



Investigation on The Factors Affecting Lifestyle of Professionals in The Construction Industries (Kerala and Tamil Nadu)

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Abstract: One of the vital assets of any industry is human resources. In general, the majority of works are carried out by humans in the construction industries. Study on the assessment of quality of civil engineering construction professionals' lifestyle is very limited and hence the motto of this study is to understand the lifestyle of construction professionals and to assess the various factors affecting the lifestyle of them. To analyze the effects of societal behavior and to develop a model to study the impact of various factors in a construction professional's lifestyle; a mixed approach had been adopted in this study. The instrument used in the study was a questionnaire survey conducted from 180 construction professionals working in different firms in Kerala and Tamil Nadu states of India and these were analyzed using structural equation modeling techniques. Factors affecting the construction professional's lifestyle are: financial factors, organizational factors, quality, health and environmental factors, work-related factors, and social factors. Hence by foreseeing the factors and adopting favorable changes in a construction professional's life, they may attain a better lifestyle. This study recommends the strategy to be considered for the improvements of lifestyle of the construction professional especially for "Civil Engineers".

Keywords: Construction professionals, lifestyle, questionnaire, structural equation modelling, factors, quality of work life, recommendations

1. Introduction

India is a developing country; the construction industry is the second largest industry. It covers 7.74% of India's gross domestic product (GDP). The industry makes it involve many people; also, the government supports various programs for infrastructure investments through both public and private sectors [1].

Sang, et al. [2] come up with a global perspective exploring the welfare of construction sectors and industrial units. Top-level management should come forward to recognize the contribution of every person's job. This ensures a better work atmosphere with employee job satisfaction in the construction sectors. Vital factors are among recognition, task completion, working atmosphere, overall supervision; the majority appeared to have more influence on job satisfaction. [2], [3].

Adams et al. [4] discussed the relationship between the work environment and the family has equal importance without compromising job satisfaction and living culture with family members. It may be parallel, characterized by

conflict and support. Nature of individuals, social support and psychological impact among the professionals working in construction sectors, made to interpolate stress and physical strain, the demographic characteristics against the job and sources of job-related stress based on job satisfaction [5], [6]. It reflects in the project performance of the professionals working in construction sectors irrespective of designation [7]-[9].

While the industry promotes a wide range of job opportunities within the country, fewer civil engineering graduates are willing to work in the same field due to specific factors— Financial factors, Organizational factors, Quality, Health, and Environmental factors, Work-Related factors and Social factors. This unwillingness may be due to the work-related factors that affect the lifestyle of the construction engineers [10]-[14].

As compared to other professions, the construction profession undergoes a poor lifestyle due to various factors related to their work [15]. Due to this poor lifestyle, the work-life relation is affected [16], hence this study is essential to analyze the factors responsible for the lack of construction professionals willing to work in their line of profession. This project is looking forward to revealing the factors that affect construction professionals' lifestyle and recommend and suggest methods for the betterment of their lifestyle.

2. Methodology

The methodology of this paper includes the guiding process such as collection and study of literature, identification of various factors that affect the lifestyle of construction professionals, questionnaire design, data collection, and analysis of data, modeling with the help of structural equation model (SEM) and result and discussion.

In the first step, necessary literature related to the topic was collected and studied. Through the extensive literature, variables that influence lifestyle of construction professionals were selected. The questionnaire was prepared based on the rated factors that were confirmed through exploratory factor analysis. After the exploratory factor analysis, there were five factors viz: financial factors, organizational factors, quality aspects, health and environmental factors, work related factors and social factors were chosen. The selected variables were ranked through structured interviews followed by focused group discussions. The said questionnaire was developed based on the factors found through the pilot study. That is prior to the survey, a pilot study was conducted in a construction company located at Chennai was selected based on convenience of the sampling for the pilot study. A questionnaire survey with 50 respondents was done and found reliable. The criteria of construction professionals or respondents were considered at middle level and junior level managers. These managers were selected based on their experience. All the respondents had an overall experience of minimum 10 years. Further, the survey was conducted among construction professionals from various construction firms in Kerala and Tamil Nadu by a random sampling method. The data collected from multiple respondents in private sector construction organizations. Two hundred sets of questionnaires distributed to construction professionals in construction organizations. Out of 200 samples, 180 had responded, the response rate is 90%, and analyzed by the statistical methods. From the obtained results, an SEM model is developed.

