

## **Cross cultural competencies of Indian Software Expatriates- An Exploratory Investigation**

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### **Abstract**

In today's world of global software teams, managing members from multiple countries and cultures adds to an already complex mix of software productivity issues. While software team compositions have been researched based on tasks, personality, and role descriptions, few models exist to help software project managers reason about software teams with respect to culture. As more culturally diverse teams develop software products, software project managers need to manage teams based on cultural factors that will inevitably arise. This research examines the effect of culture on software project team management, and its impacts on software productivity, especially as it pertains to requirements engineering tasks. The main objective is to investigate how individuals from different cultures work together in software development projects, and to use that understanding to formulate a model for reasoning about key cultural factors. This research paper focuses on cross cultural management practices namely cross cultural competency and cross cultural conflict management practices adopted in software companies of India.

**Keywords:** Cross Cultural Impact, Expatriate, Cross Cultural Competency, Conflict Management.

### **1. Introduction**

Globalization has brought about the problem of interaction of cultures. On the one hand, such interaction leads to blurring boundaries between cultures, while on the other hand it leads to the increasing need of cultural-aware managers and professionals. Taking in to account of the shift in meaning, culture is the socially transmitted knowledge and behavior shared by some *group* of people. The above statement on culture which referred as learned and accumulated experience. The recent meaning of culture enjoins society and commented as those socially transmitted patterns for behavior characteristic of a particular social group.

Cultural is a key consideration for this research study, since project managers today interact with team members who have different cultural perspectives. To this end, project managers must understand patterns of beliefs, values, and behaviors shared by project team members in order to effectively plan, communicate and control the team, handle risks, and

make the right decisions. Culture is generally defined as “the arts, beliefs, customs, institutions, and all other products of human work and thought created by a people or group of people at a particular time.” This research focuses primarily on beliefs, customs, and institutions. Cultures are classified in various ways: some people compare Eastern to Western cultures while others study the cultural differences between countries, regions, states, cities, and towns. Other researchers break down culture into subcultures dealing with religious, racial, linguistics, and ethnic backgrounds.

Cross-cultural management is a phenomena having greater impact in global business practice. With ever increasing scope of globalization, managers need to live with more than one culture. The new economic policy of Government of India 1991 has paved way for liberalization and globalization of Indian businesses. The substantial increase in the quantum of FDI in many of the business field is further incentive to boost global business in a more cross-cultural environment in the country. So, strengthening the human force with more domestic and global business skills and knowledge in a cross-cultural environment is one among the emerging needs of the fast developing economy (Somalingam, 2013)<sup>[1]</sup>.

### **1.1 Statement of the Research Problem**

Software engineers as expatriate workers play a complex and vital organizational role in multi-national organizational development. On multi-national assignments, while tackling their mission as change agents, expatriates face distinct challenges ranging from socialization to their new work environment in the host country to concern over career path opportunities upon repatriation, meanwhile, struggling to understand regional cultural differences and the influence of local norms on leadership, teamwork and behavioral pattern encountered in their daily work. Multinational corporations select expatriates primarily based on their technical and business expertise rather than their international experience, interpersonal skills, and cultural sensitivity. This confluence of challenges puts the international assignee in a position prone to making embarrassing mistakes in interactions with host country colleagues, damaging relationships with local managers, co-workers and business partners at a high personal and professional cost to both the employee and the organization. The growing challenges of expatriates' assignment with regard to strategic human resource management skills and knowledge put the expatriates in deep understanding of the concepts and environments. The research problem of the study is focused on the cross-cultural management of Indian software engineers who were on the expatriate assignment.

### **1.2 Objectives of the Study**

Based on the research problem, the objectives of the study were planned as follow:

1. To study and empirically test the cultural values and cross-cultural adjustments of ISWEs.
2. To study and empirically test the cross-cultural competencies and training so as to cope with MNCs work culture.
3. To study and empirically test the ability and capability to manage cross-cultural conflicts.

