Determinants of University Teachers' Job Satisfaction and Job Performance: A Case Study of Teachers Serving in Higher Educational Institutions in India with Special Reference to Govind Ballabh Pant University, Pantnagar (Uttarakhand)

#### Ruchi Atri

Research Scholar Institute of Management Studies Bundelkhand University, Jhansi, India

## **Abstract**

Effectiveness and efficiency of university teachers is influenced by many factors and job satisfaction is a very important factor among them. Performance of teachers has a great impact on the development of students and ultimately the development of a country. This paper identifies the relationship between different factors and job satisfaction. It also explores the relationship between job satisfaction and performance of university teachers. This study has been conducted with the help and cooperation of the teachers and students of Govind Ballabh Pant University, Pantnagar (Uttarakhand).

## **Background**

Teaching is considered as the noblest profession. In Indian culture, teachers have been given a higher status than God as stated by the great saint Kabir. Teachers are nation builders as they help students develop academically, mentally, socially, physically, psychologically and ethically. The first teacher of every child is his mother. Eventually, as the child grows, he is taught by professional teachers in schools, colleges and universities. In these institutions, the teachers educate and influence the students because of their specialised knowledge and expertise.

## **Objectives of the Study**

The objectives of the study are as follows:

- 1) Study of relationship between job satisfaction of teachers and various factors like age, gender, marital status, qualification, designation, experience, physical health, research ability, salary, locus of control, personality type etc. and job satisfaction of teachers.
- 2) Study of relationship between job performance of teachersand various factors like age, gender, marital status, qualification, designation, experience, physical health, research ability, salary, locus of control, personality type etc.
- 3) Study of relationship between motivation and job satisfaction and job performance of teachers.
- 4) Study of relationship between job satisfaction and job performance.

#### Job Satisfaction

Job satisfaction is the feeling of certain level of contentment a person relates to his job and other job-related aspects such as kind of supervision, salary, rewards and recognition etc. A person feels satisfied with his job when he feels that he is able to balance his work life, experiences professional growth and job stability and perceives his rewards to be equitable with the rewards of others who are working at the same level in his organisation or other similar organisations and making the same amount of efforts as they are making.

Job satisfaction or employee satisfaction is one of the prime concerns of every organisation. The Human Resource personnel work hard towards achieving the target of a satisfied workforce because satisfied employees are a real asset to the company. Their satisfaction results in good performance and increase their loyalty towards the organisation. As a result, the employee turnover and absenteeism rate decrease, and work targets are easily achieved.

Happy and satisfied employees reflect a good image of the organisation which is helpful in attracting talented prospective employees. Apart from being loyal, satisfied employees are ready to put in extra efforts and work harder to achieve targets. They associate their image and pride with that of the organisation.

#### Job Performance

Job performance is an individual worker's efforts and made in an organisation. Assessment of job performance is done by the human resource department. It has a huge amount of bearing on the success of the organisation.

Job performance Assessment examines that a worker executes his job according to the expectations or not. It is a topic of study because it bears a direct link to industrial and organisational psychology. It is also studied under human resource management.

Human beings are entirely different from machinery. They have a mind and heart of their own. They can't be forced to do a job. They are the most complex and complicated part to handle in an organisation because unlike machinery they have emotions which need to be always taken into consideration before taking any decision in the organisation. The emotions of an employee have a very significant impact on the job performance and its quality because he is completely driven by emotion or mood being experienced during the working hours. A lot of time, money and efforts are put in by the organisation to please and convince the employees and to motivate them to give their best performance. An entire department of human resource is dedicated to work for their development, motivation, training, grievance redressal etc.

It is well known that job performance of an employee is determined by his

- (i) Ability to work
- (ii) Background, which includes age, gender, experience and marital status

- (iii) Personality, which includes locus of control, ambitiousness, values and intelligence
- (iv) Organisation's systems and resources, which include leadership, rewards, facilities and structure.

Employers try their level best in designing jobs, working conditions, organisational policies and climate conducive for high level of performance. But the goal is sometimes not achieved as there is complex interplay of the various personalities and background variables, the level of motivation and job satisfaction of the employees.

Employees cannot be programmed like machinery in an organisation. Being humans, they require a lot more efforts than only maintenance, as in the case of machinery, on the part of the organisation to make them work. Their performance gets affected by so many factors which may be related to their work life or their personal life. It is very difficult to expect them to work always according to the expectations of the employer.

