

THE USE OF THE CHAIN VALUE APPROACH TO REDUCE THE COSTS AND ACHIEVING THE DEMANDS OF THE CUSTOMER AN APPLIED RESEARCH IN THE COMPANY OF THE ELECTRONIC INDUSTRIES

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ABSTRACT

A special consideration has paid by the company to the cost as one of the main factors of success. It has become matter of special interest in the industrial countries and the development countries in the same way. The researchers have paid attention to this subject which is directly associated with the satisfaction of the customer and the increasing of sales as a result of cut costs. The present study carried out different inquiries (Problem Statement) and offered many solutions and treatments through sections and topics of the theoretical and applied study, in order to cut costs without any change in the quality of the offered product with the help of the method of the chain value analysis.

After the representation of the intellectual framework, reviewing the literature and formulating the hypothesis of the study to examine in the company of the electrical industries (TV Factory). After identifying and using activities of the chain value that are represented by the tasks of research and development, design, production, marketing, distribution, and the customer service in reducing the cost of the product (LED42). However, to examine the hypothesis of the study, the following have been discussed: 1) Analyzing the main activities in the Electrical Industry Company. 2) Applying the activity of the chain value contributes to the reduction of the cost through eliminating the activities which don't give or add value. The study has concluded several recommendations; the important one of them is the work on increasing the amounts which specialized in the stage of development and research in order to increase the ability of the company to cut the cost without any change in the quality of the product.

Keywords: Chain Value, Demands Customer, Reduce Costs. Supportive Activities, Interrelated Activities.

INTRODUCTION

Many economic units try to adopt the principles of managing strategy of cost in the competitive global market, besides the attention that given to the interests of the consumers which has negatively affected to the industrial sector in Iraq, therefore the study aims to carried out a real problem which the company of electronic Company suffers from, it is represented by the increasing costs of the Chain Value below the customers' expectations, as well as the nature of the systems of the accounting that are applied in the industrial companies are still traditional system which aims to identifying the costs of the producing stage without other stages that the other processes pass through which lead to increase unnecessary costs on the final product which would not add or give value to the product.

The Significance of the Study

The main importance of this study is exemplified by the significance of assuming some of the cost techniques and the contemporary management that is represented by analyzing the chain value, to help the company during the current stage of survival and continuing in its activities by depending on the possibilities of material that are affordable, besides achieving the competitive feature which enable it to grow and expand in the midst of the huge competition of the imported products.

Research Objective

The study aims to find out the following:

1. To apply the cost techniques and the contemporary management that is represented by analyzing the chain Value in order to reduce the costs without violating the quality of the product.
2. To identify the activities which can give and don't give value and then eliminate them and get rid of them or reduce them and then reduce their role in exhausting the resources.

Research Hypothesis

The searcher follows Hypothesis in the present study:

The application of the activities of the chain value contributes to reducing the costs through eliminating the activities which don't give value and keeping the ones which have a positive role on the satisfaction of the customers' demands.

The Importance of the Chain Value

Kaplinsky & Morris, (2001:49). Listed the following the importance of the chain value:

1. The care increasing of the business companies to its introduced products, internal departments and the increasing competition which demands an understanding of the dynamic factors of the activities of the chain value.
2. The importance appears in product life, as understood/ of different production processes changing the material into commodities till get delivered to the customer. Its importance identified by (Greenstein, 2005:3) as the following:
 - a. The clarity of concept of power and weakness in the company.
 - b. Drawing a chart for how to put a competitive feature through understanding the problems that are existed in the internal activities and treating them.
 - c. Analyzing the cost/ and the benefit of the new project.

The Objectives of the Chain Value

According to Burns & DeGraaff, (2001.9). The chain value interests in many of the theoretical objectives:

1. Introducing products or services through implementing the sequential activities that collectively works inside the organization, in cooperation with other parts in almost optimal form.
2. The focus on increasing of the interests of all working parties through managing and connecting the activities of the entire chain starting from the basic providers to the final consumers.
3. Working through the entire chain of industry helps to develop competitive chain values to achieve gaining positive results through enlarging the value of the organizations that are common within the entire chain.

4. Preparing an interplay method with the providers and the customers, which helps in making decisions that help to achieve the activities, lead to producing the products to satisfy the need of the consumer.

