

Relook Into the Spill over Relationship of Motivators, Hygiene Factors with Job Satisfaction: A Case of Public and Private Sector Telecom Organizations

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ABSTRACT :

Job Satisfaction in workplace is always viewed as an important aspect for better performance and productivity. The present paper mainly focuses on the motivator and the hygiene factors that lead to Job Satisfaction as discussed by Fredrick Herzberg (1959) and study also examines the direct and indirect spillover relationship among motivator and hygiene Factors with Job Satisfaction. Data for the present study were collected from 120 employees working in public and private telecom sector organizations located at Guwahati. After employing correlation analysis and structural equation modeling (SEM), the results revealed that there exists low to high correlation among Motivator factors and Hygiene factors leading to Job Satisfaction which contradict the findings of Herzberg's Two Factor Theory which states that hygiene factors do not motivate but its absence leads to Job Dissatisfaction. The new finding of this study is that all the motivator factors and hygiene factors have indirect spillover impact on Job Satisfaction for the employees of the Telecom sector.

Key Words : *Hygiene factors, Job Satisfaction, Motivator factors and Structural equation Modeling (SEM)*

INTRODUCTION :

The history of Job Satisfaction started in the early 1900's. Lawler (1973) states that, 'Overall Job Satisfaction is determined by the difference between all those things a person feels he should receive from his job and all those things he actually does receive'. According to Spector (1997) Job Satisfaction is 'the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs'.

It can be mentioned here that, the inception of the study on Job Satisfaction was the

Hawthorne study conducted by Elton Mayo during 1924-1933 revealed that any changes in working condition lead to temporarily increase in productivity. From the study, it was revealed that there are certain motivational factors that lead to Job Satisfaction namely communication, teamwork, decision making, wellbeing, interesting work and non repetitive work. The findings also suggest that 'pay' is not only the factor that leads to Job Satisfaction but there exists certain other factors for which the employees work in an organization. To find out the other factors there were many studies conducted by other research scholars that were investigated in order to examine the motivational factors that may lead to Job Satisfaction.

After that many theories and studies were done, out of which Frederick Herzberg's Two -Factor Theory's (1959) contribution on Job Satisfaction was one of the important research findings. Herzberg et al (1959) used Maslow's Need Hierarchy Theory to formulate the motivator/hygiene theory of employee motivation. Herzberg's findings revealed that Job Satisfaction and Job Dissatisfaction are caused by different and independent factors namely intrinsic or motivator factors and extrinsic or hygiene factors. Their findings and methods were criticized by Schiender & Locke (1971), Wall (1973), Locke (1976) and Maidani (1991) and they partially nullified Herzberg's Two factor Theory and stated that Motivator and Hygiene factors are different but interdependent.

REVIEW OF LITERATURE :

The research on Job Satisfaction of employees has been done in different organizations which were started in the early 1960's. From the literature review it has become apparent that, in most of the research which were conducted in India as well outside India applied the Model of Herzberg's Two-Factor Theory (1959) of motivation. The Two-Factor Theory of motivation has been mostly used to evaluate and examine the level of Job Satisfaction of the employees. Herzberg et al (1959) in their study found that Job Satisfaction results from two kinds of factors namely intrinsic or motivators and extrinsic or hygiene factors.

In India, more in-depth studies were done after 2000 in different types of organization to test the applicability of Herzberg's Two factor Theory of Motivation. In Lahiri and Srivastava (1967) study it was found that the motivating factors which give more satisfaction on job of middle level managers were responsibilities, domestic life, accomplishment in the job and utilization of abilities on job. Pathak (1983) findings suggested that the employees give more importance to decision making authority, opportunity for personal growth and development and recognition for good work done. Mishra (1992) in their study found significant difference between the Public and Private sector employees' perception with regard to climate satisfaction relationships and the results revealed that the factors that influence the organisational commitment and Job Satisfaction had been scope for advancement, monetary benefits, objectivity and rationality, recognition and appreciation,

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training and education and welfare facilities. Anitha R. (2011) mentioned in a study that the most important motivating factor that leads to Job Satisfaction are the grievance handling procedures of the organization, working conditions, welfare facilities, accident compensation and reward system. Singh and Sinha (2013) in their study examined the level of Job Satisfaction among 69 executives from various industries serving at junior, middle and senior levels. A high level of Job Satisfaction is found to be arises from nature of work, organizational culture and organizational climate among the executives.

Literature Review based on the studies carried out in different parts of the world:

Mullins et al. (1988) in their study found that the highest level of Job Satisfaction were found with working conditions and concluded that pay and salary and working condition found to be the important motivational factor for the employees. Nerison, Heidi A (1999) in their study using the Minnesota Satisfaction Questionnaire-short form (MSQ-short form) revealed that the employees found to be more satisfied with the motivator factors related to opportunities for advancement, recognition, and achievement and found to be less satisfied with the hygiene factors such as pay, company policies, supervision, working conditions, interpersonal relations, and security. Ramayah T et al (2001) in their study revealed that work itself was found to be the most important motivating factor followed by supervision and promotion. Co-workers support was ranked as a neutral motivating factor and pay regarded as the least important factor. Smerek R. E and Peterson M (2007) findings suggest that female employees were satisfied with working conditions but were dissatisfied with the 'salary'. The study found a difference between men and women in terms of growth opportunities, female employees were more satisfied with their work experience. In Ayub N and Rafif S (2011) study, it was found that employees were motivated by working environment, co-workers, interesting assignments and feedback. The study also revealed that compensation like money and the need for recognition and influence were important motivating factors. Cong NN and Van N D (2013) highlighted the effect of Motivation and Job Satisfaction on employee's performance and study revealed that pay and promotion are the important motivational factors followed by good working condition that leads to Job Satisfaction. The study also revealed that factors like interesting work and growth also found to be important factors that motivate the employees.

HYPOTHESIS FORMULATION FOR THE PRESENT STUDY :

After reviewing the important and relevant literatures, this study has concentrated on Herzberg's two factors Theory of motivation. The study wants to examine the direct and indirect spillover relationship among Motivator and Hygiene Factors with Job Satisfaction. Hypotheses 1 to 11 determine the direct and indirect spillover relationships among Motivator factors and Hygiene factors with Job Satisfaction which have been drawn from the model of 'Smerek & Peterson' (2007). These Motivator factors and Hygiene factors

have been originally drawn from Herzberg but have been modified by Smerek & Peterson (2007).

Direct impact of the Motivator, Hygiene Factors and Job Satisfaction

As discussed earlier, Herzberg et al (1959) identified two distinct and independent variables namely Motivator and Hygiene factors. Motivator factor enhances Job Satisfaction and absences of Hygiene factors create Job Dissatisfaction. After that enumerable research has been carried out on the basis of this theory.

The following hypotheses have been proposed with respect to Motivator factors on Job Satisfaction.