On one hand obtaining desired performance from the employee is a very difficult task, while on the other hand appraising job performances is also not an easy task. It is a difficult issue to decide the various criteria and their standards for appraising performance. Selection of criteria depends upon requirements of the job but developing standards for each criterion requires consideration of multiple factors related to working conditions

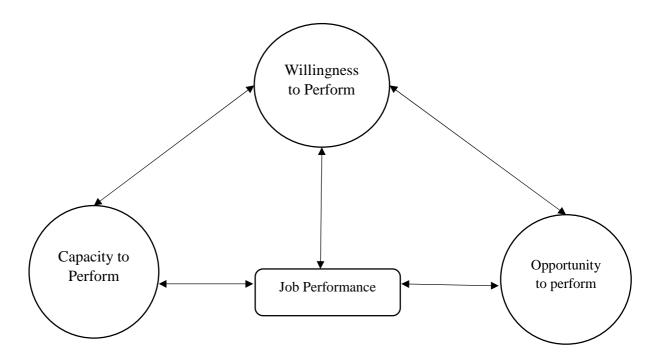
Another issue which is quite complex and debatable is that who should be the appraiser and what techniques should be used for appraisal. Normally, a person's performance is rated as excellent, good, average or poor. Such statements emphasise the unidimensional nature of performance appraisal. However, researchers in the recent years have established that there is a requirement of multidimensional appraisal of any situation. Researches related to job appraisal indicate that for the appraisal the following three issues require consideration:

- (i) Characteristics to be appraised
- (ii) Choice of appraiser i.e. immediate superior, peers or subordinates or all of them
- (iii)Choice of measure

Incorrect appraisal of performance has been attributed as one of the major causes of poor performance as it demotivates good performers

### **Determinants of Job Performance**

There are basic three determinants of job performance which have been explained with the help of the following model:



- 1) Willingness to perform: A person's willingness is extremely important for any kind of job to be performed in an efficient manner. Willingness to do something is a feeling that helps a person to not only perform a task efficiently but to also add value and a personal touch in its execution. Any kind of unwillingness in the mind of employee to perform a job leads to a poor performance, waste of time, energy and resources. Therefore, the willingness to perform is very important for a good performance of job. In context of the topic of the paper, a teacher's willingness to perform is reflected and enhanced when he is comfortable to teach an assigned subject or when most of the students, he teaches are responsive, studious and regular. These are two of the many factors which encourage the willingness of the teacher to perform his job.
- 2) Capacity to Perform: The basic requirements of academic qualification and skills constitute the capacity of an employee to perform her/his job. An employee having the capacity can perform a job efficiently and meet the performance standards. If he lacks in capacity to perform a job it would result in serious mistakes and adversely affect his growth in the organisation.

In context of the topic of the paper, a teacher's capacity to perform includes his academic qualifications, years of teaching experience, papers published. All these enable and enhance the teaching performance of a teacher. Therefore, the teacher can teach effectively and efficiently only when he has the capacity to perform.

3) Opportunity to Perform: The right kind of opportunity and favourable circumstances are extremely important to effectively and efficiently perform a job. Once the opportunity

is recognised, the best efforts should be put in while performing a job under the given circumstances and the opportunity should be exploited in the best possible way. In such a manner the employee will be able to contribute to the organisation in a better way.

In context of the topic of the paper, teacher gets the right opportunity to perform his job when proper classroom is available, students are regular, the timetable is designed to provide enough number of classes to teach etc. The right amount of opportunities and favourable circumstances help them to perform well and educate the students better.

#### **Common Determinants of Job Satisfaction and Job Performance**

Job satisfaction and Job performance are very closely related. A satisfied employee not only perform his job well he also puts in extra efforts and work hard to help achieve the organisational goals and targets. There are some factors which are common to both job satisfaction and job performance. Some of them are as follows:

1) **Age:** Job satisfaction and age have a relationship which is depicted by the shape of U alphabet. Younger employee and older employees have more job satisfaction unlike middle aged employees who experience low job satisfaction at their age due to many reasons.

Job performance is said to increase with the age since age makes employees experienced, mature at handling their work better and gradually they learn several skills and better time management.

2) **Gender:** An individual's gender has a lot to contribute to her/his personality. Female employees may attain job satisfaction due to factors such as flexible timings, creche facility etc., provided by the organisation. Male employees do not derive any satisfaction from such facilities because they are indifferent towards such facilities. Also, the general assumption is that females are more easily satiable than their male counterparts.