### **1.3 Scope of Study**

Cross-cultural management is a process of transferring modern management knowledge to a cross-cultural environment. Though much cultural research has already been taken, until recently, most of these studies have been based on western management

philosophies and theories. Most of the cultural studies associated with western management were concerned with cultural differences encountered in non-western markets. India is one among the non-western markets for which the researcher wants to conduct a cross cultural study for the MNCs operating in India. While working in a cross-cultural environment, the important barriers identified by many researchers are cultural differences, assumptions, language, mistrust, different styles etc. This research is conducted to study cultural values of Indian software engineers and its linkages with other cross-cultural components without losing traditional/national culture in a cross-cultural MNCs context. There is very limited empirical research in the area of cross-cultural management in India. Hence, this study is an emerging area of management subject and will gain importance.

## **2. Review of Literature**

### ***2.1 Cross Culture Management***

Cross cultural management research is rooted through the behavior of the people in organizations located in cultures and nations around the world. According to Adler (1990)<sup>[2]</sup>, United States (US) has always been fore frontier in the development of management theory, practice and research. Due to the recent globalization process, the US is leading the development of cross cultural perspective to management. Earlier studies of management in cross-cultural settings used to transfer advanced management practices, techniques and methods from industrialized countries to developing countries. The logic of this approach was to promote the business development of industrialized countries to these “third-world” countries. However, during the recent decades, cross-cultural management researchers have been moving towards the Asian region, with more psychological surface by investigating the attitudes, motivations, and aspirations of human beings in their expatriate assignments.

### ***2.2 Cross Cultural Adjustments and their Impact***

Adjustment was defined as a state where variations or modifications become apparent in an individual to accommodate environmental demands (Black, et.al., 1991)<sup>[6]</sup>. An expatriate had to adjust to three specific aspects namely, general environment, interaction with host country nationals and work. Cross-cultural adjustment was the primary outcome of the international assignment on the expatriate; it further influenced the sense of achievement in terms of satisfaction, performance and assignment completion. Studies into international adjustment by Black and his associates conceptualized it as a multi-dimensional concept suggesting that different antecedents may have different impacts on each of its facets. Adjustment was also one of the most frequently studied factors in assessing the success of an international assignment.

### ***2.3 Cross Culture Conflict and its Impact***

According to Brumann (1987)<sup>[7]</sup>, cross- cultural conflict was a competition by groups or individuals over incompatible goals, scarce resources, or the resources of power needed to acquire them. This competition was also determined by individuals’ perceptions of goals, resources, and power and such perceptions may differ greatly among individuals.

Cross cultural conflict was a characteristic that could be found in any human society and may occur as a result of any kind of social interaction. Conflict that might take place among cultures might face problems of intercultural miscommunication and misunderstanding. Such problems would cause an increased conflict. In addition, culture might work as a link between “an individual identities” to “collective ones”. In order to

understand the complexity of conflict, it had to be born in mind that conflict was not a matter of the one who wins takes it all, so conflict involves both competition and cooperation mixed together (Caligiuri, 2007)<sup>[8]</sup>.

### ***2.4 Cross Cultural Competency and its Impact***

Caligiuri et.al (2007) stated that Multinational corporations required different set of competencies among their employees to complete their global assignments. Typically these included aspects such as adaptability, flexibility, conflict resolution skills, cross cultural awareness, communication ability, emotional maturity, cultural sensitivity, negotiation skills and team building. The above skills and competencies could be classified as core skills and augmented skills.

Caligiuri et.al (2007) recommended that the expatriate from a company perspective should possess some key competencies to undertake an international assignment and identified eight key competencies: ability to transact business in another country, ability to change work style based on the situation, knowledge of the company's worldwide business structure, knowledge of professional contacts worldwide, knowledge of international business issues, openness, flexibility, and ethnocentrism. Spreitzer et al. (1997)<sup>[9]</sup> focused that the candidates chosen for overseas programs should possess "global leadership potential". They had identified 14 dimensions or "themes underlying success as an international executive", making a clear distinction between the end-state skills and the ability to learn from experience. The end-state skills included broad business knowledge, sensitivity to cultural differences, courage to take stand, ability to bring out the best in people, acting with integrity, insightfulness, commitment to success and risk taking. Learning ability consisted in using feedback, being cross-culturally adventurous, seeking opportunities to learn, openness to criticism, seeking feedback and being flexible. They emphasized the following six competencies as "the desired characteristics of the expatriate of the future": thinking globally, appreciating cultural diversity, demonstrating technological savvy, building partnerships, and sharing leadership.

