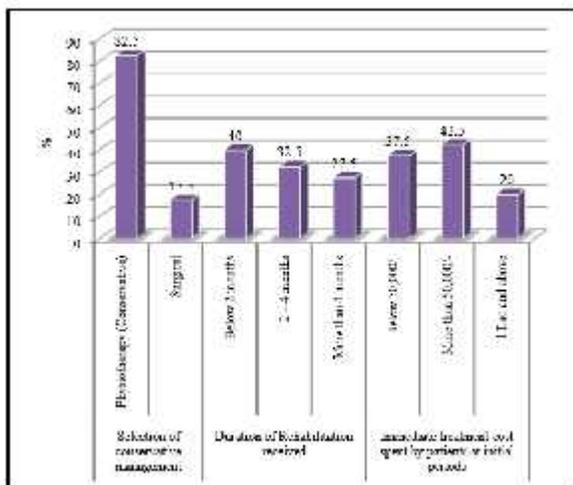
Graph1.3- Clinical aspects of LBP



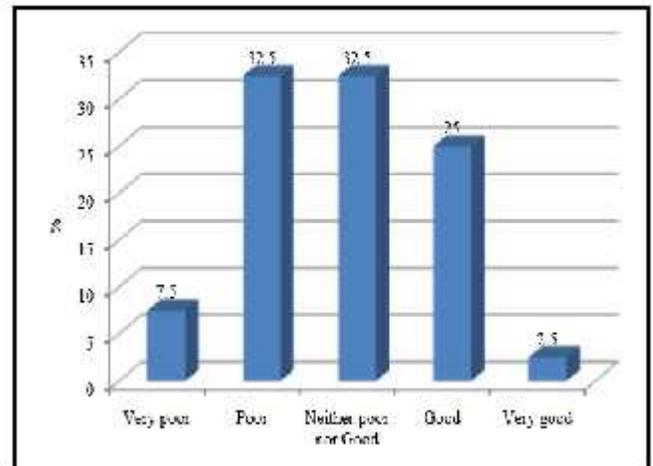
Graph1.6-four domains of Quality of Life of respondents



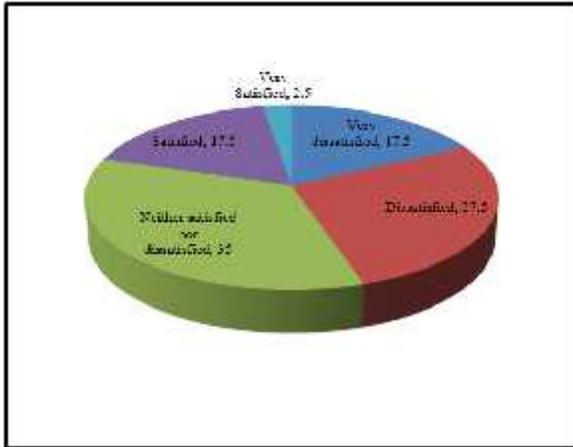
Graph1.4- Treatment aspects of LBP



Graph1.7- Overall perception of Quality of Life of respondents



Graph 1.8- Percentage of perception towards satisfaction level of health



Majorly 67.5% of the total respondents were married and 32.5% were single. Majority of respondents i.e. 32.5% had education of degree and above, 25% higher secondary/Diploma, 22.5% upto high school and 20% of the respondents received only basic schooling. Importantly this graph reveals people between age group 40 to 45 years are highly prone to low back pain followed by age group between 35 to 40 years.

The distribution of respondents in relation to impact of low back pain on patient's occupation status before and after low back pain. Before the onset of low back pain all respondents have been engaged with various occupation as specified in, but due to onset of low back pain majorly 65% of them were continuing same job inspite of low back pain. Remaining 17.5% changed job and got new job in the same line, whereas 10% respondents temporarily quit the job and 7.5% permanently quit the job. Before onset of low back pain, status of the hours spent at job of respondents was upto or more than 10 hours and above, out of which 62.5 % reported their working hours for 10 or more. After the onset of low back pain mainly 42.5% of respondents has reported their working hours as well as working capacity has decreased. The distribution of respondents in relation to causes of low back pain, types of low back pain and duration with low back pain. Major cause of low back pain proved to be as postural/ergonomical which is 55% of the total respondents, while 30% idiopathic, as participants did not know about the cause of pain, and 15% of the patients affected because of pathological reasons (neurogenic involvement,). Clinically low back pain are classified as - Acute where maximum respondents (67.5%) fall under this category, 20% living with - Chronic Pain which may be due to degeneration or musculoskeletal disorders, and 12.5% diagnosed with Intermittent pain among the total subjects. 40 % of them are living with low back pain for 1 to 3 years, whereas 37.5 % of them are for suffering more than 3 years and rest of the 22.5 % patients found to suffer

less than 1 year. The distribution of respondents in relation to their selection treatment at the initial period, duration of rehabilitation program that they received and immediate treatment cost incurred under various hospitals. With regard to selection of treatment 82.5 % respondents opted for physiotherapy (conservative) management whereas 17.5% opted for management through medicine or surgery. After low back pain 40 % of patients just received rehabilitation treatment for the period of less than 2 month, 32.5 % availed rehabilitation for 2 to 4 months and 27.5% received more than 4 months. Majorly 42.5 % of the patients have spent 1 Lac and above towards the immediate treatment cost in various hospitals, 37.5 % paid more than 50,000/- , while 20% patients spent less than Rs 50,000/-. The mean score and standard deviation with regard to socio demographic and clinical data of the respondents including four domains of Quality of life. With regard to age level of the respondents the mean score was 34.98 and standard deviation 10.421. In relation to hours spent at job before low back pain of the respondents the Mean score indicates 11475.00 and standard deviation 17613.350. Whereas hours spent at job by the respondents after low back pain, demonstrates mean score as 3900.00 and standard deviation 8650.77. Pertaining to duration with low back pain of patients the Mean score indicates 41.200 and standard deviation 64.458. Whereas in relation to the duration of rehabilitation treatment that received by respondents mean score was 4.3250 and standard deviation 3.812. With respect to immediate treatment cost spent by patients the mean score demonstrates 231375.000 and standard deviation 2.66268.

The mean score and standard deviation with regard to four domains of Quality of Life i.e. Physical Health, Psychological health, Social Relationship and Environment. The four domain scores denote an individuals perception of quality of life in each particular domain. Domain scores are scaled in a positive direction (i.e. higher scores denote higher quality of life). The mean score of items within each domain is used to calculate the domain score. As per the scoring system, the running descriptive will display values of all domain scores within the range 4-20.

To measure the level of quality of life of respondents it has been considered that the Mean score 12 indicates the moderate level of quality of life, Mean score less than 12 indicates lower level of quality of life and Mean score above 12 indicates higher level of quality of life. The above graph reveals Quality of life of the respondents with regard to their Physical health, Psychological health and social relationship domain was at moderate level, whereas quality of life of respondents in relation to their environmental domain observed at lower level. The following study finding supports the present study results.

The distribution of respondents in relation to their over overall perception of Quality of Life consisting certain

rating options such as Very poor, Poor, Neither poor nor good, Good and Very good. The above graph (Graph 1.7) confirmed that 75% of the respondents perceived their overall Quality of Life as Poor, while 25 % of them reported their perception as good.

The distribution of respondents in relation to their overall perception towards satisfaction level of health consists of certain rating options such as satisfied, dissatisfied, neither satisfied nor dissatisfied. The above graph (Graph 1.8) describes 80% of the respondents dissatisfied with their perception towards overall satisfaction level of health, while only 20% of them are satisfied. Prominently respondent reported dissatisfaction towards their perception of their overall level of health; following studies found various reasons that are associated with lower score of quality of life that could be considered for the above results. A study was carried to evaluate the prevalence of low back pain and emotional distress in persons with recent onset of low back pain. It is stated that persons with a recent onset of low back pain are at increased risk of having stress disorder and co morbidities such as depression and other symptoms of emotional distress. The results also showed that the prevalence of stress disorder was 20%. Patients with stress disorder experienced significantly more symptoms of depression and more emotional distress than patients without stress disorder. The distribution of patients with respect to their age group and their quality of life. One way analysis of variance was also computed to identify significant differences of quality of life among patients with respect to their age groups. The graph indicates there was no significance found between age of the respondents and physical health, psychological health, social relationship and environmental quality of life dimensions.

References

1. El-Sayed AM, Hadley C, Tessema F, Tegegn A, Cowan JA Jr and Galea S., "Back and neck pain and psychopathology in rural Sub-Sahara Africa: evidence from the Gilgel Gibe Growth and Development Study, Ethiopia", *Spine (Phila Pa 1976)*, Vol-35, 2010, pp 684–89.
2. Louw QA, Morris LD and Grimmer-Somers K., "The prevalence of low back pain in Africa: a systematic review" *BMC Musculoskelet Disorders*, Vol-8, 2007, pp 105.
3. Andersson GB., "Epidemiological features of chronic low-back pain" *Lancet* Aug 14, 1999, pp 581–85.
4. Kapellen PJ and Beall DP, "Imaging evaluation of low back pain: important imaging features associated with clinical symptom" *Semin Roentgenol*, Vol-45, 2010, pp 218–25.
5. De Schepper EI, Damen J, Van Meurs JB, et al, "The association between lumbar disc degeneration and low back pain: the influence of age, gender, and individual radiographic features", *Spine (Phila Pa 1976)*, Vol-35, 2010, pp 531–36.
6. Cheung KM, Karppinen J, Chan D, et al, "Prevalence and pattern of lumbar magnetic resonance imaging changes in a population study of one thousand forty-three individuals", *Spine (Phila Pa 1976)*, Vol-34, 2009, pp 934–40.
7. Wang H, Schiltewolf M and Buchner M., "The role of TNF-alpha in patients with chronic low back pain—a prospective comparative longitudinal study" *Clin J Pain*, Vol-24, 2008, pp 273–78.
8. Yamauchi K, Inoue G, Koshi T, et al, "Nerve growth factor of cultured medium extracted from human degenerative nucleus pulposus promotes sensory nerve growth and induces substance p in vitro", *Spine (Phila Pa 1976)*, Vol- 34, 2009, pp 2263–69.

However it is importantly noticed that as the age group decreases mean score towards social relationship facet was also decreased. HRQOL between veterans and non-veterans with low back pain in Iran. The regression analysis results of the study indicated that a longer time since injury was associated with better physical health-related quality of life, with regard to psychological health domain of quality of life, patients with low back pain for the duration of less than one year scored lower level of quality of life and patients with injury for the duration of more than three years reported higher level of quality of life.

Limitations and Future Research

The study attempted to understand the quality of life of persons with non specific low back pain in few dimensions as per WHOQOL- BREF Instrument, many other dimensions could not be considered. An evaluative study can be carried out to assess the effectiveness of behaviour therapy in patients with non specific low back pain.

Conclusion

The results of present study demonstrated that there are certain socio demographic factors and clinical factors associated with each dimensions of quality of life of non specific low back pain persons. It is confirmed that persons had moderate level of quality of life in relation to physical health, psychological health and social relationship dimensions, whereas they had lower level of quality of life in relation to environmental health dimension.

9. Roffey DM, Wai EK, Bishop P, Kwon BK and Dagenais S. "Causal assessment of occupational pushing or pulling and low back pain: results of asystematic review", *Spine J*, Vol-10, 2010, pp 544–53.
10. Wai EK, Roffey DM, Bishop P, Kwon BK and Dagenais S., "Causal assessment of occupational carrying and low back pain: results of a systematic review", *Spine J*, Vol-10, 2010, pp 628–38.
11. Deyo RA, "Measuring the functional status of patients with low back pain", *Arch Phys Med Rehabil*, Vol-69, 1988, No-12, pp 1044-53.
12. Deyo RA, Rainville J and Kent DL, "What can the history and physical examination tells us about low back pain?", *Jama*, Vol-268, 1992, No-6, pp 760-65.
13. Saraux A, Guedes C, Allain J, Devauchelle V, Valls I, Lamour A, Guillemin F, Youinou P and Le Goff P., "Prevalence of rheumatoid arthritis & spondyloarthropathy in Brittany, France Societe de Rhumatologie de l'Ouest", *J Rheumatol*, Vol-26, 1999, No-12, pp 2622-27.
14. Dickson RA, Stamper P, Sharp AM and Harker P., "School screening for scoliosis: cohort study of clinical course", *Br Med J*, Vol-281, 1980, pp 265-7.

A Review on MANET Routing Protocols & Mobility Models

¹Sonia, ²Gurmeet Kaur, ³Sourabh Biswas, and ⁴Rajan Juneja

¹ Research Scholar; I.K. Gujral, Punjab Technical University, Jalandhar
sonia.mimit@gmail.com

²Lecturer; Department of CSE; Malout Institute of Mgmt & Inf Tech., Malout
gurmeetpatil@gmail.com

^{3,4} Students; Department of CSE; Malout Institute of Mgmt & Inf Tech., Malout
souravishwas@gmail.com; rajanjuneja@gmail.com

Abstract

The Mobile Ad-Hoc Network (MANET) is a special type of temporary wireless network, in which the nodes are mobile having dynamic network topology. Communication among nodes in these networks is made via different routing protocols. Mobility can affect the stability of network too. Due to dynamic nature of MANET, both aspects (routing protocols and mobility) are the challenging issues. There are many protocols proposed for routing in MANET which makes it quite difficult to determine which protocol is suitable for different network environment. So this paper concentrates on various types of routing protocols and mobility models

Introduction

Wireless Networks are of two types: Infrastructure based and Infrastructure less. The Infrastructure less is further divided into two sub categories- Static Ad-Hoc Network and Mobile Ad-Hoc Network [10].