3. Data Analysis

The data were analyzed using the statistical package for social sciences (SPSS) software (version 21.0). The first section of analysis made on the descriptive statistics obtained in which the responses based on the questionnaire shared with the respondents were analyzed for frequency, percentage, standard deviation and mean using the statistical tool. The second section mainly focused on the inferential statistics, including correlation analysis and confirmatory factor analysis using the SEM. AMOS (Analysis of a Moment Structures) 21.0 software used for performing SEM analysis.

Table 1 shows the frequency analysis of the demographical data and general information which includes state, age, gender, educational qualification, designation, experience, location of the project such as urban (53.3%), semi-urban (32.8%), rural (6.7%), remote location (7.2%), working hours, number of working days in a week and work location.

3.1. Descriptive Statistics (N=180)

As an outcome of the extensive review of the literature, the study identified that five factors viz. financial factors, organizational factors, quality, health and environment factors, work-related factors, and social factors are essential for ensuring an employee's quality lifestyle in the construction industry. The data were used in descriptive statistics, which arrive at the measures of the central tendency (mean), a measure of variance (standard deviation), and measures of shape (skewness and kurtosis) are presented in Table 2.

3.2. Reliability Analysis

The reliability analysis is based on the instrument assessed by the co-efficient of reliability with Cronbach's alpha value. The range of the Cronbach's alpha is 0 to 1. The results obtained were very close to the value of Cronbach's alpha as 1. It results that the internal consistency was better, and the outcome stated that the reliability of the factors considered in the survey instrument. Overall, it says that, if the Cronbach's alpha value higher than 0.7 of the items in the survey instrument conclude, it has a considerable instrument to be as reliable as in measuring the construct more correctly and precisely [17]. Table 3 furnishes the reliability analysis of the Cronbach's alpha scores for all the items beyond the

restricted limit of 0.7, as mentioned in the scale. Finally, the overall analysis predicts that it can be inferred that the survey report framed in the present work is reliable, and that can be an impact on the convenience of the administration with the sample of respondents for the present work.

3.3. Correlation Analysis

Correlation analysis was conducted to study the existence of the relationship between the factors which governs the lifestyle of employees in the construction sectors. It was observed that there is a positive correlation between financial factors and organizational factors (0.473) and the relationship was significant at 1% level and it is shown in Table 4. An organizational factor positively correlated with quality, health and environment factors (.177) and it was observed the variation in the level of correlation was significant at 5%. Similarly, organizational factors have high positive and associated to work-related factors (0.179) at 5% level and social factors (0.390) at 1% level. Financial factors and social factors were positively correlated (0.330) and the level of correlation was 1%.

Table 1 - Demographic profile

Background information	Categories	Frequency (180)	Percentage
Gender	Male	115	63.8
	Female	65	36.1
Age (Years)	18 – 25	76	42.2
	26 – 40	58	32.2
	40 – Above	46	25.6
Educational qualification	Diploma	25	13.9
	B.E / B.Tech	137	76.1
	M.E / M. Tech	18	10.0
Location	Kerala	98	54.4
	Tamil Nadu	82	45.6
Designation	Construction Manager	13	7.2
	Site Engineer	127	70.6
	Project Engineer	27	15.0
	Others	13	7.2
Years of work experience	Less than 1 year	1	0.6
	1-5	153	85.0
	5-10	24	13.3
	Above 10 years	2	1.1
Working hours	8 hours	14	7.8
	8 – 10 hours	105	58.3
	10 – 12 hours	57	31.7
	12 – 14 hours	4	2.2
Number of working days in a week	5	1	0.6
	5.5	7	3.9
	6	166	92.2
	6.5	6	6.3
Work location	On site / site office	170	94.4
	Regional office	8	4.4
	Corporate office	2	1.1

