



Internship Report

On

Activity Based costing analysis in ACME Laboratories

Submitted To:

N. M. Baki Billah

Lecturer

BRAC Business School

BRAC University

Submitted By:

S. M. Alvi Kabir

BRAC Business School

ID: 13304123

BRAC University

Date of Submission: August 13, 2017

Date: 13 August 2017

N. M. Baki Billah

Lecturer,

BRAC Business School

BRAC University

Subject: Submission of Internship Report

Dear Sir,

It is my immense pleasure to submit this report, which has been prepared as per the requirement of the course: BUS 400. I have steadfastly followed your guidelines as well as the rules set by the host organization The ACME Laboratories to prepare this report. While doing my three months long internship in Accounting and Finance Department of the company, I have learned about various aspects of Accounting Software's and other procedures, which is more or less inherent in almost all institutions. Moreover, I have developed some knowledge on mitigating inventory and costing report of the company. In general, my internship in this organization was an eye opener for me. It has enabled me to bridge the gap between theoretical knowledge and practical aspects of corporate world. Working in ACME for three months enabled me to gain an essence of the issues and matters an institution have to deal with. It was also a great opportunity for me to harness my skills and eliminate my shortcomings. This report is based on my workings, experience and observations during my internship in ACME. To prepare this I have conducted both external and internal analysis. Despite facing some difficulties and obstacles, I have tried to be as much detail oriented as possible. If you need any further elaboration on any issue, I shall be very glad to oblige.

Sincerely Yours,

S. M. Alvi Kabir

Student ID: 13304123

Acknowledgement

At the very beginning, I would like to express my deepest gratitude to the almighty Allah for giving me the strength and the ability to finish the task within the scheduled time. I am deeply indebted to my course Instructor & Internship Supervisor N. M. Baki Billah, Lecturer, BRAC Business School, BRAC University, for his whole-hearted supervision to me during the Internship period. His valuable suggestions and guidance helped me a lot to prepare the report in a well-organized manner.

My heartfelt gratitude goes to, my supervisor Assistant General Manager, Mohammad Faruque Ahmed, FCMA, Finance and Accounts Division, for his close supervision and keenness in letting me work in the Accounts and Finance Division of Corporate Office for the last three months of my internship.

I also want to give thanks to, Mr. Jia Uddin, Mr. Shahadat and Mr. Zakir, especially Md. Mr. Wasim Shime, Accounts executive, who give me full support and cooperate to understand my responsibility properly. It was my great privilege to work with Md. Wasim. I am indebted to him for his willful and heartiest co-operation and giving me the inspiration and suggestions to complete the whole report in a constructive fashion.

Finally, I would like to mention my gratitude to all the officers and employees of The ACME Laboratories Ltd, Corporate Office for supporting me and giving me pleasurable working experiences and help me to prepare this report.

Table of Contents

Executive Summary	1
Introduction.....	3
Statement of the problem	3
Origin of the report	3
Significance of the report.....	4
Limitation of the report.....	4
Data Collection Procedures.....	5
Company overview	6
Organization structure.....	6
Strategic Initiatives	8
SWOT Analysis	9
Position in the Industry	10
Knowledge gained from internship.....	10
Activity Based Costing	12
Using ABC Systems for Improving Cost Management and Profitability	13
Costing and pricing process at ACME.....	14
Costing system under traditional method at ACME	15
Costing system after Implementing ABC in ACME	16
Activity Profiling Form.....	18
Profitability analysis under both costing system	20
Recommendations.....	22
Conclusion	23
References.....	24