A Mobile Ad-Hoc Network (MANET) is a continuously self-configuring and infrastructure-less network of mobile devices which are connected without wires. MANETs consist of a peer-to-peer, self-forming and self-healing network.

MANETs (circa 2000-2015) typically communicate at radio frequencies (30 MHz - 5 GHz) [1].

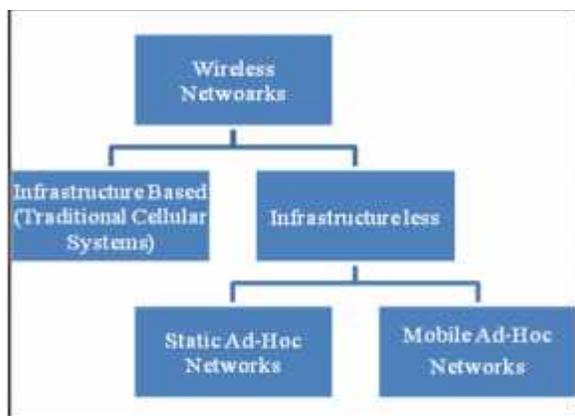


Fig. 1: Categories of Wireless Networks

Each device in a MANET is allowed to move independently in any direction and therefore changing its links to other devices frequently. Each has to forward traffic unrelated to its own use and therefore be a router [12]. MANET is always an ad-hoc network but an ad-hoc network is not necessarily a MANET.

Types of Routing Protocols

Every routing protocol performs well when the nodes are stable but in an environment having mobile nodes, the performance may degrade significantly. Routing is said to be the act of moving information from a source to a destination in a network. During this process, at least one of the intermediate nodes within the network must be encountered. The routing concept basically involves two activities: firstly, computing optimum routing paths and secondly, transferring the information groups (called packets) through a network [4].

Routing protocol identifies how routers communicate with each other and maintain information enabling them to select routes between any two different nodes on a computer network. Routing algorithms helps determine the specific choice of route. Each router maintains a prior knowledge only of networks attached to it directly. This information is shared first among immediate neighbours. It is spread then throughout the network. This way, routers gain knowledge of the topology of the network [5].

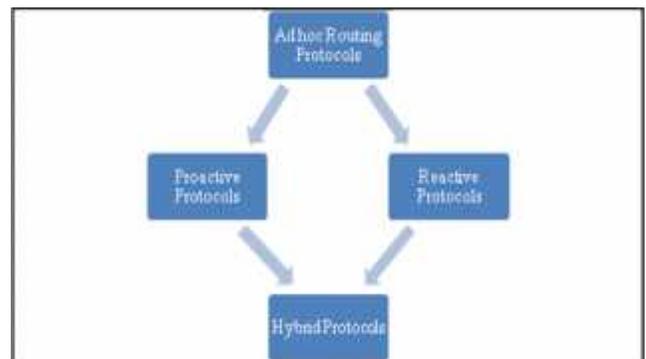


Fig. 2: Types of Routing Protocols

There are different types of MANET routing protocols as no single particular routing protocol works well in all environments.

A. Proactive Routing Protocols:

The proactive routing protocols are also known as Table Driven Routing Protocols. In this type of routing protocol, every node maintains different types of routing table which contains information about the network topology even without needing it [10].

The routing tables are updated periodically from time to time whenever the network topology alters. Proactive protocols are not suitable for large networks as they are required to maintain node entries for each and every node that are stored in the routing table of every node [14]. These protocols maintain different number of routing tables depending on protocol to protocol. Examples of proactive routing protocols:

- 1) **Dynamic Destination-Sequenced Distance-Vector Routing Protocol (DSDV)**
- 2) Cluster Gateway Switch Routing Protocol (CGSR)
- 3) Wireless Routing Protocol (WRP)

1) *Dynamic Destination-Sequenced Distance-Vector Routing Protocol (DSDV):*

DSDV has been developed on the basis of Bellman-Ford routing algorithm with some adjustments. In this routing protocol, each of the mobile node in the network has to retain a routing table. Each of the routing table comprises the list of all accessible destinations and the number of hops to reach each. Each table entry has to be labelled with a sequence number, which is originated by the destination node [16].

The Periodic transmissions of updates of the routing tables help in preserving the topology information of the network. If there exists any new significant change for the routing information, the updates are to be transmitted immediately. So, the routing information updates are either periodic or event driven [16].

The DSDV protocol requires every mobile node in the network to send its own routing table to its current neighbours. The advertisement has to be done either by broadcasting or by multicasting. By these advertisements, the neighbouring nodes get to know about any change that has occurred in the network due to any movements of nodes. The routing updates could be sent in two ways: one is known as “full dump” and second is “incremental”. In case of full dump, the entire routing table has to be sent to the neighbouring nodes, where as in case of incremental update, only the entries that require changes are sent [15].

B. Reactive Routing Protocols

Reactive routing protocol is also known as On Demand Routing Protocol. Protocol route is only discovered whenever it is needed. Nodes starts route discovery on demand basis only [2].

Source node first checks its route cache for the presence of route from source to destination, if the route doesn't exist then it initiates route discovery

process. The on- demand routing protocols have two major mechanisms [17]:

- **Route Discovery:**

In Route Discovery phase source node initiates route discovery on demand basis. Source nodes have to consults its route cache if there is any available route from source to destination or else if the route is not present it has to initiate route discovery. The source node included in the packet, contains the address of destination of the node and also address of the in-between nodes to the destination.

- **Route Maintenance:**

Due to dynamic topology of the network chances of cases of the route failure between the nodes arising due to link breakage etc., so route maintenance is needed to be done. Reactive protocols have acknowledgement mechanism the enables route maintenance possible. Examples of reactive routing protocols:

- 1) Dynamic Source Routing (DSR)
- 2) **Ad Hoc On-Demand Distance Vector Routing (AODV)**
- 3) Associativity-Based Routing (ABR)
- 1) *Ad-Hoc On Demand Distance Vector (AODV) Routing Protocol:*

The first version of AODV was published in November of year 2001 by Working Group for routing of the IETF community. In order to decrease the traffic overhead, routes are only established whenever required due to the purely on-demand nature. AODV supports unicast, broadcast and multicast [9].

AODV is an improvement of DSDV because it reduces the number of required broadcasts by creating on demand routes as compared to DSDV, which maintains a complete list of routes [18].

The traditional routing tables are used, one entry per destination which is in contrast to DSR (Dynamic Source Routing), which can store multiple route cache entries for each destination. AODV uses four types of messages namely RREQ, RREP, REER and HELLO.

C. Hybrid Routing Protocols

Hybrid routing protocol is combination of both proactive and reactive routing protocol.

Proactive protocols is said to have large overhead but less latency while reactive protocols is said to have less overhead but more latency. So a Hybrid protocols are designed to overcome the limitations of both proactive and reactive routing protocols [7].

It uses the route discovery mechanism of reactive protocol and also the table maintenance mechanism of proactive protocol so as to avoid both latency and overhead issues in the network. Hybrid protocol is suitable for large networks where large numbers of nodes are present. Examples of hybrid routing protocols:

- 1) Zone Routing Protocol (ZRP)
- 2) Sharp Hybrid Adaptive Routing Protocol (SHARP)

1) *Sharp Hybrid Adaptive Routing Protocol (SHARP):*

SHARP is known to adapt between reactive and proactive routing by dynamically varying the amount of routing information that is shared proactively. Such protocol defines the proactive zones around some nodes [11].

The number of nodes in a specific proactive zone has to determine by the node-specific zone radius. All nodes within the zone radius of a specific node become the member of that specific proactive zone for that node. If for a given destination a node is not present within a specific proactive zone, reactive routing mechanism query-reply is used to establish the route to that node [11].

The proactive routing mechanism is to used within the proactive zone. Nodes within the proactive zone has to maintain routes proactively only per respect to the central node [11]. In this protocol, proactive zones are to be created automatically if some destinations are frequently asked for or sought within the network. The proactive zones act as gatherers of packets, which forward the packets resourcefully to the destination, once the packets reach any node at the zone vicinity.

TABLE I

COMPARISON OF ROUTING PROTOCOLS

Parameters	Reactive Protocol	Proactive Protocol	Hybrid Protocol
Routing Philosophy	Flat	Flat/Hierarchical	Hierarchical
Routing Schemes	On Demand	Table Driven	Both
Routing Overhead	Low	High	Medium
Latency	High due to flooding	Low due to routing tables	Inside zone low, outside high
Scalability Level	Not suitable for large network	Low	Designated for large network
Availability of routing information	Available when required	Always available, stored in tables	Combination of both
Periodic Updates	Not needed	Yes needed	Yes needed inside the zone
Storage Capacity	Low, depends upon no. of routes	High, due to routing tables	Depends on size of zone, sometimes high
Mobility Support	Route Maintenance	Periodical updates	Combination of both

Classification of Mobility Models

Mobility Models are used for the simulation of realistic movements of a mobile or wireless network. It is used to simulate & evaluate the performance of wireless systems & the algorithms & protocols [3].

The mobility models give an idea about location, velocity and acceleration change over time for every

mobile node. Different models help to lower the randomness of the mobile nodes [6]. There are two main categories of mobility models namely Purely Synthetic Models and Trace-based Mobility Models.

A. *Classification of Mobility Models*

There are various classes of mobility models as given below [19]:

1) *Random-Based :*

Here, nodes can move randomly in any direction. So nodes are independent to each other with respect to destination, speed and direction.

2) *Temporal Dependencies :*

It depends upon time that is the actual or current velocity of a node which may be influenced by the movement in the previous state.

3) *Spatial Dependencies :*

It depends upon space. Here the movement of a node is affected by nodes around it.

4) *Geographic Restrictions :*

Here, the restrictions are put on the area of a particular node in which that node is allowed to move.

5) *Hybrid Characteristics :*

It is a combination of several dependencies and restrictions.

B. *Random Way Point Model (RWP)*

In the Random Way Point Model, at every instant, a node randomly chooses a destination anywhere in the specified network field and it moves towards it with a velocity chosen randomly from a uniform distribution between 0 and maximum allowable velocity for each mobile node i.e., 0 and V_max [8]. After reaching the chosen destination, the node stops for a time period known to be the “pause time”. After this time period, a node again randomly chooses a destination and repeats the whole above procedure until the simulation ends.

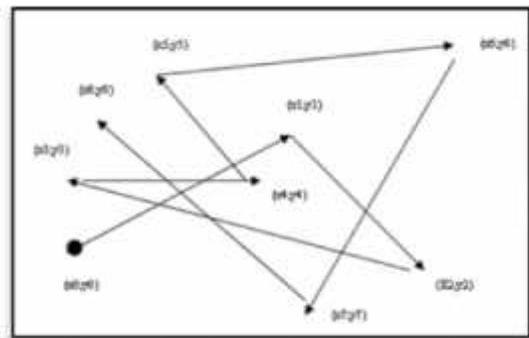


Fig. 3: Random Way Point Model

C. *Reference Point Group Mobility Model (RPGM)*

In RPGM, nodes are divided into groups. Each group has a logical centre called group leader that defines the whole group’s motion behaviour and leader’s mobility follows random waypoint [8]. RPGM mobility model makes two vectors namely Group Mobility Vector, which can share by all

members of the same group and Internal Mobility Vector, which is used to represent the relative mobility of some node inside the group. The vector sum of two mobility vectors decides the overall mobility of the node.

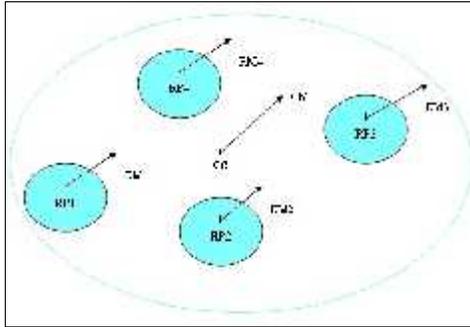


Fig. 4: Reference Point Group Mobility Model (RPGM)

Here, RP: Random Point
 RM: Random Motion
 GC: Group Center
 GM: Group Movement

Conclusion

This paper focussed on routing protocols and mobility models. Various classes of MANET routing protocols have been reviewed and compared. Along with that, different classification of mobility models has also been discussed. But this review paper presents two mobility models: Random Way Point (RWP) and Reference Point Group Mobility Models (RPGM) and three routing protocols: AODV, DSDV and SHARP.

References

1. Aarti and Tyagi S. S., "Study of MANET: Characteristics, Challenges, Applications and Security Attacks", International Journal of Advanced Research in Computer Science and Software Engineering, Vol-3, May 2013, pp 252-257.
2. Raut S. H., and Ambulgekar H. P., "Proactive and Reactive Routing Protocols in Multihop Mobile Ad hoc Network", International Journal of Advanced Research in Computer Science and Software Engineering, Vol-3, April 2013, pp 152-157.
3. F. Bai and A. Helmy, "A Survey of Mobility Models in Wireless Ad hoc Networks", in Wireless Ad Hoc and Sensor Networks, Chapter 1, Kluwer Academic Publishers, June 2004, pp. 1-29.
4. Dhenakaran S. S. and Parvathavarthini, A., "An Overview of Routing Protocols in Mobile Ad-Hoc Network", International Journal of Advanced Research in Computer Science and Software Engineering, Vol-3, Feb. 2013, pp 251-259.
5. Hinds A., Ngulube M., Zhu S., and Al-Aqrabi H., "A Review of Routing Protocols for Mobile Ad-Hoc Networks (MANET)", International Journal of Information and Education Technology, Vol-3, Feb. 2013, pp 1-5.
6. Bang A. O., and Ramteke P. L., "MANET: History, Challenges and applications", International Journal of Application or Innovation in Engineering & Management, Vol-2, Sept. 2013, pp 249-251.
7. Gandhi S., Chaube N., Tada N. and Trivedi S., "Scenario-based Performance Comparison of Reactive, Proactive & Hybrid Protocols in MANET", In Proceedings of the IEEE International Conference on Computer Communication and Infomatics, Coimbatore, 2012, pp 1-5.
8. Gupta S., Kumar C., Rani S., and Bhushan B., "Performance Comparison of Routing Protocols Using Different Mobility Models", International Journal of Modern Education and Computer Science, Aug. 2012, pp 54-61.
9. Kaur G., and Kaur A., "A Comprehensive Review on Performance of AODV Protocol for Wormhole Attack", International Journal of Research in Engineering and Technology, Vol-3, pp 531-537, May 2014.
10. Kaur, R., and Rai, M. K., "A Novel Review on Routing Protocols in MANETs", Undergraduate Academic Research Journal (UARJ), Vol-1, 2012.
11. Ramasubramanian V, Haas ZJ and Sirex EG, "SHARP: A Hybrid Adaptive Routing Protocol for Mobile Ad Hoc Networks", Proceedings of ACM MobiHoc, 2003, pp. 303-314.
12. Types of MANET available at https://en.wikipedia.org/wiki/Mobile_ad_hoc_network#Types.
13. Ankur O. B. and Prabhakar L. R., "MANET : History, Challenges and Applications" International Journal of Application or Innovation in Engineering & Management (IAIEM), Vol-2, Sept. 2013, pp. 249-251.
14. Krishna Gorantala , "Routing Protocols in Mobile Ad-hoc Networks", A Master' thesis in computer science, 2006, pp. 1-36.

