

# The Impact of Service Quality Dimension on Job Satisfaction of Construction Workers in Bangladesh: Structural Equation Modeling Approach

Sardar Mohammad Tauhidul Islam

**Abstract**— Job satisfaction is an important phenomenon at the workplace. It functions as a catalyst for the overall development of an organization. It is influenced by a number of factors like Human Relations, Workload, Supervisor's Behavior, and Motivation etc. Job satisfaction of construction workers in Bangladesh is also very important as it is concerned with and is playing a vital role in the rapid infrastructural development of the country. As such, the purpose of this paper is identifying the factors influencing Job Satisfaction of construction workers in Bangladesh. A questionnaire survey has been conducted among the construction workers engaged in Dhaka one of the largest cities in Bangladesh. A total of 425 workers were interviewed with a structured questionnaire. Exploratory Factor Analysis (EFA) and Structural Equation Modeling (SEM) of data concerning job satisfaction of construction workers are performed to determine the empirical relationships among the different variables. SPSS and SmartPLS software have also been used for analysis and presentation of data in this study. This study has emphasized mainly on the four main factors identified through factor analysis with twenty-five dimensions which are related to job satisfaction in the construction sector of Bangladesh. From Structural Equation Model analysis it is found that only four factors such as Human Relations, Motivation, Supervisor's Behavior and Workload are the significant factors of job satisfaction of construction workers in Bangladesh. This study suggests that in the construction sector of Bangladesh the policymakers and concerned authorities should focus more on the factors like Human Relations, Motivation, Supervisor's Behavior and Workload.

**Index Terms**— Construction Workers, Job Satisfaction, Human Relations, Motivation, Supervisor's Behavior, Workload, and Structural Equation Modeling (SEM).

## I. INTRODUCTION

Job satisfaction is widely studied issue associated directly with any kind of job. In a brief, job satisfaction is the displayed mental state of employee includes balancing and summing total of many likes and dislikes shown to the particular job. The reflection of mental state or attitude towards a particular job consists of some personal factors such as individual needs and aspirations along with a group and organizational factors such as working conditions, compensation and benefits, attitude towards the supervisor, and relation with co-workers. Bangladesh is a developing country where the population has been growing very fast. Capital city Dhaka is not the exception of it. People from different parts of the country are being concentrated here

Sardar Mohammad Tauhidul Islam, Senior Lecturer, English Medium School & College (Edexcel), Narayangong, Bangladesh, Phone No., +8801917703703

demanding for more residential facilities. To fulfill the need for the additional house in Dhaka city, a number of real estate developer's in private sector are engaged in constructing the residential building. And there are remarkable numbers of construction workers working at several sites under these various construction firms (Asraf & Mofidul, 2002). According to Mahmuda & Rahman (2000), job satisfaction refers to affective orientation on the part of individual toward work rule, which they are presently occupying. Three key-factors affect job satisfaction, such as individual characteristics, intrinsic to the job and extrinsic to the job (Vroom, 1964). Job satisfaction and dissatisfaction are a function of the perceived relationship between what one expects and obtains from one's job and how much importance or value one attributes to it (Mobey & Locke, 1970). Again extrinsic factors as nature of the work itself, working environment, job security, supervision, autonomy, performance-based reward, work hour, family and social life of the workers influence job satisfaction greatly (Khaleque & Rahman, 1987). This study concentrates on analyzing and finding out the factors influencing the job satisfaction of workers working in private construction firms for making the sound managerial decision, both in preventing and solving employee and organizational problems. (Mosharraf, 2002).

## II. REVIEW OF LITERATURE

A.E. Kwabena., O. Isaac., O., Stephen.(2015) found that non-wage based factors such as recognition, the task itself, work environment, supervision and job security appeared to influence job satisfaction than the wage paid to the employees in the construction sector. M. P. Farida., P. Hestiyani, S. Indryati, (2012) found that the workers care about the quality of their work and company's performance and that these aspects affect significantly their job satisfaction. The reward is also revealed to have an important influence on workers' job satisfaction. D. Humphrey (2012) found that the workers are satisfied with some work provision requirement dimension items significantly, most of the workers are very dissatisfied with the working environment and work benefit of the work provision requirement in Ghana". James, Braam & Kingma, (2012), "The construction industry is closely linked to the economy of every country and contributes to the growth of that economy. If the construction sector and the economy of a country are so closely linked, then it makes sense to effectively manage the human resources within that industry.

### A. Job Satisfaction

Robbins, Water-Marsh, Cacioppe, and Millet (1994) explain job satisfaction as the degree to which people like their jobs. They maintain that it is a general attitude towards

## The Impact of Service Quality Dimension on Job Satisfaction of Construction Workers in Bangladesh: Structural Equation Modeling Approach

the job, the difference between a number of rewards employees receive and the amount they believe they should receive. According to them, a person with a high level of job satisfaction holds positive attitudes towards the job, while a person who is not satisfied with his or her job holds negative attitudes about the job. This idea is also supported by Bowen et al; (2008) as they state that positive attitude towards one's job are associated with high level of job satisfaction. Bowen et al; (2007) in citing Locke (1976) agree with this definition of job satisfaction when they write that job satisfaction may be viewed as the pleasurable or positive emotional experience resulting from the appraisal of one's job or job experience.