Executive Summary

In last few decades the pharmaceuticals industry in Bangladesh expand at a very quick rate. According the Dhaka stock exchange report of year 2002 there was 16 Pharmaceuticals Company and majority of them were the foreign investment. However, in 2016 there are 73 companies operating and 23 companies are listed in the share market. The ACME Laboratories is one of the oldest pharmaceutical companies in Bangladesh, who started their operation in the year 1954. Currently ACME started to export medicine to Fiji, Nigeria Though it is one of the oldest company, in recent past years ACME face some serious challenges. As many new companies enter into the market and shifting of the customers demand large companies has reduce the price of the medicine significantly. As a result, ACME faced difficulties to maintain its profitability. They reduce the production of many highly demanded medicines just because they find those less profitable after readjusting the price with the market. Which affect the market share of the company and they moved to the 16th position from the fourth position. However, things are started changing after 2009. In 2009, the management switch to activity based costing method from the traditional costing method and re-calculated the entire product costing. ABC helps the company to sustain in the market because by the assist of ABC management can take the right decision for production. When they re-calculated the product costing they found that, not all high priced products are generating enough profit and some very low priced products are generating very high profit. ABC a more accurate cost management methodology. After applying ABC, they get the actual product cost because it makes the indirect expenses direct. Another important thing they found that, they could reduce market price of the product to match its competitors' price, because after ABC they got many products, where they are overcharging the factory overhead. As a result, the cost of production was very high. When they adjust the factory overhead, the cost of production falls significantly falls, which gives the company to reduce the market price to match its competitors' price for sustain in the market. Even in activity-based costing, some flaws need to be addressed. Some overhead costs are difficult to assign to products, such as the chief executive's salary. These costs are termed 'business sustaining' and are not allocated to products because there is no meaningful method. This lump of unallocated overhead costs must be met by contributions from each of the products, but it is not as large as the overhead costs before ABC is employed. There are some other issues faced by ACME Laboratory Ltd, the issues like accurate information of activities, machine hour required, labor hour required, and selection of relevant cost driver to the cost centers. These

issues are very important to implementing the ABC, because the credibility of ABC totally depends on the selection of the correct basis of the allocation of overhead. ACME is still working on it, to ensure the basis are select on the relevant cost driver, and they are designing a system where they can easily profiling each of the activities that are needed to perform to produce a particular drug.

Introduction

The ACME laboratory is the first pharmaceuticals company in the country, who switch to ABC from the traditional costing. The Activity based costing involves continuous process improvement through analyzing activities, cost drivers & performance. The purpose of the report is mainly finding out the effectiveness of the implementing ABC in the organization. The report contains a comparative analysis of a particular product's costing under the traditional costing system and the activity based costing system. The report also addressed the problems that the company was suffering from the lower price medicines from its large competitors. However, ACME was not able to lower its prices because of its high production cost. To answer the problem the management decided to implement the ABC and identify the over or under cost products. They also changed their production plan according to their profitability analysis. They increase the production of profitable products and reduce the market price to sustain in the market. On the other hand, they decreased the production of less profitable products, because products with high production cost cannot be sold at a lower price, what competitors are offering.

Statement of the problem

The ACME laboratories switch to the ABC system to sustain in the highly competitive and cost sensitive market. Therefore, the main objective of this report is to analyze the effectiveness of the management's decision and how the ABC helped the ACME to survive in the industry.

Origin of the report

The report has been prepared as a part of internship program of BBA course conducted by the BRAC University. A Three months internship program was planned as an integral part of the BBA program where each student is to undergo a practical orientation in an organization and carry out a given project assigned by the respective organization. I was placed in The ACME Laboratories Limited and this report is the outcome of three-month long internship program on practical experience.

Significance of the report

ABC system is a more credible cost management procedure. This system helps the management to determining the true cost for a product. In consequence product costs gain credibility and can be relied on for business decisions. This report mainly focuses on the solutions that are taken by the ACME management to ensure the growth and sustainability of the company. The report contains the detail profitability analysis when a company tries to match its competitors' price by reducing the price in the market. The report also shows, how to decide which products you should produce more and which are not by separating the under costed and over costed products. From this report, other companies that are suffering from cost management issue can learn and use the experience of ACME to sustain in the market. Besides that, the report concludes with some recommendation to implement ABC more preciously for both ACME and other companies who are thinking about switching to ABC.

Limitation of the report

I have encountered some major limitations during the study and preparation of the report. Firstly, The ACME Laboratories is the only pharmaceuticals company in the country who switched from traditional costing to ABC costing. Therefore, it was not possible for me to crosscheck the profitability under ABC system with another pharmaceuticals company operating in Bangladesh. Besides that still now ACME is working on developing the slandered setting, and refining the cost centers and cost drivers. Therefore, it is difficult to conclude the actual result of profitability because implementation of ABC requires huge cost and time. Secondly, the information I used in the report for calculating the product cost was mainly of a particular year. Other years costing information was not given to me because of the confidentiality issue. Thirdly, the report's analysis is based on only one product. Only one product is considered to conduct the research. Therefore, the outcome might not be accurate. The conclusion might change, when the analysis is done on the more products. Finally, the last and the major limitation of the report is the Vastness of the accounting and cost accounting procedures of a big organization like ACME, which is really difficult to understand in such a short span of time.