15. G.Vijaya Kumar, Y.Vasudeva Reddyr and Dr.M.Nagendra, Current Research Work on Routing Protocols for MANET: A Literature Survey, International Journal on Computer Science and Engineering, Vol-2, 2010, pp 706-713.
16. Perkins CE and Bhagwat P., “Highly Dynamic Destination-Sequenced Distance-Vector Routing (DSDV) for Mobile Computers”, Proceedings of ACM SIGCOMM, 1994, pp. 234–244.
17. Sheltami T. and Mouftah H., “Comparative study of on demand and Cluster Based Routing protocols in MANETs”, IEEE conference, 2003, pp. 291-295.
18. AODV, Available at: <http://www.rainer-baumann.ch/public/qec.pdf>.
19. A survey of Mobility Model available at www.cise.ufl.edu/~helmy/papers/Survey-Mobility-Chapter-1.pdf.

A Hybrid Technique for Enhancing Data Security using Cryptography and Watermarking

¹Ankita Jain, ²Chanchal Ranawat, ³Dr. Sanjay Gaur and ⁴Jyoti Mewara

^{1&2} Students; Department of ECE, Madhav University, Sirohi, Rajasthan
 ankita270@gmail.com, ranawat.chanchal9@gmail.com

³Associate Professor & Research Supervisor, Faculty of CS & IT, Madhav University, Sirohi,
 sanjay.since@gmail.com

⁴ Assistant Professor, Department of ECE, Madhav University, Sirohi, Rajasthan
 mewara09@gmail.com

Abstract

Cryptography, Digital watermarking and Steganography are widely used for Image Encryption and Textual Data Encryption and there are various classifications of these techniques. In this paper we had studied about Hybrid Cryptographic Encryption Techniques and other encryption techniques are also used to enhance their level of security and also studied about the combination of Hybrid Techniques which combine cryptographic and Digital Watermarking Technique's. Hybrid approach for encryption gives more and strictly secured information, it's very difficult to find out anyhow any information, none of hacker easy to detect even truly they failed to decrypt information little bit.

Hybrid encryption is a mode of encryption that merges two or more encryption systems. It incorporates a combination of asymmetric and symmetric encryption to benefit from the strengths of each form of encryption. These strengths are respectively defined as speed and security.

Keywords- Cryptography, Watermarking, Encryption, Hybrid, Digital.

Introduction

In today's world, security of information is gaining more importance in data storage and transmission. Not only text based data but image based data is also widely used in several processes (for example in military investigations). Therefore, the protection of image and data from unauthorized access is needed. Image encryption plays a crucial role in the field of hiding information. Security is a vast topic and covers a multiple of sins. A digital watermark is a kind of marker which is covertly hidden in a noise-tolerant signal such as an audio, video or image data. It is usually used to identify ownership of the copyright of such signal. Watermarking is a process of embedding digital information in a carrier signal, the hidden information doesn't need to contains a relation with the carrier signal.

The digital watermarking system consists of two modules which are watermark detection extraction module and watermark embedding module. Experiments proved that DCT-based watermark can

well with stand a variety of image processing, after compression, cropping, and other attacks. Digital watermarking technology can provide a new way to secure the copyright of multimedia information or messages and to ensure the safe use of multimedia information.

The expression of two-dimensional DCT is as follows.

$$X(k, l) = \frac{2}{\sqrt{MN}} c(k)c(l) \sum_{m=0}^{M-1} \sum_{n=0}^{N-1} x(m, n). X$$

$$X = \cos [(2m+1)\pi 2M] \cos [(2n+1)\pi 2N]$$

$$k=0,1,2,\dots,M-1; l=0,1,2,\dots,N-1$$

Digital watermarks are used to verify the integrity or authenticity of the carrier signal or to show the uniqueness of its owners. It is used for tracing copyright in fringements and for banknote authentication.

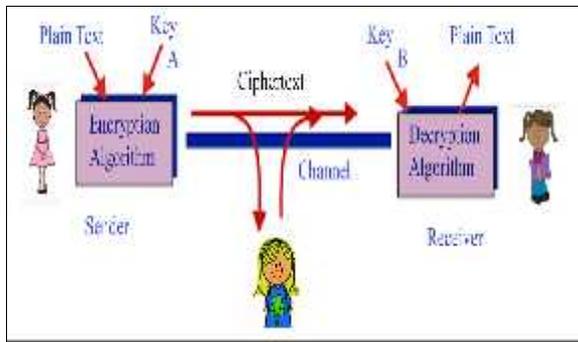


Figure.1 Block Diagram of Cryptography

Technique Used For Encryption

Well we have many more techniques for encryption but mainly we discuss about Steganography, Digital watermarking, Cryptography and their Hybrid combination encryption approaches. Hybrid approach for encryption gives more and strictly secured information, it's very difficult to find out anyhow any information, none of hacker easy to detect even truly they failed to decrypt information little bit.

Digital Watermarking

Digital Watermarking is embedding a hidden stream of bits in a file. The file may be an image, audio, video or text. A digital watermark is a kind of marker that is embedded in a noise-tolerant signal such as an audio, video or image data

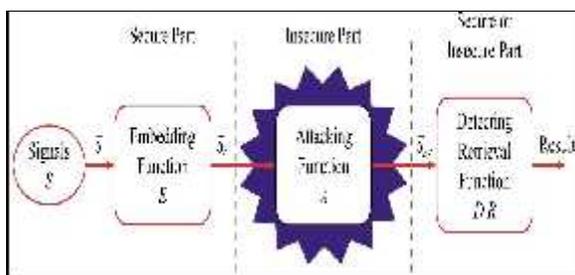


Figure 2 Digital Watermarking

Cryptography

Cryptography is the practice, that not only protects data from theft or alteration, but it can also be used for user confirmation. Cryptography is the platform which modern information security that involves the use of advanced mathematical approaches in solving rigid cryptographic issues, has gained its ground in

the digital world. Cryptography is the science of using mathematics to encrypt and decrypt information. Once the information has been encrypted, it can be stored on insecure media or transmitted on an insecure network (like the Internet) so that it cannot be read by anyone except the intended recipient. Encryption is the process in which data (plaintext) is translated into something that appears to be random and meaningless (ciphertext). Decryption is the process in which the ciphertext is converted back to plain text.

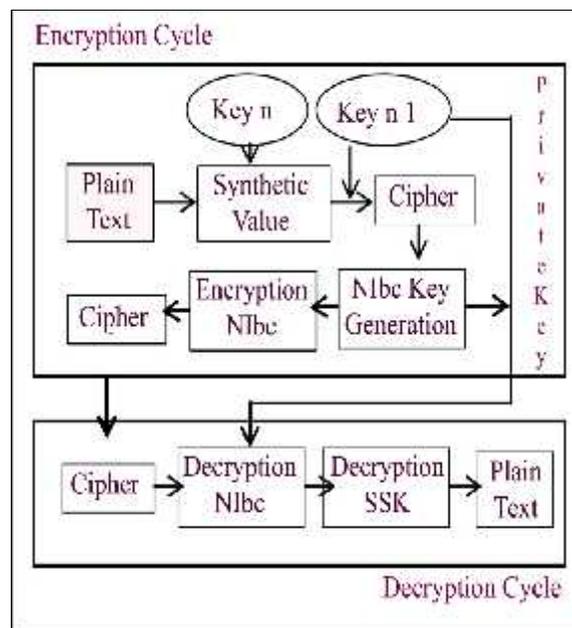


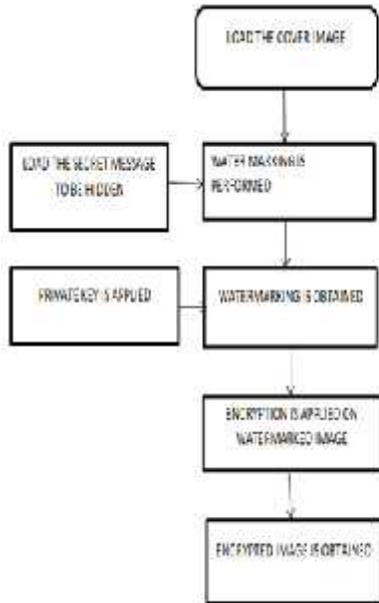
Figure 3 Encryption/Decryption Structure

A cryptographic algorithm, or cipher, is a mathematical function used in the encryption and decryption process. A cryptographic algorithm works in combination with a key (a number, word, or phrase) to encrypt and decrypt data.

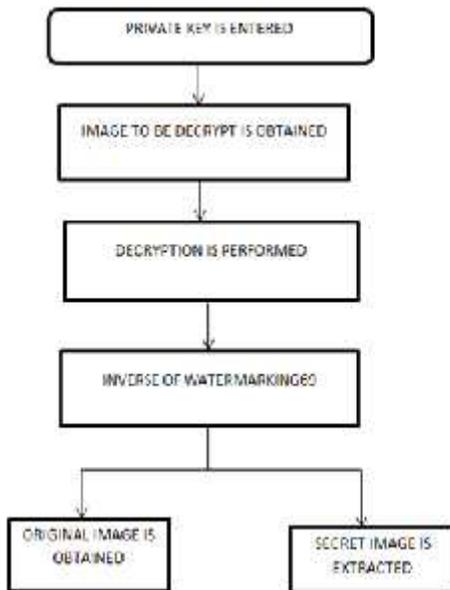
Hybrid Techniques with Combination of Cryptography and Watermarking

Firstly we will apply Digital Watermarking on image and then we also apply cryptographic techniques. We have many different ways or classification of Digital Watermarking and Cryptography. Further we will also try to do same Hybrid Process with steganography.

A. In short understanding:-
 IMAGE Apply Digital Watermarking. →
 Digital Watermarked IMAGE → Apply
 Cryptography Techniques



Flowchart for insertion of secret message into cover image and performing encryption



Flowchart for extraction of watermark and original image

Simulation and Results

In Fig. 4, we took an input image. This image is being watermarked with a university logo. Thus we get the final Image by embedding the two images. So the security has being enhanced. Now encryption and decryption of image is performed and the final image is obtained by decrypted the encrypted image. As Mean square error (MSE) will increase and Peak Square Noise Ratio(PSNR) will decrease



Figure 4 Watermarking applied to original image with text information

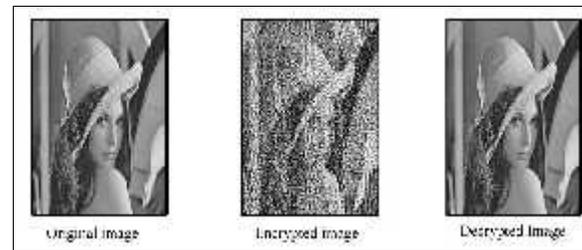


Figure 5 Encrypted and Decrypted Images

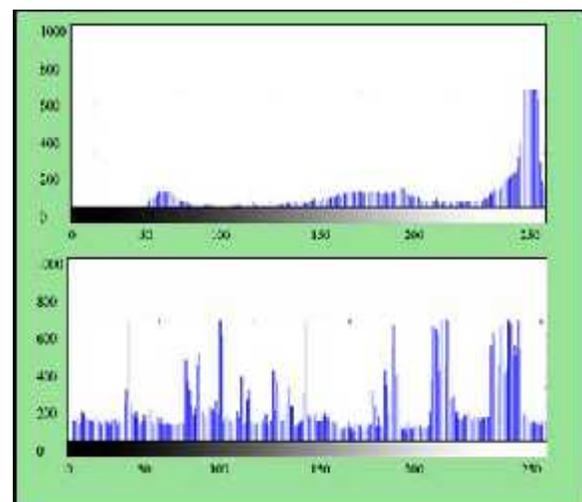


Figure 6 Histogram showing Original and Encrypted image

Conclusion and Future Scope

The hybrid nature of the procedure combining both the watermarking and cryptographic method, proved to be successful. Even though there was a non-significant pixel loss but the quality of the image was good. The entropy values and the mean values of the image for the plain, watermarked and ciphered image remained the same. By the help of this technique we can secure image by using invisible watermarking and encryption. The watermark and host image is embedded, a secret key is used and for security. Encryption has been done and at the receiving side by

using secret key to decrypt the image and then original image is recovered successfully. The security of image can further be improved by using other techniques like curve let transform. The hybrid nature of the procedure engaged in this work involving key-exchange algorithm makes it easy for encryption process to be done which involve two or more parties or nodes which provide authentication, confidentiality and integrity to the cryptographic method. The non-pixel loss aspect after the encryption process makes it suitable for the encryption and securing of images that needs to preserve information

Reference

- 1 Dr. Ajit, PreetiKalra and Sonia Dhull, "Digital Watermarking", International Journal of Advanced Research in Computer Science and Software Engineering Vol. 3, No. 4, April 2013, pp. 280-283.
- 2 Shraddha S. Katariya, "Digital Watermarking: Review", International Journal of Engineering and Innovative Technology (IJEIT) Vol. 1, No-2, February 2012, pp. 143-153.
- 3 Quist-Aphetsi Kester, Laurent Nana, Anca Christine Pascu, Sophie Gire, Jojo M. Eghan, and Nii Narku Quaynor, "A Hybrid Cryptographic and Digital Watermarking Technique for Securing Digital Images based on a Generated Symmetric Key", International Journal of Computer Applications (0975 – 8887) Vol. 94, No. 19, May 2014, pp. 19-27.
- 4 Obaida Mohammad and Awad Al-Hazaimeh, "A New Approach for Complex Encrypting And Decrypting Data" International Journal of Computer Networks & Communications (IJCNC) Vol.-5, March 2013, No.-2, pp. 95-103.
- 5 SuchitaTayde and SeemaSiledar, "File Encryption, Decryption Using AES Algorithm in Android Phone" International Journal of Advanced Research in Computer Science and Software Engineering Vol.- 5, No. 5, May 2015, pp. 550-554.
- 6 Neha Mistry, Hiral Davda, and Helina Patel, "Image Encryption using MATLAB with Hybrid Method" International Journal of Innovative and Emerging Research in Engineering Vol- 2, No. 3, 2015, pp. 60-64.
- 7 Sumedha Kaushik and Ankur Singhal, "Network Security Using Cryptographic Techniques", International Journal of Advanced Research in Computer Science and Software Engineering Vol. 2, No.12, 2012, pp. 105-107.