Job satisfaction is more of a multifaceted concept, which can mean different things to different people. It is more of an attitude, an internal state. It could, for example, be associated with a personal feeling of achieving, either quantitative or qualitative (Mullins 2005).

According to Noe, Hollenbeck, Wright, and Garhart (1996), job satisfaction is a pleasurable feeling that results from the perception that one's job fulfills or allows the fulfillment of one's own job values. They continue by saying that job satisfaction has to do with what a person consciously or unconsciously desires to obtain.

Fogarty (1994) is the view that job satisfaction refers to the extent to which persons gain enjoyment or satisfaction from their efforts at work. Writing on the feature of the conceptualization of career satisfaction and the role that need fulfillment plays in satisfaction, Dinham and Scott (1998), citing Maslow (1970) and Alderfer (1972) explain job satisfaction as an indicator of the degree of need fulfillment experienced by an individual. March and Simon as cited by Avi-Itzhak (1988) however give a different definition of job satisfaction by explaining job satisfaction in terms of the willingness of a worker to stay within an organization despite inducement to leave. This definition is also adopted by Vroom cited in Avi-Itzhak (1988). Wilson and Rosenfield (1990) believe that the converse is also true. On his part, Spector (1997) sees job satisfaction as one factor that is important for business effectiveness, good company reputation, and low turnover. Begley and Czajka (1993) see job satisfaction as an indicator of emotional well-being or psychological health. There is some doubt whether job satisfactions consist of a single dimension or a number of separate dimensions (Mullins, 2005). He further stressed that some workers may be satisfied with certain aspects of their work and dissatisfied with other aspects with a positive correlation between satisfaction in different areas of work. Brunetto and Farr-Wharton (2002) are also of the view that job satisfaction is clearly multidimensional, comprising constructs such as the work itself, salary level, conditions of service, performance appraisal procedures, opportunities for advancement, the nature and extent of supervision, and relationships with co-workers.

### B. Motivation

The concepts of job satisfaction and motivation are clearly linked and invariably used interchangeably in practice Bowen et al; (2008). They further explain that job satisfaction describes or measures the extent of a person's contentment in his or her job whiles motivation explains the driving force(s) behind the pursuit or execution of particular activities or a job. Mullins (2005) is however of the view that job satisfaction is linked to motivation but the nature of this relationship is not

clear and in the view of Michaelowa (2002) job satisfaction is not the same as motivation. She argues that these two terms are related but may not be used as synonyms. Herzberg as cited in Dinham and Scott (1998), explains that both phenomena are linked through the influence each has on the other. He continues to give examples by saying that lower order needs otherwise known as hygiene factors and higher order need also known as motivators as also concerning satisfaction and dissatisfaction flowing from these and the need to engender long-term career satisfaction. Motivation is essential to labor, as it gives site workers satisfaction such as achievement, sense of responsibility and pleasure of the work itself (A. Enshassi et al; 2007). In supporting a similar view, Chase (1993) ( cited by Mohajed, 2005) is of the view that a combination of training, orientation for new employees, provision of a safe and clean environment, encouragement of two-way communication, employee participation in planning or decision-making, and individual/team recognition may be utilized to achieve employee satisfaction. Herzberg argues that all too often management fails in its attempt to motivate employees because it puts all of the emphasis on removing dissatisfies and neglects satisfiers that create motivation (Oglesby et al., (1989) cited by Mohajed , 2005).

H01: There is no relationship between job satisfaction and motivation factors.

### C. Workload

The workload can be defined as "the amount of work that should be done in a certain period of time and with a certain quality". Workload means productivity for the establishment; while it means the time and energy spent in order to do the work in terms of the individual (Maslach and Leiter, 1997: 38). An increase in the workload of the personnel results in a decrease in work satisfaction. And any decrease in work satisfaction is generally considered to be related to problems such as uneasiness, tension, anger, depression, and fatigue (Beehr and Newman 1978: 665, Dua 1996: 117). In the service sector, where customer satisfaction is paramount, for a business establishment to become successful and to sustain that success, for it to be fruitful and profitable, it requires personal participation in the service production process in an enthusiastic, ambitious and efficient way. On the one hand, individuals who work in accommodation and nutrition establishments have to achieve successful results; on the other hand, they have to cope with heavy workloads, responsibilities and the difficulties that such a working life brings (Altay, 2009). These problems are reflected in work performance, they are revealed in behaviors such as working less efficiently (lower productivity) a lowering of concentration, an increase in making errors, conflicts between individuals, displays of insensitivity, taking too many health reports and being late for work. (Matrunola 1996: 827). In a survey of the literature, studies of the work satisfaction levels of personnel working in accommodation establishments (Altay, 2009: 1). However, a detailed study examining the relationship between the work satisfaction levels and the workload of the personnel in accommodation and nutrition establishments was not found.

H02: There is no relationship between job satisfaction and workload factor.

