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### A Study of Impact of Job Satisfaction, Leader Member Exchange (LMX) and usage of Information Technology in Education Sector and it's Contribution towards Growth in Indian Economy

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**Abstract:** The paper makes an attempt to study the relationship between job satisfaction, leader-member relation (LMX) and Usage of Information Technology among employees of educational sector. It also discusses the present role of Education sector in building the economy of India and it's scope in future.

**Design/Methodology/Approach-** The present study is based on descriptive research methods and the data was analyzed quantitatively. The present study observes the indicants with the help of self-administered survey method of formal study that is descriptive (non-experimental) in nature wherein correlations between the two is calculated.

**Findings-** Employees who had good relation with their leaders were found to be satisfied with their jobs, positive correlation was found between these two variables. Significant positive relation was found between Job satisfaction of employees and the convenience with use of Information Technology. Also, significant positive relation was found between Leader member relation and the convenience with use of Information Technology.

**Research Limitations/Implications-** conclusions from the study can further be hypothesized for future researches.

**Keywords:** Indian Economy, Education sector, LMX, factor analysis, correlation, leader, subordinate, job satisfaction, Information Technology.

#### INTRODUCTION

In the Modern era we are witnessing rapid development in the field of technology. It has helped in improving efficiency and quality in all sectors. The demands of the society have led to wide application of technology

in every field. In the Education sector, technology has contributed immensely and given solutions to various problems and challenges faced by the industry. Today's education institutions have recognized the importance of technology and are re-organizing their education programs and classroom support/ tools, to minimize the teaching and learning gap between present and the future.

Education is a medium to bridge the gap between today and tomorrow. It plays an important role in preparing the mindset of people to accept the challenges of tomorrow. It also helps in reducing the resistance of people towards any new concepts. Thus we can understand that education and technology go hand in hand. Technology is providing support and assistance to education with the help of various tools. On the other hand education is also helping reduce resistance towards technology by making people aware of the benefits and how it can enhance our efficiency. The relationship of the two is in the true sense complimentary.

Leader Member Exchange affects leader member attitude and behavior to a great extent. Good relations with the subordinate, based upon trust and loyalty enhances the satisfaction that subordinate derives from his job as he is comfortable in the environment and has positive attitude. It is also more convenient for the leader, in such situation, to ease the process of acceptance and usage of new technology by subordinates as subordinate will otherwise not be too willing to accept new technology.

### **Contribution of Education Industry in the Indian Economy**

Indian Education Industry holds an important place in the Global Education Industry. With more than 1.5 million schools and over 751 universities, it is one of the largest education system in the world. However, with Human Resources gaining increasing importance in the development of the country, development of Education system is likely to see a transformational growth. The education market is expected to double by the year 2020. The school system contributes around 52% to the market. The attractive data has led to huge DDI investments in the sector which is bound to increase in the coming years. The Government has also taken important initiatives in the form of opening A grade institutions and Universities, allocating educational grants schools, R&D and adopting innovative practices. The Indian Education system is set for major transformations and growth.

### **Technology in Indian Education System**

Formal Education in India has faced several challenges since years. The major challenges are that of time, distance and languages. Literacy in Urban India is 80% whereas in rural population it only accounts to close to 56%. Apart from this there are around 192 million illiterate women.

There are issues like quality of education (Bagga, 2017) & (Bagga, et.al., 2016), improvement of teachers' capabilities efficient usage of technology and improved management system. India is looking for solutions to provide opportunities for learning to its students. The potential of technology has been recognised but how it can be adopted widely, most efficiently and most economically still remains a question unanswered. There are few initiatives by NGOs like Digital Sudyhall and Azim Premji Foundation. Corporations like ILFS, Educom, Intel, Medialabs are few that are involved in Content Creation, classroom learning and training of teachers. Still more efforts are required to make available economic methods of

making technology available to teachers and students. In India there are issues relating to geographical coverage which India need to tackle in order to make technology available to all.

As per IBM survey, the principle concerns for teachers and teaching is high work load, lack of support material, lack of training and lack of motivation. At the students end there are concerns relating to curriculum and availability of education material. IT solutions thus provided –

- Tools for teachers and students to provide feedback on updates needed in curriculum.
- Create high quality instruction material.
- Provide mechanism for sharing study material.