A Study of Family Environment Relationship and Academic Achievements of the School Level Students

¹Shiva Gupta and ²Dr. Sanjay Kumar

¹ Research Scholar, Institute of National Importance, Madras

²Assistant Professor, Deptt. of Education, SRM University. U.P.

Abstract

The present study is evocative about the personality, self-concept and family environment of the secondary level students. There are a number of such problems related to the education and development of child which will particularly require psychology for their solution. Educational psychology studies physical and mental development of children, their social and community development, personality intelligence, ability capacity, aptitude, thinking, memory and imagination etc. In addition to these studies different forms of learning methods, contribution of the child in learning condition of learning and use of different mental process in education.

Key words: Family, Environment, Academic, Achievements, School Level

Introduction

Education has been considered as a natural process. Process of education started even during the pre-historic period when man in his primitive stage began to apply his intelligence to adapt himself to his environment and fulfill the needs of life. Not only man but every living being has to adapt itself to its environment falling which its survival becomes difficult. Some creative have some nature powers. These powers help them in their adoption to environment but man lacks these powers. The natural by giving wisdom to man as deprived him of all those natural gifts which would have enabled him to adapt himself to his environment like other animals in the world. So the only way open to him was to discover and create the means of adaptation. An thus here was the beginning of education.

The process of education of human being starts when he is in the womb of his mother. At that he has a kind of environment he has to adapt himself to another environment as soon he is born. If the infant fails to adapt himself to the environment of the womb; its development is retarded and it becomes weak or sick. Such an infant does not succeed well in adaptation to the outside environment after birth. The outside environment is very much extensive than the womb of the mother and as such needs more adaptation after birth. As the Secondary Level Students grows up become more and more complex and accordingly the needs of adaptation also increase. This activity of adaptation is a part of his education process. So in order to prepare himself for adaptation or develop himself for environmental needs man requires a system education which may continue from birth to the grave.

Objectives

Followings were the objectives of the study:

- (a) To find out the relationship between accepted attitude of the mother and academic achievement of the Secondary Level Students.
- (b) To find out the relationship between avoidance attitude of the mother and academic achievement of the Secondary Level Students.
- (c) To find out the relationship between avoidance attitude of the father and academic achievement of the Secondary Level Students.

Hypothesis

- (a) There is no significant between two level of acceptance attitude of mother of high and low achiever.
- (b) There is no significant between two level acceptance of attitude of father of high and low achiever.
- (c) There is no significant between two level of concentrated attitude of mother of high and low achiever.

Tools Used

After selecting the sample, the next step was to choose suitable tools for the collection of data. The investigator used the family relationship inventory, standardized by Dr. G.P. Sherry and Dr. J.C. Sinha.

Result and Data Analysis

Acceptance Attitude of Mother and academic achievement of the students:

Mean, S.D. and N for High Achievers and Low Achievers.

S.N.	Name of Group	N	Mean	S.D.
1.	High Achievers	64	19.23	2.51
2.	Low Achievers	82	17.76	2.75

Difference between Mean values, SE of Difference between Mean values and critical ratio

S.N	Name of Group the Mean	Difference between Mean	SE of Difference	C.R.
1.	High & Low Achievers	1.44	2.64	3.44**

** Significant at 0.01 level

Results

An observation of the above table seemed that mean value of acceptance Attitude of mothers for high achievers were 19.23 with S.D. 2.51 and for low achievers was 17.76 with S.D. 2.76. This shows that the mean value of high achievers was higher than the lower achievers.

The above table seemed that difference value was 1.44, S.E of difference between mean value was 2.64 and critical ratio was 3.44 which is statistically significant at 0.01 level 0.50 null hypothesis was rejected .This is may be inferred that these was significant difference in the level at acceptance attitude of high and low achievers.

Discussion

Hypothes No. a, results was respect to acceptance attitude of mother towards high and low achieversis accepted. Acceptance attitude of father and academic achievement of the students.

Mean,S.D. and N for High Achievers and Low Achievers.

S.N.	Name of Group	N	Mean	S.D.
1.	High Achievers	64	20.08	2.24
2.	Low Achievers	82	18.23	2.56

Difference between Mean values, SE of Difference between Mean values and critical ratio

S.N.	Name of Group	Difference between Mean	SE of Difference	C.R.
1.	High & Low Achievers	1.85	2.42	4.65**

**Singnificant at 0.01 levels.

Results

An observation of the above table seemed that mean value of acceptance attitude of mothers for high achievers were 20.8 with S.D. 2.24 and for low achievers was 18.23 with S.D. 2.56. This shows that the mean value of high achievers was higher than the lower achievers.

The above table seemed that difference value was 1.85, S.E of difference between mean value was 2.42 and critical ratio was 4.65 which is statistically significant at 0.01 level 0.50 null hypothesis was rejected .This is may be inferred that these was significant difference in the level at acceptance attitude of high and low achievers.

Discussion

Hypothesis No. b, results was respect to acceptance attitude of father towards high and low achievers is accepted. Concentrated attitude of mother and academic achievement of the students.

Mean,S.D. and N for High Achievers and Low Achievers.

S.N.	Name of Group	N	Mean	S.D.
1.	High Achievers	64	11.97	3.75
2.	Low Achievers	82	11.39	3.01

Difference between Mean values, SE of Difference between Mean values and critical ratio

S. N.	Name of Group	Difference between Mean	SE of Difference Mean	C.R.
1.	High & Low Achievers	0.58	3.37	1.05**

**Singnificant at 0.01 level.

Results

An observation of the above table seemed mean value of acceptance attitude of mothers for high achievers was 11.97 with S.D. 3.75 and low achievers was 11.39 With S.D. 3.01. This shows that the mean value of high achievers was than the lower Achievers.

The above Table seemed that difference was 0.58 SE of difference between the mean values was 3.37 and critical ratio was 1.05 which statistically significant at 0.01 level 0.50 null was rejected. This is may be inferred these was significant difference in the level acceptance attitude of high and low achievers.

Discussion

Hypothesis No. c, result was respect to conceptance attitude of mother do not affect Significant the academic achievement of the secondary level school students. Hence hypothesis is rejected.

References

1. Berk, Laura E., Child Development, Delhi: Prentice Hall of India, 7th Edition, 2007.
2. Best, J.W. and Kahan, J.V., Research in Education, Prentice Hall of India, 7th Ed, 2007.
3. Buch, M.B., Fifth Survey of Research in Education, N.C.E.R.T. Vol-I, 2000.
4. Buch, M.B., Sixth Survey of Research in Education, N.C.E.R.T. Vol-I, 2006.
5. Buch, M.B., Sixth Survey of Research in Education, N.C.E.R.T. Vol-I, 2007.
6. Garrett, H.E. & Woodwirth, Statistics in Psychology and Education, Paragon International Publication, Delhi, 2007.
7. Basu B., History of Education in India, Cosmo publication, 1993.
8. Agrawal, S.P., A source book of Indian education, Arya book Depot, New Delhi, 1987.
9. Michael, V.B., Gopal K., Educational System Accidental and oriental, Anu prakashan, Meerut, 1979.
10. Cuminghauall, (Thesis and Dissertion), The relationship between modernity of students and parents in high school and their academic performance, 1973.

Conclusion

1. There exists significant difference in the level of accepted attitude of mother of High and low achievers. The mean score of high achievers is 19.23 which is greater than mean score of low achievers (17.76) indicates the acceptance attitude of the mothers lead to high academic achievement of the secondary level school students.
2. There is significant difference in the level of accepted attitude of father of high and low achievers. The mean score of high achievers is 20.08 which are greater than the mean score of low achievers (18.23). Thus it indicates the fathers' acceptance attitude leads to high academic achievement of the secondary level school students.
3. There is no significant difference in the level of concentrated attitude of mother of high and low achievers. Therefore there exists no significant difference in academic achievement of high and low achievers due to the concentrated attitude of mother.

Consumer Satisfaction: A Case Study of Insurance Sector with Reference to Bajaj Allianz Life Insurance Company Pvt. Ltd

¹Dr.Gaurav Khanna and ²Ashu Anchal

¹Associate Professor, Madhav University, Pindwara (Sirohi)

²Assistant Professor, Madhav University, Pindwara (Sirohi)

Abstract

Customer satisfaction is defined as an assessment of the perceived inconsistency between prior prospect and the definite presentation of the product towards Satisfaction of client with products and services of a company is measured as most important factor leading toward competitiveness and success. This learning experience evaluates customer satisfaction in five factors: communication, price, policy contributions, billing and imbursement, and settlements claims.

Bajaj Allianz life insurance company pvt ltd services have repeatedly seen as the input to a company's achievement and long-standing competitiveness. The insurance business is getting a lot of concentration as Customer satisfaction. In the circumstance of relationship marketing, client satisfaction is often viewed as inner determinant of customer retention. The general purpose of this article is to expand a theoretical foundation for investigating the customer retention procedure to utilize of the concepts of consumer satisfaction and association quality. Customer satisfaction is a key quality metric for insurance companies to observe in order to estimate which areas of their client service are muscular and which areas need development in order to preserve or increase their relationship base.

Customer satisfaction is truly how customer evaluates the continuing fast performance customer satisfaction is customer's reaction to the state of satisfaction, and customer's judgment of satisfaction level. In this analysis we would like to through light on important factors of Consumer satisfaction that to understand the insurance business and products of BAJAJ ALLIANZ life and to find out whether people were really aware of BAJAJ ALLIANZ life insurance co ltd.

Keywords: Perception, Consumer Satisfaction, Relationship management

Introduction

The main goal of research is to analyze factors what influences consumer satisfaction assuming and fulfilling Life Insurance Policy of Bajaj Allianz group. Very special role in presented research is devoted to analysis of consumer satisfaction in insurance sector. Research object is particularities of consumer satisfaction under impact of internal and external factors. The research data collection realized through a direct interview method with specially designed questionnaire of interview. The data collection instrument in this research is a structured questionnaire with limit options, part of the questions can have more answers. The research method- a typological multi-stage sample or occasional sample. In processing the research data are used statistical analysis and multidimensional analysis.

Using the evaluation scale of 1 to 5, the participant of the research (respondents) value each given factor, where "1" means that a given factor did not affect the decision / insignificant factor, "5" means that the given factor has a major impact on the decision / the most important factor (see Table-1). The Table-1 indicated the most important factors affecting consumer satisfaction. These factors are grouped into three main

categories-first factors, second factors and service factors.

Table-1 Factors affecting consumer satisfaction to the questionnaire

Factors Group	Factors	Rating value				
		1	2	3	4	5
First Factors	Staff position	1	2	3	4	5
	Adequate staff	1	2	3	4	5
	No. of counters	1	2	3	4	5
Second factors	Knowledgeable persons	1	2	3	4	5
	Quick service	1	2	3	4	5
	Billing clarity	1	2	3	4	5
	Accuracy in billing	1	2	3	4	5
Service	Attitude towards dealing with	1	2	3	4	5

Factors	customer by staff					
	Attitude of staff	1	2	3	4	5
	Premium notice and receipt timely	1	2	3	4	5
	Complaint					
	Staff courteous	1	2	3	4	5

For each factor group the author made analyze using the survey results. The unit of analysis- respondents aged over 18 years, who have credit liabilities and who is the end- user of the credit products. The survey involved 507 respondents of study area (n = 507).

Findings and Suggestions

In the BALIC, promotion is mainly done by personal selling. The field sales force of the BALIC consists of development officers and the agents. Development officers are concerned with the development of BALIC business by planning and coordinating the work of agents.

The agent Performs an important duty of selling BALIC policies and serving the policy holders. The incentive schemes for agents and development officers help in motivating them to perform better. The main aim of this study is to analyse the issues related to customer behaviour & satisfaction and examine the service of BALIC from the point of view of policy holders. Through questionnaire method the data was collected relating to insurance policies from a sample of 600 customers.

