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A Study Of Implementation Of Six Sigma In Human Resource Practices In Automobile Industry In Thiruvallur

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Abstract

When we are thinking on the Six Sigma in Human resource management, it was proved that manufacturing and production based companies is not valid as they work with more machines than people. In service sectors the work is extracted more from people than machine. So it gave an idea to choose service sector is more suitable for the study. This fact leads researcher to choose IT industry for the research. Information technology industry is the emerging and important industry in Indian and all over the world. The Indian Information Technology industry represents one of the most successful industries showing consistent rapid growth. And implementation Model of Six Sigma, In this paper author has explained that there is increasing concern about implementation failures of six sigma. One reason many Six Sigma programs fail is because an implementation model on how to effectively guide the implementation of these programs is lacking. In this paper author has developed an effective implementation model which consists of five steps.

Keywords. TQM, ISO 9000, kazien, Quality circle and Six Sigma

STATEMENT OF PROBLEM

In case of Human Resource Department, IIR balanced score card and HR metrics used so far to measure the performance which was developed decades ago.

Success of any organization is majorly depends on HR department which plays an important role in pooling and interconnecting all the departments for smooth running of the organization. There is no systematic tool for Human Resource department process improvement so far. There is strong need for process improvement methodology for Human Resource department.

Six Sigma is the best tool for process improvement and reducing variability of process. This research is focusing on the Role of human resource department in implementing Six Sigma,

challenges to implement Six Sigma in Human resource department, compare the performance of Six Sigma practicing and non-practicing.

NEED FOR THE STUDY

- Six Sigma is accepted and adopted methodology by most of the organization irrespective of the Size and transaction of the organisation worldwide.
- Human resource department plays an important role in any organisation success despite of its size of the department. Human resource department interconnect each and every activity in the organisation and leads towards the ultimate goal.
- Applying Six Sigma methodologies in Human resource management to improve the service quality will surely results with lot of benefits to the organisation as well as to the stakeholders of the organisation. Six Sigma implementation in India is in infant stage.
- Six Sigma in human resource management is in the early stage in worldwide. This research study is aimed to know the role of human resource management in implementing Six Sigma in an organisation, the challenges of implementing Six Sigma in human resource management and the comparison of financial performance between the Six Sigma practicing companies. Outcome of the study would definitely be guidelines to Six Sigma implementation aspirant companies.

OBJECTIVES

1. To know the awareness of Six Sigma concept in Human Resource

Department.

2. To study the Role of Human resource management in implementing Six Sigma.

3. To know the challenges of practicing Six Sigma concept in Human Resource department.

4. To evaluate the performance of Six Sigma concept practicing and non- practicing companies.

5. To construct suitable suggestions.

RESEARCH METHODOLOGY

This study is basically exploratory conceptual and comparative in nature. This study is attempt to explore the role of human resource team in Six Sigma implementation, the challenges of implementing Six Sigma in human resource management and compares the performance of Six Sigma practicing and non- practicing companies.

DATA COLLECTION

Primary Source of Data:

Primary data is collected with the support of Structured and close ended questionnaire in two sets one is used for Six Sigma practicing Companies and other one for Six Sigma non-practicing companies. Apart from the questionnaire direct discussion with Six Sigma experts, telephonic interview, clarification through mail, interaction with academician and Human resource managers had made to being maximum input and furnish quality information.

Secondary source of Data:

Secondary source of information extracted from the research articles, journals, research papers, working papers and case studies.

Sampling method

Systematic sampling technique is used for selecting the companies for the research study. Both practicing and non-practicing companies of Six Sigma concepts in Human Resource Management are selected using the systematic technique.

Snowball sampling technique is chosen for this study for Six Sigma practicing companies. It is a non-probability sampling technique. This sampling technique is used due to the sample selected for the research is not so open to access and hidden populations which are difficult to access.

Sample size

Out of the sample population of Top 50 Companies, by using standard parameter such as 10 years of establishment with 2000 and above employees are working in the company, the sample companies are selected. Because this Six Sigma is not so easy to implement in the newly established companies and we are looking for the Six Sigma implementation in Human resource management, so the company should have more number of employees in the organisation. The structured questionnaire is administered/distributed to the all the 33 IT companies, i.e. 20 Six Sigma practicing and 13 Six Sigma non-practicing companies

Sampling unit

Black belt expert is the key player in Six Sigma projects. Six Sigma black belt and master black belt experts are the responsible persons for the result of any Six Sigma projects. So it is meaningful to choose this black belt and master black belt experts as respondents from the Six Sigma.

HYPOTHESIS

Ho: There is no significant relationship between implementation of Six Sigma and Human Resource Management.
H1: There is significant relationship between implementation of Six Sigma and Human Resource Management.

Ho: There is no significant relationship between Human Resource challenges and Six Sigma implementation in Human resource management.
H1: There is significant relationship between Human Resource challenges and Six Sigma implementation in Human resource management.

REPRESENTATION OF HYPOTHESIS TESTING AND INTERFERENCE THROUGH CROSS TABULATION, CHI-SQUARE TESTS AND KARL PEARSON CORRELATION HYPOTHESES TEST

The data analysis is done to understand the effect of one variable on another variable while holding all her other variable constant and present the current status of the phenomena. The use of various test and graphical representation is done to understand the factors that greater influence the process.