Stephen, (2010:69). Has identified the sources of waste

1. The Defected: Errors which happen in the operational processes.
2. The Stock: Creating a surplus stock of the raw materials, product under operation. Completely manufactured
3. The Movement: Refers to the un necessary movements of the workers, machines before and after or during the operation.
4. Processing the Surplus: It is the usage and the processing of the unnecessary that doesn't add value for the machines, the instruments and the raw materials.
5. Transpotation: It is the movements of the material or the parts that are unnecessary within the line of the production or the stock.
6. Waiting: Waiting the materials or the parts in the processing queue.

The Practical Side

Identifying the Costs of the Production in the TV. Factory

The accounting the activity of the chain value is considered as a grounded that is very important to reduce the costs. And counting the cost of the product (LED42) type, according to the classifications of the chain value activity which Horngern company has identified according to the activities foundation, to get the achieved and the actual cost in the company and eliminating the activities that don't add value for the product the sample of the research and the amount of the reduction in the costs.

Note that the price of selling TV (LED42) of 2012 with the amount of (800,000) IQD.

Planning and Design

This activity starts through the study of the market and the customers need, what sizes that the company can produce(TVs and Invertors)and many other products of the company. And later on a study is conducted to what is made available as technical possibilities, raw materials or special production requirements of the company. The Studying market need of company products for a certain period of time or the principle of production according to the demand. Following is statement of the costs of research and development as shown in Table 1.

Serial No	Accounting	2012	Foundation of Accounting	Percentage to Produced TVs
1	The final Salaries	1,951,733*	The size of the actual Product	%33
2	Stationary	36,612**	Equally	%33
3	Energy(Petrol Material &Electricity)	174,002	Equally	%33
4	Employees Transfer	238,984	Equally	%33
5	Travelling and Expeditions	350,000	Exchange Document	28%
6	Training	695,000	Exchange Document	%50
7	Internal Communications	16,000	Types of the Produced TVs	%33
	Total	3,230,576		

According to Table 1, it can be noted that the costs of the stages of research and development on the level of the research sample (LED42) reached (3,230,576) IQD, the costs of the salaries and wages of the workers through its distribution on the basis of the size of the actual production, while the stationary items ,energy and the transportation of the employees are equally distributed, the items of travelling, expedition and training are identified through the examination of the exchange documents. The item of the internal communication has been distributed on the basis of the types of the products that the TV. Factory produces.

The Design

The activity of the design represents an activity that is increasing in importance in the facility in the case of competition and the survival, the lowering of the external competition gives a powerful reason to move from the need to the data of accounting that is good to support the design stage. The design is an essential part in the production process of the facility.

S	Accounting	2012	The Basis of Accounting	Percentage to Produced TVs
1	The Salaries and Wages	410,667	Types of produced TVs	%33
2	Stationary	12,204	Types of produced TVs	%33
3	The Energy(Petrol Material& Electricity	38,280	Types of produced TVs	%33
4	Employees Transportation	4,458	Types of produced TVs	%33
5	Travelling and Expedition	-----	Exchange Document	-----
6	Training	3,431	Types of produced TVs	%33
7	Internal Communications	12,800	Types of produced TVs	%33
	Total	481,840		

As shown in Table 2, that the costs of the design on the level of the research sample (LED42) reached (481,840) IQD, the costs of design have been distributed on the level of the research sample (LED42) on the basis of the units produced, that it is hard for the researcher to use another basis on the level of the product with the exception of the item of the travelling and expedition the cost is counted through examining and following up the exchange documents of 2012.

Manufacturing and Selling the Products

The Production (The Processes)

The production cost or the processes is identified from (raw materials and the indirect manufacturing costs) which can be identified in the design as the material involved in production and the number of the workers that are required in producing the TVs, the production in the electronic company includes gaining the main parts and assembling them. The cost of the production the sample of research will be counted (LED42). As following the statement of the production costs (Operations) as illustrated in the Table 3.

S	Accounting	2012	The Basis of Accounting	Percentage to Produced TVs
1	Raw Materials	295,200,000	Document of Stock Discharge	%32.5
2	Salaries & Wages	91,898,598*	Types of produced TVs	%33
3	The Decline of the Machines and instrument	810,109	Types of produced TVs	%33
4	Stationary	24,833	Types of produced TVs	%33
5	The Energy(Petrol Material& Electricity)	836,733	Types of produced TVs	%33
6	Employees Transportation Training	3,420,467	Types of produced TVs	%33
7	Travelling and Expedition	1,825,500	Exchange Document	%39
8	Training	430,000	Exchange Document	%35
9	Internal Communications	80,000	Types of Produced TVs	%33
	Total	394,526,240		

It is observed through table (3), the total costs of productions on the level of the research sample (LED42) reached (394,526,240)IQD, including the cost of the raw materials and (parts) that are involved in manufacturing the TV, that are released from the stores of the company through an output document that is directly identified through examining the output documents of the store. The remaining items of the costs are distributed according to the cost(Types of TVs) that their distribution suits all sections and activities of the company, for the items of travelling, expedition and training their costs are determined through the spending references through which the expedition, and training are made known for any of the products of the visuals factory.