The findings of this study after interaction with the respondents are :

- i. 507 respondents out of 600 people contracted were having BALIC policies and they were only considered for study and analysis.
- ii. Most of the policy holders were educated with high qualification which led to the conclusion that education has its impact on the purchase of policy.
- iii. The income level also has its impact on purchasing of a life insurance policy. 42% of the respondents were having taxable income.
- iv. While purchasing the second policy, most of the respondents gave priority to self, followed by children.

- v. In large numbers of cases, agent was the source of introduction to BALIC and its policies that played an important role.
- vi. Respondents revealed that maximum male and female belong to Jodhpur, followed by Pali. The minimum respondents of male were belonged to Sheoganj while minimum female respondent came from Sirohi area of the study.
- vii. Maximum number of policy holder belonged to age group of 20 – 40 years followed by age group of 40 – 60. The minimum respondent belonged to age group of less than 20 years.
- viii. It was found out that maximum policy holders visited or have taken policies only from single branch followed by two branches.
- ix. It is observed that maximum persons belong to business community have taken the policy to secure their future. It was followed by service person and professional.
- x. Customers with taxable income have more potential to purchase insurance policies.
- xi. The respondents opined that the BALIC policies do not fully match their needs. They wanted tailor made policies.
- xii. It was observed that about 409 (80.67%) respondents satisfied with clarity in bills issued by the insurance office. It directly affects the satisfaction of customer. Majority of the respondents share their opinion that the premium amount is not burdensome for them.
- xiii. Some policies are also taken by respondents as future gifts to their grand children.
- xiv. Location of branch was convenient for most of the customers.
- xv. Agents of BALIC are active in selling policies to their customers and act as good motivators.
- xvi. Advertisements of BALIC were well observed by the customers. The advertisements were effective as well. Newspapers and T.V. advertisements were more influencing to customers.
- xvii. It is observed that about 93% or 475 respondents were satisfied about the space in the branch offices. Also their staff takes quick action in time on enquires by the respondents. They also have adequate numbers of staff at branches.

- xviii. It is observed that policy holders discussed with friends (49.75%) followed by family members (23.87%), co-workers (16.33%) and relatives (10.05%). While purchasing the policies.
- xix. There were sufficient number of counters at the offices, However, additional counters can be added during peak business time if found necessary. 74.36% customers stated that they were satisfied with the numbers of counters.
- xx. Many policy holders were moderate satisfied with the general amenities at the branches. All the amenities should be ensured as the customers expectations are increasing and since rented premises required attention on this aspect.
- xxi. Most of the respondents felt that without analyzing the paying capacity of the customers, the agents would persuade them to have greater sum assured which could result in policy lapses. Also customers felt that revival procedures for the policies should be simplified.

Suggestions

The purpose of any research study lies in finding the problems areas and suggesting ways and means to overcome the problem areas that emerge. The suggestions given here are simple and easy to apply after properly explaining the issues of concern.

Since the peoples are still uneducated in the subject to life insurance products in terms of investment & security. Some suggestions from them are:

- a) Never sign any life insurance application form before carefully reading and reviewing each question and answer

References

1. Dei I Hawkins, Consumer Behavior, Tata Mc Graw Hill, New Delhi, 2007.
2. Dr. B. Balaji, Services Marketing and Management, S. Chand & company Ltd. New Delhi, 2007.
3. C. R. Kothari, Research Methodology Methods and Techniques, New Age International Pvt. Ltd, New Delhi, 2005.
4. Andrea Jean, Physical Well-Being Impacts Financial Independence, www.Naturalnews.com Monday, September 24, 2007.
5. Shilpy Sinha, We are coming out of the impact of detariffication: ICICI Lombard ET Bureau, June 18, 2012.
6. Giovanni Manunta, "What is Security?", Security Journal Vol-12, 1999, pp 57-66.
7. Roger A Litton, Criminological Research and the Insurance Industry, Security Journal Vol-13, 2000, pp 31-48.
8. Andrew A Reid and Martin A Andresen, An evaluation of CCTV in a car park using police and insurance data, Security Journal, Vol-25, 2012, pp 39-43.

- b) Comparison superstore since there are major cost differences among life insurance companies for the same type and amount of coverage.
- c) Figure out what type of life insurance coverage is best.

The following Issues have emerged from the study :

1. BALIC is likely to face competition and challenges in the emerging environment in insurance industry. Marketing consultants of BALIC should be prepared to face this.
2. The main motive behind purchasing a life policy should be social security.
3. The advertisements are noticed by the customers and are effective.
4. Even in future management should emphasize upon the simple language of the policies so that everyone can easily understand them.

Winding Up and Restrictions

BAJAJ ALLIANZ Life Insurance Company has the handsome percentage of satisfied customers. The percentage of the satisfied customers is 70 % and only 30 % of the customers are not satisfied with the services of the company and their suggestions are taken to improve the service so that the company can increase the percentage of satisfied customers.

- Committed towards commitment.
- Able to fulfill the need of the Existing policy holders.
- Difficulties were quickly removed.

Limitations

- The customers was not that much attentive towards answering the questions.
- The customers became bias at the time of answering.
- The customers didn't want to answer.

सूचना का अधिकार अधिनियम और मीडिया की भूमिका

डॉ. विदुषी आमेटा

सहायक आचार्य ,

हिन्दी विभाग, माधवविश्वविद्यालय, सिरौही

सारांश

सूचना का प्रवाह लोकतंत्र को ऑक्सीजन प्रदान करता है। जहाँ सूचनाएँ प्रसारित होती हैं, वहाँ लोकतंत्र शक्तिशाली है। अगर जनता यह नहीं जानती कि उनके समाज में क्या हो रहा है ? उन पर जो शासन करने वाले हैं, उनके कार्य ढके हुए हैं, तब तक जनता सामाजिक कार्यों में एक अर्थपूर्ण भूमिका का निर्वाह नहीं कर सकती है। अभिव्यक्ति की स्वतंत्रता, विचारों का मुक्त प्रसार और लोगों की सूचनाओं तक पहुँच एक लोकतांत्रिक शासन व्यवस्था के सुचारू संचालन हेतु आवश्यक है। सूचना जीवंत लोकतंत्र और श्रेष्ठ प्रशासन का महत्वपूर्ण अंग है। यह शासन के कार्यों व प्रक्रियाओं का प्रतिबिम्ब है। लोकतंत्रात्मक शासन में सूचनाओं तक पहुँच न केवल जनता की सक्रिय भागीदारी का प्रतीक है अपितु यह प्रशासन को मतैक्य, पारदर्शिता और जवाबदेही के लिए प्रेरित करता है। सूचना का अधिकार प्रत्येक नागरिक का सूचना तक पहुँचने का वह अधिकार है जिसके द्वारा वह जन प्राधिकरणों को नियंत्रित कर सकता है और शासन संचालन को प्रभावित कर सकता है। जनभागीदारी, कानून का शासन, पारदर्शिता, जवाबदेही, समता, समग्रता, प्रभावशीलता, सामर्थ्य और आम सहमति आदि श्रेष्ठ प्रशासन की मुख्य विशेषताएँ हैं।

प्रस्तावना

सूचना का अधिकार, सूचित जनता और आदर्श शासन व्यवस्था तीनों में सीधा सम्बन्ध है। सूचना का अधिकार नागरिकों को यह अवसर प्रदान करता है कि वे यह जाने कि सरकार उनके लिए क्या कर रही है, क्यों कर रही है और कैसे कर रही है। शासन व्यवस्था इसके माध्यम से सरकारी अधिकारियों को एक मंच प्रदान करती है जिससे वे अपने कार्यों के लिए जनता के प्रति उत्तरदायी व जवाबदेह हो जाते हैं। इसका उद्देश्य ही तो जवाबदेह राज्य की स्थापना करना है। आदर्श व श्रेष्ठ शासन व्यवस्था के आधारभूत मूल्यों—जनभागीदारी, कानून के नियमों का सम्मान, अभिव्यक्ति की आजादी, पारदर्शिता, जवाबदेही आदि का क्रियान्वयन एकमात्र “सूचना का अधिकार” से ही संभव है। “सूचना का अधिकार” आदर्श शासन का हॉलमार्क है।

मीडिया राज्य के चौथे अंग के रूप में राज्य को जवाबदेह व पारदर्शी बनाने हेतु जिम्मेदार है। यह तथ्य हमारे सामने आता है कि अधिकांश जनता व्यक्तिगत माध्यम से सीधे सूचना पाने की स्वतंत्रता के अधिकार के प्रति जागरूक नहीं है। इसलिए भ्रष्टाचार विरोधी हथियार के रूप में सूचना के अधिकार के प्रति जनता को जागरूक करने में मीडिया की भूमिका अधिक महत्वपूर्ण हो जाती है। यह अधिनियम जनता को सशक्त बनाने व लोकतांत्रिक राज्य व्यवस्था को मजबूत करने के लिए मीडिया को व्यापक कार्य क्षेत्र प्रदान करता है। इस

अधिनियम का उपयोग कर मीडिया सार्वजनिक हित के मुद्दों की जाँच कर सकता है, उन्हें बेनकाब कर सकता है। मीडिया अभिव्यक्ति की स्वतंत्रता के अभिभावक के रूप में जनता के जानने के अधिकार को सुरक्षित रख सकता है। मीडिया सूचना के अधिकार सम्बन्धी जानकारी का प्रसार करके पारदर्शिता और जवाबदेही के बंद दरवाजों को खोल सकता है। जीवंत मीडिया सक्रियता के साथ सूचना का अधिकार सम्बन्धी जानकारी का राष्ट्रव्यापी प्रसार व प्रकाशन कर सकता है। मीडिया को सक्रिय होकर जनता को सजग करना होगा, अन्यथा भ्रष्टाचार सरकारी दस्तावेजों में ही दफन होकर रह जाएगा। भ्रष्टाचार को बेनकाब करने के लिए उन दस्तावेजों तक पहुँच बहुत जरूरी है। सरकारी दस्तावेज धन व शक्तियों के दुरुपयोग की अनकही कहानियों से भरे पड़े हैं। इस अधिनियम की सहायता से मीडिया उन तक आसानी से पहुँच सकता है। मीडिया भ्रष्टाचार को उजागर करने में महत्वपूर्ण भूमिका का निर्वाह कर सकता है।

सूचना का अधिकार अधिनियम के द्वारा मीडिया सरकारी गतिविधियों व राज्य के विविध मामलों का शक्तिशाली प्रहरी बन सकता है। परन्तु, सूचना का अधिकार लागू होने के पिछले 9 वर्षों के इतिहास में मीडिया द्वारा इस अधिकार का प्रयोग बहुत कम देखने को मिलता है। मीडिया खोजी पत्रकारिता के उपकरण के रूप में इस अधिकार का प्रभावी प्रयोग नहीं कर पाया है। मीडिया की उदासीनता का एक कारण यह भी हो सकता

है कि मीडिया में सूचना के अधिकार में निहित वास्तविक शक्ति को पहचानने की क्षमता का अभाव है। कुछ मामलों को छोड़कर, मीडिया ने भ्रष्टाचार विरोधी उपकरण के रूप में इसका प्रयोग नहीं किया है। सूचना का अधिकार के प्रति मीडिया की उदासीनता के अन्य कारण भी हो सकते हैं परन्तु, कुछ मीडियाकर्मी ऐसे भी हैं जो इस अधिनियम के सक्रिय क्रियान्वयन की वकालत कर रहे हैं। इस कानून के पास भ्रष्टाचार को उजागर करने की विशेष क्षमता है और सार्वजनिक पारदर्शिता बढ़ाने की सामर्थ्य है।

सूचना के अधिकार का प्रयोग एवं मीडिया के द्वारा विकास

मीडिया सूचना के अधिकार का प्रयोग कर अग्रलिखित कार्यों से गरीबों व वंचितों के जीवन में महत्वपूर्ण परिवर्तन कर सकता है :-

1. जनता को उनके हक व अधिकारों के प्रति जागरूक करना
2. जनता को सरकारी योजनाओं व कार्यक्रमों तक पहुँचने के लिए सक्रिय करना
3. जनता को राजनीतिक मुद्दों व विचारों के प्रति जागरूक करना
4. जनता को सार्वजनिक बहस के लिए प्रोत्साहित करना
5. जनता को सामाजिक, आर्थिक, पारिस्थितिक मुद्दों पर शिक्षा प्रदान करना
6. सरकार द्वारा किए गए भ्रष्टाचार, धोखों, अक्षमता व दुरुपयोग के प्रति जनता का ध्यानाकर्षण
7. ज्ञान के स्रोतों की खोज व प्रसार
8. बेहतर तकनीक व बेहतर चुनाव तक प्रत्येक व्यक्ति की पहुँच सुनिश्चित करना
9. सरकारी व्यवस्था में सुधार, जवाबदेही व गुणवत्ता के लिए दबाव बनाना
10. सरकारी कर्मचारियों व सत्ताधारियों के साथ संवाद के लिए जनता को एक माध्यम उपलब्ध कराना।

मीडिया सूचना के अधिकार का प्रयोग कर विकास और गरीबी उन्मूलन पर स्थायी प्रभाव डाल सकता है। इस सम्बन्ध में मीडिया के तीन मुख्य कार्य इस प्रकार हैं :-

1. सशक्तीकरण :-

मीडिया नागरिक सशक्तीकरण में मुख्य भूमिका का निर्वाह करता है। यह जनता की आवश्यक माँगों को आवाज देता है। जनता को सूचना पाने हेतु प्रेरित कर सूचना तक उनकी पहुँच सुनिश्चित करता है। जब जनता सार्वजनिक क्षेत्र में अपनी आवाज की कमी महसूस करती है अथवा जनता के जीवन को प्रभावित करने वाले मुद्दों की सूचनाओं तक उसकी पहुँच नहीं होती है अथवा जनता की समस्याएँ सार्वजनिक चिंता का विषय नहीं बनती हैं तो इसका मतलब है कि शासन प्रक्रिया में जनता की भागीदारी नहीं है। मीडिया अपने विविध रूपों (प्रिंट और