### D. Human Relations

In explaining the humanitarian perspective to job

satisfaction, Spector (1997) sees job satisfaction as identifying how people deserve to be treated fairly and with respect. According to him, the facets of job satisfaction like equitable rewards and supportive working conditions and fellow employees are related to being treated fairly and with respect. Spector again explains the utilitarian perspective to job satisfaction by asserting that job satisfaction can lead to behaviors that can have either positive or negative effect on organizational functioning. Perhaps it is as a result of these effects that Wolfson (1998) is the view that workplace boredom and frustration is as a result of an employee's lack of involvement with the company's goals and a feeling that their ideas are not wanted or listened to. Subsequently, there is going to increase in staff turnover for the employer as employees would walk out of the door for more interesting jobs. Mullins (2005) view that organizations should harness the talents and commitment of all their employees and get the best out of people in an attempt to improve job satisfaction demand a spirit of teamwork and co-operation, and allowing people a greater say in decisions that affect them at work all buttress Spector's point that the facets of job satisfaction are related to people being treated fairly. Jamison (1999) also shares his view and states that empowerment programs will result in motivated staff, quality customer services, and improved profits. Cordery (1991) also linked job satisfaction to workers being grouped, and the group having autonomy. Thus according to him in a self-managed group, although effectiveness does not appear to be all positive, individual members of the group, however, do have higher levels of job satisfaction. This is because the group assumes greater autonomy and responsibility for the effective performance of work but the individual members decide on the best means by which these goals are to be achieved. This same view is shared by Borcharding (1974). On his part, he expressed that good working relationships with and within a crew as well as good social work relations contribute to job satisfaction. Bowen et al., (2008) however found various facets of human relations such as being part of a team and participating in decision-making; undertaking challenging and creative work as well as receiving recognition for achievements over and above normal responsibilities all influenced job satisfaction.

H03: There is no relationship between job satisfaction and human-related factors.

#### E. Supervisor's Behavior

In the study of job satisfaction among quantity surveyors, Bowen et al., (2008) found this to be true as they stated that a low degree of supervision and being encouraged to take initiative among quantity surveyors contributed to job satisfaction. According to Scarpello and Vandenberg (1987) supervision involves technical knowledge, human relations skills and coordination of work activities. Effective supervision is, therefore, necessary for job satisfaction and high level of performance. That is why Bassett (1994) believes that a kindly and thoughtful leader generates high worker satisfaction. Hence supervisors who adopt the considerate approach of leadership towards workers turn to have the more highly satisfied workgroups. According to Bacharach, Bauer and Conley (1989) supervision of workers activities seems critical in examination their dissatisfaction. They explain that supervision takes two aspects, positive and negative. According to them when applying the positive supervision, supervisors show appreciation for workers

activities and solicit input from them. On the other hand, supervisors applying negative supervision maintain a critical orientation towards workers and their work by criticizing their work, refusing to help, or being generally unavailable. They continue that these types of supervisory behavior can be expected to lead to dissatisfaction. Crow and Hartman (1999) therefore suggest that instead of trying to improve employee satisfaction, it may be time to consider leadership approaches and management programs that reduce employee dissatisfaction. Schnake (1987) on his part argues that the climate of the workgroup is likely to be influenced by the chosen motivation strategies of the supervisor. An emphasis on extrinsic rewards, intrinsic or some combination of rewards will each produce a different climate. When extrinsic rewards are emphasized, employees often feel controlled. Extrinsic reward tends to „push“ employees to perform and intrinsic rewards „pull“ employees to put forth the effort. Both types of rewards are important to most employees. Shani and Lau (2000) support this view by stating that “rewards actually received from performance affect both satisfaction and subsequent performance; intrinsic rewards and extrinsic rewards. Of course, rewards can be negative as well as positive.”

H04: There is no positive relationship between job satisfaction and supervisor Behavior factors.

### III. CONCEPTUAL FRAMEWORK

The objective of this study is to investigate the job satisfaction of the construction worker of Bangladesh, on the basis of different functions like human relations, motivation, supervisor behavior, and worker own characteristics. In the literature, the related studies suggest that the types of factors in path model applications in different construction firm human relation, motivation, supervisor behavior, and worker own characteristics. The theoretical model is presented in figure 1. we will look at the theoretical model for each of the hypotheses in the following below.

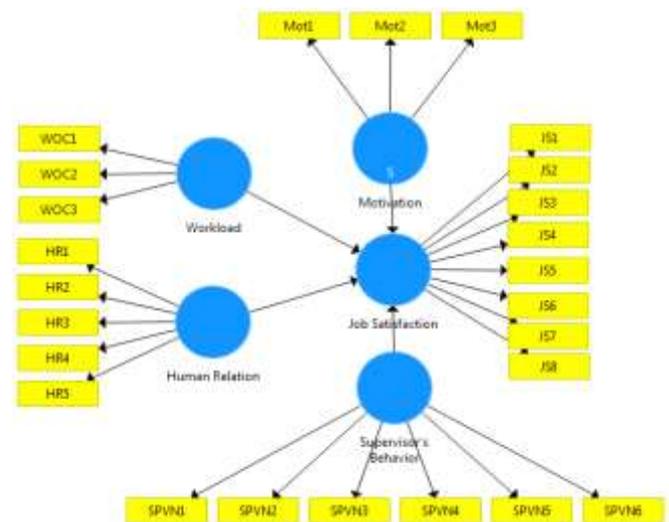


Figure 01: The conceptual framework of job satisfaction of the construction worker in Bangladesh.