- H₀₁ : 'Work Itself' has a positive relationship on Job Satisfaction
- H₀₂ : 'Responsibility' has a positive relationship on Job Satisfaction
- H₀₃ : 'Advancement' has a positive relationship on Job Satisfaction
- H₀₄ : 'Accomplishment' has a positive relationship on Job Satisfaction
- H₀₅ : 'Recognition' has a positive relationship on Job Satisfaction

Similarly, the following five hypotheses have been proposed with respect to Hygiene Factors:

- H₀₆ : 'Company Policy' has a positive relationship on Job Satisfaction
- H₀₇ : 'Working Condition' has a positive relationship on Job Satisfaction
- H₀₈ : 'Salary' has a positive relationship on Job Satisfaction
- H₀₉ : 'Job Security' has a positive relationship on Job Satisfaction
- H₁₀ : 'Social Status' has a positive relationship on Job Satisfaction

This holds true for the sector undertaken for the Study.

Indirect spillover impact of the Motivator, Hygiene Factors and Job Satisfaction

The following hypothesis has been formulated:

- H₁₁ : Significant spillover relationships of Motivator factors are more than that of significant spillover relationships of Hygiene factors leading to Job Satisfaction.

This holds true for the sector undertaken for the Study.

THEORETICAL BACKGROUND :

Job Satisfaction has been a topic for research from the early 1900's and many theories have been constructed to determine certain factors that lead to Job Satisfaction. One of the earliest studies of Job Satisfaction was Hawthorne study which was conducted by Elton

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Mayo during 1924-1933 in order to examine the effects of various conditions on workers' productivity. After that Herzberg et al (1959) came out with an experiment with Engineers and Accountants to examine certain different and independent set of factors that makes them satisfied/dissatisfied with their job. According to Herzberg, employees are satisfied with their work when they associate their satisfaction with the 'Work Itself', and employees become dissatisfied when they are concerned about the external environment of the Job in which they work.

Herzberg came out with two kinds of factors namely Motivator factors which is intrinsic in nature and Hygiene Factors which is extrinsic in nature. Herzberg has identified the following Motivator factors which enhances and motivates employees for higher performance namely Work Itself, Achievement, Recognition, Responsibility, Advancement and Growth and the Hygiene factors that are external in nature and which prevent job dissatisfaction are identified as Company Policy, Supervisor Behavior, Relationship with Superiors, Working Condition, Salary, Relationship with Co-workers, Relationships with Subordinates, Social Status, Personal Life.

Herzberg et al (1959) states that Motivator factors appraise the level of Job Satisfaction and Hygiene factors prevent Job Dissatisfaction. According to Herzberg, Job Satisfaction is not through improving these Hygiene Factors alone but also by increasing the Motivator factors. However, it is important to mention here that, when Hygiene factors are at low level, the employees are dissatisfied but the reverse is not true.

Again, Kreitner, Kinicki and Buelens B (1999) cited by Manisera M et al (2005), underline that Herzberg's theory does not place dissatisfaction and satisfaction at 'opposite ends of a single, unbroken continuum' but it considers satisfaction and dissatisfaction as separate and distinct experiences. But, Schiender & Locke (1971), Wall (1973) and Locke (1976) cited by Manisera M (2005) confirmed that Motivator factors and Hygiene factors are separate but are interdependent. Again, Maidani (1991) conducted a study to examine the 'Two factor Theory' among Public and Private Sector employees, the study revealed that Motivator factors are found to be the source of satisfaction and Hygiene factors are also found to be the source of satisfaction indicating single continuum.

Accordingly, the study proposes to identify the presence of Motivator factors and Hygiene factors and its impact on Job Satisfaction by the following Model (Figure 1)

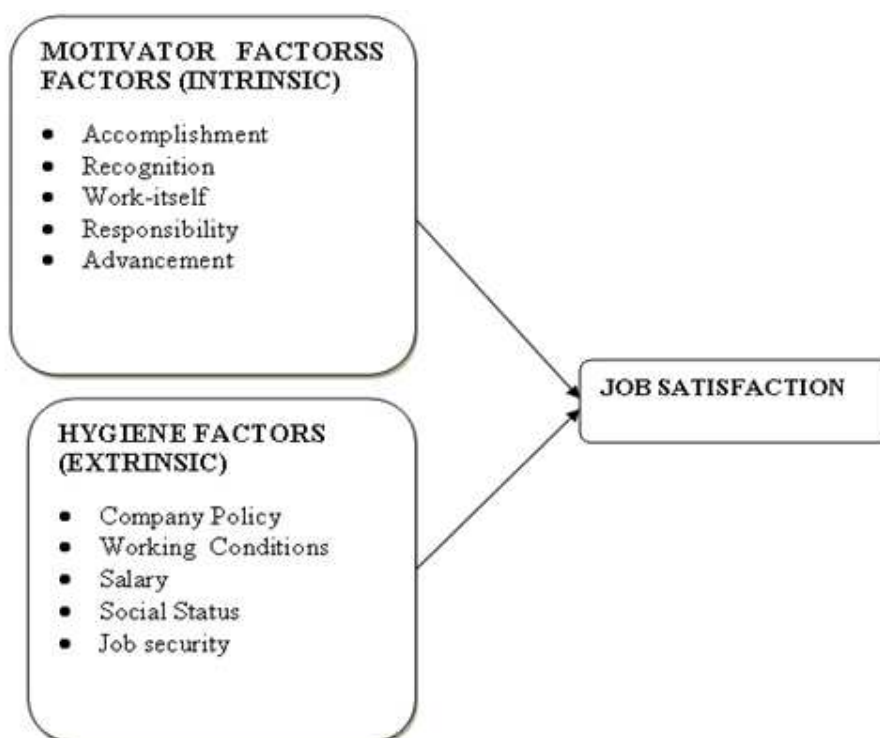


Figure 1 : Model for Assessing Job Satisfaction adapted from Smerek and Peterson (2007)

RESEARCH METHODOLOGY :

RESEARCH DESIGN :

After reviewing the literatures for the present study, it has been found that almost all the studies confirmed certain relationship between Motivation and Job Satisfaction. Based on these findings of the reviewed literature, the present study has adapted causal research design as it wants to explicitly examine definite relationship among Motivator, Hygiene factors, Job Satisfaction among the employees working in Private and Public Telecom sector organizations located at Guwahati. As the causal research is based on highly structured form of analysis, the study at first identifies certain sets of dependent and independent variables to set up the research hypotheses.

SAMPLING FRAME :

The sampling frame includes the executive and managerial level employees (both male and female) of Telecom Industry belonging to Public and Private sector located at Guwahati, the premier city of North East. Both primary and secondary data has been used for the study. The sample size has been restricted to 120 executives and managerial level employees which have been stratified as 60 each from both private and public Telecom sector. Primary data has been collected through questionnaire survey by formulating appropriate sample and secondary data has been collected from different websites, journals and manuals.

