

An Outlook of Human Resources Involvement a Mediator for Target and Kaizen Costing Implementation

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Abstract

Target and kaizen costing require people involvement of all levels members in the company for successful implementation of Japanese total cost management system. The cross-functional team structure is the critic component for the implementation of target and kaizen costing. Target and kaizen costing successful implementation depend on the employees of different departments of the company. The paper presents a study on the involvement level of different department in sample companies. The paper discusses that human resources are assets for an organisation and they perform various activities as a mediator in the implementation of modern costing techniques and without their support and ideas these costing methods cannot give best results.

Introduction

The Japanese total cost management concept includes two components namely target costing and kaizen costing. The coordination of target costing and kaizen costing is done to ensure a proper implementation of the total cost management to attain goals of the company (Monden & Lee, 1993). Cost reduction is sometimes used similar terms as cost management of new products (Makido, 1989). Target costing is a strategic management accounting practice which involves shaping the price by first the market is willing to pay and then produces a product or service to meet that price and kaizen costing involves the continuous improvements of products (McLaney & Atrill, 2002). Target costing is closely related with kaizen costing approach but target costing is used in the development phase and kaizen costing after product launch (Monden, 1992).

The cross-functional team structure is the critic component for the implementation of target and kaizen costing. Target and kaizen costing successful implementation depend on the employees of different departments of the company. According to Ansari & Bell (1997) implementation of target costing requires responsive spirit of employees for efficient operations and improvement in the firm. This is possible only when top management is

involved in this process and they can build and encourage employees to find out the areas of their weaknesses requiring improvement. Ewert & Ernst (1999) said that first characteristic of target costing is to produce a product at allowable cost according to market situations and for this design engineers have to focus and employees should be motivated. Target costing needs cross functional team involvement and it is one main factor of target costing successful implementation. In Japanese companies employees prefer groups working than individual working because they feel added advantage in groups and they are more comfortable in groups than separation. Decisions after group debate are considered more effective and vital. Trust between all members of company is essential for target costing successful implementation. Swenson et al. (2003) revealed six principles for target costing (1) Price-led costing, (2) Focus on customers, (3) Focus on design, (4) Cross-functional involvement, (5) Value-chain involvement and (6) A life-cycle orientation. The loyalty and trust connect employees with the organization and they work with their own interest at all times to make the firm successful. Trust between the organization and workers are necessary, still a strong commitment to work of members is vital. Previous studies show that in Japanese companies employees work with commitment and willingness for long time. Japanese companies always increase their employees' knowledge through training and job rotation (Feil et al., 2004). Ellram (2006) stated that target costing process focuses on the voice of the customer, earlier supplier involvement, concurrent engineering and cross-functional teams. By focusing comprehensive education authorities and employees working in the company can understand well implementation of target costing. Target costing successful implementation fails when management and shop floor employees do not know and cannot understand the working philosophy of costing techniques and strategies of their organization (Ansari & Bell, 1997). Cross-functional project teams are the framework of corporate structure in company. Each individual belongs to a team and every work team lead by a team leader. This develops a spirit of mutual ownership and collective responsibility among employees.

Monden & Hamada (1991) pointed out the necessity of the involvement of all level employees for the implementation of target and kaizen costing and incentives for their motivation. Kaizen costing method demands for an open working area in company. It also requires open and creative thinking of workers for cost reduction. Projects are planned and executed through cross functional or cross departmental teams members these teams even involve members from outside the company.

Literature said that motivational consideration is very important for well execution of these techniques in company. Target cost and kaizen cost targets can be met by the company through the assignment and decomposition of total target costs and kaizen costs among different departments. Target costing and kaizen costing require people involvement at all levels members of the company for successful implementation of Japanese total cost management system.

Review of Literature

A rational and transparent target costing process can motivate employees to take up difficult targets. Target costing process should be rational and agreed otherwise no one will accept their responsibility for achieving the targets (Kato, 1993). It is necessary that employees believe the targets and commit themselves to attain the targets. Target costing is adopted as a philosophy that has gained recognition due to the need to produce a product at a pre decided cost level. This method is used with the help of team not to control employees and teams. In target costing process top management and all remaining employees are important (Ansari & Bell, 1997). Typically there are four main teams in a manufacturing process of product: the business planning team, the product team, the design team and the product manufacturing

team (Ansari & Bell, 1997). The effectiveness of this method usually increases with the involvement of personnel. The members of team should be trained to apply the target costing process. This system motivates employees think and act strategically. Multidisciplinary teams are crucial (Cooper & Slagmulder, 1997). These teams play very important role in achieving cost/price, quality and functionality objectives. Without these teams shop floor workers commit no cost reduction. Target costing process focuses designing the new products and cross functional teams to assess the possible design alternatives. Commitment of workers towards task requires trust and respect among team members. Support of all employees is vital for target costing. Kato et al. (1995) supported cross functional teams and they use the term “people involvement”. An integrated and skilled product development team having members from different departments can satisfy the requirements of market (Butscher & Laker, 2000).