### IV. RESEARCH OBJECTIVES

The problem in this study was to determine the opinion of the selected workers engaged in private construction works in Dhaka city regarding their level of job satisfaction.

## The Impact of Service Quality Dimension on Job Satisfaction of Construction Workers in Bangladesh: Structural Equation Modeling Approach

- The investigation particularly included determining the workers' perception about job characteristics, their opinion regarding the present level of job satisfaction, preference any additional job satisfaction elements and their desire for higher order needs.
- The mentioned problems urged the researcher to set-up the following research purpose
- To determine the influential factors that defines the job satisfaction of the construction worker.

### V. METHODOLOGY OF THE STUDY

This study attempts to identify the influential factors concerned with the use of the perceived quality model of job satisfaction on the construction worker in Bangladesh. To conduct the study, the data has been collected from primary sources. Primary data were collected from the different construction firm in Bangladesh.

#### Determination of Sample Size

The customers selected for this study heterogeneous in terms of their subjects. The statistics show that there was more than 10 lac construction worker studying in the different construction firm in Bangladesh. The sampled customers can be determined by using the following formula suggested by Yamane (1967). The formula used in this study is shown below:

$$n = N / (1 + Ne^2)$$

Where,

n=Sample Size

N= Population

e=Level of Precision

In calculating sample size the following assumptions were made to determine, n=400

Population size is > 1000000 workers

Level of precision is 5%

Questionnaire Design and Test of Reliability

A structured questionnaire with the 5-point scale was developed for the items related to the impact of perceived service quality on the construction firm in Bangladesh. A 5-point scale ranging from 1 to 5 with 1 indicating strongly disagrees and 5 indicating strongly agree was used in the questionnaire. Table-2 shows that the reliability coefficient of the questionnaire. It shows that the Cronbach's alpha, composite reliability, average variance extracted of the questionnaire are shown table-2 which is at the acceptable limit as per Nunnally and Berstein (1994), Hair et al. 1998, Fornell & Larcker, (1981); Henseler, Ringle, & Sinkovics, (2009) respectively.

#### Data Collection and Data Analysis

A survey has been conducted different construction firm in Bangladesh with the assistance of BBA students of Uttara University. The interviewers were properly trained on the items representing the questionnaire for data collection before resuming the interview. Along with descriptive statistics, inferential statistical techniques such as Factor analysis, and structural equation modeling were used to analyze the data by using SPSS (Statistical Package for Social Science) and SmartPLS (statistical software). Structural equation modeling was conducted to identify the influential factors; those factors

have been affected by perceived service quality of those banks in this study.

#### Statistical tools used

Both descriptive and inferential statistics were used to analyze the data. Inferential statistics like Factor Analysis (FA) was used to separate the factors related to human resource practices of the bank employees of Bangladesh. Partial Least Square method was also used to identify the significant factors from the factors identified through factor analysis.

#### Convergent validity

Anderson and Gerbing (1988) stated that convergent validity is established if all factor loadings for the items measuring the same construct are statistically significant. According to Hair, et al. (1998) convergent validity could be accessed through factor loadings, composite reliability and the average variance extracted. The results of the measurement model (Table 3) show that the loadings for all items exceeded the recommended value of 0.50 (Hair et al. 1998). Composite reliability (CR) values ranged from 0.795 to 0.871 which exceeded the recommended value of 0.70 (Hair et al. 1998).

#### Discriminant Validity

In a Partial Least Square, the most important criteria for adequate discriminant validity is that a construct shares more variance with its items than it is shared with other constructs in a given model (Hulland, 1999). It was assessed by examining the correlations between the measures of potentially overlapping constructs. Items load more strongly on their own constructs in the model, and the square root of the average variance extracted for each construct is greater than the levels of correlations involving the construct (Fornell and Larcker, 1981). As shown in Table 3, the square root of the average variance extracted for each construct is greater than the items on off-diagonal in their corresponding row and column, thus, indicating the adequate discriminant validity. The inter-construct correlations show that each construct shares larger variance values with its own measures than with other measures. In sum, the measurement model demonstrated the adequate convergent validity and discriminant validity.

#### Average variance extracted

All values of the average variance extracted (AVE) that measures the variance captured by the indicators about measurement error were greater than 0.50 to indicate acceptability of the constructs (Fornell & Larcker, 1981; Henseler, Ringle, & Sinkovics, 2009). The table 3 shows that these indicators satisfied the convergent validity of the constructs.

#### Test of Reliability

To analyze the reliability (internal consistency) of the variables, this study used the Cronbach's alpha coefficient and composite reliability (CR) value. Table 3 shows all Cronbach's alpha values are above 0.60 cutoff values as suggested by Nunnally and Berstein (1994). Standardized Cronbach's alpha formula is given below.

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N - 1) \cdot \bar{c}}$$

Here, N is equal to the number of items, c-bar is the average inter-item covariance among the items and v-bar equals the average variance.

The Measurement Model

Table 01: Test of reliability and validity of different factors of construction workers job satisfaction in Bangladesh.