Female employees are generally better performers as compared to male employees. It is because they are more sincere, hardworking and multi-taskers by nature. They are more focused and dependable. Male employees generally have a commanding and authoritative nature and therefore they can get the work done timely and efficiently. Thus, the job performance gets affected due to gender attributes of the employees.

**3.Marital status**: An employee's marital status has a bearing on his job satisfaction. A married employee feels settled in his personal life. He feels more emotionally secure and it's always easier if one has a partner to share problems and domestic workload. This leads to higher level of motivation and better job performance which leads to high output and higher job satisfaction. Similarly, if an employee is facing marital discord then he feels insecure, low on motivation and lacks focus which results in poor job performance. This leads to low output and lower level of job satisfaction.

An employee having a single status, feels lonely and must handle his profession and domestic front on his own. He feels emotionally insecure. This adversely affects his motivation level, job performance and level of job satisfaction.

- **4. Qualifications:** An employee's qualifications help to enhance his job performance and job satisfaction. A well-qualified employee has the correct knowledge and skills to complete his job in an efficient and effective way. Also, an employee with proper qualification, knowledge and skills feels confident enough to improvise on the procedures and make valuable addition to the process in an organisation. The optimal utilisation of an employee's qualification and skills helps to achieve targets and thus gives a sense of job satisfaction to him.
- **5. Designation:** An appropriate designation is very important for an employee. A designation gives him a status and authority related to the designation in the organisation. An employee's designation or post is based on the years of experience he has in that profession. A proper and befitting designation makes a worker more committed and increases his job satisfaction. With the increase in satisfaction and commitment, employee works hard to achieve the targets and organisational goals. This leads to better job performance and higher motivational level of the employees.

On the contrary, if an employee does not have a proper and well-defined designation, it makes him feel confused and frustrated. He does not feel committed to the organisation and are dissatisfied which eventually affects his job performance adversely.

- **6.Work Experience:** Work experience is very crucial for an employee to progress. It is the total number of years or months the employee has worked in one or many organisations. It adds to the existing skills and knowledge of the employee because of which the employee performs better and thus the job performance gets better with the increase in work experience. As the job performance improves with the experience it also helps to enhance job satisfaction and motivation of the employee.
- **7.Physical health:** An employee's health has impact on his job performance and satisfaction level. If he has good health with no or minor health issues, then it helps him to focus and perform the job in a better way. Also, when majority employees have good health then the organisation does not have to face the issue of frequent employee absenteeism and additional expenses on employee healthcare. On the contrary, employee with poor health becomes a burden on the organisation. He is unable to focus and cannot perform the job well. It becomes hard for a physically unwell employee to work at a stretch in a dedicated way owing to the health issues he is suffering with. Also, absenteeism is quite frequent for such employees which becomes a nuisance in the organisation. Thus, good health of employees helps to increase the job performance and job satisfaction.
- **8. Research ability:** Specifically, in the profession of university teaching, writing of research papers and a Ph.D. qualification is very necessary for a teacher. These two abilities together make the research ability of a teacher because it helps him to foray into unexplored or partially explored territories for research. It helps to broaden the knowledge base and experience of the teacher which leads to better teaching performance. Also, it helps to add to his professional achievements of the teaching employee which further accelerates his growth in the organisation and therefore increases the job satisfaction. On the contrary, if the teacher does not work to improve his research

ability it will eventually lead to growth stagnation due to less knowledge and less experience. It will have no contribution or positive impact on his teaching job performance and job satisfaction.

- **9. Salary:** A good remuneration has always got the power to positively influence an employee. It is considered as the most important aspect for any employee to join an organisation. It helps to motivate the employee to work hard which eventually leads to better job performance and increased job satisfaction. It also helps to win over loyalty and dedication of the employee. On the contrary, when an employee does not view his salary as adequate in comparison to his efforts then it demotivates him and as a result hampers the job performance and has a negative impact on the satisfaction level.
- 10. Type A and Type B personality: Job satisfaction of teachers is determined by their personality type also. People with type A personality traits are ambitious, controlling, aggressive, highly competitive, preoccupied, workaholic and lack patience. People with type B personality traits are flexible, less stressed, relaxed, emotionally expressive and have a laid-back attitude. Teachers' performance as well as satisfaction gets swayed by these characteristics of their personality.
- 11. Locus of control: The concept of locus of control developed by Julian B. Rotter is also an important determinant of teacher's job satisfaction and job performance. Teachers with strong internal locus of control tend to blame or blame themselves for their actions and those with strong external locus of control believe that life is controlled by external factors like chance or destiny. Therefore, such attitude has an influence on both, their job satisfaction and job performance.
- **12. Ambitiousness:**Job satisfaction is directly or indirectly influenced by a teacher's ambition also. A highly ambitious teacher has an earnest desire for achievements or distinction. Therefore, his efforts to perform his job well, are expected to be rigorous and consequently his satisfaction level may be low. On the other hand, an unambitious employee's job performance can be low, but satisfaction level is expected to be high.