Data Collection Procedures

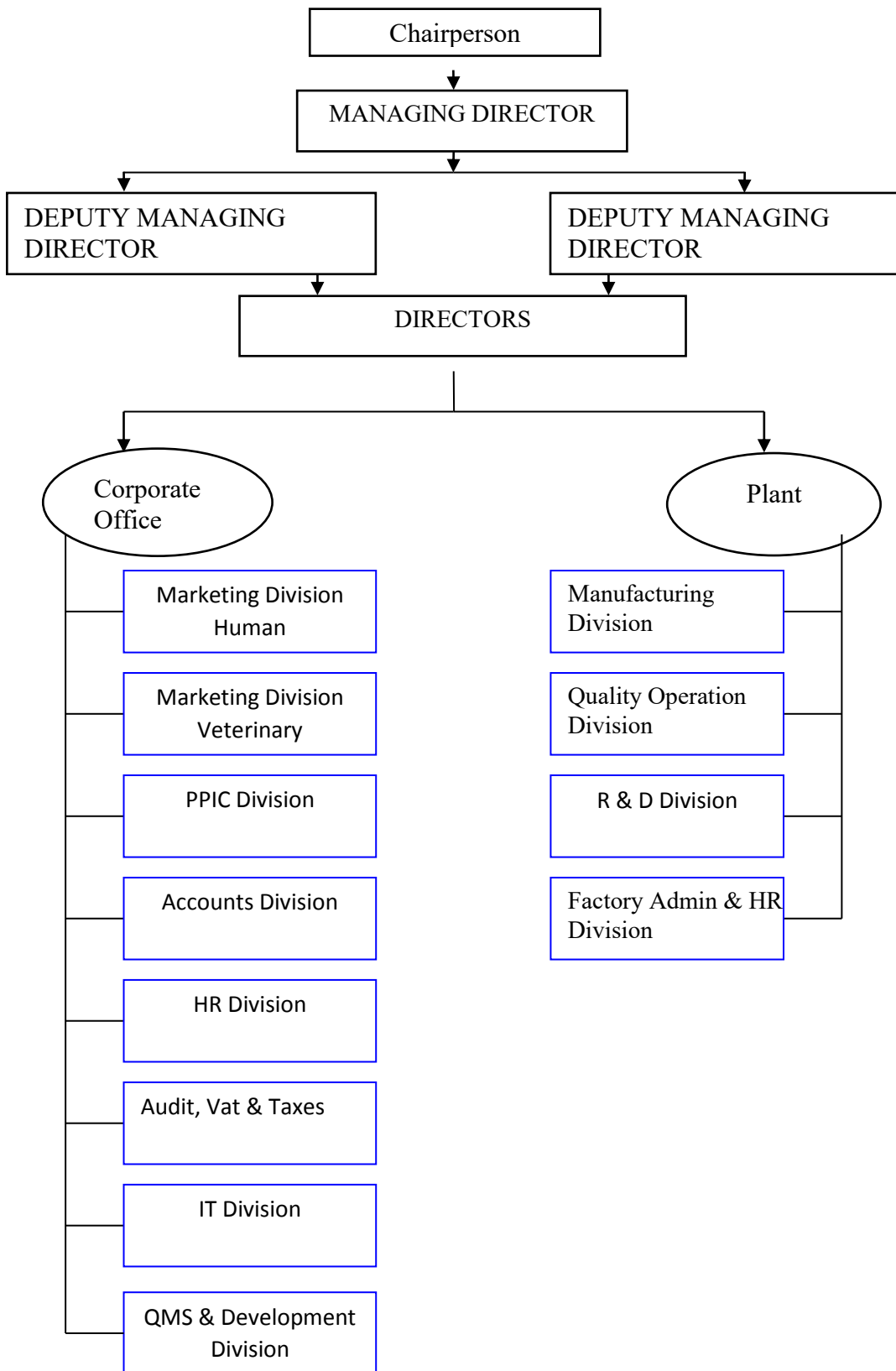
The report is entirely based on the secondary data. The secondary data that I collected from the ACME production process log. This production process log used to records direct costs such as direct material, labor and the cost of production after charging the factory overhead. The production process log ware used under the traditional costing. For the information of Activity based costing, they maintain a separate activity based costing record. From where, I collected all 3 form of a particular medicine. Those three forms are activity-profiling form, machinery activity form, labor activity form. Lastly, I talk with my colleagues to understand about the account system and standard setting system. This personal interview helps me to understand the relevant cost drivers and cost centers. They also gave me an overview about all the accounting and recording system of ACME laboratories.