Factors	Alpha	C.R	AVE
Human Relations	0.724	0.826	0.545
Motivation	0.627	0.796	0.666
Supervisor's Behavior	0.677	0.819	0.602
Workload	0.704	0.832	0.624

Discriminant Validity	2	2	3	4	5
1. Human Relations	<b>0.74</b>				
2. Job Satisfaction	0.69	<b>0.83</b>			
3. Motivation	0.69	0.63	<b>0.82</b>		
4. Supervisor's Behavior	0.73	0.70	0.64	<b>0.78</b>	
5. Workload	0.76	0.56	0.74	0.71	<b>0.79</b>

Note: AVE>0.50 (Fornell & Larcker, 1981); Henseler, Ringle, & Sinkovics, 2009), Composite Reliability>0.70 (Hair et al. 1998), Cronbach's alpha>= 0.60, (Nunnally and Berstein (1994))

### The Coefficient of determination

The reliability also finds that the coefficient of determination R square is 0.599 for the dependent variable i.e., job satisfaction of construction workers (Table 3). This means that the four independent variables are; Human Relation, Motivation, Supervisor Behavior, and Worker own characteristics highly explain 59.9% of the variance in job satisfaction of construction workers in Bangladesh.

### Data Analysis and Findings Discussion

Table 02: Personal Information of the respondents of construction workers in Bangladesh

	Frequency	Percent
<b>Gender</b>		
Male	395	92.9
Female	30	7.1
<b>Age of the respondents</b>		
Less than 20	65	15.3
21-30	209	49.2
31-40	118	27.8
41-50 years	24	5.6
51-60 years	9	2.1
<b>Level of education</b>		
Illiterate	169	39.8
Primary	213	50.1
Secondary and Higher	43	10.1
<b>Experience of the worker</b>		
Below 1 years	60	14.1
1-2 years	141	33.2
3-4 years	121	28.5
4 years and above	103	24.2

Table 02 shows that near about 93% of the respondents were males and confirm the fact that the construction worker of that sector is male-dominated. The age distribution of respondents as shown in table 02 indicates that majority of respondents 209 (49.2 %) out of a total of 425 were aged between 21-30, On the other hand 15.3% and 27.8% of the workers whose age below 20 and 31-40 years of the respondent respectively. Again very small number of the workers whose age over 51-60 years. Table -- again shows that 213 respondents representing 50.1% of respondents who are completing their primary level, 169 (39.8%) who were illiterate and only 43 (10.1%) who are completing their secondary and higher level.

Table 02 also shows that quite a number of respondents that is 141 (33.2%) have (1-2) years' experience in the construction area while 121 (28.5%) have construction firm's experience of 3-4 years. It again shows that 35 (24.3%) of respondents have served the construction firm's for 4 years and above and only 60 (14.1%) have served the construction firms for below 1 years. This confirms the Construction Industry Today declaration that experienced construction workers leave their job each year and a further many potential workers also prefer to work in environments that are less demanding and has more comfortable working conditions leading to the shortage of workforce in the industry. Tucker et. al. (1999) also sees this as a challenge to the construction industry and attributes it to the poor image of the industry, the relatively failing wages the industry offers and the lack of clear career path.

### VI. EXPLORATORY FACTOR ANALYSIS

EFA is a widely utilized and broadly applied statistical technique in social science. A total 425 usable survey responses were analyzed in this section. The factor analysis technique has been applied to examine the relationship between different factors in job satisfaction of construction workers. The four factors that have found from rotated factor matrix, have been discussed in the following paragraph.

Factor-1 (Human Relation): This includes four variables like Appreciated by my boss for work, Appreciated by my co-workers for work, Supervisor's criticisms are constructive which are the principal factors. So, it provides a basis for the conceptualization of a dimension which may be identified as Human Relation factor.

Factor-2 (Motivation): This includes four variables like I like construction work, Working in this organization gives me a great deal of personal satisfaction which is the principal factors. So, it provides a basis for the conceptualization of a dimension which may be identified as the motivation factor.

Factor-3 (Supervisor Behavior): This includes four variables like My supervisor is quite competent in doing his/her job, I feel encouraged by my supervisor, I am provided adequate support from my supervisor which is the principal factors. So, it provides a basis for the conceptualization of a dimension which may be identified as supervisor's behavior factor.

Factor-4 (Workload): This includes four variables like I am assigned the appropriate amount of work activities, I am the effective worker, I am satisfied with my job as a construction worker which are the principal factors. So, it provides a basis for the conceptualization of a dimension which may be identified as worker own characteristics factor.

# The Impact of Service Quality Dimension on Job Satisfaction of Construction Workers in Bangladesh: Structural Equation Modeling Approach

Table 03: Factor Analysis of the job satisfaction of the construction workers in Bangladesh

Factors	Variables	factor Loading	Sample Mean	SD	T Statistics	IR
Human Relations	Appreciated by my boss for work	0.81	0.81	0.02	43.84	0.66
	Appreciated by my co-workers for work	0.79	0.79	0.03	29.47	0.63
	My work has been appreciated by my community	0.67	0.67	0.04	18.60	0.45
	Supervisor's criticisms are constructive.	0.66	0.66	0.04	18.50	0.44
Motivation	I like construction work	0.92	0.92	0.01	78.21	0.84
	Working in this organization gives me a great deal of personal satisfaction	0.70	0.70	0.04	16.27	0.49
Supervisor's Behavior	My supervisor is quite competent in doing his/her job	0.81	0.81	0.02	39.19	0.66
	I feel encouraged by my supervisor	0.81	0.81	0.02	34.97	0.65
	I am provided adequate support from my supervisor	0.70	0.70	0.04	19.21	0.49
Workload	I am assigned appropriate amount of work activities	0.79	0.79	0.03	31.18	0.62
	I am effective worker	0.83	0.83	0.02	41.96	0.69
	I am satisfied with my job as a construction worker	0.75	0.75	0.03	24.18	0.56