Table 2 - Descriptive statistics (N=180)

Factors	Minimum	Maximum	Mean	Standard Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Financial factors	3.20	4.80	3.82	0.79	-0.382	0.181	0.676	0.360
Organizational factors	3.38	4.00	3.70	0.54	-0.095	0.181	0.945	0.360
Quality, Health and Environment factors	1.75	5.00	3.62	0.90	-0.390	0.181	-0.961	0.360
Work Related factors	1.67	5.00	3.80	0.72	-1.372	0.181	1.625	0.360
Social factors	3.00	4.33	3.64	0.64	1.078	.181	2.607	.360

Std.: Standard

Table 3 - Analysis for reliability

Scale factors	No. of items	Cronbach's alpha
Financial Factors	11	0.898
Organizational factors	7	0.766
Quality, health and environment factors	7	0.798
Work related factors	7	0.842
Social factors	4	0.754

Table 4 - Correlations between the factors

Factors	Financial factors	Organizational factors	Quality, health and environment factors	Work related factors	Social factors
Financial factors	1				
Organizational factors	.473**	1			
Quality, health and environment factors	.128	.177*	1		
Work related factors	.140	.179*	.118	1	
Social factors	.330**	.390**	-.025	.087	1

3.4. Structural Equation Modelling Used for Confirmatory Factor

The tool named SEM has been developed based on the conceptual model pertaining to present work. Fig. 1 and Fig. 2 represent the estimation of unstandardized concept and standardized concept separately based on the model used for measurement.

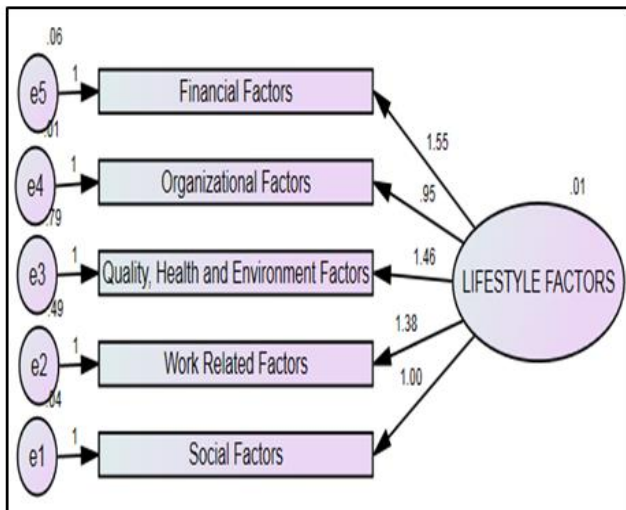


Fig. 1 - Unstandardized estimate

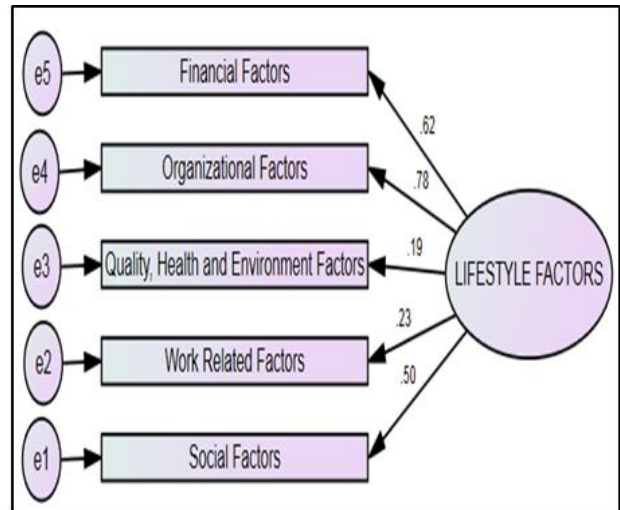


Fig. 2 - Standardized estimate

3.5. Regression Weights Analyzed with SEM model

The study found that the factors like financial factors, organizational factors, quality, health and environmental factors, work related factors and social factors have significant impact on the lifestyle factors in the construction industry. Table 5 gives the regression weights of the SEM model.