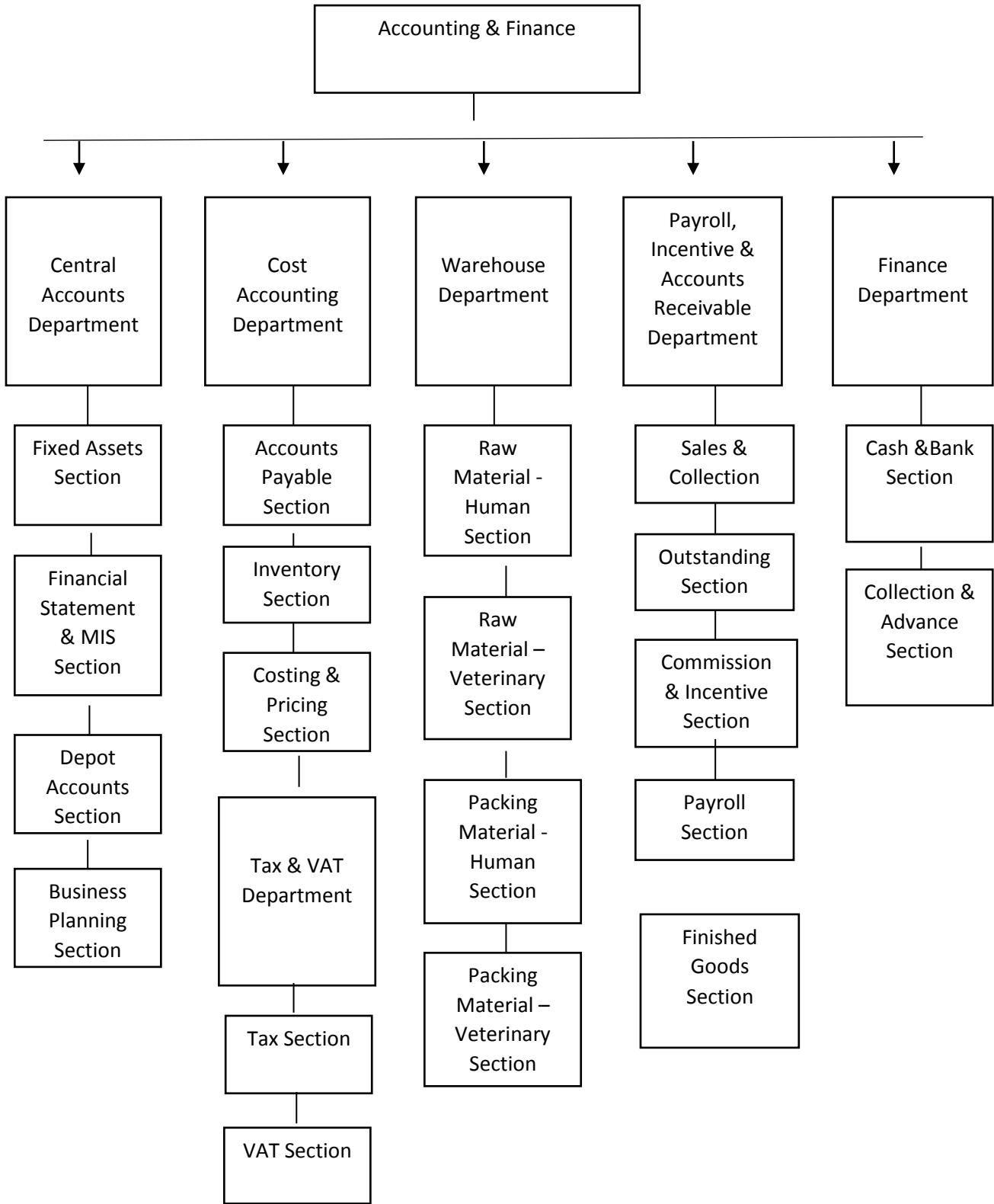
Company overview

The ACME Laboratories is one of the oldest pharmaceuticals company in Bangladesh. It has started its operation in the year of 1954. In the beginning, the company was producing only human medicines and later they expand their operations in the veterinary & herbal sector. The company was converted into a private Limited company in the year 1976. Commercial operation at the modernized plant equipped with sophisticated and advanced facilities began toward the end of 1983. Many challenges overcome successfully to transform the company from a small unit to what it is today. Currently the company ranked seventh in the industry and has 4.1 % of the total market share. (Bangladesh association of Pharmaceutical Industries, 2016). The company's production portfolio is enriched with all form of medicines, which include tablets, capsules, oral liquids, ampoules, dry powder vials, powder for suspension, nasal drops, eye drops, infusion, injection and many more. ACME supplies their medicines all over the country with the help of their own supply chain network. Currently they own 18 sales centers and depots all over the country to make sure smooth supply of their medicines. Besides the pharmaceuticals business they also own ACME agro-vet and beverages, ACME clearing house, Sinha printers, Sinha fabrics and Kids & moms.

Organization structure

As a traditional company, ACME has the pyramid shaped organization structure. In corporate office, they have 8 divisions and in the factory they have 4 divisions. All these departments are divided into 2 categories- functional departments and service departments. The functional departments are mainly the production-oriented department, which includes the