QUESTIONNAIRE DEVELOPMENT :

The study used structured questionnaire to elicit Socio-demographic data and for Job Satisfaction Questionnaire, Minnesota Satisfaction Questionnaire (MSQ) has been used. MSQ uses a five-point Likert scale ranging from Highly Disagree (1) to Highly Agree (5). The MSQ conceptualizes satisfaction as related to either Hygiene or Motivators Factors of the job. For the present study, constructs have been slightly modified and narrowed down, the Motivators Constructs have been extracted from 13 statements and Hygiene Factors have been extracted from 12 statements from MSQ.

The Questionnaire has been divided into two parts.

- Part I : The first part of the questionnaire has questions regarding demographic details of the respondents like Gender, Age, Relationship Status, Educational Qualification and Job and Promotion Tenure.
- Part II : The second part of questionnaire has questions measuring Job Satisfaction. It contains 25 statements in a 5 point Likert scale which has been adapted from Weiss, D et al (1977) version of 'Minnesota Satisfaction Questionnaire'.

make the different aspects of your job in the Likert Scale.

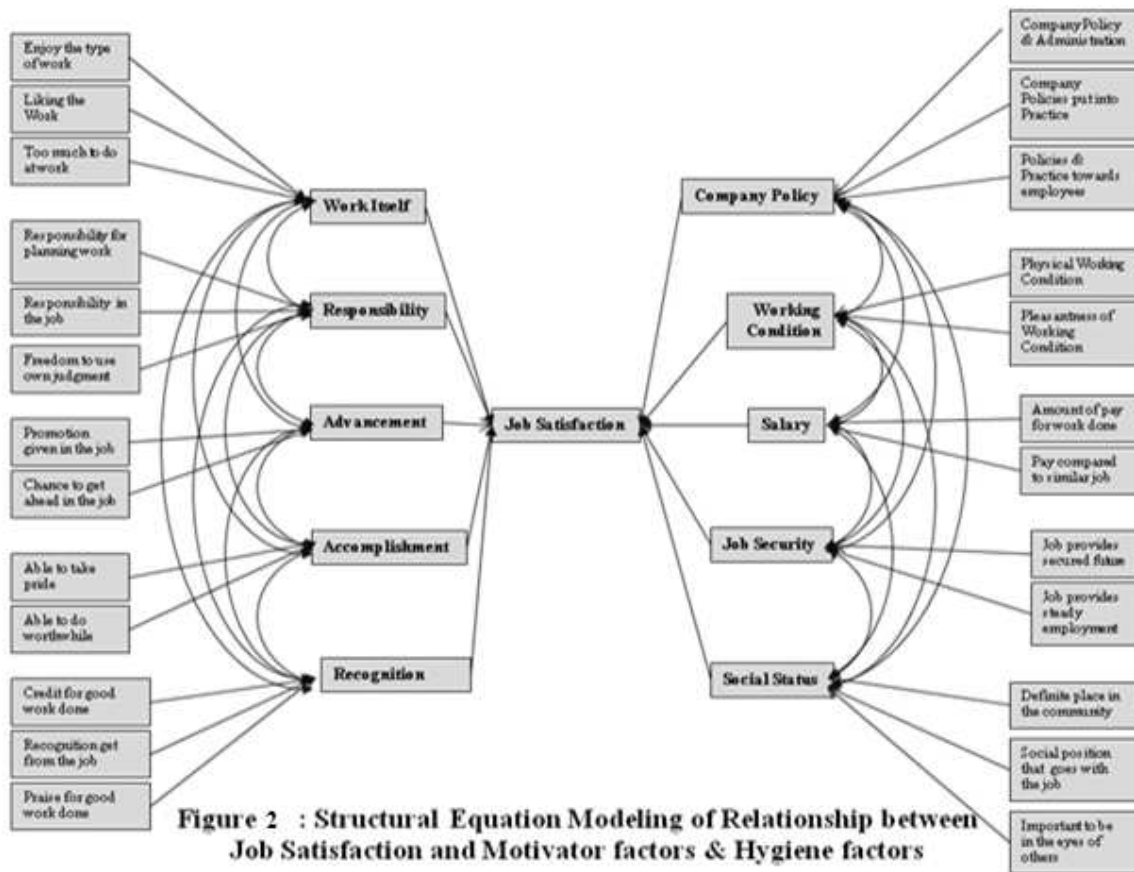
	1	2	3	4	5
I take pride for the job well done by me.					
I get full credit for the work I do.					
I enjoy the type of work I do.					
I take the full responsibility for planning of my work.					
I am happy with the way company policies are administered in this organization.					
I have a chance to build a definite place in the community.					
I am happy with the way my job provides security for my future.					
I am paid with a fair amount of pay for the work I do.					
I get full recognition I get from the work I do					
I like doing the things I do at work					
I am always responsible for doing good/bad job					
I am satisfied with the promotions that are given out in the job					
I am happy with the company policies and the way they are put into practice					
I am satisfied with the physical surroundings where I work					
I am satisfied with the social position in the community that goes with my job					
My job provides steady employment					
I get fair pay compared to that of similar jobs in other companies.					
I am able to do something worthwhile.					
I am praised for doing a good job					
I have too much to do at work					
I have freedom to use my own judgment in the organisation					
I get a chance of getting ahead get promoted in the organisation					
The policies and practices toward employees of this company are fair					
I am satisfied with the pleasantness of the working condition					
This organisation provides me a status to be important in the eyes of others					

CONCEPTUAL FRAMEWORK OF STRUCTURAL EQUATION MODEL :

'Minnesota Satisfaction Questionnaire' 25 statements in a 5 point Likert Scale (Highly Agree - Highly Disagree) has been used to measure how the different Motivator factors and Hygiene factors effect Job Satisfaction. The following Structural Equation Model (SEM) has been evolved to evaluate the direct and indirect relationships among Motivator factors and Hygiene factors (See Figure 2).

The Structural Equation Model (SEM) specifies the relationship between latent or theoretical variables and is used to describe the causal effects and the amount of unexplained variance. To carry out SEM, firstly, the measurement model has been analyzed to ensure sufficient reliability and validity of constructs. In the second stage, the hypotheses of the relationship between the constructs have been tested. The study has employed the same model fit criteria recommended by 'Hu and Bentler' (1999) as 'Chi Square (χ^2)/df, Goodness of Fit Index (GFI), comparative fit index (CFI), Root Mean Square Residual (RMR) and acceptable models should have (χ^2)/df ≤ 3 , RMR ≤ 0.1 and GFI and CFI greater than 0.90. '

At first, Cronbach's Alpha coefficients' have been used to examine the internal consistency of the constructs. Secondly, Confirmative Factor Analysis (CFA) with AMOS 20.0 graphics software for the measurement model with constructs has been performed. The measurement model uses the technique Confirmatory Factor Analysis (CFA) to specify the variables that will define each construct or factor. The constructs have been extracted from 'Minnesota Satisfaction Questionnaire' 13 statements relating to Motivator factors and 12 statements relating to Hygiene Factors. Five constructs relating Motivator factors are: 'Work itself, Responsibility, Advancement, Accomplishment and Recognition' have been identified from the 13 statements of Motivator factors and five constructs of Hygiene factors are: 'Company Policy, Working Condition, Salary, Security and Social Status' have been identified from the 12 statements of Hygiene Factors as given in Figure 2. The SEM tests the causal relationships among Job Satisfaction and the five Motivator factors and Hygiene factors and accordingly the hypotheses have been set up as given below separately each for Private and Public Sector employees for Telecom sector. Figure 2 shows the spillover equation modeling of relationship of Job Satisfaction and Motivator Factors & Hygiene Factors



APPLICATION OF STRUCTURAL EQUATION MODELLING FOR TELECOM SECTOR :

The SEM has been employed to evaluate the direct and indirect relationship of the five Motivator factors and five Hygiene factors with Job Satisfaction for both Private and Public Telecom sector. The constructs of the Motivator factors and Hygiene factors were already discussed above and a diagrammatical representation was also presented in Figure 2.