Kato et al. (1995) presented some common importance of cross functional teams for target costing. Cross functional team members are from different departments and all worked together for smooth functioning of target costing. Webb (1991) explained that first concentration on human issues because after a long groundwork job and job rotations bring a vast wealth of experience and working knowledge related with problems and due to the vast experiences employees become multi-specialist and can understand a wide variety of issues which is important to the running of organization because they also deal with problems. The author suggested that managers should broaden their specialty to handle the unstable nature of business. Ghalayini et al. (1997) stated that tuning of a system on shop floor level can be reduced the costs because kaizen is based on the knowledge of shop floor workers about the small parts of the work or system. They stated that through this system progress is likely to be large which is beyond the control of management because shop floor persons play a supporting role in this system but there can be also fear of irregular process. Malloch (1997) stated that many employees took kaizen as a stress while some other employees considered kaizen as a positive way of working because they said that training on kaizen made their job interested and easier. The author found two dimensions of shop floor workers regarding kaizen.

Soltero & Waldrup (2002) opined that for effective application of kaizen involvement of everyone and hearing everyone’s idea in the organization are important. Cheser & Tanner (1993) indicated the use of kaizen costing within a given framework and with the involvement of groups. The achievement of financial goals in any company depends on raising relationship. Japanese companies gives a great weight to harmony and Japanese companies carry a non-adversarial communication and the escaping from interpersonal conflicts. Monden & Hamada (2000) stated that kaizen costing always focuses on excellence by continuous small improvements in process and product with the involvement of all working levels in the company. Feil et al. (2004) stated that top management leadership, team-orientation, commitment to work, mutual trust and information network are the pillar of target costing implementation. Modarress et al. (2005) recommended the use of value-added analysis on the shop floor level to facilitate work cells in reaching their kaizen targets. Budugan & Georgescu (2009) said that target costing is the first step and after these employees of the firm are tried to attain the cost targets by eliminating certain activities and by the reduction of the costs through kaizen costing.

Kaplan & Cooper (1998) mentioned that kaizen philosophy favours to delegate more authority and responsibility to the specific teams in order to provide them freedom in improving their parts in the process. In this system every activity is supported by a work team that shares the result. Nicoleta & Marascu (2009) suggested that for the success of kaizen an employee suggestion system is important and its use depends on management commitment to support employees.

Cross functional team refers as the interaction of the different departments. Cross-functional product and process teams include the members from different departments such as design, manufacturing, purchasing, engineering, sales, research & development, cost accounting and marketing departments in the design and development process stages of the product. The cross-functional teams are responsible from the initial concept of product to the end or final product (Ansari & Bell, 1997). Finance department helps in the assignment of cost targets, engineering helps in using techniques like value engineering to save costs, purchasing works with suppliers for parts and components, manufacturing helps in improvements of manufacturing processes, sales department in the distribution of products etc. The cross functional teams' participation early in design and development phase greatly affect product life cycle costs.

Objective of the study

The objective of the study is to evaluate the involvement of various departments in implementation of two modern costing techniques namely target costing and kaizen costing in the sample companies.

H₀- There is no involvement of departments in the implementation of target and kaizen costing techniques.

Methodology

In the present study data collected from sample companies from automobile industry is analysed to accomplish the objective of the study.

Research Population

The research objective of the study is concern with the use of kaizen and target costing techniques in Indian automobile companies. The target population of this study identified in this concern is Indian automobile companies. This study concentrates only on this sector in order to avoid confusion arising from variations between different sectors. Automobile sector is suitable for this study because according to literature this sector have a higher proportion of firms who are most likely to use kaizen and target costing techniques.