procurement department; manufacture department, research and development division. On the other hand, the service department includes the costing and accounts department, quality control department, human resource department and the production planning and control department. Each department has its individual reporting hierarchy. All the department heads are responsible to report to the managing director or the deputy-managing director. In my internship program, I was placed in the costing and the accounts department. The overall organization structure and the costing and accounts department's organogram are shown below in a flow chart.





Strategic Initiatives

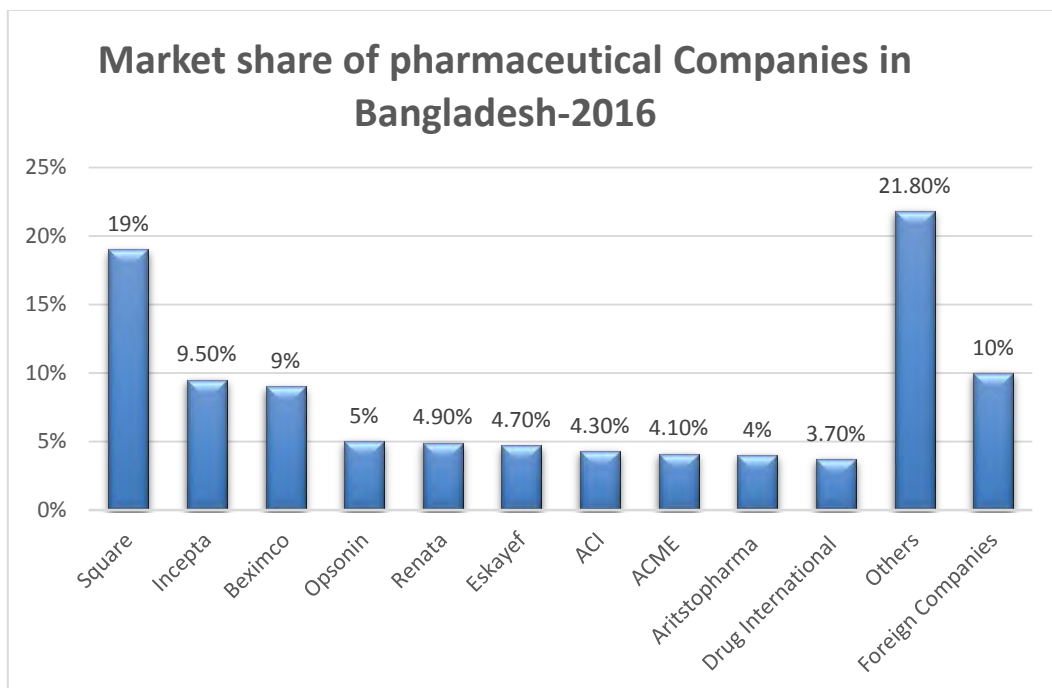
- In 2009, they achieved ISO 9001:2008 certification by fulfilling all the requirements and following that in the year 2016 they achieved the latest quality certificate the ISO 9001:2015. This international quality certificate helped the company to export more medicines.
- In the year 2012, ACME focused to export more medicines, as the competition in the local market became more intensive. Previously they export only in 6 countries, but in the year 2016, they exported their medicines in to 21 countries, which allows them to make their brand name expose globally
- For the future strategic initiative, they decided to go for the vaccine production. Currently the vaccine section in our country is dominated by GSK, and Incepta and the demand of this type of products is rising in our country. ACME has already built state of the art vaccine production plant and very soon they are going to start the production. ACME already spends 19.89 BDT (in millions) in the research and development purpose behind the vaccine project.(Annual Report, 2015).