From table 03 show that all of the T-Statistic are larger than 1.96 at 5% level of significance, we can say that the outer model loadings are highly significant. So, our SEM model is accepted for above evidence in this study. Generally, A global fit measure (GOF) was conducted for path modeling; it is defined as the geometric mean of average communality and average (especially endogenous variables) (Chin, 2010) (see the formula). In this study, GOF value was 0.62 ( $= 0.61$ , average AVE = 0.63 for overall human resource practice). So, the value of GOF exceeded the largest cut-off value (0.36), and it was indicated that the proposed model of this study had better explaining power than that based on the recommended value of  $GOF_{small} = 0.1$ ,  $GOF_{medium} = 0.25$ , and  $GOF_{large} = 0.36$  (Aker et al., 2011).

$$GOF = \sqrt{(AVE \times R^2)}$$

Path Diagram of Construction of Bangladesh

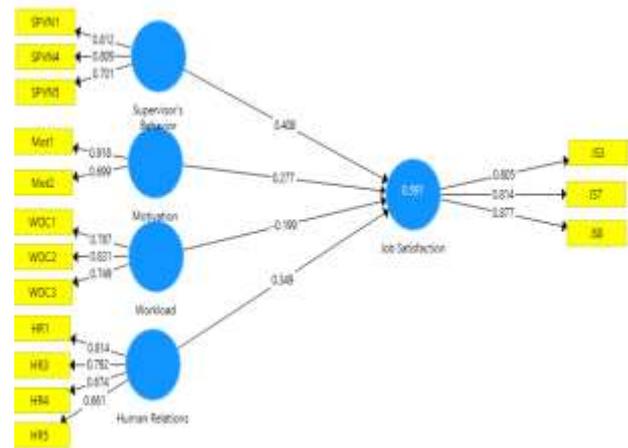


Figure 2: Relative Importance of the perceived service quality factors and their Relationship with job satisfaction of construction worker in Bangladesh.

### Results of Multivariate Analysis - Partial Least Square (PLS)

A multivariate analysis technique like 'Structural Equation Modeling' was used to identify the significant job satisfaction factors from the factors identified through factor analysis. Path Diagram of Job satisfaction of construction workers of Bangladesh suggested that the human relations, motivation, supervisor's behavior and workload have the strongest effect on worker job satisfaction. The hypothesized path relationship among independent variables like human relations, motivation, supervisor's behavior, workload and job satisfaction are highly significant at 1% level of significance. The every value of VIF has been shown that there is no multicollinearity effect among those variables. (Figure 3)

Table 04: Summary Results of the Model Constructs

Path Coefficients	Original Sample	Sample Mean	SD	T Statistics	P-value	VIF
Human Relations -> Job Satisfaction	0.349	0.35	0.05	7.00	0.00	2.03
Motivation -> Job Satisfaction	0.277	0.27	0.05	5.18	0.00	2.47
Supervisor's Behavior -> Job Satisfaction	0.408	0.41	0.04	9.80	0.00	2.48
Workload -> Job Satisfaction	-0.19	-0.19	0.06	3.19	0.00	2.19
R Square	0.591					
R Square Adjusted	0.582					

Collinearity Statistic (VIF): The rules of thumb for the VIF are as follows:  $VIF < 3$ ; no problem,  $VIF > 3$ ; potential problem,  $VIF > 5$ ; very likely problem,  $VIF > 10$ ; definitely problem

The path coefficients of the factors concerned with job satisfaction of the construction workers show that human relations, motivation, supervisor's behavior, and workers own characteristics are the most important factor of job satisfaction. (Table-4). By using SEM analysis it is found that

only four factors such as human relations, motivation, supervisor's behavior and workers own characteristics are the significant factors of job satisfaction of construction workers in Bangladesh. This study suggests that in the construction sector of Bangladesh the policymakers and concerned authorities should focus more on the factors like human relations, motivation, supervisor's behavior and workers own characteristics.

#### Hypothesis Testing

The hypothesis testing was carried out by examining the path coefficients (beta) between latent constructs and their significance. To justify the significance of the path coefficients the bootstrapping method was used with a re-sampling of 500 (e.g., Bradley et al., 2012). The R2 value of endogenous latent construct illustrates the predictive relevance of the model. Table 03 presents the results and hypothesis testing. The findings show that the hypotheses H02, H04, H06, and H07 were highly significant at 1% level of significance because the value of t is higher than 2.57, but H01 was statistically significant at 5% level of significance because the value of t is higher than 1.96.