E-learning is the solution for India's education system as it is a mix of advance learning methods and technology to provide learning anytime, anywhere and for anybody. It has benefits of scalability, can reduce cost and improve quality. As per European Commission, E-learning is the application of multimedia for improving quality of learning by giving access of resources and services. It includes content delivery, management of learning experience and helps build a community of content developers, experts and learners.

## **THEORETICAL FRAMEWORK AND HYPOTHESES GENERATION**

### **Job Satisfaction**

Job Satisfaction is one of the most prominent variables in study in business management. This is due to its relevance for scholars, managers and employees alike. For scholars and researchers it helps in the subjective evaluation of working conditions; for managers it helps in evaluating organizational outcomes (e.g. organizational commitment, extra-role behavior); for employees, it is an indicator for well-being (Judge and Hulin, 1993) and life satisfaction (Judge and Watanabe, 1993). It is assumed to have implications as it affects all professions, work, jobs and contexts (Spagnoli et al., 2012). Job satisfaction is an attitude that is related to all attitudes towards life and service quality (Schneider and Bowen, 1985).

### **Leader Member Relation**

The relationships of supervisors and subordinates is very important and is often studied with the help of LMX theory. The basic principle of LMX is that leaders develop different type of exchange relationship with their followers and that quality of these relationships effect important leader member attitude and behaviour (Gerstner and Day, 1997, Liden et. al., 1997: Sparrow and Liden, 1997).

Such relationships can be termed as high quality characterized by high trust, respect, and loyalty or of low quality characterized by mistrust, low respect, and no loyalty (Morrow et al., 2005) People in high-quality LMX relationships have the benefit of receiving more attention from leaders in terms of leader's time, more relevant information, and more emotional support compared to those in low-quality relationships. The supervisors also introduce subordinates to important people in the social network which help them to gain more additional information and resources (Sparrowe and Liden, 1997). The exchange between the superior-subordinate (dyad), a two-way relationship, is the unique basic premise and the unit of analysis of LMX

## **LITERATURE REVIEW**

### **Leader Member relation and Job satisfaction**

Leadership is an important factor for goal achievement of organizations and groups. Leader member relationship (LMX) is among the few very successful theories in explaining how leader and member relationship influence work performance. The relationship is governed by trust, respect and liking. Most studies have emphasized on how high quality LMX results in leader providing resources to subordinates and in return get high performance of subordinates. It is a consistent finding that LMX has positive relation to Job Satisfaction (Gerstner & Day, 1997) as LMX relationship provide tangible benefits like contributions in decision making, salary progress and career advancement. This creates an environment that ensures job satisfaction. In some cases it may result in only intangible benefits such as high quality relationship, which leads to wellness of employees.

Positive relation of LMX and Job satisfaction is enhanced when supervisor has high Perceived Organization Support (Berrin Erdogan and Jeanne Enders, 2007). Lapierre and Hackett (2007) have done a meta analysis to link LMX, Job satisfaction and Organization Citizenship Behavior. It revealed that more conscientious employee shows higher OCB which in turn improves LMX and leads to increase in Job Satisfaction. Tordera, González-Romá, Ramos-López, and Peiró (2005) in their study on Spanish Samples have examined the reciprocal relationship between job satisfaction and LMX. The findings suggested that few facets of job satisfaction (i.e. satisfaction with the team and satisfaction with team goal clarity) were positively related to LMX but other variables were not related. Judith Volmer, Cornelia Niessen and Daniel Spurk, Alexandra Linz and Andrea E. have suggested that not only does good LMX increases job satisfaction, but that job satisfaction can also enhances high-quality supervisor–employee relationships.

### **Usage of Information Technology and leader member relation**

Derrick J. Neufeld, Linying Dong and Chris Higgins (2007), integrates the theory of acceptance and use of technology with charismatic leadership theory, and examines the role of project leaders influencing user adoption. The paper finds out that project champion's charisma was positively associated with increased performance expectancy, effort expectancy, social influence and facilitating condition perceptions of users. Many researchers have argued that senior managers play a crucial role in determining IT application in organisations. Although investment in IT has been substantial in the last few years, there have been significant variations among firms who have been able to absorb it to the core and extract value from its usage. The top management's IT knowledge has significant impact on subordinate. The informal interaction of top management with team members enhances their knowledge.

### **Usage of Information Technology and Job satisfaction**

Thus, the present study makes an attempt to study the relationship between job satisfaction, leader-member relation (LMX) and usage of Information Technology among employees of educational sector.