Sample Selection

The study has been conducted on automobile manufacturers in India. The modern costing techniques were originated in Japanese automobile companies which provide an ideal base for the present study on target and kaizen costing in Indian automobile companies. Cost management is a vital area in automobile manufacturing companies and these companies focus on the implementation of new costing techniques. One reason for choosing sample automobile companies is that they are the large-sized firms, having good image in their field and have larger resources available for investment in new techniques such as kaizen and target costing. The three rational criteria for sample selection were: Research objective, existing literature and data availability and accessibility. The sample of study should be representative of the population. In this view, purposive as well as convenience sampling have been applied to select the sample of the study, because it is believed that selected sample companies providing the typical information for the accomplishment of the study. Therefore, three large companies were selected which were considered relevant to the purpose of the study.

Sample of the Study

A sample of three automobile companies was taken for the study. For the study following companies have been taken as sample companies-

1. Maruti Suzuki India Limited
2. Hero Motocorp Limited
3. Honda Motorcycle and Scooter India Private Limited

Sample Size

The sample size from each of the sample company in this study after response of respondents has been used as under:

	Maruti	Hero Motocorp	Honda
Managers	39	34	20

In the above stated way total sample size of 93 has been used (and data is collected) for the attainment of the objective of the study.

Data collection

For the completion of the study both primary as well as secondary data have been used. Data from primary sources have been attained for this study through various means such as direct visits in companies, structured questionnaires which were distributed among respondents, also e-mail of questionnaires, discussions with the officials of sample companies, feedback from managers at different level, people at operational level, through telephone calls, face to face conversations and interaction with employees of companies. Data from secondary sources have been obtained from financial statements of companies, annual reports of companies, research and development statistics of the sample companies, other documents underlying cost management, websites of companies (Maruti Suzuki, Hero Motocorp and Honda Motorcycle & Scooter), textbooks, web pages (internet search), trade and scholarly Journals (literature or previous studies) related to cost management and control in manufacturing companies.

Research Instrument

In this research, the most applicable method of primary data collection is deemed to be questionnaires. The questionnaire had been developed containing various questions in this study, for managers. The survey instrument sought objective information about the actions taken by managers to motivate their employees in sample companies. The questionnaire has mainly questions regarding involvement of different departments in the application of both costing techniques.

Statistical techniques

Analysed data is presented in form of frequency tables and in percentages. The descriptive analysis of the data is used to provide a summary of responses of the respondents, which are: frequency distributions and percentage. Descriptive statistics have been used to draw percentages of frequencies. Chi-square test has been used mainly for data analyses. It is used to find out any significant difference between observed and expected responses.

Data Analyses

Generally big companies have many departments for smooth functioning. The analyses regarding the objective have been done on the basis of questions in the questionnaire related with the objective and it is depicted as under:

Table 1: Involvement of Product Planning Crosstab

			Name of Company			Total
			MARUTI	HERO	HMSI	
Involvement product planning	Lightly	Count	2	0	0	2
		Expected Count	.8	.7	.4	2.0
	Moderately	Count	3	0	0	3
		Expected Count	1.3	1.1	.6	3.0
	Significantly	Count	31	3	4	38
		Expected Count	15.9	13.9	8.2	38.0
	Extremely	Count	3	31	16	50
		Expected Count	21.0	18.3	10.8	50.0
Total		Count	39	34	20	93
		Expected Count	39.0	34.0	20.0	93.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	58.644(a)	6	.000
Likelihood Ratio	68.836	6	.000
Linear-by-Linear Association	33.635	1	.000
N of Valid Cases	93		

a 6 cells (50.0%) have expected count less than 5. The minimum expected count is .43.

In order to analysis and easily understand the involvement of product planning department members, an empirical study has been carried out in this context. The above table 1 shows that expected and count figures indicate a considerable difference in the involvement of product planning department. It is observed that the calculated value of chi square at 6 df. @ 5% level of significant, indicate 58.644. Meaning thereby, that calculated value of chi square is higher than that of given value that is 12.53. Hence, the null hypothesis is rejected. Hence, it is quite obvious that the employees of sample companies working in product planning

department involve in the practices of kaizen and target costing techniques. It is clear from the observation, that the respondents have marked (88) in total on ‘Extremely and significantly’. It indicates a clear-cut picture on the involvement of employees working under product planning department in all sample companies and also this department helps in the implementation of these techniques. The table also presents that the responses on this aspect are more positive in HMSI and Hero than in Maruti.