SWOT Analysis

<p>Strengths</p> <ul style="list-style-type: none"> ✓ As the pioneer of the industry, the company has widely recognition and strong brand image. ✓ An ISO 9001:2015 certified company ✓ Has an agreement with “Allen & Hanburys” a UK based company which provides access to valuable technological know-how ✓ Trained and efficient marketing and sales team 	<p>Weaknesses</p> <ul style="list-style-type: none"> ✓ Dependency on traditional distribution network which add cost to business. ✓ Plant capacity is not utilized at the optimum level due to lack of real time demand forecast information ✓ Number of unsold and expired products are high due to maintain large inventory
<p>Opportunities</p> <ul style="list-style-type: none"> ✓ Ability to expand to more large global markets-as they passed all the requirements by FDA-USA ✓ Rising awareness about ethical principles and expectations from customers ✓ Agreement with foreign companies will help them to bring new improved medicines before rivals ✓ Ability to diversify business by using their established brand image 	<p>Threats</p> <ul style="list-style-type: none"> ✓ Intense rivalry in terms of promotion and marketing ✓ Slower market growth for some products as modern medicines introduces. ✓ Unavailability of raw materials ✓ Strict government regulations and they have right to ban any medicine at any time. ✓ Growing bargaining power of customers and suppliers

Position in the Industry

Bangladeshi pharmaceutical industry mainly dominated by the local companies. The large-local companies like Square, Beximco, Incepta, Renata, and ACME dominating the local market for the common medicines. With the help of The World Trade Organization's, TRIP agreement, Bangladesh has the permit to reverse engineer the patented generic pharmaceuticals products, produce, sell locally, and export the other countries. Beximco Pharma and Square Pharma both successfully completed FDA inspection of their oral solid dosage manufacturing. ACME has passed all the requirements and inspections by FDA and very soon, they are getting the permission to export to US market. (export.gov,2016). There are currently around 100 Bangladeshi pharmaceutical companies in operation. The industries top 25 companies generates the 85% to the revenue. Currently ACME is in the 7th position in the industry according the DSE report with the 4.10% of the market share. (Bangladesh Association of Pharmaceutical Industries, 2016).



Graph Source: Bangladesh Association of Pharmaceutical Industries(BAPI) Yearly report 2016.

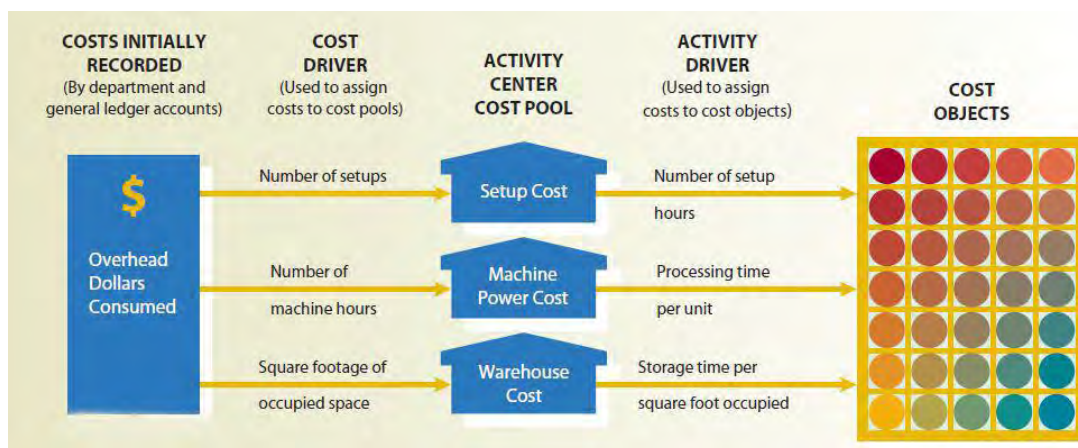
Knowledge gained from internship

In my three month long internship I worked under the costing and accounts team. I was involved 2 projects during this time. Firstly I worked under the project of updating the product prices which is done once in a year . By working under the project I got the hands on experienced of cost accounting theories and concepts. In the other project, I worked for the inventroy calculation and costing. By doing this project, I have learned ablut the production forecasting and inventory control, and aslo got the practical experience of the operation management course. Besides this, I was also responsible for calculating the import clearing charges by looking at the bill vouchers fowarded from the clearing houses. Again, I was responsible to check the journals that are generated by the SQL server with the journals that are sent from the sales centers. To summrize the overall internship experience, I got the practical knowledge of cost accounting concepts, inventory and opetations management and learned some toher financial tasks like opening LC and clearing import-expoert charges and verifying documents.