With the help of literature review, following hypothesis can be proposed.

H1: Leader-Member relation would be positively related to Job Satisfaction.

H2: Usage of Information Technology would have positive impact on the Job Satisfaction of employees.

H3: Leader-Member relation would be positively related to Usage of Information Technology.

## **RESEARCH FRAMEWORK**

The present study is based on descriptive research methods and the data was analyzed quantitatively. The present study will try to observe the indicants with the help of self-administered survey method of formal study that would be descriptive (non-experimental) in nature wherein correlations between the two variables will be calculated. According to Shaughnessy and Zechmeister (1997), this design is well suited to the descriptive and predictive functions linked with correlational research. The sample frame was Educational sector in Delhi NCR, India. Employees from various schools were taken as the sampling unit. These employees were matched in terms of their education, and job experience and job profile and then included in the sample.

Data was collected through self-administered survey method. Three separate questionnaires were used to collect data-

- 1) LMX-7 (Scandura & Graen, 1984) scale to measure the quality of the relationship from the perspective of the subordinate. There were total 7 items on five point Likert Scale. The LMX relationship is most commonly identified as a low-quality, out-group relationship or a high-quality, in-group relationship. Scores ranged from 7 to 35. Chronbach's Alpha for the LMX scale reported by Scandura and Graen (1984) is .86 and convergent validity of .82.
- 2) Usage of Information Technology scale of 14 items was used. Participants were requested to select one of five numbers on a Likert scale (1 = very unlikely and 5 = very likely). Scores ranged from 14- 70.
- 3) Job Satisfaction Questionnaire

Job satisfaction was measured with the short form of the Brayfield and Rothe (1951) Job Satisfaction Scale. Responses were calculated on the 5-point Likert scale which ranges from 1=Strongly Disagree to 5=Strongly Agree. The five items were added to form a job satisfaction score. Lower the score, lower the level of job satisfaction.

Hence for the purpose of data collection, questionnaires were distributed among 120 employees using simple random sampling. Due to non-responsive error, total 98 responses were taken into consideration for further analysis.

## **DATA ANALYSIS AND DISCUSSION**

Data Analysis was done using Statistical Package for Social Sciences (SPSS), Version 20.0 for Windows. Reliability (Cronbach's alpha) of the three scales was computed to be 0.67 for Information Technologies' Scale, 0.88 for LMX scale and .775 for Job Satisfaction Scale (Table 1).

**Table 1**  
**Reliabilities' of Scales**

<i>S.No.</i>	<i>Scale</i>	<i>Number of items</i>	<i>Cronbach's Alpha</i>
1	Information Technologies' Scale	14	0.673
2	LMX Scale	7	0.883
3	Job Satisfaction Scale	5	0.775

To find out the underlying structure of the data, factor analysis was used. Also, factor analysis measures the construct validity of the test.

In order to further explore how the variables-criteria correlate and group, Principal Component factor analysis was chosen. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity (BTS) was computed to check the suitability of factor analysis (Table 2). A higher value of the test (0.788) justifies the use of factor analysis, which is higher than the suggested 0.5 level (Malhotra, 2008). The Bartlett's Test of Sphericity (BTS) gives approximate chi-square statistic 585.805 with 91 degrees of freedom, which is significant at the .05 levels. Thus, factor analysis shall be considered suitable method for analyzing the data.

Communality measures the percent of variance in a certain variable explained by all the factors jointly and may be interpreted as the reliability of the indicator (Table 2). Communality suggests amount of variance that the variable shares with the other variables and also gives the proportion of variance explained by the common factors. Taking all the items for further analysis since no value for extraction is less than 0.3 (Table 2).

After determining the appropriateness of factor analysis, factors have been extracted using Principal Component Analysis extraction method with orthogonal varimax rotation. Table 2 explains the total variance of the factors. The attribute have been divided into two factors as their Eigen value are greater than 1. The factors having Eigen values less than 1 have been ignored (Kaiser Rule). The total variance explained (Table 2) by these two factors is 60.719, which is quite significant, thus it meets the requirement for the number of factors and their contribution rate as the criterion for variance analysis.

