

INFLUENCE OF DESIGN THINKING AND JOB COMPLEXITY ON JOB SATISFACTION AMONG IT PROFESSIONALS

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ABSTRACT

Information Technology industry is a fast growing industry, in that the developing countries trying to cope with changes made in developed countries. The Information Technology industry in India has gained a brand identity as a knowledge economy due to its IT and ITES (IT-Enabled Services) sector. In recent years, Chennai has rapidly developed into a dynamic Information Technology (IT) hub housing several Software and Information Technology and (ITeS) companies. The primary objective of the study is, to identify the factors that influence the job satisfaction of IT professionals working in selected IT companies in Chennai. The Structured Equation Model was developed to test the impact of the following variables. i.e. financial rewards, career advancement opportunities, working environment, training and development activities and interpersonal relationship on job satisfaction of IT professionals in selected IT Companies in Chennai. The primary data was collected from 20 software companies of small, medium and large scale were located in Chennai, such as TCS, HCL, etc. A total of 172 individuals were contacted by the researcher and received 160 completed questionnaires. The samples were chosen using proportionate stratified random sampling technique. From the path diagram, measured variables with latent variable of influencing factors is having positive relationship and also significant at 1 percent. From the study it is concluded improved job satisfaction that would result in increase in commitment and minimize employee turnover which is the resultant of tackling job complexity by incorporating design thinking in various dimensions in IT companies.

Key Words: Design Thinking, Job Complexity, Job satisfaction, Structural Equation Modeling, IT Professionals, IT industry

1. INTRODUCTION

The Indian Information Technology (IT) industry has played a major role in placing India on the global map. The industry comprises of Software and ITeS and facilities for, Software experiments, Custom Application Development and Maintenance (CADM), network services, IT Solutions and ITeS. IT industry has elevated India from a rural and agriculture-based economy to a knowledge based economy. Mr. Chandrasekar, President of NASSCOM also stated that, “Worldwide IT-BPM spend was USD 8.3 trillion, growing at 6.6 per cent over 2021, global sourcing of services grew

by 10 per cent, and India continued to hold on to its leadership position with a 55 per cent market share.” In FY2021, the Indian IT-BPM industry is projected to account for revenues of USD 346 billion, growing by 23 per cent over last year. Industry exports are over USD 128 billion growing at 17.3 per cent, while the domestic segment, which has promoted from the inclusion of ecommerce and mobile app industry, is expected to touch USD 48 billion. The IT industry’s share in India’s GDP has raised to 14.5 per cent, it counterpoises more than 70 per cent of India’s oil import bill, attracts a major share of PE/VC investments into the country, has effected well-adjusted regional growth and endowed diverse sections of the society, and is the face of the Indian MNC story.

2. REVIEW OF LITERATURE

According to Ivancevich et al (1990) Job Satisfaction is an attitude that individuals have about their jobs. It results from their perception of their jobs. The concept of job satisfaction was originally suggested by Hoppock. He defined job satisfaction in his book as: employee’ feeling about the environment both in psychological and physical and the employee’s subjective reaction to the working situation, including the overall satisfaction of individual psychology, physical environment and working environment. Individuals also have different levels of job satisfaction and motivation. Job satisfaction is the means through which only the organization can improve performance, and work related attitude of the employees. (Susanty et al., 2013).

According to Avolio, Waldman and McDaniel (1990), older employees’ accumulated experience may be advantageous in terms of performance in highly complex jobs. Furthermore, they posit that performance may decline more quickly in non-complex jobs, in which employees become bored. Specifically, job complexity has been shown to moderate the relationship between age and perceived opportunities at work; while age and perceived opportunities are generally negatively related, this relationship is diminished in high-complexity jobs (Zacher & Frese, 2009, 2011; Zacher et al., 2010).

When design thinking emerged more than a decade ago, it offered a response to the ebbs and flows of a global, mediatized economy of signs and artifacts; in this context, professional designers play increasingly important roles, less as makers of forms and more as cultural intermediaries (Julier 2008) or as the “glue” in multidisciplinary teams (Kelley and VanPatter 2005). They are interpreters of changes in culture who then create new kinds of cultural form. Some designers have always seen design as playing important roles socially and politically as well as economically – William Morris, the Arts and Crafts movement, and Italian groups such as Superstudio and Archizoom are examples (Julier 2011); what is distinctive about the development of design thinking is its adoption within managerialist discourse, in particular business schools, over the past decade. In just the last five years, the term is more and more ubiquitous. It found its way into conversations at Davos, the annual meeting of politicians and senior executives from global firms (IDEO 2006); at TED (TED 2009), a conference series that attracts leading figures in business, technology, and entertainment; and into the pages of the Harvard Business Review, an influential (although not peerreviewed) academic journal (Brown 2008).

Design thinking and the designers who say they practice it are associated with having a human-centered approach to problem solving, in contrast to being technology- or organization-centered. They are seen as using an iterative process that moves from generating insights about end users, to idea generation and testing, to implementation. Their visual artifacts and prototypes help multidisciplinary teams work together. They ask “what if?” questions to imagine future scenarios rather than accepting the way things are done now. With their creative ways of solving problems, the argument goes, designers can turn their hands to nearly anything. Design is now central to innovation and since organizations¹ are under pressure to maintain or grow market share, or if in the public sector, increase user satisfaction and effectiveness, then designers and their thinking have something important to offer.