Activity Based Costing

It is one of the best tools to refine the costing by identifying individual activities as the fundamental cost objects. ABC systems identify activities in all functions of the value chain, calculate costs of individual activities, and assign costs to cost objects such as products and services based on the mix of activities needed to produce each product or service. (Raiborn, 2009). Historically, firms produced a limited variety of goods while their indirect costs were relatively small. Allocating overhead costs was simple. But in last few decades, the large firms has diversified their production line and allocating overhead by using traditional costing method which is sometime referred as *Peanut-butter Costing*, became very challenging and risky. In traditional costing firms use broad averages to allocate costs uniformly regardless of how they actually incurred. As a result, the decision based on the costing would be misleading. There is a high chance of end up with over costing and under costing. Over costing occurs when a product consumes a low level of resources but has allocated high costs per unit. The over cost product absorbs too much cost, making it seem less profitable than it really is. On the other hand, under cost occurs when a product consumes a high level of resources but has allocated low costs per unit A under cost product might lucrative for the firm but it generates actually less profit. So when the firm will think to reduce or increase production based on these costing they will mislead by these costing. To resolve this issue the Activity Based Costing comes. (Thomas, 2008). ABC focuses on attaching costs to products and services based on the activities performed to produce the product or conduct the service. The three fundamental components of activity-based costing are

- recognizing the costs that are incurred at different levels of production
- gathering costs into related cost pools
- using multiple cost drivers to assign costs to products and services



Adopted from: Cost Accounting: A managerial emphasis (Thomas, 2008)

Using ABC Systems for Improving Cost Management and Profitability

Gaining more accurate cost information through ABC is only half the job. Activity based management is a technique of taking managerial decision that uses activity-based costing information to improve profitability and more accurate price setting. ABC generally perceived to produce superior costing figures due to the use of multiple drivers across multiple levels. ABC is only as good as the drivers selected, and their actual relationship to costs. Poorly chosen drivers will produce inaccurate costs, even with ABC. (Brimson, 2005). Again, ABC helps the firms in the cost reduction and process improvement decision. As ABC classifies all the costs into respective cost driver, so the management can focus on how and where to reduce cost. Managers set cost reduction targets in terms of reducing the cost per unit of the cost allocation base in different activity areas. For example, the supervisor knows how much electricity is required to produce one unit of the product. Therefore, if he wants to reduce machinery overhead cost, he can focus on the respective activity driver. If the supervisor can able to reduce the activity then by inventing, process that is more efficient. He can reduce cost and increase profitability. Besides this, Companies with complex products or processes should consider ways to decrease that complexity. Management could review the design of the company's products and processes to standardize them and reduce the number of different parts, tools, and production processes. Process complexity is part of the non-value-added activities that cause time delays and cost increases. Certain products and services create significantly more overhead costs than other products and these extra overhead costs are caused by product variety or complex production process. For example, some products require high levels of advertising; some use expensive distribution channel and some require the use of high-technology machinery. If only one or two overhead pools used like traditional system, overhead related to specific products will spread over other products. The result will be increased costs for products that are not responsible for the increased overhead. As a result, it will be more difficult for the firm who has a large product diversity to match the price with their competitor who produces only one or two products. (Cokins, 1996)

Costing and pricing process at ACME

The process starts from the product development department. They first make the list of the raw materials that are required to produce the medicine and determine the production process. Then they send the proposal to the product-manufacturing department (PMD) where they calculate the amount of the raw material, packing material, labor, distribution and promotional activity required for producing one unit of the machine. Generally, they calculate these costs in terms of a batch size. After determining the quantity, they forward it to the costing department. Only costing department maintains all the prices of raw materials and packaging materials. They multiply those with the quantity; they receive from the product-manufacturing department and calculate the cost of the product. Then they match the price of the product with the existing competitor's product and rate the medicine "AAA" or "AA" or "A" based on the profitability. Which they get from subtracting the production cost from the competitor's price. If the product falls under the AAA and AA category then they give permission to the manufacturing department to start production. If it falls under "A" category generally, they do not go for the production.