	Null Hypothesis	Accepted/ Rejected
H <sub>01</sub>	There is no significant relationship between human relationships and job satisfaction factors	Rejected
H <sub>02</sub>	There is no significant relationship between motivation and job satisfaction factors.	Rejected
H <sub>03</sub>	There is no significant relationship between supervisor's behavior and job satisfaction factors.	Rejected
H <sub>04</sub>	There is no significant relationship between workload and job satisfaction factors.	Rejected

#### VII. CONCLUSION

Bangladesh is a developing country where the population has been growing very fast. Capital city Dhaka is not the exception of it and people from different parts of the country are being concentrated here demanding more residential facilities. A number of real estate developers were a remarkable number of construction workers are engaged in constructing residential buildings for meeting the huge demand of tenants. Without satisfying the private construction workers company could not succeed in their position. This study concentrates on analyzing and finding out the factors influencing the job satisfaction of workers working in private construction firms for making the sound managerial decision, both in preventing and solving employee and organizational problems. The study has shown the important factors like as human relations, motivation, workers own characteristics, supervisor's behavior those are the influential factors for job satisfaction of the construction workers in Bangladesh.

#### VIII. RECOMMENDATION

To enhance productivity on site, and accelerate the development of our country the following factors should take into account by managers essentially.

- Managers should emphasize on the Human Relations

- Managers should motivate the worker's to work properly
- Supervisors should behave well with the worker's
- Work Load should be sufficient to the workers in accordance with their capacity

#### IX. LIMITATIONS OF THE STUDY

There are of course limitations inherent in the study and provide a basis for further studies. The first limitation has to do with the limit of the study area. The last limitation concerns the sample size is very small used in the study if more areas and sample size could be covered the results could be different and more accurate.

#### X. SCOPE FOR FURTHER RESEARCH

Based on this research researchers can go for further research on the people of the low-income group like garments workers, Nurses, Cobbler, Small Shop owner, Sweeper etc who are contributing highly to the development of our country but neglected. This research can also be extended with the sample for the perfect results.

#### REFERENCE

- [1] A .E. Kwabena., O. Isaac., O., Stephen.(2015), Factors Affecting Job Satisfaction of Employees in the Construction Supply Chain in the Ashanti Region of Ghana. *European Journal of Business and Management* 7(6), 72-81.
- [2] Altay, H. M., Park, S., Wu, D., Wee, D., Annaswamy, A. M., & Ghoniem, A. F. (2009). Modeling the dynamic response of a laminar perforated-plate stabilized flame. *Proceedings of the Combustion Institute*, 32(1), 1359-1366.
- [3] Anderson, J. C., & Gerbing, D. W. (1988). An updated paradigm for scale development incorporating unidimensionality and its assessment. *Journal of Marketing Research*, 25, 186-192. <http://dx.doi.org/10.2307/3172650>
- [4] Asraf, M.U. & Mofidul, M.A., (2003). Status, Performance and Projection of Real Estate Business, *Journal of Management Studies*, Vol. 8 & 9, No. 1.
- [5] Bacharach, et. al. (1989). The school work environment and teacher career dissatisfaction. *Educational Administration Quarterly*, 25(1), 58-81
- [6] Beehr T.A & Newman J.E. (1978). Job stress, employee health and organizational effectiveness. A facet analysis, model and literature review. *Personnel Psychology*, 31, 665-699.
- [7] Begley, T.M. and Czajaka, J.M. (1993). Panel of analysis of the moderating effects of commitment on job satisfaction, intent to quit and health following organizational change. *Journal of Applied Psychology*.78, 552-556
- [8] Borcharding John D, and Oglesby Clarkson H. (1974), Construction productivity and job satisfaction. *Journal of Construction Division, ASCE*
- [9] Bowen, P., Cattell, K., Distiller, G. and Edwards, P.J. (2008), Job satisfaction of South African quantity surveyors: an empirical study. *Construction Management and Economics*, 26, 765-780.
- [10] Brunetto, Y. and Farr-Wharton R. (2002), Using social identity theory to explain the job satisfaction of public sector employees. *International Journal of Public Sector Management*, 15(7), 534-551.
- [11] Chin, W. W. (2010). How to write up and report PLS analyses. In V. Esposito, W. W. Chin, J. Henseler, & H. Wang (Eds), *Handbook of partial least squares: Concept, methods and applications*, 655-690. New York: Springer. [http://dx.doi.org/10.1007/978-3-540-32827-8\\_29](http://dx.doi.org/10.1007/978-3-540-32827-8_29)
- [12] Cordery et. al. (1991), Attitudinal and behavioral effects of autonomous group working. *Academy of Management Journal*, pp 464-76
- [13] D. Humphrey., (2012). Construction Workers' Satisfaction with Work Provision Requirement Dimensions in Ghana's Construction Industry. *International Journal of Engineering and Technology*, 2(9), 1613-1619.
- [14] Dinham, S. and Scott, C (1998). A three domain model of teacher and school executive career satisfaction. *Journal of Educational*

# The Impact of Service Quality Dimension on Job Satisfaction of Construction Workers in Bangladesh: Structural Equation Modeling Approach