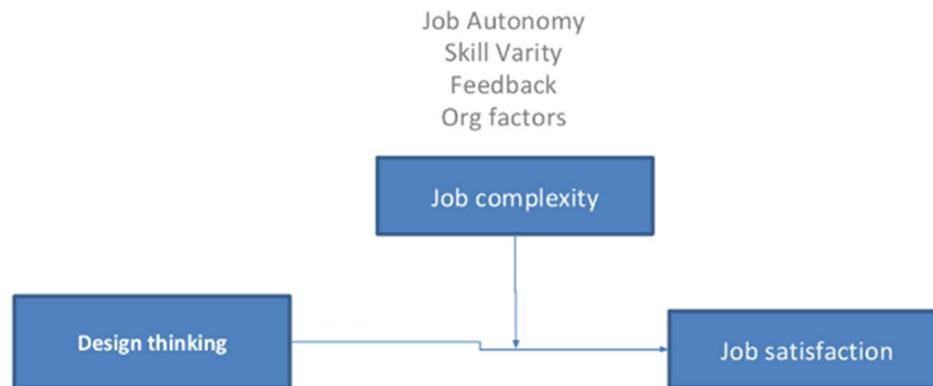


Figure 1: Conceptual Model of the Study

3. OBJECTIVES OF THE STUDY

The main objective of the study is, to identify the influence of design thinking and job complexity on job satisfaction of IT professionals working in selected IT companies in Chennai. Structured Equation Model was developed to test the impact of the following variables. i.e. financial rewards, career advancement opportunities, working environment, training and development activities and interpersonal relationship on job satisfaction of IT professionals in selected IT Companies in Chennai.

4. RESEARCH METHODOLOGY

The study significantly depended on the primary data. However, some secondary sources of data were also consulted, especially for the purpose of gathering background information supporting the study. Data was collected from employees working in Software companies located Chennai. It is also found that around 20 software companies of small, medium and large scale were located in Chennai, such as TCS, HCL, Novel Tech Park, etc. All kinds of employees working in these organizations were requested to participate in the survey i.e. programmers, team leaders, project leaders, business analysts, managers, administrator, finance consultants etc. A total of 172 individuals were contacted by the researcher and received 160 completed questionnaires.

The samples were chosen using convenience sampling technique, by considering the employees head count of the selected IT companies. Job satisfaction was measured using a well-structured 5 section generic questionnaire (Scott Macdonald & Peter MacIntyre, 1997). The scale sought to measure design thinking, job complexity which comprises of job autonomy, skill Variety, feedback, organization skills and overall job satisfaction.

5. DATA ANALYSIS

SEM is capable of estimating or assessing measurement error. It can incorporate both observed and latent variables. SEM models require less reliance on basic statistical methods.

The employees’ job satisfaction model is tested based on the following constructed model. In order to ascertain the influence of design thinking and job complexity on job satisfaction of IT professionals’ structural equation model was developed. From this model, the researcher has made an attempt to find out the impact of design thinking and job complexity on job satisfaction for the employees who working at IT companies.

Testing a measurement model is underlying a full structural model first. If the fit of the measurement model is found acceptable, then one should proceed to test the structural model. The structural equation model is conducted to assess construct validity by using the maximum likelihood method. The confirmatory test result showed good fit as shown in the following model fit summary table.

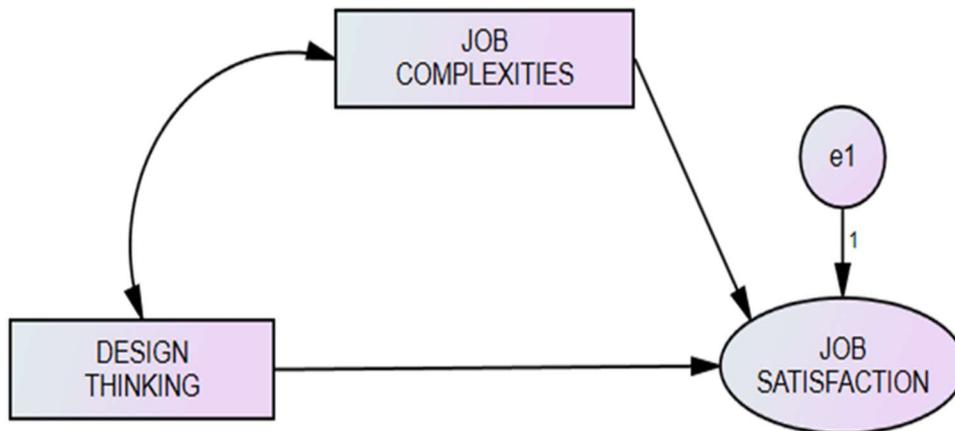


Figure 2: Represents Hypotheses Formulated Model

Table 1 - Model Fit Summary

S. No.	Test Factor	Value	Bench Mark	Result
1	Chi-Square (CMIN)/DF	0.683	2 to 1 or 3 to 1 Carmines G, McIver E G et al. (1981).	Good Fit