Table 2: Product Development
Crosstab

			Name of Company			Total
			MARUTI	HERO	HMSI	
Product development	Lightly	Count	2	0	0	2
		Expected Count	.8	.7	.4	2.0
	Significantly	Count	34	9	1	44
		Expected Count	18.5	16.1	9.5	44.0
	Extremely	Count	3	25	19	47
		Expected Count	19.7	17.2	10.1	47.0
Total		Count	39	34	20	93
		Expected Count	39.0	34.0	20.0	93.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	52.107(a)	4	.000
Likelihood Ratio	61.528	4	.000
Linear-by-Linear Association	39.381	1	.000
N of Valid Cases	93		

a 3 cells (33.3%) have expected count less than 5. The minimum expected count is .43.

The above table 2 has revealed about the involvement of product development department members, an empirical study has been carried out in this context. The expected and count figures indicate a considerable difference in the involvement of product development department members. In this context, it is observed that the calculated value of chi square at 4 df. @ 5% level of significant, indicate 52.107. Meaning thereby, that calculated value of chi square is higher than that of given value that is 9.49. Hence, the null hypothesis is rejected. Hence, it is quite obvious that the employees of sample companies working in product development department involve in the practices of kaizen and target costing techniques. It is clear from the table that the respondents have marked (91) in total on ‘Extremely and significantly’. It indicates a clear-cut picture on the involvement of employees working under product development department in all companies and also this department helps in the implementation of both kaizen and target costing techniques. The table also presents that the responses on this aspect are more positive in HMSI than in Maruti and Hero.

Table 3: Product Design
Crosstab

			Name of Company			Total
			MARUTI	HERO	HMSI	

Product design	Moderately	Count	0	0	1	1
		Expected Count	.4	.4	.2	1.0
	Significantly	Count	34	10	4	48
		Expected Count	20.1	17.5	10.3	48.0
	Extremely	Count	5	24	15	44
		Expected Count	18.5	16.1	9.5	44.0
Total		Count	39	34	20	93
		Expected Count	39.0	34.0	20.0	93.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.269(a)	4	.000
Likelihood Ratio	39.857	4	.000
Linear-by-Linear Association	21.019	1	.000
N of Valid Cases	93		

a 3 cells (33.3%) have expected count less than 5. The minimum expected count is .22.

In order to analysis towards the product design department involvement in practices of both techniques, an empirical study has been carried out in this context. The above table 3 shows that expected and count figures indicate a considerable difference in the involvement of product design department. The researcher observes that the calculated value of chi square at 4 df. @ 5% level of significant, indicate 37.269. Meaning thereby, that calculated value of chi square is higher than that of given value that is 9.49. Hence, the null hypothesis is rejected. Hence, it is quite obvious that the product design department has involvement or helps in the practices of both kaizen and target costing techniques. It is clear from the observation, that respondents have marked (92) in total on 'Extremely and significantly'. It indicates a clear-cut picture on the involvement of employees working under product design department in all sample companies and also this department helps in the implementation of these techniques. The table also presents that the responses on the involvement of members of product design department in both kaizen and target costing techniques are more positive in HMSI and Hero than in Maruti.

Table 4: Purchasing Department Involvement Crosstab

			Name of Company			Total
			MARUTI	HERO	HMSI	
Purchasing involvement	Moderately	Count	13	0	1	14
		Expected Count	5.9	5.1	3.0	14.0
	Significantly	Count	13	13	3	29
		Expected Count	12.2	10.6	6.2	29.0
	Extremely	Count	13	21	16	50
		Expected Count	21.0	18.3	10.8	50.0
Total		Count	39	34	20	93
		Expected Count	39.0	34.0	20.0	93.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.391(a)	4	.000
Likelihood Ratio	27.224	4	.000
Linear-by-Linear Association	16.661	1	.000
N of Valid Cases	93		

a 1 cells (11.1%) have expected count less than 5. The minimum expected count is 3.01.

The above table 4 has revealed the involvement of purchasing department in the practices of both techniques; an empirical study has been carried out in this context. The expected and count figures indicate a considerable difference in the involvement of purchasing department. In this context, it is observed that the calculated value of chi square at 4 df. @ 5% level of significant, indicate 23.391. Meaning thereby, that calculated value of chi square is higher than that of given value that is 9.49. Hence, the null hypothesis is rejected. It is quite obvious that the purchasing department has involvement or helps in the practices of both kaizen and target costing techniques. It is clear from the observation, that respondents have marked (79) in total on 'Extremely and significantly'. It indicates a clear-cut picture on the involvement of purchasing department in all sample companies and also this department helps in the implementation of these techniques. The table also presents that the responses on the involvement of members of purchasing department in the practices of both kaizen and target costing techniques are more positive in HMSI and Hero than in Maruti.