**Table 2**  
**Factor Analysis of Information Technology Scale (N= 98)**

<i>Attributes</i>	<i>Factor Loading</i>		<i>Communalities</i>
	<i>Factor 1</i>	<i>Factor 2</i>	
Factor 1: Information Technologies as Convenience			
IT1. I believe that teachers need to be trained so that they can use Information Technologies comfortably in their institutions.	.693		.648
IT2. My job requires me to be updated with the latest information technologies.	.729		.658
IT3. I find it easier to communicate with students and parent with the school EdRP/Dashboard/Website.	.774		.642

*contd. table 2*

<i>Attributes</i>	<i>Factor Loading</i>		<i>Communalities</i>
	<i>Factor 1</i>	<i>Factor 2</i>	
IT4. I believe the resources can be properly utilized with the help of information technologies.	.841		.745
IT5. I believe that information technologies have increased transparency in the system.	.824		.746
IT6. I believe EdRP/ Dashboard/ Website are essential tools in today's world.	.844		.725
IT7. My responsibility has increased with introduction of information technologies in my school/college.	.514		.625
IT8. The introduction of ERP and Dashboard demands that I have to be very precise and systematic in my working.	.693		.510
Factor 2: Information Technologies as Hindrance			
IT 1.1 I am anxious to use EdRP/ Dashboard/Website		.759	.658
IT 1.2 I think EdRP/Dashboard/Website are not of much use to the students or parents.		.651	.509
IT 1.3 My workload has increased with the introduction of information technologies in schools.		.747	.573
IT 1.4. I believe tools like EdRP/ Dashboard/ Website have shifted teacher's focus from education to peripheral areas.		.759	.585
IT 1.5 With introduction of information technologies in the education system, I am running against time.		.659	.437
IT 1.6 Switch over to ERP/Dashboard/Website from conventional method is not required to compete in the education sector.		.517	.440
Eigenvalues	4.696	3.805	
Variance (%)	33.541	27.178	
Cumulative Variance (%)	33.541	60.719	
Number of items	8	6	

*Notes:* Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 a Rotation converged in 5 iterations.  
 (KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) = 0.788  
 Bartlett's Test of Sphericity: p = 0.000 (x2 = 585.805, df = 91)

Table 3 displays the correlations among the variables, Job satisfaction, LMX, Convenience and Hindrances with use of Information Technology in education sector. Those employees who had good relation with their leaders were found to be satisfied with their jobs, positive correlation of 0.644 was found between these two variables. Significant positive relation (0.439) was found between Job satisfaction of employees and the convenience with use of Information Technology. Also, significant positive relation (0.319) was found between Leader member relation and the convenience with use of Information Technology.

**Table 3**  
**Correlations**

		<i>Convenience with use of Information Technologies</i>	<i>Hindrances with use of Information Technologies</i>	<i>Job Satisfaction</i>	<i>Leader Member Relation</i>
Convenience with use of Information Technologies	Pearson Correlation	1	.000	.439**	.319**
	Sig. (2-tailed)		1.000	.000	.001
	N	98	98	98	98
Hindrances with use of Information Technologies	Pearson Correlation	.000	1	.123	.040
	Sig. (2-tailed)	1.000		.228	.693
	N	98	98	98	98
Job Satisfaction	Pearson Correlation	<b>.439**</b>	.123	1	.644**
	Sig. (2-tailed)	.000	.228		.000
	N	98	98	98	98
Leader Member Relation	Pearson Correlation	<b>.319**</b>	.040	<b>.644**</b>	1
	Sig. (2-tailed)	.001	.693	.000	
	N	98	98	98	98

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## CONCLUSION AND FUTURE RESEARCH IMPLICATIONS

Factor analysis measures the construct validity of the questionnaire. Also, factor analysis decreases a large number of variables into a smaller set of factors. In the present study, 14 items of Information Technology questionnaire were reduced to two factors. Thus, the two factors, Convenience and Hindrances with use of Information Technology, were taken into consideration for further analysis.

Significant positive correlation between variables leader member exchange (LMX) and job satisfaction proves the first hypothesis of the study that is similar to studies done by Dulebohn et.al (2012) and Gerstner & Day (1997). Thus, employees who were in good relation with their leaders were satisfied with their jobs as compared to their counterparts. The study also acquired significant positive relation between job satisfaction of employees and the convenience with use of Information Technology variable indicating that employees who used Information Technology frequently for their daily jobs were more satisfied. The present research established significant positive relation between Leader member relation and the convenience with use of Information Technology variable indicating that employees who had high quality relation with their leader were more likely to use Information technologies for their daily jobs. Neufeld et.al (2007) performed a similar study on charismatic leaders.

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