Marketing & Distribution

It represents promoting and selling the products or introducing services to the present customers or the excepted ones, the company of electrical industries marketing products of (TVs) through the main show of the company, the agents in their numbered, meanwhile the distribution is delivering the products or services to the customers, and the distribution in the electrical industries company the shipping to the shows, the agents and the government facilities.

S	Accounting	2011	The Basis of Accounting	Percentage to produced TVs
1	Salaries and Wages	176,228	Types of Produced TVs	%33
2	Packaging	826,000	Output Store Document	%20
3	Shows Spendings	521,895	Types of Produced TVs	%33
4	Adverts and Propaganda	2,904,341	Actual Production LED	%16
5	Publication and Printing	366,630	Actual Production LED	%16
6	Stationary	24,986	Types of Produced TVs	%33
7	Energy (Petrol Materials & Electricity)	73,745	Types of produced TVs	%33
8	Employees Transportation	226,169	Types of Produced TVs	%33
9	Travelling and Expedition	323,000	Exchange Document	%28
10	Training	220,000	Types of Produced TVs	%33

11	Internal Communications	26,667	Types of Produced TVs	%33
	Total	5,689,661		

Adverts and Publishing (18,692,339) X500/3218

It can be observed through the Table 4, total costs of the marketing and distribution on the level of the sample of the study (LED42) has reached (5,689,661) IQD, it includes the costs of the salaries, wages which renewed by the use of the cost orienteer (Types of TVs) the TV factory produces, and the cost of material if packing through the documents of the output storing, meanwhile the spending of the shows are determined by the use of the cost orienteer (Types of TVs), the adverts, the publication and printing are determined by the use of the cost orienteer (the actual Product LED 42), the item of the (travelling and expedition) costs are determined through the examining of the exchange documents, the items of the training, stationary, energy, employees transportation and the internal communications the cost orienteer (Types of TVs) is used.

Services Beyond Selling

The company in the Oqba Bin Nafea square has a department specialized in repairing the product after selling, this department is called the maintenance services or (Services Beyond Selling) whereas the department has to repair the products within a scope of one year warranty without paying any amount (with an exception of breaking in the screen panel, or any part by the customer), besides the repairing of the products after the warranty period with certain amount in return. In spite of the availability of (17) employees in the department of the services beyond selling, the number of the engineers and technicians in this department are (17) employees only. Table 5 illustrates the costs in the department of the services beyond selling of 2012.

S	Accounting	2011	The Basis of Accounting	Percentage to produced TVs
1	Salaries and wages	656,186	Types of produced TVs	%33
2	Maintenance of sets and instruments of Examination	203,277	The units returned in the time of warranty	%44
3	Spare Parts, (broke down parts)	837,717	The units returned in the time of warranty	%44
4	Decline of the examination sets	34,960	The units returned in the time of warranty	%44
5	Stationary	21,219	The units returned in the time of warranty	%44
6	Energy(Petrol Materials &Electricity)	170,625	The units returned in the time of warranty	%44
7	Employees Transportation	53,958	The units returned in the time of warranty	%44
8	Travelling and Expedition	630,000	Exchange Document	%55
9	Training	420,000	Exchange document	%65
10	Internal Communications	16,000	Types of Produced TVs	%33
	Total	3,043,942		

It is noted in the Table 5, the total grand of the cost of the services beyond selling on the level of the sample of the study (LED42) has reached (3,043,942) IQD, it includes all the salaries, wages that are determined with the use of the cost orienteer (Types of produce TVs)

are produced by the factory of TVs, the cost of the of sets of maintenances, examination instruments and the spare parts (the broke down parts) is determined. The decline of the examination sets, energy, stationary and the transportation of the employees by the use of the cost orienteer (the units returned during the warranty period), meanwhile the internal communications are determined by the use of the cost orienteer (Types of TVs produced), the items of the travelling, expedition and training are counted through the examination of the exchanges documents.