Introduction to Review of Literature

The available literature in the field of Human resource practises and impact of six sigma was read critically and creatively with the purpose to bring conceptual understanding in the domain of Human resource practices in automobile industry and impact of six sigma.

According to Sreeja k, Mintu Thankachan in their research. The study was conducted to find out the defect in the HR practice. Six sigma tools were used at various hotel industries in Bangalore. After the implementation of the six sigma tool in the HR practices it was found that the defects can be rectified easily, author has made use of 5 why analysis, cause and effect diagram and visual control. The 5 Why analysis method is used to move past symptoms and understands the true root cause of a problem. It is said that only by asking "Why" five times successively; you can delve into a problem deeply enough to understand the ultimate root cause. This method is closely related with the Cause and Effect diagram and it helps in making rational decision effectively and efficiently.

Implementation Model of Six Sigma, In this paper author has discussed that there is five steps which they are as following the first step is to do the analysis of customer and market 2. The second step is to develop high level and cross functional team to drive the improvement initiative. 3. The third step is to identify the overall improvement tools which will be the most important step 4. The fourth step is to perform high level process mapping to identify and prioritize improvement opportunities. It is also considered strategic decision implying a top down approach where management is primary involved in decision making 5. The five steps are to develop plan and form lower level improvement team and the necessary documents and revises them as a when needed.

Sujendra SWAMI.P Dr. V Madhusudhana PRASAD in Human Resource factors for Six Sigma success In this article author has attempted to emphasize on the strategic importance of HR function and critical issues that contributes to HR function with specific reference to training.

The author has also reviewed effectiveness and efficiency of measurement model of HR. The study present a detailed case study of implementing of six sigma in the training function at multinational organisation in India, author has taken a sample of 65 organisations having green and black belt six sigma holders from Hyderabad.

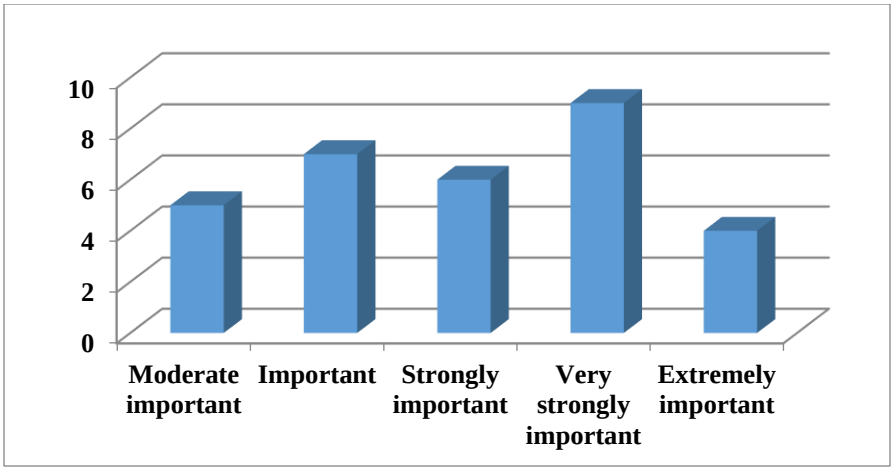
SIX SIGMA IN HUMAN RESOURCE PRACTICES IN AUTOMOBILE INDUSTRIES

The changing business environment is highly competitive environment it is imperative that the companies continuously improve themselves for growth and survival. Cost and quality are the two key elements for the success of any manufacturing industry. Industries are implementing different systems such as TQM, ISO 9000, kazien, Quality circle and Six Sigma etc. Six sigma is customer focus business improvement methodology rather than quality initiative. It helps in removing deficient process and defects from product and services. Six Sigma project management approach help in changing the culture of the organisation. Six Sigma originally focused on manufacturing process of large industries but know the approach has changed it not only focuses on the manufacturing sector but also is equally applied to services sector and too the small and medium size enterprise. Thus it is applicable to any size and any product and service industry globally. It is very important for the auto component manufacturing sector to apply six sigma methodologies for defect free production and cost effectiveness.

TOP MANAGEMENT INITIATIVE

Q7 (a) particulars		**Frequency**	**Percent**	**Valid percent**	**Cumulative percent**
	Moderate important	5	16.1	16.7	16.7
	Important	7	19.4	20.0	36.7
	Strongly important	6	19.4	20.0	56.7
	Very strongly important	9	29.0	30.0	86.7
	Extremely important	4	12.9	13.3	100.0
	Total	**30**	**96.8**	**100.0**	
Missing	System	1	3.2		
Total		31	100.0		

TOP MANAGEMENT INITIATIVE



The above bar graph reveals that six sigma initiative is taken by the top level management as the graph represent that 19.1% agreed it is strong important 29% agreed it is very strongly important and 12.9% agreed it is extremely important.