इलेक्ट्रॉनिक) से सूचनाओं तक पहुँच बढ़ाकर शासन में जनभागीदारी को विकसित करता है। मीडिया इस अधिनियम का प्रयोग कर गरीब, वंचित, उपेक्षित वर्गों और महिलाओं को सामाजिक स्तर पर एक आवाज दे सकता है।

2. सामाजिक जागरूकता के कार्य:-

मीडिया की क्षमता को सामाजिक जागरूकता बढ़ाने के लिए प्रभावी ढंग से नियोजित किया जा सकता है। मीडिया न केवल स्वतंत्रता को संरक्षण व विस्तार देने में कारगर हो सकता है अपितु सामाजिक मुद्दों पर विचार-विमर्श के लिए जनता को एक निर्णायक भूमिका प्रदान करता है। मीडिया का रचनात्मक प्रभाव जनता के दृष्टिकोण और विचारधारा पर पड़ता है। मीडिया गरीबों की माँगों को आवाज देने, गरीबों को पर्याप्त अवसर मुहैया कराने और गरीबों की समस्याओं पर काबू पाने की पहल करने पर जोर देता है। मीडिया जन जागरूकता के प्रसार और तत्सम्बन्धी कार्रवाई करने में अपना योगदान देता है। इस तरह सतत विकास और गरीबी उन्मूलन को सुविधाजनक बनाने में यह महत्वपूर्ण कारक हो सकता है।

3. सुशासन:-

गरीबी उन्मूलन के लिए सुशासन आवश्यक है और स्वतंत्र मीडिया सुशासन की आवश्यक शर्त है। मीडिया जवाबदेही और पारदर्शिता को बढ़ावा देने के लिए सरकारी भ्रष्टाचार का पर्दाफाश करता है। मीडिया जनता से सम्बन्धित सार्वजनिक सेवा और वितरण के मुद्दों पर नजर रखता है। यह सरकारी भ्रष्टाचार तंत्र पर सजग प्रहरी 'वॉच डॉग' की भूमिका निभाता है। स्वतंत्र प्रेस सुधार के लिए जनता की राय को वाणी देता है। यह भ्रष्टाचार और कदाचार को बेनकाब करने और परिवर्तन के लिए जनता में आम सहमति बनाता है। संक्षेप में मीडिया सामाजिक-आर्थिक मुद्दों पर जनता को शिक्षित करने और जन जागरूकता लाने का एक श्रेष्ठ माध्यम है।

समाचार पत्रों के अन्तरराष्ट्रीय संगठन (WAN) ने स्वीकार किया है कि स्वतंत्र और निष्पक्ष प्रेस सामाजिक-आर्थिक विकास को स्थापित करने हेतु एक सकारात्मक शक्ति है। यह सत्य है कि स्वतंत्र प्रेस आर्थिक समृद्धि और मानव विकास का प्रतीक है। जिन देशों में प्रेस की स्वतंत्रता है, वहाँ मानव विकास के प्रतीक रूप में विद्यालयों में छात्र नामांकन की संख्या, अध्यापक-शिष्य अनुपात, विद्यार्थियों का प्रदर्शन, अनुसूचित जातियों व जनजातियों की स्थिति, शिशु मृत्युदर में कमी, महिलाओं व बच्चों के पोषण की स्थिति आदि को देखा जा सकता है। परिवर्तन के वाहक के रूप में मीडिया गरीबों की आवाज बन सामाजिक शक्तियों के विरुद्ध प्रहरी का कार्य करता है। विकास का सहायक बनने के लिए मीडिया को स्वतंत्र शर्तों व क्षमताओं के साथ उचित वातावरण की जरूरत है।

सूचना का अधिकार और मीडिया की भूमिका

संयुक्त राष्ट्र संघ के मानवाधिकार घोषणा पत्र की धारा 19 के अनुसार प्रत्येक व्यक्ति को विचार और अभिव्यक्ति की स्वतंत्रता का अधिकार है। किसी भी माध्यम का प्रयोग कर राय व्यक्त करने का अधिकार है। धारा 9 में मीडिया के संबंध में कहा गया है कि मीडिया सूचना समाज के विकास में महत्वपूर्ण भूमिका निभाता है। अभिव्यक्ति की स्वतंत्रता और सूचनाओं की शुद्धता में इसका महत्वपूर्ण योगदान है।

एक लोकतंत्रात्मक शासन पद्धति में जनमाध्यम, सूचना, जानकारी और संचार का महत्वपूर्ण आधार है, क्योंकि—

- यह समाज निर्माण में महत्वपूर्ण और व्यापक भूमिका निभाता है।
- यह सार्वजनिक क्षेत्र में सामाजिक— राजनीतिक समस्याओं को अभिव्यक्ति देता है।
- यह शासन में जनभागीदारी व सरकार की जवाबदेही को सक्षम बनाता है।
- यह सर्वाधिक सुलभ है एवं कम लागत पर व्यापक रूप से सूचना की प्राप्ति व अभिव्यक्ति का माध्यम है।

सूचना वह शक्ति है जिसके माध्यम से मीडिया ज्ञान आधारित सूचना समाज का निर्माण कर सकता है। सूचना व जानकारी के वितरण में अपनी क्षमता का पूर्ण उपयोग करने हेतु मीडिया को निम्नलिखित कार्रवाई करनी होगी —

- मीडिया की स्वतंत्रता की रक्षा व विस्तार के लिए सूचना तक पहुँच सुनिश्चित करना
- सक्रिय रूप से जानकारी प्रदान करने हेतु मीडिया की सामर्थ्य बढ़ाना
- गरीबों व जनता के हित के लिए एक आधार स्थापित करना
- सांस्कृतिक संवाद व अभिव्यक्ति का अवसर देना
- नागरिकों की सामाजिक चिंताओं का निवारण करना
- सूचना समाज की स्थापना हेतु प्रयास करना
- सरकारी और निजी क्षेत्रों को जवाबदेह बनाना
- सूचना समाज के निर्माण से स्वयं अपनी क्षमता में अभिवृद्धि करना।

भारत में सूचना प्राप्ति के लिए पत्रकार जिन पारम्परिक स्रोतों पर निर्भर हैं, उन्हें बदलना चाहिए। नौकरशाही और सत्ता सम्बन्धी सूचनाओं के लिए पत्रकार व्यक्तिगत स्रोतों पर निर्भर रहते हैं। सूचना का अधिकार उन्हें नवीन स्रोत प्रदान करता है। सूचना के अधिकार द्वारा शासन व्यवस्था सार्वजनिक हित के मुद्दों पर कार्य करने में विश्वसनीय बन सकती है। यह अधिकार दुशासन, भ्रष्टाचार और अविश्वसनीयता को उघाड़ने में मीडिया की मदद कर सकता है। मीडिया के माध्यम से

जवाबदेह, पारदर्शी, प्रभावी और आदर्श शासन से सम्बन्धित उदाहरणों का प्रचार—प्रसार किया जा सकता है। सूचना का अधिकार अधिनियम के प्रयोग से मीडिया सार्वजनिक सेवा और वितरण सम्बन्धी मुद्दों पर सार्वजनिक कार्यालयों की विश्वसनीयता बढ़ाने में सहायक है।

इस अधिनियम के तहत पत्रकार, संवाददाता व नागरिक निम्नलिखित सूचनाओं की माँग रख सकते हैं—

- सरकार के किसी भी विभाग से सम्बन्धित सूचना
 - सरकारी ठेकों, भुगतान, इंजीनियरिंग कार्य के मापदण्ड आदि की प्रतिलिपियाँ
 - सार्वजनिक निर्माण कार्यों में प्रयुक्त सामग्री के सरकार द्वारा प्रमाणित नमूने
 - सार्वजनिक निर्माण कार्यों का निर्माणाधीन अथवा पूर्ण होने पर निरीक्षण
 - निर्माण कार्य की रूपरेखा, सम्बन्धित दस्तावेज, गुणवत्ता नियंत्रण रिपोर्ट आदि सरकारी दस्तावेजों का निरीक्षण
 - सूचना प्राप्त करने हेतु की गई शिकायतों व आवेदनों की स्थिति
 - शिकायत निवारण में देरी से सम्बन्धित विवरण
 - सूचना आयोग के निर्णय और कार्रवाई की जानकारी।
- मीडिया अग्रलिखित कार्यों का सम्पादन कर शासन प्रक्रिया में एक मजबूत विपक्ष की भूमिका भी अदा कर सकता है—

- **अधिनियम को प्रभावी रूप से लागू करना—** 'जनतंत्र के चौथे स्तम्भ' के रूप में मीडिया इस अधिनियम के द्वारा न केवल सूचना प्राप्त करने और प्रदान करने का कार्य करता है अपितु अधिनियम के क्रियान्वयन और प्रवर्तन संबंधी जानकारी उपलब्ध कराकर जन जागरूकता लाता है।
- **नागरिकों को सूचना प्रदान करना और अधिनियम के प्रति जागरूकता का विकास करना—**

इस अधिनियम के तहत किये गये सार्वजनिक प्राधिकरणों और उनके कार्यों संबंधी प्रावधान नागरिकों तक अखबार, रेडियो, टेलीविजन आदि जनमाध्यमों से पहुँचते हैं। मीडिया नागरिकों और सरकार के मध्य एक कड़ी का काम करता है। मीडिया के लिए सूचना का अधिकार और अभिव्यक्ति का अधिकार कोई विशेषाधिकार नहीं है बल्कि, यह सार्वजनिक अधिकारों का ही एक पहलू है। मीडिया को इसका प्रयोग कर अपने दायित्व को पूरा करना चाहिए।

- **नागरिकों की आवाज मुखर करना—** समाज के एक हिस्से के रूप में जनता की आवश्यकता और आकांक्षा को प्रस्तुत करना मीडिया का उत्तरदायित्व है। इस अधिनियम का प्रयोग कर

मीडिया नागरिकों की समस्याओं संबंधी मुद्दों को उजागर कर सकता है। विशेषकर गरीबों व वंचितों के हित में आवाज उठानी चाहिए।

● नागरिकों के प्रतिनिधि रूप में शासन का प्रहरी—

उभरते और परिपक्व होते लोकतंत्र में मीडिया जनता को समुदाय के प्रहरी रूप में विशेष सेवा उपलब्ध करा सकता है। पत्रकार सार्वजनिक रुचि के विषय खोजकर उन्हें अभिव्यक्ति देता है। इस अधिनियम का प्रयोग कर मीडिया भ्रष्टाचार और शक्तियों के दुरुपयोग को बेनकाब कर सकता है। एक प्रहरी की भूमिका का निर्वाह करते हुए पत्रकार को सच्चाई का पता लगाते समय तथ्यों और सबूतों की व्याख्या में सावधानी रखनी चाहिए।

मीडिया सूचना के क्षेत्र में अपने ग्राहकों को बिना पूर्वाग्रह या पक्षपात के ईमानदारी से सूचनाएँ प्रदान करता है। मीडिया को अपने व्यावसायिक, संपादकीय और नैतिक मूल्यों के लिए स्वतंत्र होना ही होगा। अपनी स्वतंत्रता की रक्षा करते हुए मीडिया, अपने पेशेवर रवैये और पत्रकार के आचरण हेतु निर्धारित सिद्धान्तों का पालन करके सूचना के अधिकार का पूर्णतया प्रयोग कर सकता है। यह सूचना समाज का निर्माण कर जनसशक्तीकरण का श्रेष्ठ माध्यम बन सकता है। सूचना के अधिकार का मूल उद्देश्य है—शासन प्रक्रिया में जनभागीदारी। यह उद्देश्य मीडिया की सक्रियता के अभाव में व्यावहारिक रूप नहीं ले पाएगा।

सूचना का अधिकार अधिनियम के तहत मीडिया को सुझाव

सूचना के अधिकार का प्रयोग कर मीडिया को निम्नलिखित कार्रवाई करनी चाहिए —

- अधिनियम के कार्यान्वयन की निगरानी
- सार्वजनिक सेवा और वितरण के प्रभाव और कार्यक्षमता की रिपोर्टिंग
- भ्रष्टाचार व दुराचार सम्बन्धी मुद्दों को उजागर करना
- नागरिक शिकायतों को अभिव्यक्ति देना
- सूचना के अधिकार विषय पर किये जा रहे व्यक्तिगत व सांगठनिक प्रयासों का प्रचार करना आदि।

सूचना का अधिकार अधिनियम एवं सोशल मीडिया व इंटरनेट का प्रयोग

केन्द्रीय सूचना आयोग के पूर्व मुख्य सूचना आयुक्त एवं राष्ट्रीय अल्पसंख्यक आयोग के पूर्व अध्यक्ष श्री वजाहत हबीबुल्लाह का कथन है कि “इंटरनेट सूचना के अधिकार का दिल है।”

सूचना के अधिकार को सोशल मीडिया व इंटरनेट के जरिए प्रोत्साहित किया जा सकता है। सूचना के अधिकार द्वारा सूचना क्रान्ति लाने के उपक्रम में निम्नलिखित प्रयास किये गये हैं —