## **3. Research Methodology**

This research was conducted from the perspectives of software engineers working in the Multi-National Companies (MNCs) operating in India, particularly major cities having Information Technology Parks. The methodology for the study was employees' opinion survey. Simple random sampling was used. For the opinion survey, 100 software engineers were approached on the basis of randomly selected samples. Programmed questionnaire was designed as tool for the opinion survey.

### **3.1 Data Collection**

Both primary and secondary data were collected for the study.

### **3.2 Area of the Study**

A nation-wide sample survey of Indian software engineers was administered for the study.

### **3.3 Statistical Tools Used**

The statistical tools used for the study were reliability and validity analysis, percentiles, standard deviation, ANOVA, correlation and regression analysis, Chi-Square test.

### 3.4 Hypothesis

H<sub>0</sub>: Cultural values have no effect on cross cultural impact variables of Indian software Engineers.

H<sub>1</sub>: Cultural competencies have no effect on cross cultural impact variables of Indian software Engineers.

H<sub>3</sub>: Cultural conflict management has no effect on cross cultural impact variables of Indian Software Engineers.

## 4. Data Analysis

### 4.1 Reliability

Reliability is the consistency with which the tools measures what it measures. In the present study, the rationale equivalence method was employed to find out the inter-correlation of items in the test and correlation of the items with the test as a whole. This type of reliability is known as “internal consistency reliability”.

Table 1.1 Item to Total Correlations and Reliability Estimates (n=100) of Cross-cultural Impact Variables

Variables	Item-to-Total Correlations	Alpha
<b>Cross-Cultural Adjustments</b>		<b>0.748</b>
1. Having interpersonal skills to discuss and adjust issues		
2. Inculcating cultural novelty	0.280	
3. Coping with role discretion	0.281	
4. Free from role ambiguity	0.242	
5. Free from home sick and family worries	0.245	
6. Free from role conflict	0.384	
7. Adjustment to new cross-cultural environment	0.475	
<b>Cross-Cultural Competencies</b>		<b>0.772</b>
1. Adequate level of relationship skills	0.379	
2. Linguistic ability for smooth communication	0.260	
3. Motivation to live abroad with cultural curiosity	0.426	
4. Tolerance for uncertainty and ambiguity	0.271	
5. Self-efficacy in demonstrating leadership behavior and attitude	0.382	
<b>Cross-Cultural Conflict Management</b>		<b>0.793</b>
1. Communication styles possibly effective and cooperative	0.436	
2. Emotionally controlled and productive	0.687	
3. History of apartheid does not create conflict	0.600	
4. Manage value systems of individuals during the conflict	0.494	
5. Avoid conflicts of organizational structure	0.588	
6. Compromise needs based on the merits	0.514	

### 4.2 Validity

Validity is also defined as “the extent to which a test measures what it claims to measure. The focus here is not necessarily on scores or items, but rather inferences made from the instrument.

Table 1.2: Intrinsic Validity of the Cross-cultural Impact Variables

<b>Variables</b>	<b>Reliability Coefficient</b>	<b>Intrinsic Validity Coefficient</b>
CA: Cross-cultural Adjustments	0.748	0.865
CC: Cross-cultural Competencies	0.772	0.879
CM: Cross-cultural Conflict Management	0.793	0.891

### 4.3 Correlation

A correlation analysis of the cross cultural impact study on Indian Software Engineers is tabulated as follow:

Table 1.3: Correlations Test

Factors of Cross cultural Impact	Cross Cultural Identity	Cross Cultural Identity	Cross Cultural Identity
Cross Cultural Adjustments	1.000	0.602**	0.639**
Cross Cultural Competency	--	1.000	0.749**
Conflict Management	--	--	1.000

Note: \*\* Denotes significant at 1 level

The Correlation Coefficient between cultural identity and cross cultural adjustments is 0.609, which indicates 60.9% positive relationship between cultural identity and cross cultural adjustments and is significant at 1% level. The correlation coefficient between cultural identity and cross cultural competency is 0.749, which indicates 74.9% positive relationship between cultural identity and cross cultural competency and is significant at 1% level, and similarly the other factors are positively correlated with each other.

