Research Paper

SUSTAINED GROWTH AND COMPETITIVE ADVANTAGE THROUGH CRM IN INDIAN HEAVY INDUSTRY (IHI)

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Abstract
This is a pioneer research attempted to understand how CRM helps manufacturing firms in Indian Heavy Industry (IHI) in further growing the business. Paper also identifies and investigates the CRM elements that play a critical role in providing a competitive edge to the firm in today's competitive world of business. The study identified four major elements of CRM namely Customers, Process, People and Technology. The study examines how various manufacturing firms in IHI leverage these elements to achieve their corporate goals. Firms use CRM philosophy as an integrative approach for managing customer relationships that concentrates on customer retention and developing relationship. Organizations implementing CRM reap the rich benefits of customer loyalty and long term profitability. The study concludes with the finding that management of a successful CRM implementation calls for a balanced integrated management approach to CRM elements - People, Process and Technology.

Keywords: Customer Retention, Relationship Marketing, CRM Elements, Integrative Approach.

INTRODUCTION

> **"CRM is all about acquiring, developing, retaining satisfied loyal customer, achieving profitable growt, and creating economic value in a company's brand(s)."**

Goal of every business is to serve its customers profitably. Customer Relationship Management (CRM) is a way to do just that. Firms work on creating and delivering superior customer value. Creating and enhancing the ultimate customer value call for in-depth understanding of the customers in totality. Delivering superior customer value is an ongoing concern for building and sustaining competitive advantage. CRM is the seamless integration of sales, customer service, marketing, field support and other customer-related functions. CRM enables firms to integrate **people (customers + Employees), process** and **technology** to maximize value for all customers and other stakeholders.

CURRENT SCENARIO IN IHI
Indian Heavy Industry comprises of heavy engineering industry, machine tool industry, heavy electrical industry, industrial machinery and auto-industry to name the few. These industries provide goods and services for almost all sectors of the economy, including power, rail and road transport. The machine building industry caters the requirements of equipment for basic industries such as steel, non-ferrous metals, fertilizers, refineries, petrochemicals,shipping,paper,cement,sugar,etcThe ministry of heavy industry is responsible for the twenty-four public sector enterprises. Department of heavy industry monitors these sectors.

STATEMENT OF PROBLEM
Firms in IHI are engaged manufacturing and supply of plant and machinery. In developing economy like India, manufacturing sector producing and supplying various machinery and plants is on the growth mode. In heavy industry business buying decision making process is complex. Business buyers search for alternatives and evaluate them, various attributes of product quality and services. The buyer put more emphasize on various elements of CRM during their business buying decision making process.

OBJECTIVES
1. To study Growth & Development of CRM in Indian Heavy Industry.
2. To examine the role of CRM-Process in the growth of the Organization.
3. To find out contribution of CRM Elements in providing giving Competitive Edge to the firms in IHI.

SCOPE

Scope of the study includes developing a deeper understanding on how firms in IHI derive their competitive advantage from CRM practices. The study focuses on the role of CRM in helping organizations in creating unique competitive advantage to fight with cut-throat competition in market place. The aim of the research study is to find out the customer relationship elements in the context of growth of the organizations. There are inherent company specific factors that help organizations to survive and grow. Therefore the main aim of the study is to find out how customer relationship management has supported the growth for the heavy industry in particular. The scope of the research will be limited to the organizations from the Indian Heavy industry.

LITERATURE REVIEW

Jesús García de Madariaga, (2004), conducted a survey and took sample of executives from top firms in Spain having more than hundred million Euros net sales. The author reported the status of customer relationship solutions in their respective firms. The results were compared with the USA status which was reported earlier. **Enzo Colombo, Chiara Francalanci** (2004), in his paper, discussed the ranking model and explained how it helps in identifying and choosing the appropriate CRM packages. He advised user firms to be careful in selecting packages and advised to pick up keeping in the view the functional and technical aspects. **Mary Wardley,** 2008, argued and discussed the merits and advantages to the firms who implement and use various CRM packages. He cautioned firms to examine reductions in operating costs. Author guided and advocated firms to use Information System for achieving the favorable results. **Annette Reichold, Lutz Kolbe, Walter Brenner,** (2007), published their research article wherein they highlighted the CRM performance of the firms. They also examined the applications of CRM performance in measuring the return on investment for CRM activities. **Jorna Leenheer, Tammo H.A. Bijmolt, Harald J. van Heerde, Ale Smidts,** (2003), published a research paper wherein they highlighted the influence company has due to their loyalty schemes & programs. For their research, authors used panel data on supermarket procurements. **Neel Das and Paul W. Clark,** (2007), discussed various options and ways to minimize post-purchase cognitive dissonance undergone by the customers. They also emphasized on implementation of e-CRM.

RESEARCH GAPS

Available literature focuses customer relationship management in a general way. Various researchers have done a lot of work and examined CRM from different perspectives of business to business marketing. All the basic elements of CRM have been studied by the earlier researchers were confined to one or two industries in not so significant sectors. Further, the direct literature explaining impact of essential elements of CRM on performance is very few and far between. Hence a need was felt to fill the research gap by undertaking a comprehensive study.