1. सी-डैक हैदराबाद द्वारा एक ई-लर्निंग कोर्स की शुरुआत
2. भारत सरकार द्वारा ई-डिग्री कोर्स का प्रारंभ
3. मीडिया हाऊस व मीडिया संस्थानों द्वारा RTI अवार्ड की स्थापना
4. विश्वबैंक द्वारा सूचनाओं के कम्प्यूटरीकरण हेतु 23 हजार करोड़ की व्यवस्था
5. भारत सरकार के संचार व सूचना प्रौद्योगिकी मंत्रालय द्वारा ढाई लाख ग्राम पंचायतों को ब्रॉडबैंड कनेक्शन सुविधा
6. भारत सरकार द्वारा ई-गवर्नेंस व ई-मेल के जरिए संवाद-सेवा की स्वीकृति। सूचना के अधिकार (RTI) के क्रियान्वयन में ICT सूचना संचार तकनीक (Information Communication Technology) का प्रयोग कम ही हो रहा है। दक्षिण भारत के कुछ राज्यों ने ICT की शुरुआत अवश्य की है परन्तु उनके प्रयासों को वृहद् स्तर पर लागू करने का प्रयास करना चाहिए।

सूचना के अधिकार के क्रियान्वयन में सूचना तकनीक अर्थात् सोशल मीडिया व इंटरनेट का प्रयोग अग्रांकित रूप में संभव है—

- शिकायतों का समाधान वीडियो कान्फ्रेंसिंग से हो
- कॉल सेंटर्स के माध्यम से आवेदन स्वीकृत हो
- फीस का भुगतान क्रेडिट कार्ड से संभव हो
- ई-मेल के प्रयोग को बढ़ावा मिले
- आवेदक को आवेदन स्वीकृति की सूचना एस एम एस (sms) से
- आवेदन अस्वीकृति की सूचना भी एस एम एस के जरिए
- सभी स्तरों पर समस्त प्रकार की जानकारी से युक्त वेबसाइट बनी हो, जैसे — आवेदन कब, किसे, कहाँ, किस समय देना है, शुल्क जमा कराने, सूचना प्राप्ति की प्रक्रिया, अधिकारियों के नाम, पते, मोबाईल व ई-मेल पते सम्बन्धी समस्त जानकारी।

सोशल मीडिया व इंटरनेट का सहारा लेकर सूचना का अधिकार अधिनियम, 2005 भारतीय शासन व्यवस्था का पाँचवा स्तम्भ बन सकता है। स्पष्टतः सूचना के अधिकार के क्रियान्वयन पर कड़ी नजर रखते हुए मीडिया जनजागरूकता बढ़ाने में महती भूमिका का निर्वाह कर सकता है। मीडिया और सूचना के अधिकार के मध्य यह अपरिहार्य संबंध पारस्परिक लाभ प्रदान करने में योगदान देगा। अभी कुछ पत्रकारों को छोड़ दें तो ज्यादातर इसका अधिक इस्तेमाल नहीं कर पा रहे हैं। इसके कई कारण समझ में आते हैं। एक तो अधिक वक्त लगने के कारण धैर्य की जरूरत होती है। कई बार नीरस भी लगता है,

क्योंकि एक ही स्टोरी के पीछे प्रायः कई महीनों तक लगना पड़ता है फिर सिर्फ एक आवेदन के जवाब से पूरी स्टोरी नहीं बन सकती है लेकिन, यह भी सत्य है कि सूचना के अधिकार अधिनियम की सहायता से ऐसी स्टोरीज निकलती है जो साधारणतया इसके बिना संभव नहीं होती। भारत के पत्रकार यूरोप के पत्रकारों की भाँति इस शक्ति का प्रयोग नहीं कर रहे हैं। यूरोप में तो फ्रीडम ऑफ इन्फॉर्मेशन का इस्तेमाल करने की ट्रेनिंग हर प्रमुख मीडिया संस्थान में दी जाती है। वहाँ आर टी आई जैसे

कानून का इस्तेमाल करने वाले पत्रकारों की लंबी फौज है। भारत में यदि इस अधिकार को बचाए रखना है और इसकी प्रभाव क्षमता को बढ़ाना है तो पत्रकारों को इसका इस्तेमाल बड़े पैमाने पर करना होगा।

मध्यप्रदेश के मुख्य राज्य सूचना आयुक्त श्री हीरालाल त्रिवेदी का कथन सटीक है कि “मीडिया जनहित में सूचना के अधिकार का उपयोग कर आमजन को लाभान्वित कर सकता है।”

साभार संदर्भ :-

1. रनीश सिंघवी, सूचना का अधिकार अधिनियम, 2005, राजस्थानी ग्रंथागार, जयपुर
2. आलेख- ‘Right to information Act and Role of media’ - RTI CELL KOHIMA
3. “The Right to information Act 2005- A Guide for media” Published by center for Good Governance, Hyderabad.
4. Pranav Bhatta- ‘Media’s Role in implementing RTI’ <https://twitter.com/sartainetwork>, 26 July 2013.
5. ‘इंटरनेट आर टी आई का दिल’- <http://mediakhabar.com>.
6. ‘RTI का उपयोग मीडिया जनहित में कर सकता है’ - इंटरनेट से
7. ‘मीडिया अध्ययन: RTI’ - इंटरनेट से
8. पत्रकार श्री श्यामलाल यादव से श्री अरविंद चतुर्वेदी का संवाद - “सूचना अधिकार का सत्य”

व्यावसायिक उपक्रमों में महिलाओं की भूमिका

अमृत लाल जीनगर

शोध छात्र (हिन्दी विभाग)
दक्षिण भारत हिन्दी प्रचार सभा, मद्रास

सारांश

“मन के हारे हार है और मन के जीते जीत” वाली उक्ति भले ही पुरानी हो गयी हो लेकिन यह हमारी सफलता में हमें माइंडसेट की भूमिका के मामले में आज भी प्रासंगिक है। क्योंकि महिलाएँ जो स्वयं अपने कौशल के दम पर व्यवसाय खड़ा करना चाहती हैं। अक्सर इसे शुरू करने में आने वाली भारी लागत के बारे में सोचकर ही अपना विचार छोड़ देती हैं। लेकिन आज लोगों की बेहद व्यस्तता और इंटरनेट की आसान उपलब्धता ने ऐसे कई व्यवसायों को बढ़ावा दिया है, जिन्हें बहुत ही कम लागत में शुरू किया जा सकता है। इन व्यवसायों की सबसे अच्छी बात यह है कि इनके लिए यह जरूरी नहीं होता कि हम कोई अलग से ऑफिस लगायें। इस तरह के व्यवसायों की शुरुआत घर बैठे भी की जा सकती है। छोटे स्तर से शुरू कर आसानी से व्यवसायों को विस्तार देते हुए बड़े स्तर पर ले जाया जा सकता है। कई महिलाएँ सुखदायी समर्पण के स्थान पर कष्टकारी संघर्ष को प्रिय व श्रेय मानती हैं। वे महिलाओं की समस्या, उनका समाधान, उसकी महत्ता, उसके अधिकार, उसके सम्मान की रक्षा करने का पक्ष लेती हैं। व्यवसायिक महिलाएँ अन्ततोगत्वा संघर्ष को अंगीकार कर एक नयी व्यवसायिक उपक्रमों की दुनिया में विचरण करने लगी हैं।

जीवित रहने के लिए पैसा कमाना आवश्यक होता है। जैसे-अध्यापक विद्यालय में पढ़ाता है, मजदूर कारखाने में काम करता है, चिकित्सक अस्पताल में सेवा देता है, प्रबंधक किसी व्यवसायिक उपक्रम में काम करता है आदि – ये सभी लोग जीविका के लिए काम करते हैं। ये वे लोग हैं जिन्हें वेतन या मजदूरी से आय प्राप्त होती है, यह मजदूरी द्वारा रोजगार कहलाता है। दूसरी तरफ दुकानदार, कारखाने का मालिक, व्यापारी आदि अपने व्यवसाय से जीविका उपार्जित करते हैं, यह स्वरोजगार कहलाता है। कुछ ऐसे स्वरोजगारी लोग होते हैं, जो न केवल अपने लिए काम करते हैं बल्कि दूसरे बहुत से लोगों के लिए काम की व्यवस्था करते हैं। ऐसे व्यक्तियों में टाटा, बिरला, अंबानी, बिल गेट्स आदि जो प्रवर्तक तथा कार्य की व्यवस्था करने वाले तथा उत्पादक दोनों हैं। इन व्यक्तियों को उद्यमी कहा जा सकता है।

पीटर ड्रकर कहते हैं कि “उद्यमिता न तो विज्ञान है और न ही कला है यह मात्र अभ्यास है।”¹ उद्यमिता-‘नये संगठन आरंभ करने की भावना को कहते हैं। किसी वर्तमान या भावी अवसर का पूर्वदर्शन करके मुख्यतः कोई व्यवसायिक संगठन प्रारंभ करना व्यवसाय का मुख्य पहलू है। व्यवसाय में एक तरफ भरपूर लाभ कमाने की

सम्भावना होती है तो दूसरी तरफ अनिश्चितता और अन्य खतरे की भी प्रबल संभावना होती है।²

किसी भी देश या समाज की स्थिति का पता लगाने के लिए सुगम एवं प्रभावशाली उपाय होता है, उस देश या समाज की महिलाओं की स्थिति का पता लगाना। किसी भी देश या समाज की उन्नति वहाँ की स्त्रियों की स्थिति पर निर्भर रहती है। जैसा कि राल्फ वाल्डो ने कहा है – “मेरा विचार है कि अच्छी औरतों का प्रभाव सभ्यता को मापने के लिए पर्याप्त है।”³ प्राचीनकाल से ही स्त्री को समाज की आधारशिला माना गया है। अगर यह आधार कमजोर हो तो समस्त समाज व देश कमजोर हो जाता है। स्त्री का स्थान प्रत्येक देश के उत्थान एवं पतन में अपना विशेष महत्त्व रखता है। भारतीय इतिहास में महिलाओं की स्थिति हमेशा एक जैसी नहीं रही है। वह कई उतार-चढ़ाव से गुजरती रही है। प्राचीनकाल में स्त्रियों को मातृशक्ति के रूप में सर्वोच्च स्थान प्राप्त था तथा स्त्री को धात्रा एवं जननी के रूप में मान्यता प्रदान की गयी थी।

समय-चक्र अपनी स्वाभाविक गति से गतिमान है। इस काल परिवर्तन में स्त्री कब ‘यत्र नार्यस्तु पूज्यन्ते, रमन्ते

तत्र देवता:’ वाली संस्कृति तक पहुँच गई पता ही नहीं चला। कालान्तर में स्त्री का स्थान एवं पद निम्न से निम्नतर होता चला गया और वह अन्याय तथा अत्याचार के ऐसे जाल में फँस गई जहाँ किसी भी प्रकार की कोई रोशनी की किरण नजर नहीं आ रही है तथा उसकी इस वेदना को सुनने वाला भी कोई नहीं है। युगों से समय की धार पर चलती हुई नारी अनेक विडम्बनाओं और विसंगतियों के बीच जीती रही है। पूज्या, भोग्या, सहचरी, सहधर्मिणी, माँ, बहन, बेटी, बहू, बुआ, भाभी, दादी, नानी इन सभी रूपों में उसका दमित और शोषित स्वरूप है। स्त्री जीवन की इस नारकीय पीड़ा को दूर कर महिला व्यवसाय हेतु विशेष प्रयास किये जा रहे हैं।

स्टीव जाब्स कहते हैं कि “आपका समय सीमित है इसलिए इसे किसी और की जिंदगी जी कर व्यर्थ मत कीजिए, बेकार की सोच में मत फँसिए, अपनी जिंदगी को दूसरों के हिसाब से मत चलाइए, औरों के विचारों के शोर में अपनी अंदर की आवाज को, अपने इन्ट्यूशन को मत डूबने दीजिए, वे पहले से ही जानते हैं की तुम सच में क्या बनना चाहते हो, बाकि सब गौण है।”⁴

व्यवसायिक एवं वैचारिक क्रांति के दौर में इस प्रकार की सभी मान्यताएं एवं वर्जनाएं टूटने लगीं। स्त्रियाँ अपने पाँव पर खड़ी होने के लिए अथक प्रयास करने लगीं। वे दिन हो या रात घर से बाहर निकलकर काम करने लगीं हैं तथा इस काम को करने में उन्हें किसी प्रकार का कोई संकोच नहीं है। वर्तमान में स्त्रियाँ घर की चार दीवारी में कूप-मंडूकता वाली जिन्दगी जीने के लिए तैयार नहीं हैं। वह अपनी स्वतंत्रता कायम रखने के लिए संघर्षरत हैं। स्त्री जागृति पर टिप्पणी करती हुई डॉ. नीलिमा वर्मा कहती है कि “आज महिलाएं महत्वाकांक्षी होने कारण घर-परिवार की दहलीज लांघकर अपने चारित्रिक वैशिष्ट्यों के कारण अपना स्वतंत्र अस्तित्व, निजी व्यक्तित्व तथा अपनी उत्तरोत्तर सुदृढ़ स्थिति की महत्वाकांक्षा रखने लगी है।”⁵

आज स्त्रियाँ व्यवसायिक क्षेत्रों में अपनी विशिष्ट पहचान बना रही हैं तथा स्वयं को गौरवान्वित महसूस कर रही हैं। वे पहले से अधिक स्वतंत्र एवं मुखर हो गई हैं। सबसे महत्वपूर्ण बात यह है कि आज स्त्रियों को आर्थिक सशक्तीकरण के सम्बंध में पुरुष सहमति भी प्राप्त हो चुकी है। चाहे वह स्वेच्छा से हो, चाहे वह अनिच्छा से हो, परन्तु स्वीकृति तो मिल ही गयी है। यह सशक्तीकरण स्त्री-पुरुष संबंधों में एक बहुत ही बड़े परिवर्तन की