- Administration, 36 (4), 362-378.
- [15] Dua, J. (1996). Development of a scale to assess occupational stress in Rural General Practitioners. *International Journal of Stress Management*, 3(2), 117-128.
- [16] Enshassi, A., Mohammed, S., Mustapha, Z.A. and Mayer, P.E. (2007). Factors affecting labour productivity in building projects in the Gaza Strip. *Journal of Civil Engineering and Management*, 13(4), 245-254.
- [17] Farida. M. P., Hestiyani. P., Indryati. S., (2012), "Factors Affecting Job Satisfaction of Workers in Indonesian Construction Companies", *Journal of Civil Engineering and Management* 18(3), 299-309.
- [18] Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50. <http://dx.doi.org/10.2307/3151312>
- [19] Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis (5th ed.)*, Upper Saddle River, NJ: Prentice Hall.
- [20] Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate Data Analysis with Readings*, 5th Edition. Macmillan, New York.
- [21] Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modelling in international marketing. *New Challenges to International Marketing Advances in International Marketing*, 20, 227-319.
- [22] Herzberg, F. (1966), "Work and Nature of Man", World Publications, Cleveland
- [23] Hossain, Md. Mosharraf and Islam, Md. Tarique (1999), "Quality of Working Life and Job Satisfaction of Government Hospital Nurses in Bangladesh", *Indian Journal of Industrial Relations*, 34(3), 292-302.
- [24] Hulland, J. (1999). Use of Partial Least Squares (PLS) in strategic management research: a view of four recent studies. *Strategic Management Journal*, 20, 195-204.
- [25] James, P. M., Braam Rust, A. A. & Kingma, L. (2012). The well-being of workers in the South African construction industry: A model for employment assistance. *African Journal of Business Management*, 6(4), 1553-1558
- [26] Jamison, C. (1999). The top 10 myths of customer service. *The British Journal of Administrative Management*, pp 20.
- [27] Khaleque, A. and Rahman, M. A. (1987). Perceived Importance of Job Facets and overall Job Satisfaction in Industrial Workers. *Journal of Human Relations*, 40 (7), 401-415
- [28] Likert, R. (1931). A Technique for the Measurement of Attitudes. *Archive of Psychology*. New York: Colombia University Press.
- [29] Locke, E. A. (1976). The Nature and Causes of Job Satisfaction. In Marvin D Dunnette ed. *Handbook Industrial and Organizational Psychology*. Shokie, III: Rand McNally, 1297-1300.
- [30] Mahmuda, A. and Rahman, H. (2000). Teacher Quality and Job Satisfaction. *Journal of the Department of Psychology, University of Dhaka*, Vol. 24
- [31] Maslach, C. and Leiter P. M. (1997). *The truth about burnout*, Jossey-Bass, San Francisco, Ca.
- [32] Maslow, A. (1954), "Motivation and Personality", Harper, New York.
- [33] Matrunola, P. (1996). Is there a relationship between job satisfaction and absenteeism?. *Journal of Advanced Nursing*, 23(4), 827-834.
- [34] Mobey & Locke, E. A. (1970). Job Satisfaction and Performance: A Theoretical Analysis, *Organizational Behavior and Human Performance*. Academic press Inc, 5(5), 484-500.
- [35] Mullins, J.L. (2005). *Management and organizational behavior*, Seventh Edition, Pearson Education Limited, Essex, p. 700
- [36] Noe, R.A., Hollenback. J.R., Gerhart B., and Wright, P.M. (1996). *Human resources management, gaining a competitive advantage*. Boston: Irwin McGraw-Hill.
- [37] Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory*, (3rd ed.), New York: McGraw-Hill.
- [38] Okpara, J.O. (1996). An examination of the relationship of motivation needs, cultural factors, and job satisfaction among managers in selected business enterprises in Nigeria. New York: New York University.
- [39] Robbins, S. R., Water-Marsh, T., Cacioppe, R., and Millet, B. (1994). *Organisational behavior: Concepts, controversies and applications*. Sydney: Prentice Hall.
- [40] Scappello, V. and Vandenberg, R.G (1987). The satisfaction with my supervisor scale: Its utility for research and practical applications. *Journal of Management*, 13(3), 447-466.
- [41] Schnake, M.E (1987). *Principles of supervision*. Iowa: Wm.C. Publishers
- [42] Shani, A.B. and Lau, J. B. (2000). *Behavior in organisations: An experimental approach*. Boston: McGraw-Hill
- [43] Sokoya, S.K. (2000), Personal predictors of job satisfaction for the public sector manager: Implications for management practice and development in a developing economy. *Journal of Business in Developing Nations*, 4(1).
- [44] Spector, P. (1997). *Job satisfaction: Application, assessment, causes and consequences*. Thousand Oaks C.A: Sage Publications, Inc. C.A
- [45] Vroom, V. H. (1964). *Work and Motivation*. New York: Wiley
- [46] Wilson, D.C. and Rosenfeld, R.H. (1990), *Managing Organizations*, McGraw-Hill, London.

## AUTHORS PROFILE



**Sardar Mohammad Taubidul Islam** was born in North Chashara; Post office - Narayangonj, Thana - Narayangonj, district - Narayangonj, Bangladesh on 1st June 1980. He received Master of Science, 2003 from university of Chittagong and Bachelor of Science, 2002 University of Chittagong, Bangladesh. At present he is working as senior Lecturer of ABC International School and College (Edexcel Board) Narayangonj Bangladesh. He has published 2 articles in renowned international journals.