Confirmatory Factor Analysis for Motivator factors and Hygiene factors constructs for Telecom Sector

At first the Confirmatory Factor Analysis being performed to find the item to item correlation, which is represented by Cronbach's Alpha as shown in Table 1 and Table 2. The results of the Table 1 and Table 2 imply for further analysis of the data.

Table 1
Confirmatory Factor Analysis for Motivator factors for Private and Public Telecom Sector

Attributes	Standardi- zed Factor Loadings for Private Telecom Sector	Cronbach's Alpha Value for Private Telecom Sector	Standardi- zed Factor Loadings for Public Telecom Sector	Cronbach's Alpha Value for Public Telecom Sector
Factor 1				
Work Itself		.718		.766
Enjoy the type of Work	.744		.846	
Liking the Work	.729		.689	
Too much to do at work	.713		.836	
Factor 2				
Responsibility		.581		.807
Responsible for Planning the Work	.797		.812	
Responsibility in the Job	.757		.691	
Freedom to use own judgment	.549		.898	
Factor 3				
Advancement		.815		.698
Promotion Given				
In the Job	.890		.698	
Chance of getting ahead in the Job	.747		.765	
Factor 4				
Accomplishment		.644		.621
Able to take pride in job well done	.609		.851	
Being able to do something worthwhile	.604		.731	
Factor 5				
Recognition		.828		.558
Credit for good work done	.878		.772	
Recognition get from the Job	.719		.817	
Praise for good work done	.655		.914	

Table 2
Confirmatory Factor Analysis for Hygiene factors for Private and Public Telecom Sector

Attributes	Standardi- zed Factor Loadings for Private Sector	Cronbach's Alpha Value	Standardi- zed Factor Loadings for Public Sector	Cronbach's Alpha Value
Factor 1				
Company Policy		.661		.886
The way in which Company Policy are administered	.787		.770	
The way Company Policy are put into practice	.640		.883	
The policies and practices towards the employees	.673		.555	
Factor 2				
Working Condition		.509		.873
Physical Working condition of the Company	.581		.543	
The pleasantness of the working condition	.719		.699	
Factor 3				
Salary		.886		.666
The amount of pay for the work done	.683		.655	
Pay compared to that of other similar jobs in other companies	.820		.696	
Factor 4				
Job Security		.862		.875
The way job provides for secure future	.842		.832	
The way job provides for steady employment	.732		.742	
Factor 5				
Social Status		.691		.746
The chance to have a definite place in the community	.736		.809	

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the social position in the community that goes with the job	.699	.673
The chance to be important in the eyes of others	.820	.847

ANALYSIS FOR PRIVATE TELECOM SECTOR :

Analyzing the data related to Part II of the Structured Questionnaire, the Mean scores of the five Motivator factors constructs and five Hygiene factors constructs have been evaluated and presented in Table 3. The individual items of the constructs have taken in a 5 point Likert scale with 1= Strongly Disagree and 5=Strongly Agree.

Table 3 shows the Mean scores of the Motivator factors and Hygiene factors among the employees of Private Telecom Sector.

Table 3

Mean Scores the Motivator factors and Hygiene factors for Private Telecom Sector

Motivator factors	Mean Scores	Hygiene factors	Mean Scores
Work Itself	3.4	Company Policy	3.3
Responsibility	3.4	Working Condition	3.3
Advancement	3.2	Salary	3.1
Accomplishment	3.7	Job Security	3.2
Recognition	3.6	Social Status	3.4

Table 4

Correlation among the Motivator factors and Hygiene factor in Private Telecom Sector

		Achieve- ment	Recog- nition	Work Itself	Respon- sibility	Advan- cement
Company Policy	Pearson Correlation	.543**	.625**	.478**	.606**	.544**
	Sig. (2-tailed)	.002	.000	.009	.000	.002
Working Condition	Pearson Correlation	.494**	.660**	.245	.683**	.400*
	Sig. (2-tailed)	.006	.000	.200	.000	.032
Social Status	Pearson Correlation	.637**	.497**	.521**	.432*	.378*
	Sig. (2-tailed)	.000	.006	.004	.019	.043
Security	Pearson Correlation	.429*	.281	.335	.382*	.507**
	Sig. (2-tailed)	.020	.140	.075	.041	.005

Salary	Pearson Correlation	.257	.093	.480**	.266	.567**
	Sig. (2-tailed)	.178	.631	.008	.163	.001

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

* . Correlation is significant at the 0.05 level (2-tailed).

The result shows that both the Motivator factors and Hygiene factors are found to be present among the employees of Private Insurance sector and the overall Mean score of Motivator factors is 3.47 which is found to be higher than the overall Mean score of Hygiene factors which is 3.26.

Table 4 shows that, there exists low to medium correlation among most of the Motivator factors and Hygiene factors and as a result the path analysis under SEM has been constructed and hypothesized in subsequent Tables.

Diagram showing direct and indirect spillover relationship among the motivator factors and hygiene factors with job satisfaction Private Telecom Sector

Figure 3 shows the diagram of SEM that shows the 'Path analysis' which measures the direct and Indirect relationship between the five constructs of Motivator factors and five constructs of Hygiene factors with Job Satisfaction.