Table 5 - Regression weights of the SEM model

Observed variable	Latent variable	Unstandardized Estimate	Standardized Estimate	S.E.	C.R.	P	Result of hypothesis
Financial factors	<--- Lifestyle factors	1.552	0.619	0.318	4.878	0.000**	Significant
Organizational factors	<--- Lifestyle factors	0.952	0.777	0.208	4.587	0.000**	Significant
Quality, health and Environmental factors	<--- Lifestyle factors	1.461	0.193	0.699	2.090	0.037*	Significant
Work related factors	<--- Lifestyle factors	1.384	0.228	0.569	2.433	0.015*	Significant
Social factors	<--- Lifestyle factors	1.00	0.496	-	-	-	Non - significant

3.6. Model Evaluation Using SEM –Fit for Goodness

The fit for goodness representation of the statistical model describes how for it is well and fits the model as set for the observations. The results of the fit for goodness imply that the model developed by analysis of a moment structure (AMOS) shows better results for the present study and it is shown in Table 6. The results outcome predicts the unobstructed point of the values done for the measurement of variables which conforms to the recommended values. Therefore, the model may be considered as fit for goodness in the model evaluation. The obtained value of p is 0.357, which is said to be more than the advised value of 0.05 [18] as it indicates the evaluation of the model which is said to be more precise and perfectly match the fit for goodness. Similarly, the values arrived against goodness of fit index and also the adjusted goodness of fit index are slightly higher when compared to the advised value of 0.9 and it implies that the model is more suitable and perfectly match the fit for goodness [19]. Similarly, the arrived values of comparative fit index are 0.995, which is said to be beyond the threshold value of 0.9 and it indicates that there is a significant effect in concluding the fitness of the model [20]. Coming to the root mean square error of approximation analysis, the value observed is 0.023, which is said to be very less than the advised of 0.09 [21] and as a matter of consideration psychological factors will be considered for future study, well it related to human behavior and well-being of construction professionals [22].

On a whole, the arrived values for the model fit in the present work are at the acceptable level. Therefore, it is concluded that mode measurement has more precise and perfectly fit and factors which have been considered were significantly contributed to the employee lifestyle factors in the construction sectors.

Table 6 - Goodness of fit – AMOS Model

Variable	Recommended value	Obtained value
Chi-square value	-	5.5
P value (Probability value)	p greater than 0.05	0.357
RMSEA (Root Mean Square Error of Approximation)	Less than 0.09	0.023
RMR (Root Mean square Residual)	Less than 0.08	0.014
GFI (Goodness of Fit Index)	Greater than 0.90	0.988
AGFI (Adjusted Goodness of Fit Index)	Greater than 0.90	0.963
CFI (Confirmatory Factor Index)	Greater than 0.90	0.995
TLI (Tucker Lewis Index)	Greater than 0.90	0.990
RFI (Relative Fit Index)	Greater than 0.90	0.915
NFI (Normed Fit Index)	Greater than 0.90	0.944
Chi sq / df (chi square / degree of freedom)	Less than 5.0	1.091

4. Conclusion

The study consisted of data collected maximum from projects located in urban areas (63.8%) and constituted mainly by male professionals (53.3%). The results of the study identified that the five factors that are— financial factors, organizational factors, quality, health and environment factors, work related factors and social factors, are essential to ensure the quality of lifestyle of the employees in the construction industry. Through the descriptive statistical analysis, financial factors confirmed to be the significant factor affecting the lifestyle. The correlation analysis proves that the identified factors are correlated amongst each other. The questionnaire survey conducted has provided evidence that the discussed factors play a major role in the lifestyle of a construction professional. Hence by foreseeing the factors and adopting favorable changes in a construction professional's life, they may attain a better lifestyle. A better lifestyle will lead to the better productivity of an employee and their raise in organizational value. Hence, it is concluded that, if the factors (Financial factors, Organizational factors, Quality, Health and Environment factors, Work Related factors and Social factors) are taken into proper consideration, it is possible to attain a better lifestyle in a construction professional's life.

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