## Govind Ballabh Pant University of Agriculture & Technology (GBPUA&T)

Govind Ballabh Pant University of Agriculture & Technology (GBPUA&T) was established in 1960 with an aim of imparting rural education by an act of the State Legislature of Uttar Pradesh and dedicated to the nation by Pt. Jawaharlal Nehru. It is approved by UGC and AICTE. The main campus of the university lies in Udham Singh Nagar district of Uttarakhand. The students' admissions are taken based on marks scored in entrance examinations conducted by the university and other competitive examinations.

The G.B. Pant University is a symbol of successful partnership between India and the United States. The establishment of this university brought about a revolution in agricultural education, research and extension. It paved the way for setting up of 31 other agricultural universities in the country and is regarded as the harbinger of Green Revolution in India.

The Campus appears impressive today with its well-tended fields, a network of roads, housing colonies, street lighting, a telephone exchange, hospitals, shopping centres, a water supply section, 6 primary schools and 3 secondary schools. The main campus lies in Udham Singh Nagar district of Uttarakhand. The various courses offered are B.Sc., B.V.Sc. & A.H, B.F.Sc., B.Tech., M.Sc., M.Tech., MBA, MCA, etc. The university also offers Ph.D. programs in subjects of agriculture, management, engineering, science, fisheries science, home science etc., that are further divided into the sub-specializations.

The university has a vision to strive for excellence in education, research, extension and policy support in the area of agriculture and allied sciences in the country and the developing societies.

## **Research Methodology**

The main purpose of this case study was to learn more about the determinants of teachers' job performance and job satisfaction. The purpose is also to examine the relationship among these determinants and job performance and satisfaction of teachers teaching at G.B. Pant University of Agriculture and Technology (GBPUAT).

Data for the study was collected by interviewing 40 teachers of GBPUAT with the help of a schedule. In this schedule, questions related to job satisfaction and demographic profile were included. Data was also collected from the students of teachers by using a questionnaire. 20 students, taught by each of these teachers who were interviewed, were requested to fill the questionnaires consisting of questions related to job performance. Thus, data was collected from 800 students of GBPUAT.

The data collected was analysed. The mean value of job performance and job satisfaction was calculated using the data obtained from the respective schedules and questionnaires of respondent teachers and their students. A scale was developed with the help of which the performance and satisfaction levels could be measured. The scale is as follows:

#### Satisfaction scale

4.1 - 5.00	Highly satisfied
3.1 - 4.00	Satisfied
2.1 - 3.00	Dissatisfied
2 and below	Highly dissatisfied

### Performance scale

130 - 150	Very good performance
110 – 129	Good performance
90 – 109	Average performance
70 – 89	Poor performance
69 and below	Very poor performance

## **Findings & Interpretation**

Based on the data collected, following are the findings and their interpretations.

## 1) Age:

Age	Number of respondents	Mean Job Satisfaction	Mean Job Performance
Below 35 years	5	3.84	115.76
35 – 50 years	22	3.98	119.39
51 years and above	13	4.13	126.23

Interpretation: From the above data, it can be interpreted that age of the respondent teachers has a positive relation with **job satisfaction** and **job performance**. As the age increases, the satisfaction and performance of teachers improves

### 2) Gender:

Gender	Number of respondents	Mean Job satisfaction	Mean Job performance
Male	26	4.02	119.32
Female	14	3.97	123.59

Interpretation: In view of the data, it can be interpreted that male teachers have a slightly higher **job satisfaction** as compared to the female teachers. But female teachers **perform** their job better as compared to the male teachers. Thus, the gender of a teacher has different relationship with job satisfaction and job performance.

#### 3) Marital status:

Marital Status	Number of respondents	Mean Job Satisfaction	Mean Job Performance
Married	39	4.01	121.55
Single	1	3.60	92.20

Interpretation: From the above table, it can be interpreted that **job satisfaction** and **job performance** of married teachers is significantly better as compared to the single teachers. Since the number of single teachers in the sample was just one therefore this interpretation may not be very accurate.