DATA SOURCES

This used both primary and secondary source of information. The secondary information sources consist of various business journals, magazines, newspapers and internet. The primary information was collected from respondents administering a structured questionnaire to the respondents working in the selected firms.

SAMPLE DESIGN

Sample Size: 12 firms selected from PSUs and private firms (8 PSUs Organizations - 4 Nirvana PSUs & 4 non- Navratna and 4 Pvt. Organizations). 10 respondents from each was selected firms were considered for the data collection. The technique for sample selection was selective one and the selection of respondents was convenient.

INSTRUMENT FOR DATA COLLECTION

A questionnaire was designed and customized according to the requirement of the research objectives. The question was framed after analyzing the various factors that records respondent's response and would have an impact on the research. Majority of the questions were closed ended while a few were opening ended.

TECHNIQUES FOR DATA ANALYSIS

The techniques used were ranging from simple percentage analysis, cross tabulation, Pearson's, Kendall's and Spearman's correlation, linear regression and SPSS.

RESEARCH HYPOTHESIS

Ho1: CRM practices, processes and technology implemented for CRM practices are independent of the company.

Ha1: CRM practices processes and technology implemented for CRM practices positively associated with the company.

Ho2: There is no significant association between growth of the Navratna PSUs and private organizations with CRM practices followed.

Ha2: There is a significant association between growth of the Navratna PSUs and private organizations with CRM practices followed.

TESTING OF HYPOTHESIS AND DATA ANALYSIS

Table showing Critical values for Chi-Square and comparison with Calculated Chi Square

df	22
Chi Square calculated	44.171
Critical	33.924

Since Chi-Square calculated value was much higher than the Chi-square critical value, null Hypothesis was rejected with 95% confidence interval and the alternate hypothesis H_{a1} was accepted which states that CRM practices, processes and technology implemented for CRM practices are positively associated positively with the company.

Table showing Critical values for Chi-Square and comparison with Calculated Chi Square

df	22
Chi Square calculated	118.710
Critical	33.924

Since Chi-Square calculated was much higher than the Chi-square critical, null Hypothesis was rejected with 95% confidence interval and alternate hypothesis was accepted which states that the technology implemented for CRM practices are closely associated with the sample company.

Table showing Critical values for Chi-Square and comparison with Calculated Chi Square,Since Chi-Square calculated was much higher than the Chi-square critical, null Hypothesis was rejected with 95% confidence interval and alternate hypothesis was accepted which states that the processes followed for CRM practices are positively associated with the company.

ANALYSIS RELATEDTOCRMRESULTINGIN"INTEGRATEDGROWTH" OF THE ORGANIZATION

In order to understand the impact of CRM on integrated growth, it is necessary to initially define "Integrated growth". Integrated growth is considered as the overall growth of the company which can be measured in many ways as listed below:

1. **Financial measures**
   1. Top line growth (Revenue growth rate)
   2. Bottom line growth (PAT growth rate)

2. **Market share values**

It may be noted that since BHPV has been merged with BHEL the customer retention data and other financial data weren't available and hence not incorporated in this part of the analysis.

The overall increase in the top-line is considered as a measure to define the integrated growth of the firm.

	Sales		
	2011	**2007**	**YOY growth (%)**
BHEL	44,002.76	19,058.33	23.27
L & T	44,055.55	17,983.37	25.11
NTPC	55,216.69	32,817.30	13.89
ONGC	66,487.19	57,190.17	3.84
ABB	6,638.16	4,621.89	9.47
BOSCH	7,149.69	4,212.79	14.14
BEML	2,802.61	2,618.79	1.71
YOKOGAWA	603.40	331.48	16.15
SAIL	47,156.25	39,722.59	4.38
CCI	239.66	136.54	15.10
HMT	200.86	233.11	-3.65

CRM initiatives can be on 4 fronts as mentioned earlier: process, people, customer and technology. At this stage of analysis, multivariate regression was carried out to understand how each of these elements impacts the growth of the organization.

Results are shown below

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics RSquare Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.876[a]	.767	.611	5.6109994	.767	4.924	4	6	.042	2.065

a. Predictors: (Constant), Technology, People, Process, Customer

b. Dependent Variable: YoY %

Coefficients

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	-51.056	34.711		-1.471	.192		
	Process	1.561	.792	1.613	1.971	.096	.058	17.212
	People	.927	1.182	.589	.784	.463	.069	14.485
	Customer	-1.424	1.053	-1.381	-1.352	.225	.037	26.803
	Technology	-.005	.173	-.008	-.029	.978	.540	1.850

a. Dependent Variable: YoY %

The R^2 value obtained at the end of the model was 0.767 and the final equation obtained through this model is YoY growth% = -51.05 + 1.561*Process + .927*People -1.424* Customer - .005*Technology Clearly process and people appear to be having the maximum impact on the growth of the company when compared to the other parameters.