Table 5: Manufacturing Department Involvement Crosstab

			Name of Company			Total
			MARUTI	HERO	HMSI	
Manufacturing involvement	Moderately	Count	6	0	0	6
		Expected Count	2.5	2.2	1.3	6.0
	Significantly	Count	23	15	4	42
		Expected Count	17.6	15.4	9.0	42.0
	Extremely	Count	10	19	16	45
		Expected Count	18.9	16.5	9.7	45.0
Total		Count	39	34	20	93
		Expected Count	39.0	34.0	20.0	93.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.463(a)	4	.000
Likelihood Ratio	24.348	4	.000
Linear-by-Linear Association	19.209	1	.000
N of Valid Cases	93		

a 3 cells (33.3%) have expected count less than 5. The minimum expected count is 1.29.

In order to analysis the involvement of manufacturing department in both techniques, an empirical study has been carried out in this context. The above table 5 shows that expected and count figures indicate a considerable difference in the involvement of manufacturing

department in both techniques. The researcher observes that the calculated value of chi square at 4 df. @ 5% level of significant, indicate 21.463. Meaning thereby, that calculated value of chi square is higher than that of given value that is 9.49. Hence, the null hypothesis is rejected. Hence, it is quite obvious that manufacturing department involves in the practices of both techniques in all sample companies. It is clear from the observation, that employees have marked (87) in total on ‘Extremely and significantly’. It indicates a clear-cut picture on the involvement of manufacturing department in all sample companies and also this department helps in the implementation of these techniques. The table also presents that the responses on this aspect are more positive in HMSI and Hero than in Maruti.

Table 6: Marketing Department Involvement
Crosstab

			Name of Company			Total
			MARUTI	HERO	HMSI	
Marketing involvement	Moderately	Count	10	17	3	30
		Expected Count	12.6	11.0	6.5	30.0
	Significantly	Count	15	15	4	34
		Expected Count	14.3	12.4	7.3	34.0
	Extremely	Count	14	2	13	29
		Expected Count	12.2	10.6	6.2	29.0
Total		Count	39	34	20	93
		Expected Count	39.0	34.0	20.0	93.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.356(a)	4	.000
Likelihood Ratio	24.417	4	.000
Linear-by-Linear Association	.950	1	.330
N of Valid Cases	93		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.24.

The above table 6 has revealed regarding the involvement of marketing department in the practices of both techniques, an empirical study has been carried out in this context. The expected and count figures indicate a considerable difference in the involvement of marketing department in both techniques. In this context, it is observed that the calculated value of chi square at 4 df. @ 5% level of significant, indicate 22.356. Meaning thereby, that calculated value of chi square is higher than that of given value that is 9.49. Hence, the null hypothesis is rejected. It is quite obvious that marketing department involves in the practices of both techniques in all companies. The table also presents that the responses on this aspect are more positive in HMSI and Maruti than in Hero.

Table 7: Sales Department Involvement
Crosstab

			Name of Company			Total
			MARUTI	HERO	HMSI	
Sales	Lightly	Count	1	0	2	3

involvement	Moderately	Expected Count	1.3	1.1	.6	3.0
		Count	16	25	2	43
	Significantly	Expected Count	18.0	15.7	9.2	43.0
		Count	14	9	5	28
	Extremely	Expected Count	11.7	10.2	6.0	28.0
		Count	8	0	11	19
Total		Expected Count	8.0	6.9	4.1	19.0
		Count	39	34	20	93
		Expected Count	39.0	34.0	20.0	93.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.784(a)	6	.000
Likelihood Ratio	39.911	6	.000
Linear-by-Linear Association	2.042	1	.153
N of Valid Cases	93		

a 4 cells (33.3%) have expected count less than 5. The minimum expected count is .65.