It can be indicated how many units have been prepared throughout the time of warranty as a orienteer of cost. The Table 6, shows the quantity of the products that have been repaired during the warranty time in 2012.

S	The Product	Repair throughout the Warranty Period	Repair After the Period of Warranty	Total
1	TVs	32	36	68
2	House Protection and aircondition protection	90	6	96
3	Invertors	12	5	17
4	Exchangers	2	9	11
5	Capacity Transporter	15	20	35
6	Telephone	12	24	36
	Total	163	100	263

The number of the TVs which have been repaired through the time of the warranty is (14). The total number of units are returned is 32 represented by 14 TV type (LED42) and 12 TVs type of (LCD) and 6 as the (3D), the cost of the replaced raw material through the warranty period of time in the factory of the production of the TVs from the sample of (LED42).The department of the services of maintenance diagnoses the defect in the returned TV through the period of warranty and works on repairing or replacing it and that is by replacing the material and the Tables 7 and 8, shows the cost of the raw material that used during the warranty time.

S	Types of Set	Replaced Material	Quantity	Price of Material	Total Amount
1	Tv.LED 42 size	LED panel	4	250,000	1000,000
		Key Board	3	52,000	156,000
		Front Cabinet	1	24,000	42,000
		Main Board	3	38,000	114,000
		Power Board	2	31,000	62,000
		Back Cover	1	15,000	15000
	Total		14		1,371,000

S	The Stage	Costs	percentage of Costs
1	The stage of Research and Development	3,230,576	0,79
2	Designing Stage	481,480	0.12
3	Stage of Production or (Operations)	394,526,240	96.95
4	Stage of Marketing & Distribution	5,689,661	1.39
5	Stage of the Services beyond selling	3,043,942	0.75

	Total	406,972,259	% 100
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As mentioned in the Table 8, the costs of the activities on the level of the research sample (LED42) reached (406,972,259) IQD, meanwhile the cost one unit (LED TV) through the dividing the total costs of the research sample on the size of production of the study sample (LED42).

$$406,972,259/500=813,945 \text{ IQD the cost of the TV LED42}$$

It has been counted by the company in the beginning of the search to the traditional style of the LED, when comparing with the costs of TV, whereas the traditional style charges the costs of the product with the costs of the manufacturing only and considering the costs that are achieve 746,900 were before and after the manufacturing as operational costs.

(iii): Identifying the Activities that Add the Value and the Activities that Don't In order to reduce the cost of the study sample (LED42) should be elimination or reduction in the activities that don't add value without changing the quality of the product, the activities would be removed of the company and the study sample for all activities. As shown in the Tables 9 to 13 as the following:

Research and Development

On the level of the study sample (LED42):- in the Table 9 counting the costs of the activities that don't value on the level of the study sample (LED42).

S	Accounting	Add Value	Don't Add	Total Costs
1	Salaries and Wages	1,462,800	487,933	1,951,733
2	Stationary	27,459	9,153	36,612
3	Energy(Petrol Materials& Electricity)	174,002	-----	174,002
4	Employees Transportation	179,238	59,746	238,984
5	Traveling and Expedition	213,500	136,500	350,000
6	Training	330,125	364,875	695,000
7	Internal Communications	16,000	----	16,000
	Total	2,404,124	826,452	3230,576

Designing

On the level of the study sample (LED42): in the Table 10 counting the cost activities that doesn't add value on the level of the study sample (LED42).

Accounting	Add	Don't Add	Total Costs
Salaries and Wages	1,232,000	-----	1,232,000
Staionary	36,612	-----	36,16
Energy(Petrol Material and Electricity)	76,943	37,898	114,841
Employees Transportation	40,121	-----	40,121
Travelling and Expedition	67,610	19,070	86,680
Training	30,883	-----	30,883
Internal Communications	38,400	-----	38,400
Total	824,030	755,507	1,579,537

Production or (Operations)

On the level of the study sample (LED42). In the Table 11 the activities cost would be counted that don't add value to the level of the study sample (LED42).

S	Accounting	Add Value	Don't Add	Total Cost
1	Raw material	295,200,000	-----	295,200,000
2	The cash wages of Employees	86,221,667	23,676,931	91,898,598
3	Decline of instruments and machines	810,109	-----	810,109
4	Stationary	17,383	7,450	24,833
5	Energy (Petroal Material & Electricity)	836,733		836,733
6	Employees Transportation	2,531,146	889,321	3,420,467
7	Travelling and Expedition	1350,870	474,630	1,825,500
8	Training	333,300	96,700	430,000
9	Internal Communications	81,667	-----	81,667
	Total	369,383,875	25,145,032	394,527,907

Marketing and Distribution

On the level of the sample of the study(LED42) : base on the table(11) the activities cost that don't add value to the level of the study sample (LED42) as shown in the Table 12.