### 4) Designation:

Designation	Number of respondents	Mean Job Satisfaction	Mean Job Performance
Assistant Professor	19	3.90	117.87
Associate Professor	3	3.95	125.67
Professor	18	4.13	123.11

Interpretation: As per the above data, **job satisfaction** has a positive relationship with the designation of teachers. Thus, job satisfaction increases as one proceeds up in the hierarchy.

**Job performance** of associate professor is the best among the three designations. Professors are better at job performance than assistant professors as compared to the assistant professors and professors. Thus, it can be interpreted that there is no direct or positive relationship between employee's designation and his job performance level.

### 5) Teaching experience:

Experience	Number of respondents	Mean Job Satisfaction	Mean Job Performance
0 – 15 years	22	3.91	120.57
16 – 30 years	11	4.20	117.61
31 – 45 years	7	3.99	126.62

Interpretation: On analysing the above data it can be interpreted that, **job satisfaction** of teachers having a work experience of 16 to 30 years as compared to those who had a work experience ranging from 0 to 15 years and 31 to 45 years. It can be interpreted that job satisfaction does not have an exact negative or positive relation with work experience of employee. Thus, it can be inferred that experience does not has a positive or negative relationship with job satisfaction of teachers.

**Job performance** is higher for the teachers having a work experience ranging between 31 to 45 years as compared to the other two categories. The respondents having an experience ranging between 0 to 15 years are better at job performance as compared to those having a work experience ranging between 16 to 30. Thus, it can be interpreted that there is no definite relationship between work experience and job performance of teachers.

## 6) Physical health:

Health problem	Number of respondents	Mean Job Satisfaction	Mean Job Performance
1 or more health problems	12	3.97	125.28
No health problems	28	4.02	118.90

Interpretation: According to the above data, it is obvious that teachers who have one or more health problems have a low **job satisfaction** as compared to the teachers who have no health problems. Therefore, it can be interpreted that health problems have a negative effect on teachers' job satisfaction level.

**Job performance** level of respondents with one or more health problems is much better than thosewho have no health problem. Therefore, it can be interpreted that health problems may be having a negative effect on job satisfaction of employees, but it is in no way a hinderance for them to perform their job well and as a matter of fact they can perform better as compared to those who have no health problems. Motivation plays a key role for such teachers. Thus, surprisingly health status of a teacher has no relationship with job performance.

## 7. Research ability: Based on research publications and Ph.D. qualification

Research Ability	Number of respondents	Mean Job Satisfaction	Mean Job Performance
High Ability	6	4.201	126.53
Average Ability	30	3.979	118.35
Low ability	4	3.892	130.70

Interpretation: From the above data it is evident the that research ability has a positive relationship with a teacher's **job satisfaction** because as the research ability develops, it has a positive impact on teachers' job satisfaction.

Surprisingly, **job performance** is the highest of teachers who have low research ability. Teachers with high research ability stand second in performance and teachers with average research ability have the lowest performance level. Thus, it can be interpreted that there is no definite relationship between a teacher's research ability and his job performance

## 8) Salary:

Salary (p.m.)	Number of respondents	Mean Job Satisfaction	Mean Job Performance
Below Rs 1 lakh	19	3.90	117.87
Rs 1 lakh to Rs 1.99 lakh	3	3.95	125.67
Rs 2 lakh to Rs 2.99 lakh	18	4.13	123.11

Interpretation: On analysing the above data, it can be interpreted that **job satisfaction** of the respondent teachers has a positive relationship with the salary. It increases with the increase in the salary of the respondents. Especially when they move from the second salary group to the third salary group, there is significant increase in satisfaction level.

On the other hand, **job performance** of teachers has got no definite relationship with the salary level as is evident from the data presented above.

# 9) Type A and Type B personality:

Personality Type	Number of respondents	Mean Job Satisfaction	Mean Job Performance
Type A personality	22	4.04	121.56
Type B personality	18	3.97	119.90

Interpretation: It is evident from the data given above that teachers having type A personality are more satisfied with their jobs and perform their job better than the teachers with type B personality.

### 10) Ambitiousness:

Ambitiousness	Number of respondents	Mean Job Satisfaction	Mean Job Performance
Ambitious	29	4.00	119.675
Unambitious	11	4.01	123.81

Interpretation: The above data indicates that unambitious teachers are more satisfied with their job and perform their job better than ambitious teachers.