In order to analysis and easily understand the involvement of sales department in the practices of both techniques, an empirical study has been carried out in this context. The above table 7 shows that expected and count figures indicate a considerable difference in the involvement of sales department in both techniques. The researcher observes that the calculated value of chi square at 6 df. @ 5% level of significant, indicate 34.784. Meaning thereby, that calculated value of chi square is higher than that of given value that is 12.53. Hence, the null hypothesis is rejected. Hence, it is quite obvious that in all sample companies sales department involves in the application of the both techniques. The table also presents that the responses on this aspect are more positive in HMSI than in Hero and Maruti.

Table 8: Accounting/Finance Involvement Crosstab

			Name of Company			Total	
			MARUTI	HERO	HMSI		
Accounting /finance involvement	Lightly	Count	1	0	0	1	
		Expected Count	.4	.4	.2	1.0	
	Moderately	Count	14	24	2	40	
		Expected Count	16.8	14.6	8.6	40.0	
	Significantly	Count	19	10	7	36	
		Expected Count	15.1	13.2	7.7	36.0	
	Extremely	Count	5	0	11	16	
		Expected Count	6.7	5.8	3.4	16.0	
	Total		Count	39	34	20	93
			Expected Count	39.0	34.0	20.0	93.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.654(a)	6	.000
Likelihood Ratio	39.081	6	.000
Linear-by-Linear Association	6.829	1	.009
N of Valid Cases	93		

a 4 cells (33.3%) have expected count less than 5. The minimum expected count is .22.

The above table 8 has revealed regarding the involvement of accounting and finance department in the practices of both techniques, an empirical study has been carried out in this context. The expected and count figures indicate a considerable difference in the involvement of accounting and finance department in both techniques. In this context, it is observed that the calculated value of chi square at 6 df. @ 5% level of significant, indicate 35.654. Meaning thereby, that calculated value of chi square is higher than that of given value that is 12.53. Hence, the null hypothesis is rejected. It is quite obvious that in all sample companies accounting and finance department involves in the application of the both techniques. The table also presents that the responses on this aspect are more positive in HMSI than in Hero and Maruti.

Table 9: Information System Personnel Crosstab

			Name of Company			Total	
			MARUTI	HERO	HMSI		
Information system personnel	Lightly	Count	2	0	0	2	
		Expected Count	.8	.7	.4	2.0	
	Moderately	Count	16	19	3	38	
		Expected Count	15.9	13.9	8.2	38.0	
	Significantly	Count	15	15	8	38	
		Expected Count	15.9	13.9	8.2	38.0	
	Extremely	Count	6	0	9	15	
		Expected Count	6.3	5.5	3.2	15.0	
	Total		Count	39	34	20	93
			Expected Count	39.0	34.0	20.0	93.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.901(a)	6	.001
Likelihood Ratio	27.538	6	.000
Linear-by-Linear Association	6.587	1	.010
N of Valid Cases	93		

a 4 cells (33.3%) have expected count less than 5. The minimum expected count is .43.

In order to analysis and the easily recognize the involvement of information system personnel in the practices of both techniques in sample companies, an empirical study has been carried out in this context. The above table 9 shows that expected and count figures indicate a

considerable difference in the involvement of information system personnel. It is observed that the calculated value of chi square at 6 df. @ 5% level of significant, indicate 23.901. Meaning thereby, that calculated value of chi square is higher than that of given value that is 12.53. Hence, the null hypothesis is rejected. Hence, it is quite clear that in all sample companies information system personnel involve in the practices of the both techniques. The table also presents that the responses on this aspect are more positive in HMSI than in Hero and Maruti.

Table 10: Senior Executives Involvement
Crosstab

			Name of Company			Total	
			MARUTI	HERO	HMSI		
Senior executives involvement	Lightly	Count	1	0	1	2	
		Expected Count	.8	.7	.4	2.0	
	Moderately	Count	15	19	3	37	
		Expected Count	15.5	13.5	8.0	37.0	
	Significantly	Count	19	15	9	43	
		Expected Count	18.0	15.7	9.2	43.0	
	Extremely	Count	4	0	7	11	
		Expected Count	4.6	4.0	2.4	11.0	
	Total		Count	39	34	20	93
			Expected Count	39.0	34.0	20.0	93.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.111(a)	6	.003
Likelihood Ratio	22.222	6	.001
Linear-by-Linear Association	2.836	1	.092
N of Valid Cases	93		

a 6 cells (50.0%) have expected count less than 5. The minimum expected count is .43.