S	Accounting	Add Value	Don't Add	Total costs
1	Wages and Salaries	176,228	-----	176,228
2	Packing and Covering Materials	649,125	176,875	826,000
3	The Shows Spendings	260,948	260,947	521,895
4	Adverts and propaganda	1,887,8	1,016,519	2,904,341
5	Publication and printing	238,3	-----	24,986
6	Stationary	24,986	-----	24,986
7	Energy (Petrol & Electricity)	73,745	-----	73,745
8	Employees	226,169	-----	226,169
9	Travelling and Expedition	219,640	103,360	323,000
10	Training	166,100	53,900	220,000
11	Internal Communications	26,667	-----	26,667
	Total	3,949,740	1,739,921	5,689,661

The Services Beyond Selling

Based on the Table 12 the cost of the activities that don't add value on the level of the sample of the study (LED42) as illustrated in the Table 13.

S	Accounting	Add Value	Don't Add	Total cost
1	Salaries and Wages	463,190	192,996	656,186
2	Maintaining the tools of examination	154,877	-----	154,877
3	Spare Parts(defected parts)	638,260	-----	638,260
4	Decline of the examination sets	26,667	-----	26,667
5	Stationary	11,411	4,755	16,166

6	Energy(petrol &Electricity)	273,000	117,000	390,000
7	Employees transportation	29,020	12,091	41,111
8	Travelling and Expedition	346,500	283,500	630,000
9	Training	247,800	172,200	420,000
10	Internal Communications	16,000	-----	16,000
	Total	1,816,725	782,542	2,599,267

Through the mentioned the cost of the sample of the study (LED42) from collecting the costs of the chain value activities after eliminating the activities that don't add value as given in the Table 14.

S	Activity	Costs
1	The Research and Development	2,404,124
2	Designing	824,030
3	Production or (Operations)	369,383,875
4	Marketing and Distribution	3,949,740
5	Services Beyond Selling	1,816,725
	Total	378,378,494

According to table above, it's clear that the total costs on the level of the sample of the study(LED42) has reached(378,378,494) IQD, while the cost of the one unit (LED42 TV) through dividing the total costs for the sample of the study on the size of the production to the sample of the study (LED42).

$$378,378,494/500=756,757 \text{ IQD LED42 Tv.}$$

The difference between the cost of the product sample of the study (LED42) which explained in the first part of the study and the extracted cost after removing or reducing the activities that don't add value, as shown in the following Calculation:

$$406,972,259/500=813,945 \text{ IQD cost per (LED42)}$$

$$813,945-756,757=57188 \text{ the difference.}$$

CONCLUSIONS AND RECOMMENDATIONS

The Conclusions

1. Increasing in the market share of the electrical Industry Company in the local market, due to the competitive factors, and the company failure to cope with the development in this subject.
2. The Spending on the stage of research and development has been reduced as compared with the development of the competing products.
3. The company suffers lack of extensions of sales and distribution of products and less distributors due to the shortages of order on the products of the company, although the company has three branches, besides the lack of suitable promoting like the advertisements and propaganda and defining the preferences of its products and later affecting the market share.
4. The Company is distinguished for serving the customer, through the activity of services beyond selling(Repair Service) that the company is only doing compared to other companies, whereas the company supports the basic offer of the electrical commodities with a complimentary services like the repair service, one year guarantee on the product of TV for all types of products.
5. Linking or connecting the quality control department with the technical assistant department, what make weakens in the role of this department.

6. The paucity of the training workshops for the employees, workers, engineers, and the quality control examiners which are in a direct engagement with the production operations are not included in such workshops of training.

Recommendations

1. The work to increase the fund that is specialized for the stage of research and development in order to increase the ability of the company to reduce the cost without changing the quality of the product, and the response to the expectations of the targeted customer for demanded speediness effectiveness.
2. Increasing the media campaigns to a wide extent helps the company to gain its share in the market and restoring the confidence of the customers in the company products.
3. The Company has to give more interest to training that can contribute to the development of the proficiency of the workers and achieving the required quality, whereas the programs of training must be done in goals related to the quality of the product and achieving the regular measurements.

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