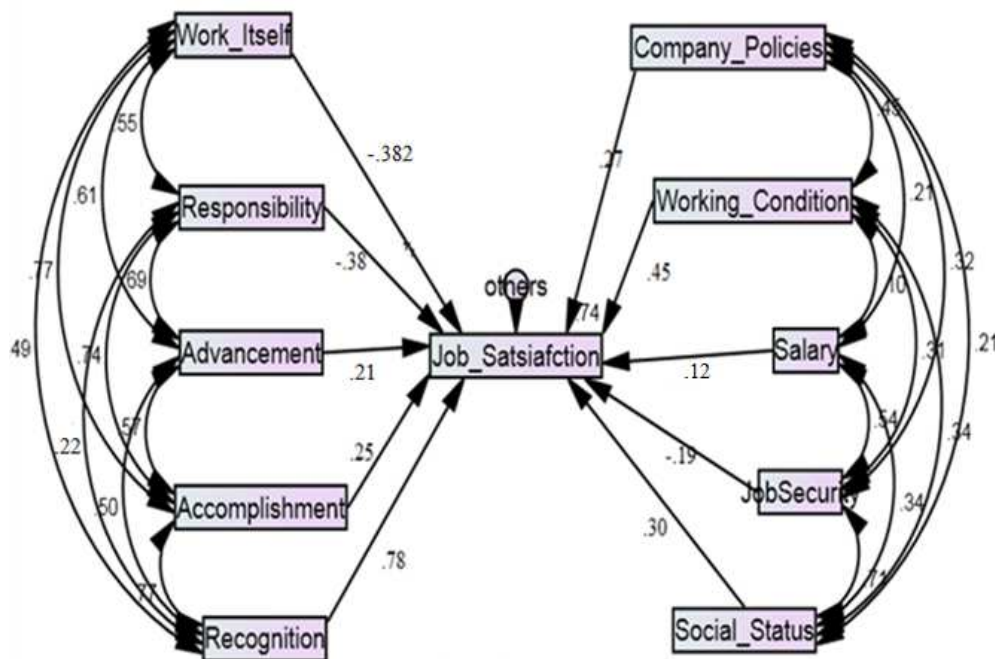


Figure 3: Relationship between five Motivator factors and five Hygiene factors with Job Satisfaction for Private Telecom Sector

Direct Path Analysis of Motivator factors with Job Satisfaction for Private Telecom Sector:

The direct path analysis has been carried out by performing SEM for the Private Sector Telecom employees and the following fit measures indicated acceptability of the SEM, with $\chi^2/df=2.45$ (44 df) ,GFI=1.22,CFI= 1.1 being greater than 0.90 and RMR=0.08 being less than 0.1

Table 5
Measuring the direct effect of Motivator factors with Job Satisfaction for Private Telecom Sector

Hypothesis	Relationship	Standardized Coefficient	SE	p value
H ₁	Job Satisfaction ← Work Itself	-.382	.219	.522
H ₂	Job Satisfaction ← Responsibility	-.375	.171	.514
H ₃	Job Satisfaction ← Advancement	.208	.217	.231
H ₄	Job Satisfaction ← Accomplishment	.255	.256	.201
H ₅	Job Satisfaction ← Recognition	.780	.224	.001*

*significant at the 5% level (2-tailed)

Table 5 shows the path analysis which measures the direct relationship of the five constructs of Motivator factors on Job Satisfaction supports only one significant relationship. This model supports that, the impact of 'Recognition' ($\beta=0.780$, $p=0.001$) is the important Motivator factor that directly contributes to Job Satisfaction.

Indirect Path Analysis of Motivator factors with Job Satisfaction for Private Telecom Sector :

Indirect path analysis has been done to know the indirect impact of the Motivator factors factor on Job Satisfaction for Private Telecom Sector. Table 6 shows the indirect relationships among the Motivator factors on Job Satisfaction for Private Telecom sector.

Table 6
Covariance Relationship among Motivator factors for Private Telecom Sector

Relationship among the Motivator factors			Standard Coefficient	S.E.	P value
Accomplishment	<-->	Recognition	.771	.277	.001*
Recognition	<-->	Advancement	.497	.215	.019*
Recognition	<-->	Responsibility	.222	.361	.230
Recognition	<-->	Work Itself	.486	.232	.021*

Accomplishment	<-->	Advancement	.572	.183	.009*
Accomplishment	<-->	Responsibility	.738	.286	.002*
Accomplishment	<-->	Work Itself	.770	.217	.001*
Advancement	<-->	Responsibility	.691	.245	.003*
Advancement	<-->	Work Itself	.611	.176	.006*
Responsibility	<-->	Work Itself	.551	.249	.011*

*significant at the 5% level (2-tailed)

Analyzing the indirect spillover relationship of the Motivator factors, the following interrelationships have been found to be significant at 5% level.

- Accomplishment < ---- > Recognition (?= 0.771, p? 0.001)
- Recognition < ---- > Advancement (?=0.497, p? 0.019)
- Recognition < ---- > Work Itself (?=0.486, p? 0.021)
- Advancement < ---- > Accomplishment (?=0.572, p? 0.009)
- Accomplishment < ---- > Responsibility (?= 0.738, p? 0.002)
- Accomplishment < ---- > Work Itself (?= 0.770, p? 0.001)
- Advancement < ---- > Responsibility (?= 0.691, p? 0.003)
- Advancement < ---- > Work Itself (?= 0.611, p? 0.006)
- Responsibility < ---- > Work Itself (?= 0.551, p? 0.011)

Taking into account of these significant indirect relationships, the following model has been formulated:

$$\text{Job Satisfaction} = \text{Advancement} \Rightarrow \text{Accomplishment} \Rightarrow \text{Responsibility} \Rightarrow \text{Work Itself}$$

The Total indirect effect of all the five Motivator factors on Job Satisfaction has been found to be 0.898. This has been calculated by the following formulae :

$$\begin{aligned} \text{Job Satisfaction} = & a_{\text{accomp, recog}} a_{\text{accomp}} + a_{\text{accomp, recog}} a_{\text{recog}} + a_{\text{recog, adv}} a_{\text{recog}} + a_{\text{recog, adv}} a_{\text{adv}} + a_{\text{recog, wi}} a_{\text{recog}} + \\ & a_{\text{recog, wi}} a_{\text{wi}} + a_{\text{adv, accomp}} a_{\text{adv}} + a_{\text{adv, accomp}} a_{\text{accomp}} + a_{\text{accomp, resp}} a_{\text{accomp}} + a_{\text{accomp, resp}} a_{\text{resp}} + a_{\text{accomp, wi}} a_{\text{accomp}} \\ & + a_{\text{accomp, wi}} a_{\text{wi}} + a_{\text{adv, resp}} a_{\text{adv}} + a_{\text{adv, resp}} a_{\text{resp}} + a_{\text{adv, wi}} a_{\text{adv}} + a_{\text{adv, wi}} a_{\text{wi}} + a_{\text{resp, wi}} a_{\text{resp}} + a_{\text{resp, wi}} a_{\text{wi}} \end{aligned}$$

..... equation (i)

Total contribution of direct and indirect relationship of Motivator factors with Job Satisfaction for Private Telecom Sector

From the path analysis, only one Motivator factor (Recognition) has been found to

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lead to Job Satisfaction. However, all the five Motivator factors have been found to have indirectly contributing to Job Satisfaction as shown in the Equation (i).

The direct effect of 'Recognition' on Job Satisfaction is 46% and the contribution of spillover relationship of the five Motivator factors to Job Satisfaction is 54% (Annexure II).

Motivator factors	Total Percentage	
Recognition	0.780	$\frac{0.780}{1.678} = 46\%$
Total Indirect effect of Motivator factors with Job Satisfaction	0.898	$\frac{0.898}{1.678} = 54\%$

Direct Path Analysis of Hygiene factors with Job Satisfaction for Private Telecom Sector

The direct path analysis of the five Hygiene factors with Job satisfaction has been analysed for the Private Telecom sectors. The study has taken five Hygiene factors namely 'Company Policy', 'Working Condition', 'Salary', 'Job Security' and 'Social Status' for the analysis.