Implementation of Six Sigma

Particulars		Q3Six Sigma Implement				Total
		Less than or equal to 2	2 to less than or equal to 5	More than 5	Do not know	
Q10e Task Oriented	Important	0	2	1	1	4
	Strongly Important	1	2	2	3	8
	Very strongly important	8	5	4	1	18
Total		**9**	**9**	**7**	**5**	**30**

Chi-square Tests

Particular	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-square	7.505	6	.277
Likelihood Ratio	8.585	6	.198
Linear-by-Linear Association	4.223	1	.040
N of valid cases	30		

Observation; - chi * 2 = 7.505 p = 0.277

Karl Pearson correlation hypotheses testing of decision of implementing six sigma by top management with a. Satisfaction of employees with six sigma results

b. Employee learning with six sigma

c. Increase in employee competency.

Q25 Employees Experience with six sigma		A Employee satisfied with results	B Employee Learning	C Employee Competency	Q25 Score
Q8 Decision of implementation of six sigma by top management	Pearson Correlation	.508**	.588**	.507**	.593**
	Sig. (2-tailed)	.004	.001	.004	.001
	N	30	30	30	30

Studying correlation of decision of implementing six sigma by top management with employee satisfaction with respect to six sigma results.

H0 Decision of implementing six sigma by top management is not significantly correlated with employee satisfaction with respect to six sigma results

H1 Decision of implementing six sigma by top management is significantly correlated with employee satisfaction with respect to six sigma results Since significance value is 0.004 which is less then alpha reject

H0 therefore decision of implementing six sigma by top management is significantly correlated with employee satisfaction with respect to six sigma results The strength of relationship is 0.508 which indicates weak positive correlation.

H1Decision of implementing six sigma by top management is alone not explaining employee satisfaction with respect to six sigma results.

KARL PEARSON CORRELATION HYPOTHESIS TEST

		Q25 (A) Employee satisfied with results	Q25 (B) Employee learning	Q25 (C) Employee competency	Score
Q7 importance of six sigma as a	**Pearson Correlation**	**.574****	**.698****	**.625****	**.701****

management initiative	**Sign. (2-tailed)**	**.001**	**.000**	**.000**	**.000**
	N	**30**	**30**	**30**	**30**
Q0 Decision of implementation of six sigma by top management	**Pearson Correlation**	**.508****	**.588****	**.507****	**.593****
	Sign. (2-tailed)	**.004**	**.001**	**.004**	**.001**
	N	**30**	**30**	**30**	**30**
Q9 Score	Pearson Correlation	-.015	.141	-.110	.022
	Sign. (2-tailed)	.937	.457	.563	.908
	N	30	30	30	30
Q10 Score	Pearson Correlation	-.044	-.102	-.101	-.091
	Sign. (2-tailed)	.819	.590	.594	.632
	N	30	30	30	30
Q11 Score	Pearson Correlation	.259	.346	.369*	.357
	Sign. (2-tailed)	.167	.061	.045	.053
	N	30	30	30	30
Q13 Score	Pearson Correlation	-.023	-.182	-.142	-.131
	Sign. (2-tailed)	.903	.337	.453	491
	N	30	30	30	30
Q14 Score	Pearson Correlation	-.162	-.358	-.170	-.266
	Sign. (2-tailed)	.394	.052	.369	.156
	N	30	30	30	30

H0 :-Null Hypothesis

No significant relationship between effective implementation of Six Sigma and increase of quality Performance by employee.

H1 :-Alternative Hypothesis

There is a significant relationship between effective implementation of Six Sigma and increase of quality Performance by employee.

FINDINGS

As six sigma methodologies has been playing an increasingly significant role in organizational management for more number of years, little research has been conducted in this area. Motivated by the need to study how methodology affect the performance of the organization a research was carried out in a large manufacturing industry.

Relationship of leadership attribute with the number of years of six sigma implementation

S. No.	Leadership Attribute	p Value	Correlation with No of years of six sigma implementation
1	Compliance focused	P value =0.	No Significant Relationship
2	Interpersonal	P value =0.	No Significant Relationship
3	Transactional(exchange oriented)	P value =0.	No Significant Relationship
4	Supportive	P value =0.	No Significant Relationship
5	Task oriented	P value =0.	No Significant Relationship
6	Communicative	P value =0.	No Significant Relationship
7	System focused	P value =0.	No Significant Relationship
8	Entrepreneurial	P value =0.	No Significant Relationship
9	Transformational (change oriented)	P value =0.	No Significant Relationship
10	Participative	P value =0.	No Significant Relationship

The analysis was done using the chi square test and the results reviles that p value of the attributes is greater than alpha which indicates that leadership attributes are not depended on the number of years of six sigma implementation. It was found that individually the leadership attributes did not had a significant relationship with number of years of six sigma implementation.

CONCLUSION

It was found that Success of six sigma depends upon the top management initiative for implementation of six sigma, senior management and their continuous support and commitment for quality improvement. This led to change in the attitude of employees and develop new strategy for the organization. The quality initiative helps in formation of the quality culture in the organization which in turns helps in increasing motivation, innovation,

satisfaction and goal directed behaviour among the employees. Implementation of six sigma also increases employee learning, employee results and commitment to the project and towards organization.

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