2	P value	0.409	> 0.05 (Hair et al. 1998)	Null Hypothesis accepted
3	GFI (Goodness-of-fit index)	1.000	>0.9 Bentler P M, and Bonnet D G (1980)	Good Fit
4	AGFI (Adjusted goodness-of-fit index)	0.996	>0.90 (Daire et a. 2008)	Good Fit
5	CFI (Comparative fit index)	1.000	>0.9 Bentler P M, and Bonnet D G (1980)	Good Fit
6	NFI (Normed fit index)	0.999	> 0.95 (Hu and Bentler, 1999)	Good Fit
7	TLI (Tucker-Lewis index)	1.000	>0.9 Bentler P M, and Bonnet D G (1980)	Good Fit
8	RMSEA (Root mean square error of approximation)	0.000	<0.05 Browne M, and Cudeck R (1993).	Good Fit

Table 1 shows the model fit summary. A model is said to be fulfilling the criteria of goodness of fit, if it satisfies certain values. Based on these values, estimated Chi-square value for the model is 0.683 which satisfy the required condition. Similarly, the required value of root mean square error of approximation (RMSEA) is 0.000, which represents exact or good fit. Similarly, model fit indices (GFI, AGFI, CFI, NFI and TLI) for this employees job satisfaction model indicates that the model fits well. Regression weights between items and factors variables are shown in the Fig. 3 path diagram.

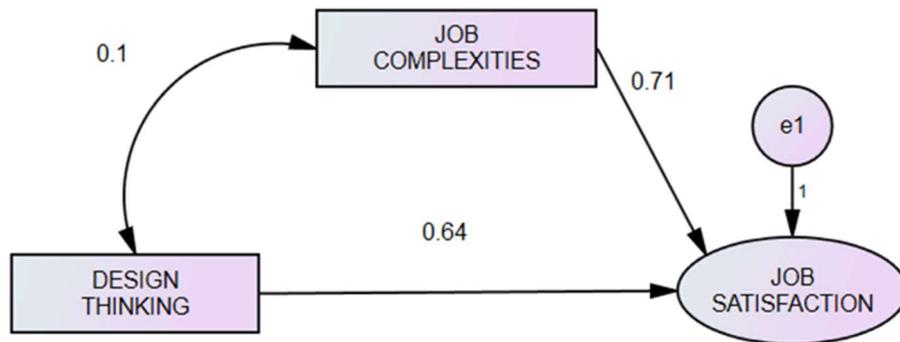


Figure 3: Represents SEM Model based on Standardized estimates

6. HYPOTHESIS FORMULATION

The research hypotheses have been defined on the basis of the model fit summary outlined above and using previous research on employees' job satisfaction. On the basis of above presented model, the following research hypothesis is proposed:

HA: Design thinking of employees influence job satisfaction among the selected respondents.

HB: Job complexity of employees influence job satisfaction among the selected respondents. From this result, it is noted that the estimates of the variable is high which indicates that the job satisfaction of the employees are highly influenced by the training and development activities provided by the IT companies and low in working environment as 1.00 indicates as not highly influenced by the employees in IT companies. These variables are highly significant at 1 percent level and its hypothetical association is presented in the table 2.

Table 2 - Regression Weights

Measured Variable		Latent Variable	Unstandardized Coefficient	S.E.	Standardized Coefficient	C.R.	Result
Design Thinking	---	Job Satisfaction	0.55	0.340	1.75	5.139	<0.001**
Job Complexity	---	Job Satisfaction	0.66	0.364	1.92	5.277	<0.001**

From the table 3. The result of hypothesis shows that all the measured variables of design thinking, job complexity have positive association with IT professionals' job satisfaction in the selected IT companies.

Table 3 Testing of Hypotheses

Null Hypotheses	Hypothetical Relationship	Result
H _{0A} : Design Thinking has no influence on employees' job satisfaction	Positive	Rejected
H _{0B} : Job complexity has no influence on employees' job satisfaction	Positive	Rejected

7. DISCUSSION OF THE RESULT

From the path diagram, measured variables with latent variable of influencing factors is having positive relationship and also significant at 1 percent. The analysis of the 'Job Satisfaction Model', the measured variables design thinking and job complexity are significantly associated with job satisfaction. Hence it is determined that the proposed model has good fit to evaluate job satisfaction of the employees.

8. CONCLUSION

Since a major challenge faced by all IT organizations is job satisfaction among its employees, it would be beneficial for organizations and managers to make conscious efforts to develop human resource policies that are in alignment to the needs of the employees to motivate the employees. The findings of this study have also pointed out that the key items in HR practices such as financial rewards, career advancement opportunities, working environment, training and development activities and interpersonal relationship are having positive association with the employees' job satisfaction in the selected IT companies. It is imperative for IT companies and their managers to review their practices to strengthen the bond between employees and the organization maintain good levels of motivation, increase job satisfaction with the help of encouraging design thinking and avoiding job complexities that would result in increase in commitment and minimize employee turnover.

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