Table 7 shows the direct effect of the five Hygiene factors with Job Satisfaction Private Telecom Sector.



Table 7

Measuring the direct effect of Hygiene factors with Job Satisfaction Private Telecom Sector

Hypothesis	Relationship	Standard Coefficient	SE	p value
H ₁	Job Satisfaction ← Company Policy	.273	.132	.028*
H ₂	Job Satisfaction ← Working Condition	.450	.166	.001*
H ₃	Job Satisfaction ← Salary	.124	.128	.096
H ₄	Job Satisfaction ← Job Security	-.187	.230	.230
H ₅	Job Satisfaction ← Social Status	.304	.208	.044*

*significant at the 5% level (2-tailed)

The direct path analysis which measures the direct relationship of the five constructs of Hygiene factors on Job Satisfaction supports only three significant relationships. This model supports that, the impact of 'Working Condition' ($\beta=0.450$, $p=0.001$) is found to be the important Hygiene factor than 'Company Policy' ($\beta=0.273$, $p=0.028$) and Social Status ($\beta=0.304$, $p=0.044$) with Job Satisfaction.

Indirect path analysis of Hygiene factors with Job Satisfaction for Private Telecom Sector

Five Hygiene factors have been taken to study the indirect spillover relationship among the Hygiene factors on Job Satisfaction. Analyzing interrelationship among the variables is a major part of Structural Equation Modeling and this interrelationship are generally hypothesized to generate specific observed covariance pattern among the variables.

Table 8 shows the indirect spillover relationships among Hygiene factors with Job Satisfaction.

Table 8
Covariance Relationship among Hygiene Factors for Private Telecom Sector

Relationship among the Hygiene factors			Standard Coefficient	S.E.	P value
Working Condition	<-->	Company Policy	.450	.242	.030*
Company Policies	<-->	Salary	.212	.261	.272
Company Policy	<-->	Job Security	.320	.205	.107
Company Policy	<-->	Social Status	.209	.198	.279
Working Condition	<-->	Salary	.100	.226	.598
Working Condition	<-->	Job Security	.306	.180	.121
Working Condition	<-->	Social Status	.344	.180	.085
Salary	<-->	Job Security	.542	.188	.012
Salary	<-->	Social Status	.542	.188	.012
Job Security	<-->	Social Status	.709	.184	.002*

*significant at the 5% level (2-tailed)

Again, by analyzing the indirect spillover relationship of the Hygiene factors, the following interrelationships have been found to be significant at 5% level.

- Working Condition <-----> Company Policy (?= 0.450, p? 0.030)
- Job Security<-----> Salary (?= 0.542, p? 0.012)
- Job Security<-----> Social Status (?= 0.709, p? 0.002)

Taking into account of the above significant indirect relationships the following path has been formulated :

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The Total indirect effects of all the five Hygiene factors on Job Satisfaction have been found to be 0.419. This has been calculated by the following formula :

$$\text{Job Satisfaction} = a_{wc, cp} a_{wc} + a_{wc, cp} a_{cp} + a_{js, salary} a_{js} + a_{js, salary} a_{salary} + a_{js, ss} a_{js} + a_{js, ss} a_{js} \dots \dots \dots \text{equation (ii)}$$

Total contribution of direct and indirect relationship of Hygiene factors with Job Satisfaction for Private Telecom Sector

From the path analysis, three Hygiene factors (Working Condition, Company Policy and Social Status) have been found to lead to Job Satisfaction. However, all the five Hygiene factors have been found to have indirectly contributing to Job Satisfaction as shown in the Equation (ii).

The direct effect of 'Company Policy' on Job Satisfaction is 19% and that of 'Working Condition' and 'Social Status' is 31% and 21% respectively and the contribution of indirect spillover relationship of the five Hygiene factors to Job Satisfaction is 29%.

Analyzing the indirect spillover relationship among the Motivator factors and Hygiene factors, it has been found that for Private Telecom Sector employees, significant spillover relationships of Motivator factors are found to be more than that of significant Spillover relationship of Hygiene factors leading to Job Satisfaction.

Hence, the finding shows that indirect spillover relationship of Motivator factors is found to be more than spillover relationship of Hygiene factors in creating Job Satisfaction among the employees of Private Telecom Sector.

ANALYSIS OF PUBLIC TELECOM SECTOR :

After analyzing the data related to Part II of the Questionnaire, the Mean scores of the five Motivator factors and five Hygiene factors have been evaluated and presented in Table 9. The individual items of the constructs have taken in a 5 point Likert scale with 1= Strongly Disagree and 5=Strongly Agree.

Table 9 shows the Mean scores of the Motivator factors and Hygiene factors among the employees of Public Telecom Sector.

Table 9

Mean Scores of Motivator factors and Hygiene factors for Public Telecom Sector

Motivator factors	Mean Scores	Hygiene factors	Mean Scores
Work Itself	3.8	Company Policy	3.3
Responsibility	3.4	Working Condition	3.5
Advancement	3.5	Salary	3.7
Accomplishment	3.7	Job Security	3.6
Recognition	3.7	Social Status	3.4

The overall Mean score of Motivator factors is 3.61 which is found to be higher than the overall Mean score of Hygiene factors which is 3.50.

To know whether there exists any correlation between Motivator factors and Hygiene factors, the following analysis of correlation among the Motivator factors and Hygiene factor have been identified.

Table 10 revealed that there exists low to medium correlation among most of the Motivator factors and Hygiene factors and as a result the path analysis under SEM have been constructed and hypothesized in subsequent Tables.

Table 10
Correlation among the Motivator factors and Hygiene factors in Public Telecom Sector

		Achieve- ment	Recog- nition	Work Itself	Respon- sibility	Advan- cement
Company Policy	Pearson Correlation	.302	.194	.269	.356	.132
	Sig. (2-tailed)	.105	.303	.151	.054	.488
Working Condition	Pearson Correlation	.340	.518**	.478**	.498**	.362*
	Sig. (2-tailed)	.066	.003	.008	.005	.049
Social Status	Pearson Correlation	.432*	.216	.475**	.134	.144
	Sig. (2-tailed)	.017	.251	.008	.479	.448
Security	Pearson Correlation	.585**	.420*	.704**	.426*	.327
	Sig. (2-tailed)	.001	.021	.000	.019	.078
Salary	Pearson Correlation	.657**	.411*	.393*	.072	-.012
	Sig. (2-tailed)	.000	.024	.032	.706	.950

** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed).

Diagram showing direct and indirect spillover relationship among the motivator factors and hygiene factors with job satisfaction for Public Telecom Sector