The above table 10 has revealed about that the involvement of senior executives in the practices of both techniques in all sample companies; an empirical study has been carried out in this perspective. The expected and count figures indicate a considerable difference in the involvement of senior executives. In this context, it is observed that the calculated value of chi square at 6 df. @ 5% level of significant, indicate 20.111. Meaning thereby, that calculated value of chi square is higher than that of given value that is 12.53. Hence, the null hypothesis is rejected. It is quite obvious that in all sample companies senior executives involve and assist in the application of both techniques. The cross table shows in total (80) respondents have marked on ‘moderately and significantly’. Hence involvement of senior executives in the both techniques is considerable in all sample companies. The table also presents that the responses on this aspect are more positive in HMSI than in Hero and Maruti.

**Table 11: Suppliers Involvement
Crosstab**

			Name of Company			Total	
			MARUTI	HERO	HMSI		
Suppliers involvement	Lightly	Count	1	0	0	1	
		Expected Count	.4	.4	.2	1.0	
	Moderately	Count	8	0	2	10	
		Expected Count	4.2	3.7	2.2	10.0	
	Significantly	Count	22	6	9	37	
		Expected Count	15.5	13.5	8.0	37.0	
	Extremely	Count	8	28	9	45	
		Expected Count	18.9	16.5	9.7	45.0	
	Total		Count	39	34	20	93
			Expected Count	39.0	34.0	20.0	93.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	29.957(a)	6	.000
Likelihood Ratio	34.350	6	.000
Linear-by-Linear Association	8.747	1	.003
N of Valid Cases	93		

a 6 cells (50.0%) have expected count less than 5. The minimum expected count is .22.

In order to analysis the suppliers’ involvement in the kaizen and target costing techniques, an empirical study has been carried out in this context. The above table 11 exhibits that the expected and count figures indicate a considerable difference in suppliers involvement. It is noted that the calculated value of chi square at 6 df. @ 5% level of significant, indicate 29.957. Meaning thereby, that calculated value of chi square is higher than that of given value that is 12.53. Hence, the null hypothesis is rejected. Hence, it is quite apparent that the suppliers involve in the application of both techniques. It is clear from the observation, that the respondents have marked (82) in total on ‘significantly and extremely’. It indicates a clear-cut picture that suppliers help and involve in the implementation of both techniques in all sample companies. The table also presents that the responses on this aspect are more positive in Hero than in HMSI and Maruti.

**Table 12: External Consultants
 Crosstab**

			Name of Company			Total	
			MARUTI	HERO	HMSI		
External consultants	Not at all	Count	0	0	1	1	
		Expected Count	.4	.4	.2	1.0	
	Lightly	Count	0	0	1	1	
		Expected Count	.4	.4	.2	1.0	
	Moderately	Count	8	12	4	24	
		Expected Count	10.1	8.8	5.2	24.0	
	Significantly	Count	29	22	7	58	
		Expected Count	24.3	21.2	12.5	58.0	
	Extremely	Count	2	0	7	9	
		Expected Count	3.8	3.3	1.9	9.0	
	Total		Count	39	34	20	93
			Expected Count	39.0	34.0	20.0	93.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	29.878(a)	8	.000
Likelihood Ratio	27.142	8	.001
Linear-by-Linear Association	.000	1	.986
N of Valid Cases	93		

a 9 cells (60.0%) have expected count less than 5. The minimum expected count is .22.

The above table 12 has presented the involvement level of external consultants in sample companies for the use of kaizen and target costing; an empirical study has been carried out in this context. The expected and count figures indicate a considerable difference in the involvement level of external consultants. In this context, it is noted that the calculated value of chi square at 8 df. @ 5% level of significant, indicate 29.878. Meaning thereby, that calculated value of chi square is higher than that of given value that is 15.51. Hence, the null hypothesis is rejected. It is quite apparent that the external consultants are involved by the sample companies for the application of kaizen and target costing. The table also presents that the responses on this aspect are more positive in Maruti than in Hero and HMSI.

Conclusion

Target and kaizen costing techniques require the involvement of different departments' employees of the organization. Different departments perform in different ways in target and kaizen costing processes for the attainment of target costs. It is essential for success of an organisation that each member like employees, management, engineers and suppliers understand situation and depend on each other. After the analyses of all statements and questions in respect of the objective which is concerned with the involvement of members in the implementation of modern costing techniques in sample companies it is clear that every department is involved for successful application of both costing methods. The study found involvement of various departments of sample companies namely product planning, product development, product design, purchasing, manufacturing, marketing, sales department, accounting/finance department, information system personnel, senior executives, suppliers and external consultants in the implementation of both costing techniques. The study suggests that without involvement of human resources any technique cannot be implemented in an effective manner. For full involvement and commitment of all levels employees companies should focus on their goals, motivation of employees, employees must be responsible regarding their work to keep them rationalized in their functional areas and also no information gap between members to work efficiently.