## 11) Locus of control:

Locus of control	Number of respondents	Mean Job Satisfaction	Mean Job Performance
Internal locus of control	27	4.05	124.08
External locus of control	13	3.91	114.03

Interpretation: On analysing the above data it can be interpreted that teachers with internal locus of control have higher job satisfaction level and are also better at job performance as compared to those who have an external locus of control.

### 12) Motivation:

Motivation level	Number of respondents	Mean Job Satisfaction	Mean Job Performance
Demotivated teachers	0	0	0
Moderately motivated teachers	6	3.6	122.07
Highly motivated teachers	34	4.08	120.59

Interpretation: From the above data it is evident that **job satisfaction** level of highly motivated teachers is higher as compared to moderately motivated teachers, but on the other hand **job performance** of moderately motivated teachers is higher than them. This is quite surprising and indicates the fact that performance is influenced by other factors in addition to motivation.

## 11. Relationship between Job Satisfaction and Job Performance:

Satisfaction level	Number of respondents	Mean Job performance
Highly Satisfied	10	121.52
Moderately Satisfied	30	120.70

Interpretation:It is evident from the above given datateachers having high level of job satisfaction are better performers as compared to teachers with lower level of job

satisfaction. Thus, it can be inferred that job satisfaction has a positive relationship with job performance.

#### **Conclusion**

Job satisfaction and job performance of an teachers are two very important aspects which are also connected to each other to some extent. They both are affected by many factors which act as common determinants for them. The main objective of the research paper was to study the determinants and their relationship with satisfaction and performance of university teachers at GBPUAT. For this purpose, data was collected from the teachers and students taught by them. After data analysis, it was observed that several factors such as age, designation, physical health, research ability, salary, and high motivation have a positive effect on teacher's job satisfaction. Male teachers, married teachers, teachers with type A personality and teachers with internal locus of control had a better job satisfaction level as compared to other teachers. Similarly, factors such as age, female gender of teachers, marriage, moderate level of motivation, type A personality of teachers, unambitious attitude and internal locus of control have a positive effect and relationship with job performance of teachers. But there were certain factors which had no relationship with job performance such as designation, work experience, physical health, research ability and salary. It was also observed that job satisfaction has a positive relationship with job performance but both, high and moderate level of job satisfaction, do not significantly affect the job performance of teachers. Thus, it can be concluded that not all factors, assumed to be determinants, can be considered as such because not many of them share any significant relationship with job satisfaction and performance of teachers.

### **Address of related Websites**

http://www.mhrd.gov.in

http://www.india.gov.in

http://www.academics-india.com

http://www.ugc.ac.in

http://www.ey.com

http://www.dreducation.com

http://www.teqipgoodgovernance.in

http://www.icrier.org

http://www.educationinsight.in

http://www.niticentral.com

### **Major Inputs**

- 1. Books related to the research work
- 2. Research papers related to the study
- 3. Statistical software for analysis of data

#### **References Related to Research Work**

- 1. Arnold, H.J. & Feldman C.D. Organizational Behaviour New Delhi, Mc GrawHill, 1986.
- 2. Green, P.E. &Tull, D.S. Research for marketing decisions New Delhi Prentice Hall, 1986.
- 3. Hersey, Paul & Blanchard K.H. Management of Organizational Behaviour. Utilizing Human Resources. New Delhi Prentice Hall 1992.
- 4. Mc Cormick, E.J. & Ilgen D. Industrial Psychology. New Delhi. Prentice Hall, 1984.
- 5. Robbins, S.P. Organizational Behaviour. New Delhi. Prentice Hall 2000.
- 6. Sharma, Anuradha, Management and Job Performance, Delhi. Gyan Publishing House 1986.

## **Bibliography**

- 1. Abbas Ali, M.;Job Satisfaction and Work Motivation among workers in Selected Industrial Undertakings. Hyderabad; 1978.
- 2. Baldev, R.; Determinants of Job Satisfaction among Industrial Workers; Vikalpa; 5(1), January 1980.
- 3. Blum, A.A., (Ed.); International Handbook of Industrial Relations; Greenwood Press Westport; Commedicut; 1981
- 4. BLY, Robert W., Keeping Employees Satisfied; Make Your Business More Successful and Profitable. Eaglewood Cliffs, N.J. prentice hall, 1993.
- 5. Camp, R.C. Bechmarking; The Search for Industry Best Practices that lead to Superior Performance. Milwaukee: A.S.Q.C Quality Press, 1989