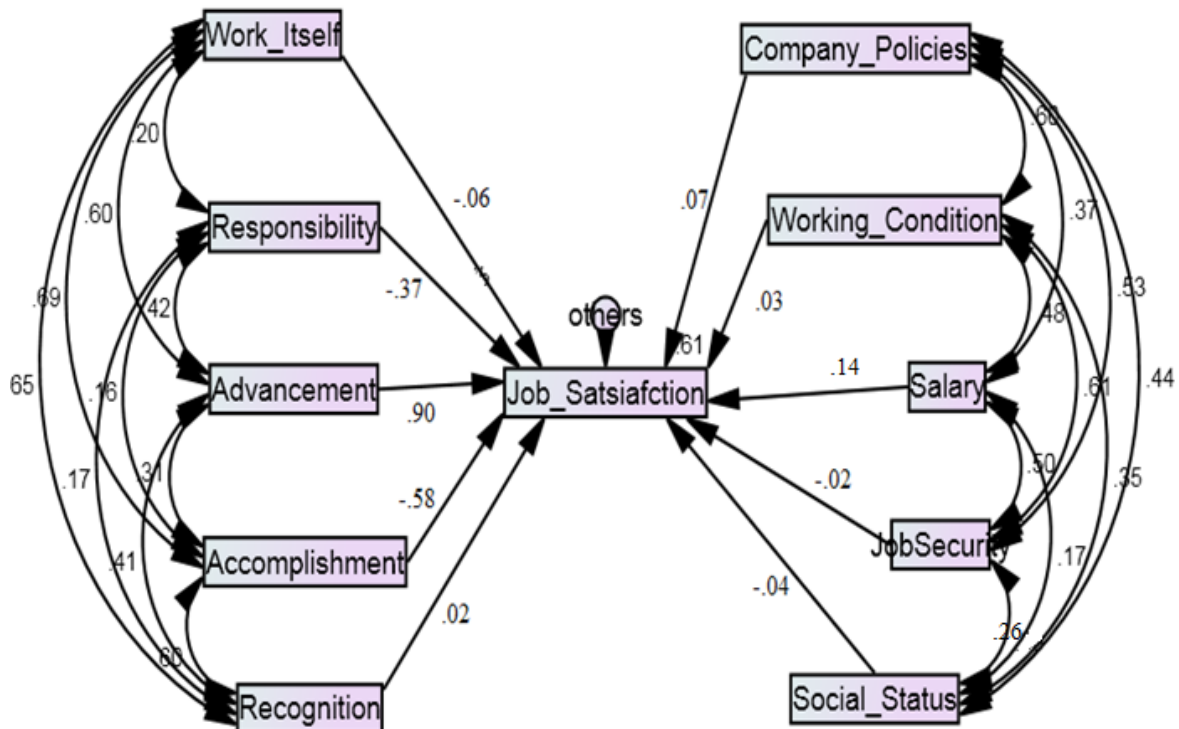


Figure 4: Relationship between five Motivator factors and five Hygiene factors with Job Satisfaction for Public Telecom Sector

Figure 4 shows the diagram of SEM shows the 'Path analysis' which measures the direct and indirect relationship between the five constructs of Motivator factors and five constructs of Hygiene factors with Job Satisfaction for Public Telecom Sector.

Direct Path Analysis of Motivator factors with Job Satisfaction for Public Telecom Sector

The direct path analysis has been employed to know the effect of Motivator factors on Job Satisfaction. By performing SEM for the Public Telecom Sector employees the following fit measures indicated acceptability of the SEM, with $\chi^2/df=2.91(44 \text{ df})$, GFI=1.78, CFI=1.35 being greater than 0.90 and RMR=0.09 being less than 0.1

Table 11 shows the direct path analysis which measures the direct relationship of the five constructs of Motivator factors with Job Satisfaction. The model does not found any of the Motivator factors to have direct effect on Job Satisfaction.

Table 11

Measuring the direct effect of Motivator factors constructs with Job Satisfaction for Public Telecom Sector

Hypothesis	Relationship	Standard Coefficient	SE	p value
H ₁	Job Satisfaction ← Work Itself	-.057	.090	.590
H ₂	Job Satisfaction ← Responsibility	-.169	.094	.453
H ₃	Job Satisfaction ← Advancement	.102	.136	.498
H ₄	Job Satisfaction ← Accomplishment	-.182	.139	.442
H ₅	Job Satisfaction ← Recognition	.018	.132	.870

Table 12

Covariance relationship among Motivator factors for Public Telecom Sector

Relationship among the Motivator factors			Standard Coefficient	S.E.	P value
Accomplishment	<-->	Recognition	.597	.117	.006*
Recognition	<-->	Advancement	.410	.120	.041*
Recognition	<-->	Responsibility	.169	.149	.370
Recognition	<-->	Work Itself	.653	.204	.003*
Accomplishment	<-->	Advancement	.310	.091	.111
Accomplishment	<-->	Responsibility	.162	.116	.390
Accomplishment	<-->	Work Itself	.695	.163	.002*
Advancement	<-->	Responsibility	.419	.138	.037*
Advancement	<-->	Work Itself	.595	.172	.006*
Responsibility	<-->	Work Itself	.202	.200	.286

*significant at the 5% level (2-tailed)

Indirect Path Analysis of Motivator factors with Job Satisfaction for Public Telecom Sector :

In this section the indirect spillover relationship among the Motivator factors have been identified. The indirect relationship among the five Motivator factors namely 'Work Itself', 'Responsibility', 'Advancement', 'Accomplishment' and 'Recognition' with Job Satisfaction have been identified. The Table 12 shows the indirect relationships among the Motivator factors with Job Satisfaction for Public Telecom Sector

Analyzing the indirect spillover relationship between the Motivator factors, the following interrelationships have been found to be significant at 5% level.

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- i. Accomplishment < ----- > Recognition (?= 0.597, p? 0.006)
- ii. Recognition < ----- > Advancement (?=0.410, p? 0.041)
- iii. Recognition < ----- > Work Itself (?=0.653, p? 0.003)
- iv. Accomplishment < ----- > Work Itself (?= 0.695, p? 0.002)
- v. Advancement < ----- > Responsibility (?= 0.419, p? 0.037)
- vi. Advancement < ----- > Work Itself (?= 0.595, p? 0.006)

Taking into account of these significant indirect relationships the following path can be formulated :

The Total indirect effects of all the five Motivator factors on Job Satisfaction have been found to be 0.302. This has been calculated by the following formulae :

$$\text{Job Satisfaction} = a_{\text{accomp, recog}} a_{\text{accomp}} + a_{\text{accomp, recog}} a_{\text{recog}} + a_{\text{recog, adv}} a_{\text{recog}} + a_{\text{recog, adv}} a_{\text{adv}} + a_{\text{recog, wi}} a_{\text{recog}} + a_{\text{recog, wi}} a_{\text{wi}} + a_{\text{accomp, wi}} a_{\text{accomp}} + a_{\text{accomp, wi}} a_{\text{wi}} + a_{\text{adv, resp}} a_{\text{adv}} + a_{\text{adv, resp}} a_{\text{adv}} + a_{\text{adv, wi}} a_{\text{adv}} + a_{\text{adv, wi}} a_{\text{wi}}$$

equation (iii)

Total contribution of direct and indirect Satisfaction for Public Telecom Sector

$$\text{Job Satisfaction} = \text{Advancement} \Rightarrow \text{Accomplishment} \Rightarrow \text{Responsibility} \Rightarrow \text{Work Itself}$$

From the direct path analysis, none of the Motivator factors have been found to lead to Job Satisfaction. However, all the five Motivator factors have been found to have indirectly contributing to Job Satisfaction as shown in the Equation (iii).