शुरुआत है। स्त्रियों में व्यवसायिक एवं वैचारिक क्रांति के अपूर्व समायोजन ने उनके अन्तर्मन को झकझोर दिया है। जिससे स्त्रियों को यह आत्मसात करने में विलम्ब नहीं हुआ कि आज विश्व की धुरी मात्र धन (अर्थ) हो गया है। वह अर्थ की शक्ति को प्राप्त करने के लिए छटपटाने लगी है। आज तक घर की चार दीवारी में कैद रहने वाली स्त्री व्यवसायिक अर्थ प्राप्ति के लिए घर से बाहर निकलकर प्रयास करने लगी।

व्यवसाय की विशेष समझ रखने वाली महिलाएं आज सम्पूर्ण दुनिया में अपना वर्चस्व फैला रही हैं। कई व्यवसायी महिलाएं जिन्होंने अपना नाम शिखर पर लाया है तथा विश्व की कई बड़ी-बड़ी कंपनियों की अध्यक्ष, संचालक व मुखिया बनी हुई हैं जिनमें, ‘पेप्सिको’ कंपनी की सीईओ इंदिरा नूई शीर्षस्थ है। मंडिला गेट्स ‘बिल एंड गेट्स फाउंडेशन’ की सह-अध्यक्ष है, जो समाज में आर्थिक विकास हेतु कार्य कर रही है। वारेन बफेट की बेटी सुसी ‘सुसान थॉम्पसन बफेट फाउंडेशन’ एवं ‘शेहरवुड फाउंडेशन’ दोनों को चला रही है तथा उनकी भाभी जेनीफर ‘नोवो फाउंडेशन’ को संभाल रही है। लॉरेन पावेल जॉब्स ने ‘इमर्सन कलेक्वि’ नामक संगठन की स्थापना की तथा ‘बोर्ड ऑफ कॉलेज ट्रेक’ की सह-संस्थापक भी है। रोहिणी नीलेकणी ‘अक्षरा फाउंडेशन’ तथा ‘प्रथम बुक्स’ भी चला रही है। सुधा मूर्ति ‘इंफोसिस फाउंडेशन’ की मुखिया बनी हुई है। इनके जैसी कई महिलाएं हैं जो व्यवसाय प्रारंभ करने हेतु प्रयासरत हैं।⁶

उपर्युक्त तथ्यों के बारे में स्टीव जाब्स कहते हैं कि “मैं आश्चर्य नहीं हूँ कि जो चीज सफल उद्यमियों को असफल उद्यमियों से अलग करती है उसमें से आधी चीज सिर्फ दृढ़ता है।”⁷ स्टीव जाब्स यहाँ जिस दृढ़ता की बात कर रहे हैं वह भावनात्मक और मानसिक रूप से महिलाओं में अधिक होती है। अतः महिलाएं पुरुषों की तुलना में अधिक सफल व्यवसायी सिद्ध हो सकती हैं।

आज की युवतियाँ भी व्यवसाय में पीछे नहीं हैं। बदलते दौर में अब लड़कियाँ भी व्यवसाय को बखूबी संभाल रही हैं। कई बड़े-बड़े व्यवसायियों का व्यवसाय आज उनकी बेटियों के कंधों पर टिका हुआ है। जिसमें ‘फ्यूचर ग्रुप’ के फाउंडर किशोर बियानी की बड़ी बेटी अवनी ‘फ्यूचर ग्रुप’ की चीफ एग्जीक्यूटिव हैं तथा छोटी बेटी अशानी डायरेक्टर है। ये दोनों बहने कंपनी को ऊँचाइयों पर पहुँचा रही हैं। देश के नामी बिजनेसमैन मुकेश अंबानी की

बेटी इशा अंबानी 'रिलायंस जियो' की बोर्ड डायरेक्टर है। 'टीवीएस मोटर्स' के एम.डी. वेणु श्रीवास्तव की बेटी लक्ष्मी वेणु 'सुंदरम क्लेटन' कंपनी में वाइस प्रेसीडेंट के पद पर है। 'एचसीएल कॉरपोरेशन' के फाउंडर शिव नाडर की बेटी रोशनी नाडर कंपनी की सीईओ और एग्जीक्यूटिव डायरेक्टर का पद संभाल रही है।⁸

'गोदरेज' ग्रुप के चेयरमैन आदि गोदरेज की बेटियां निसब और तान्या कंपनी में अहम जिम्मेदारियां निभा रही हैं। निसब 'गोदरेज कंज्यूमर प्रोडक्ट्स' की एग्जीक्यूटिव डायरेक्टर है तथा तान्या 'गोदरेज ग्रुप' की चीफ ब्रांड ऑफिसर है। 'गोदरेज' की ग्रोथ में दोनों बहनों की महत्वपूर्ण भूमिका है। 'डीएलएफ' कंपनी के चेयरमैन कुशलपाल सिंह की बेटी पिया सिंह ग्रुप के 'एंटरटेनमेंट वेंचर' की चेयरपर्सन है तथा कंपनी के 'रिटेल बिजनेस' की निदेशक भी है। वह उनके व्यवसाय को बुलंदियों पर पहुँचाने के लिए कड़ी मेहनत कर रही है। 'आदित्य बिड़ला' ग्रुप के चेयरमैन कुमार मंगलम बिड़ला की बेटी अनन्या बिड़ला 'स्वतंत्र माइक्रोफाइनेंस' की चेयरपर्सन है। व्यवसाय के इस दौर में इतनी कम उम्र में भी ये बेटियां कंपनियों के उच्च पदों पर कार्य कर रही हैं।⁹ अर्थव्यवस्था से प्रत्यक्ष या अप्रत्यक्ष रूप से जुड़कर कैरियर बनाने वाली युवतियां आज भारतीय आर्थिक सेवा और भारतीय सांख्यिकी सेवा में भी कार्य कर रही हैं। साथ ही वे विभिन्न मल्टीनेशनल कंपनीज में भी उच्च पदों तक अपनी पहुँच बनाये हुए हैं।

कई बार शुरुआत के दिनों से ही किसी व्यावसायिक उपक्रम से जुड़ाव होने के कारण बड़े होने पर भी सफल होने की संभावना बढ़ जाती है। कई युवतियां व्यवसाय शुरू करने से काफी समय पहले व्यवसायिक उपक्रमों से जुड़ी होती हैं जो स्कूल के दिनों से ही अपने वार्षिक कॉर्निवल के दौरान कई स्टॉल लगाती थी। इससे वे प्रति वर्ष 500-1000 रुपये तक कमा लेती थी। बचपन में मिली इस पहली प्रेरणा से वे बड़ी चुनौतियां लेने के लिए तैयार रहती हैं और उन्हें पैसा कमाने के नये रास्तें भी मिल जाते हैं। ऐसे छोटे आइडिया भविष्य में बड़े व्यवसाय के रूप में स्थापित हो सकते हैं। यह दर्शाता है कि कैसे एक नया आइडिया हमें व्यवसाय की दुनिया में स्थापित कर सकता है। इस प्रकार महिलाएं अपने जीवन के किसी भी मोड़ पर सफलता प्राप्त कर सकती हैं।

नई पीढ़ी की युवतियाँ ऐसी व्यवसायी हैं, जो पैसा कमाने का हुनर काफी जल्दी सीख जाती हैं। इनमें से कुछ

व्यवसायी अपने परिवार के सदस्यों को रोल मॉडल मानते हैं, तो कुछ अपने किशोरावस्था में ही व्यवसाय शुरू करने की योजना बनाते हैं। पारंपरिक माहौल में इन्हें कई बार विफलता भी मिलती है, परन्तु नवीनता के प्रति लगाव के कारण वे रिस्क भी लेती हैं। इनका आइडिया एक बार सेट होने के बाद इन्हें सफलता मिलनी शुरू हो जाती है। इस संबंध में जॉश जेम्स कहते हैं कि "जब आप एक ऐसा आइडिया खोज लेते हैं, जिसके बारे में आप सोचना नहीं छोड़ पाते, तो शायद वो एक अच्छा आइडिया है जिस पर आप आगे बढ़ सकते हैं।"¹⁰

'एंटरप्रेन्योरशिप डवलपमेंट इंस्टीट्यूट ऑफ इंडिया' के डायरेक्टर दिनेश अवरुथी कहते हैं कि "बच्चे को अगर बचपन से ही एंटरप्रेन्योरशिप (व्यवसायिक) माहौल मिलता है, तो यह उसके भविष्य के लिए काफी फायदेमंद होता है।"¹¹ सामाजिक माहौल से बच्चों के लिए एंटरप्रेन्योर बनने की ललक पैदा होती है। इसका उदाहरण 'जिपडायल' की फाउंडर एवं सीईओ वैलेरी वागोनेर है जो बचपन से ही 92 वर्षीय अपने दादीजी के कई छोटे एंटरप्रेन्योरल वेंचर्स संभालती थी। उनकी बंगलुरु स्थित 'मिस्ड कॉल मार्केटिंग प्लेटफॉर्म जिपडायल' को हाल ही में ट्विटर ने 35 मिलियन डॉलर में खरीदा है। इसी का दूसरा उदाहरण 'जीवामी' ऑनलाइन कंपनी की फाउंडर एवं सीईओ रिचा कार है जो बचपन से 'बिट्स पिलानी' में फोटोग्राफी क्लब से जुड़ी है। आज 'जीवामी' महिलाओं को प्रतिमाह एक लाख से अधिक ऑनलाइन प्रोडक्ट्स बेच रहा है। यह महिला व्यवसायियों के अच्छे उदाहरण हैं।

वर्ष 2025 तक ग्लोबल वर्कफोर्स का 75 फीसदी हिस्सा पूरी तरह से युवाओं का होगा। जिसमें जितनी सहभागिता युवकों की होगी उतनी ही युवतियों की भी होगी। युवा पीढ़ी चाहती है कि वह तेजी से तरक्की करे, वर्क-लाइफ बैलेंस शानदार हो। व्यवसाय की दुनिया में युवतियों की संख्या तेजी से बढ़ने के कारण अब दुनियाभर में महिलाएं स्वयं में बदलाव कर रही हैं। व्यवसाय नवाचार के माध्यम से युवतियों को आकर्षित करने का प्रयास भी किया जा रहा है। पूरी दुनिया के लिए भारत एंटरप्रेन्योरशिप हब बन चुका है। इस कारण युवतियों को काफी आशाएं हैं। ऐसा कई विभागों में हो रहा है। इसलिए वर्ष 2000 के बाद कंपनियों में जॉब करने वाली युवतियों को ध्यान में रखकर नीतियां बन रही हैं युवा पीढ़ी पूरी तरह से डिजिटल हो चुकी है। कई बड़ी-बड़ी कंपनियों ने तो युवतियों की

पीढ़ी को ध्यान में रखकर नीतियों में बदलाव भी शुरू कर दिए हैं।

साथ ही ऐसी कंपनियों की संख्या भी तेजी से बढ़ रही है जो निःशक्त महिलाओं को वर्कफोर्स का हिस्सा बनाने के लिए तैयार हैं। कंपनियां एक इंटीग्रेटेड वर्कप्लेस तैयार करने में लगी हैं। इसके लिए कंपनियां फिजिकल इंफ्रास्ट्रक्चर तैयार कर रही हैं। कंपनियां निःशक्त महिला कर्मचारी की कैरियर ग्रोथ के लिए प्लानिंग कर रही हैं। इसके अलावा एच.आर. पॉलिसीज में भी बदलाव किया जा रहा है। वर्कप्लेस पर इस तरह की व्यवस्था की जा रही है कि निःशक्त महिला कर्मचारी के साथ भेदभाव न हो।

व्यवसाय से प्रत्यक्ष या अप्रत्यक्ष रूप से जुड़कर कैरियर बनाने वाली युवतियां आज भारतीय आर्थिक सेवा और भारतीय सांख्यिकी सेवा में भी कार्य कर रही हैं। साथ ही वे विभिन्न मल्टीनेशनल कंपनीज में भी उच्च पदों तक अपनी पहुँच बनाये हुए हैं। अब अगर औरत 'वर्किंग वूमन' है और यह सोचती है कि वह पुरुषों से ज्यादा चुनौतियों का सामना करती है तो वह सही हो सकती है। हालांकि औरत को कभी भी अपनी परिस्थितियों को अपने रास्तों की रूकावट नहीं बनने देना चाहिए। यह उसके उपर निर्भर करता है कि वह किस तरह से इन चुनौतियों का सामना करती है अपने व्यवसाय में आगे बढ़ती है तथा उसमें सफलता प्राप्त करती है। निश्चय ही संघर्ष के आगे सुनहली भोर का प्रकाश हमारी प्रतीक्षा करता है।

संदर्भ सूची –

1. <http://www.achhikhabar.com> (51 Inspiring-quotes-by-entrepreneurs-in-hindi)
2. <https://hi.wikipedia.org/s/hpq>
3. <https://www.hindi-quotes.com>
4. <https://AchhiKhabar.Com> (51 Inspiring-quotes-by-entrepreneurs-in-hindi)
5. स्वातंत्र्योत्तर हिन्दी कहानी में नारी-चरित्र की अवधारणा— डॉ. नीलिमा वर्मा, यूनिवर्सिटी हाऊस, जयपुर, प्रथम संस्करण, 2004, पृ.-46
6. मी नेक्स्ट, राजस्थान पत्रिका, दिसम्बर-III, 2014, पृष्ठ-1
7. <https://AchhiKhabar.Com> (51 Inspiring-quotes-by-entrepreneurs-in-hindi)
8. मी नेक्स्ट, राजस्थान पत्रिका, मई-IV, 2015, पृष्ठ-1
9. <https://AchhiKhabar.Com> (51 Inspiring-quotes-by-entrepreneurs-in-hindi)
10. मी नेक्स्ट, राजस्थान पत्रिका, अक्टूबर-II, 2014 पृष्ठ-1
11. मी नेक्स्ट, राजस्थान पत्रिका, फरवरी-IV, 2015 पृष्ठ-1