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This clearly explains that the only way there is differentiation in this industry is through having excellent processes in place along with good employee retention that would keep the customer contacts intact.

  a. Customer relation has to be given highest priority.
  b. Employee retention has to be given 2nd highest priority.

Thus, it is concluded that in Heavy Industries PROCESS and PEOPLE are the 2 major elements where the company needs to follow CRM practices to improve their overall performance.

  1. Retained customer data used as an alibi for CRM practices
  2. Navratna PSUs data

Calculate the critical value of a 2 tailed t-statistic from the table

Thus critical value of t statistic is given by (for 90% confidence interval)

$t_{=.05} = 3.36$

Calculate t statistic :

Result of the analysis is given as below:

	t Stat	*P-value*
CRM score	2.431	0.1732

Table showing Result of two tailed test

2.431 <3.36

$T_{actual} < t_{critical}$

This also gives a significance level 34% (2*.17 = .34 = 34%)[1]

Thus it is concluded that the null hypothesis cannot be rejected.

Calculate the critical value of a 2 tailed t-statistic from the table

Since error can be either ways, two tailed test suits most.

Thus critical value of t statistic is given by (for 90% confidence interval)

$t_{=.05} = 3.36$

Result of the analysis is given as below:

	t Stat	*P-value*
CRM score	3.745	0.0432

Table showing Result of two tailed test

  1.745 3.36

$T_{actual} > t_{critical}$

This also gives a significance level 8.64% (2*.0432 = .0864 = 8.64%)[2]

Thus it is concluded that the null hypothesis is rejected with 92% confidence interval and the alternate hypothesis is accepted which states there is a significant association between growth of the private organizations and its CRM practices.

FINDINGS

Indian Heavy Industry sector is represented by twelve selected organizations. To get a balanced view, four navratna public sector enterprises, four non navratna public sector enterprises and four private organizations are chosen. BHEL, ONGC, NTPC and SAIL come under navratna public sector enterprises. BHPVL, HMT machine tools, BEML and CCI come under non navratna public sector enterprises and rest of the four organizations namely L & T, ABB, Bosch and Yokogawa come under private limited enterprises. The major findings of the research are as given below:

  1. CRM practices, processes and technology implemented for CRM practices are followed with the different intensity in the organizations.

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[1] Multiplied by 2 since it's a 2 tailed test

[2] Multiplied by 2 since it's a 2 tailed test

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2. The navratna organizations are totally customer centric and focus on CRM practices, processes and technology implemented for CRM practices for all their business activities to take care of the customer needs and requirements.
3. It has also been found that the organizations actively follow the philosophy and practices of CRM concentrate on three major elements of the successful CRM namely People element consist of External customers as well as employees of the firm, Process element and Technology element.
4. A high positive correlation has been found during Pearson's, Kendall's and Spearman's coefficients. It clearly indicates that retained customers and CRM initiatives are positively correlated. It leads to sustained growth of the firms.
5. It was found that CRM can be on 4 fronts namely - Process, People, Customer and Technology. While performing multivariate regression in order to understand how each of these variables impacts the integrated growth of the organization.
6. It has been found two elements namely process and people appear to be having the maximum impact on the integrated growth of the company when compared to the other two elements.
7. It has been found that there has been a significant growth in CRM practices in Heavy industry over last 2 decades. This has come in to light while performing analysis of the various data of the organizations. There was a similar finding witnessed by the researcher which indicated that there is significant association between CRM practices and integrated growth of the organizations.
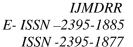
SCOPE FOR FURTHER RESEARCH
This study can be replicated for different firms to get either similar or different results. The same study can be extended to related categories of other organizations. There may be many underlying factors in buying decision making and it may significantly vary from firm to firm which can also be tested.

RECOMMENDATIONS
1. Customer Relationship Management (CRM) can be explained more comprehensively if its elements are considered. The important elements of successful CRM are People (employees), processes, customers and technology. It is suggested that organizations in heavy industry sector, have to focus on all of these elements and formulate strategies for growth.
2. To avail maximum benefits, organizations should categorize its business activities from the perspectives of customers, employees, processes and technology. Organizations also have to focus on developing long lasting bond with customers. The companies should also concentrate on showcasing customer centric and customer focus functioning to the employee and customer.
3. Since people and processes are playing vital role in the business growth, organizations should develop sound relationship with people and orient their all processes to keep customer satisfied. With regard to employees, the respondents attach greater importance to management gestures on parameters like service, durability, status etc with brands which has to be understood by the marketers and the theme of communication should be around the same.
4. It is suggested that the organizations in Indian Heavy Industry have to understand the impact of CRM practices and learn how this strategic approach influence and contribute in their integrated growth. Integrated growth refers to the overall growth of the company which can be measured either through financial measures or through market share values.
5. Out of all CRM elements, process and people appear to be having the maximum impact on the growth of the company when compared to the other parameters. Hence it is suggested that firms should formulate their business strategies and approaches keeping in the view processes and people.

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