It has been found that, there is no direct effect of any of the Motivator factors on Job Satisfaction but there is 100% contribution of indirect spillover relationship of the five Motivator factors with Job Satisfaction.

Direct Path Analysis of Hygiene factors with Job Satisfaction for Public Telecom Sector

After analyzing the direct path analysis of the Hygiene factors, again the indirect path analysis of the Hygiene factors have been employed to know the effect of it on Job Satisfaction.

Table 13 shows the path analysis which measures the direct relationship between the five constructs of Hygiene factors and Job Satisfaction for Public Telecom Sector. The model does not found any of the Hygiene factors to have a direct effect on Job Satisfaction.

Table 13
Measuring the direct effect of Hygiene Constructs with Job Satisfaction for Public Telecom Sector

Hypothesis	Relationship	Standard Coefficient	SE	p value
H ₆	Job Satisfaction ← Company Policy	.067	.108	.534
H ₇	Job Satisfaction ← Working Condition	.031	.107	.773
H ₈	Job Satisfaction ← Salary	.135	.124	.560
H ₉	Job Satisfaction ← Job Security	-.024	.090	.809
H ₁₀	Job Satisfaction ← Social Status	-.036	.090	.701

Indirect Path Analysis of Hygiene factors with Job Satisfaction for Public Telecom Sector

In this section, the indirect spillover relationships among the Hygiene factors with Job Satisfaction have been examined. As discussed in Section 4.2, the indirect relationship among the five Hygiene factors namely 'Company Policy', 'Working Condition', 'Job Security', 'Salary' and 'Social Status' with Job Satisfaction have been identified. Table 14 shows the indirect spillover relationships among the Hygiene factors with Job Satisfaction for Public Telecom Sector

Table 14
Covariance Relationship among Hygiene Factors for Public Telecom Sector

Relationship among the Motivator factors			Standard Coefficient	S.E.	P value
Working Condition	<-->	Company Policy	.605	.200	.005*
Company Policy	<-->	Salary	.372	.149	.060
Company Policy	<-->	Job Security	.533	.213	.011*
Company Policy	<-->	Social Status	.438	.193	.031*
Working Condition	<-->	Salary	.482	.154	.019*
Working Condition	<-->	Job Security	.609	.219	.005*
Working Condition	<-->	Social Status	.354	.187	.072
Salary	<-->	Job Security	.503	.171	.016*
Salary	<-->	Social Status	.168	.146	.372
Job Security	<-->	Social Status	.259	.205	.099

*significant at the 5% level (2-tailed)

By analyzing the indirect spillover relationship between the Hygiene factors, the

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following interrelationships have been found to be significant at 5% level.

- i. Working Condition < ----- > Company Policy (?= 0.605, p? 0.005)
- ii. Company Policy < ----- > Job Security (?= 0.533, p? 0.011)
- iii. Company Policy < ----- > Social Status (?= 0.438, p? 0.031)
- iv. Working Condition < ----- > Salary (?= 0.482, p? 0.019)
- v. Working Condition < ----- > Job Security (?= 0.609, p? 0.005)
- vi. Job Security < ----- > Salary (?= 0.503, p? 0.016)

Taking into account of the above significant indirect relationships the following path has been formulated :

The Total indirect effects of all the five Hygiene factors on Job Satisfaction have been found to be 0.309. This has been calculated by the following formulae:

$$\text{Job Satisfaction} = a_{wc, cp} a_{wc} + a_{wc, cp} a_{cp} + a_{cp, js} a_{cp} + a_{cp, js} a_{js} + a_{cp, ss} a_{cp} + a_{cp, ss} a_{ss} + a_{wc, salary} a_{wc} + a_{wc, salary} a_{salary} + a_{wc, js} a_{wc} + a_{wc, js} a_{js}$$

Job Satisfaction = Working Condition ⇨ Company Policy ⇨ Social S

Total contribution of direct and indirect relationship of Hygiene factors with Job Satisfaction for Public Telecom Sector

From the direct path analysis, it has been found that none of the Hygiene factors have any direct effect on Job Satisfaction. However, all the Hygiene factors have been found to have indirectly contributing to Job Satisfaction as shown in the Equation (iv)

It has been found that, there is no direct effect of any of the Hygiene factor on Job Satisfaction but there is 100% contribution of indirect spillover relationship of the five Hygiene factors on Job Satisfaction.

Analyzing the indirect spillover relationship among the Motivator factors and Hygiene factors, it has been found that for Public Telecom Sector employees, significant spillover relationships of Motivator factors are found to be equally significant as the spillover relationship of Hygiene factors leading to Job Satisfaction.

Hence, the finding shows that indirect spillover relationship of both Motivator factors and Hygiene factors are found to be equal in creating Job Satisfaction among the employees of Public Telecom Sector.

CONCLUSION OF THE FINDINGS :

The study revealed that the employees of Telecom sectors experience low to high level of Motivator factors and Hygiene factors which indicate that the employees are influenced by Motivator factors as well as by Hygiene factors. This study finds low to high correlation between the Motivator factors and Hygiene factors, thus supporting the other research findings of Brenner, Carmack & Weinstein (1971), Hill (1986). This findings negates the Herzberg's Two Factor Theory stating that Motivator and Hygiene factors to be independent. The study supports the findings of the other researchers like Schiender & Locke (1971), Wall (1973), Locke (1976) and Maidani (1991) that Motivator and Hygiene factors are different but are interdependent. The study found that in case of Private Telecom sector only one motivator factor that is 'recognition' is found to have a direct impact on Job Satisfaction but in case of Public Telecom sector there is no direct impact of any motivator factors on Job satisfaction.

The new finding of this study is that almost all the motivator factors are found to have indirect spillover impact on Job Satisfaction for the employees of both private and public telecom sector. This study finds the following Hygiene factors namely 'Working Condition', 'Company Policy', and 'Social Status' contributing directly to Job Satisfaction for private telecom sector employees like other researchers Prasad L (1979), Dhawan (2001), Mullins, Nelson, Busciglio & Wiener (1988), Hoque M E (1990), Yankelovich Partners(1998), Okpara J (2004) and Velnampy T & Sivensan S (2012). Again, it is found that, all the Hygiene factors are found to have indirect spillover impact on Job Satisfaction for employees of both private and public telecom sector. The result also shows that indirect spillover relationship of both Motivator factors and Hygiene factors are found to be equal in creating Job Satisfaction among the employees of Private and Public Telecom Sector.

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