References

- Ansari, S. L. & Bell, J. E. (1997). *Target costing: the next frontier in strategic cost management*. New York: McGraw-Hill.
- Budugan, D. & Georgescu, I. (2009). Cost reduction by using budgeting via the kaizen method. *Analele Stiintifice Ale University*.
- Butscher, S. A. & Laker, M. (2000). Market-driven product development using target costing to optimize products and prices. *MM*, Vol. Summer, pp. 48-53.
- Cheser, R. & Tanner, C. (1993). Critikon declares war on waste, launches kaizen drive. *Target*, Vol. 9, pp. 12-22.
- Cooper, R. & Slagmulder, R. (1997). *Target costing and value engineering*. Portland: Productivity Press, IMA Foundation for Applied Research.
- Ellram, L. M. (2006). The implementation of target costing in the United States: theory versus practice. *The Journal of Supply Chain Management*, Vol. Winter.
- Ewert, R. & Ernst, C. (1999). Target costing, co-ordination and strategic cost management. *European Accounting Review*, Vol. 8, No. 1, pp. 23-49.
- Feil, P., Yook, K. & Kim, I. (2004). Japanese target costing: a historical perspective. *International Journal of Strategic Cost Management*, Spring.
- Ghalayani, A. M., Noble, J. S. & Crowe, T. J. (1997). An integrated dynamic performance measurement system for improving manufacturing competitiveness. *International Journal of Production Economics*, Vol. 48, No. 2, pp. 20-25.
- Kaplan, R. S. & Cooper, R. (1998). *Cost and effect-using integrated cost systems to drive profitability and performance*. Boston: Harvard Business Press.
- Kato, Y. (1993). Target costing support systems: lessons from leading Japanese companies. *Management Accounting Research*, Vol. 4, No. 4, pp. 33-47.
- Kato, Y., Boer, G. & Chow C. W. (1995). Target costing: an integrative management process. *Journal of Cost Management*, Spring, pp. 39-51.
- Makido, T. (1989). *Recent trends in Japan's cost management practices*. USA: Cambridge, Massachusetts, Productivity Press.
- Malloch, H. (1997). Strategic and HRM aspects of kaizen: a case study. *New Technology, Work and Employment*, Blackwell Publishers, Vol. 12, No. 2.
- McLaney, E. J. & Atrill, P. (2002). *Management accounting for non-specialists*. London: Prentice Hall.
- Modarress, B., Ansari, A. & Lockwood, D. L. (2005). Kaizen costing for lean manufacturing: a case study. *International Journal of Production Research*, Vol. 43, No. 9, pp. 1751–1760.
- Monden, Y. (1992). *Profit management and cost management in the new manufacturing age: innovations in the Japanese automotive industry*. Productivity Press, Cambridge.
- Monden, Y. & Hamada, K. (1991). Target costing and kaizen costing in Japanese automobile companies. *Journal of Management Accounting Research*, Vol. 3, pp. 16-34.
- Monden, Y. & Hamada, K. (2000). *Target costing and Kaizen costing in Japanese automobile companies*. London: Imperial College Press.
- Monden, Y. & Lee, J. (1993). How a Japanese auto maker reduces costs. *Management Accounting, (USA)*, Vol. 75, No. 2, pp. 22-26.
- Nicoleta, L. & Marascu, V. (2009). Employee suggestion system (kaizen teian): the bottom-up approach for productivity improvement. *International Conference on Economic Engineering and Manufacturing Systems*, Brasov, Vol. 10, No. 3.
- Soltero, C. & Waldrip, G. (2002). Using kaizen to reduce waste and prevent pollution. *Wiley Periodicals*, Published online in Wiley Inter Science.
- Swenson, D., Ansari, S., Bell, J. & Kim, W. (2003). Best practices in target costing. *Management Accounting Quarterly*, Vol. 4, No. 2, pp. 12-17.
- Webb, J. (1991). Quest for quality. *The Industrial Society*.