### 4.4 Regression analysis

Regression is the determination of statistical relationship between two or more variables. In simple regression two variables are used. One variable (independent) is the cause of the behavior of another one (dependent). When there are more than two independent variables the analysis concerning relationship is known as multiple correlations and the equation describing such relationship is called as the multiple regression equation.

In this study, the dependent variable is Sources of learning and Independent variables are cross cultural adjustments, cross cultural competency, conflict management are discussed as follows:

Dependent variable : Sources for Learning(Y)  
 Independent variables : 1. Cross Cultural Adjustments( $X_3$ )  
 2. Cross Cultural Competency( $X_4$ )  
 3. Conflict Management( $X_5$ )

Multiple R value : 0.838  
 R Square value : 0.703  
 F value : 132.358  
 P value : <0.001\*\*

Table 1.4: Variables in the Multiple Regression Analysis

Variable	Unstandardised co-efficient	SE of B	Standardised Co-efficient	't' Value	P Value
Constant	-65.423	4.536		-14.424	<0.001**
X <sub>1</sub>	0.612	0.103	0.240	5.963	<0.001**
X <sub>2</sub>	0.430	0.080	0.254	5.382	<0.001**
X <sub>3</sub>	0.354	0.182	0.093	1.944	0.053

Note: \*\* Denotes significant at 1 level

The multiple correlation coefficient is **0.838** measures the degree of relationship between the actual values and the predicted values of the cross cultural impact. Because the predicted values are obtained as a linear combination of cross cultural Adjustments(X<sub>1</sub>), cross cultural competency(X<sub>2</sub>), conflict management(X<sub>3</sub>) the coefficient value of 0.838 indicates that the relationship between Cross Cultural Management and the six independent variables is quite strong and positive.

The multiple regression equation is

$$Y = 0.612(X_1) + 0.430(X_2) + 0.354(X_3)$$

## 5. Findings and Discussions

Findings and discussion is a concluding part of the study. As it an empirical research, the findings of the study is demonstrative to apply in an organizational context. The global business management system and cross cultural management of expatriate employees have been continuously evolving and the pressure of cross cultural adjustments and conflict management are gaining importance with respect MNCs organizational context. Hence, cross cultural management of software professionals is frequently affecting the performance of the MNCs. It was also reviewed in the study that diverse cultures encompass dissimilar cultural value systems. The value systems are generated from an assessment of existing means or resources, and needs. Cross-Cultural Competence is essential for global corporations to compete effectively in the world marketplace (Beck et.al 2000). On multi-national assignments, while tackling their mission as change agents, expatriates face distinct challenges ranging from socialization to their new work environment in the host country to concern over career path opportunities upon repatriation. Meanwhile, they are also struggling to understand regional cultural differences and the influence of local norms on leadership, teamwork and behavioral pattern encountered in their daily work

## 6. Conclusion

The results of the study found significant relationship between and within the factors of cross cultural impact identified for the purpose of this study. Above all, this study demands a cross cultural convergence approach of expatriate engineers so as to achieve competitive and mutual advantage through cross cultural competence and to gain source to leverage learning. This study also demonstrated that an appropriate method is to be implemented to gain fairness in reducing cross cultural conflict and to ensure expatriate performance. Since it is an empirical study, the testing of important variables pertaining to cross cultural impact and their degree of relationship of dependent variables (expatriate performance and source to leverage learning) is a base for further research.

The ultimate objective of this study is the growing concern of manpower management of multinational companies. The potent issues of cross culture management prevailing in the industry were analyzed through a rigorous review of literature and empirical analysis from the



perspectives of MNCs. The globalization process has brought tremendous changes in the MNCs' operation, which in turn, implements variety of procedures to standardize the manpower system. Since there is a setback in standard work culture across industries, the burden of different work norms, varying cross cultural competence, frequently changing expatriate assignments and fluctuating work demand across borders made the software engineers to be more stressful and less committed. Because of this situation, cross cultural divergence is uncontrollable phenomena in most of the MNCs resulting imbalance in between employers expectation and expatriate performance. Evaluating and exploring appropriate solutions to encounter the barriers of cross cultural management, cross cultural adjustments and cross cultural competence is need of the hour.

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