Type	01	Raw Material	Recp Cd	081037
Div Cd	1	Human		
Cat Cd	08	Tablet		
Prd Cd	1037	Nystat V. Tab.	Batch Size	15000
Mat Mat C			Qty	
01	1104	Nystatin (Susp. Gr.) Usp	KG	.29
02	1087	Ethyl Cellulose Usnf	KG	.15
02	1109	Lactose Anhydrous Usnf	KG	14.25
02	1120	Magnesium Stearate	KG	.24
02	1122	Maize Starch	KG	1.35
02	1123	Stearic Acid Powder	KG	.18

Type	02	Packing Material	Recp Cd	081037
Div Cd	1	Human		
Cat Cd	08	Tablet		
Prd Cd	1037	Nystat V. Tab.	Batch Size	100000
Mat Mat C			Qty	
03	1142	Nystat Vaginal Tablet Carton	PC	6750
04	1009	Vaginal Tablet Applicator	PC	6750
07	1069	Nystat Vaginal Tablet Insert	PC	6750
09	1125	Nystat Vaginal Tablet Box Label	PC	142
11	1015	Ship. Box Type-L (34x19.5x17.5cm)	PC	140
15	1030	Nystat Vaginal Tablet Strip Foil-B	KG	22.8
15	1031	Nystat Vaginal Tablet Strip Foil-T	KG	22.8
20	1014	Plastic Tape (Small)	ROLL	8
20	1064	Plastic Tape (Big)-Printed	PC	6

Costing system under traditional method at ACME

Traditional overhead costing allocates the factory's indirect costs or the overheads to the items produced based on quantity such as the number of units produced or raw materials used, the direct labor hours. Therefore, in general all the products of the company absorb the overhead as percentage of the raw materials used. During traditional costing era, ACME charged factory overhead based on the raw material used. A sample of traditional costing system is as follows:

Information source: ACME Laboratories internal data

ACME Laboratories Limited Dhamrai, Dhaka Traditional Batch cost report

Product Code: 06 1037

Product Name: Nystat v. Tab

Batch No: 08 19 325

Batch Size (pcs): 10000

Batch Yield: 17150

Code	Material Name	Unit	Rate	Qty.	Value
Raw Materials:					
R-102	Nystatin Susp. Gr. Usp	KG	345	0.29	100.05
R-508	Ethyl Cellulose Usnf	KG	648	0.15	97.2
R-605	Lactose Anhydrous	KG	747	14.25	10644.75
R-904	Magnesium Stearate	KG	455	0.24	109.2
R-706	Maize Starch	KG	1115	1.35	1505.25
R-870	Stearic Acid powder	KG	10000	0.18	1800
Total Raw Materials Cost					425685.45
Raw Material Cost per PC (A)					4.43
Packing Materials:					
P-1005	Nystat Tab Cartoon	PC	1.95	6750	1316.25
P-1006	Tablet Applicator	PC	6.25	6750	42187.5
P-1007	Nystat Tab Insert	PC	0.55	6750	3712.5
P-1008	Nystat Tab Box Label	PC	0.35	142	49.7
P-1009	Ship. Box Type L	PC	0.75	140	105
P-1010	Tab Strip foil- B	KG	135	22.8	3078
P-1011	Tablet Strip Foil- T	KG	300	22.8	6840
P-1012	Plastic Tape Small	Roll	26	8	208
P- 1013	Plastic Tape Big (Printed)	PC	53	6	318
Total Packing Material Cost					413228.15
Packaging Materials per PC (B)					4.74
Total Cost Per PC (A+B)					9.17

In traditional costing ACME allocated factory overheads based on the raw materials cost that used to produce each batch. ACME charge 20% of their raw material cost as their factory overhead. They get the total factory overhead balance from the central accounts.

Manufacturing overhead Calculation as follows:

Total Raw Material cost for Nystat v. Tab (Batch size 10,000) = 425685 BDT

Factory overhead cost allocated to Nystat = 85137 BDT

Overhead absorbed = $85137/10000 = 8.51$ BDT/unit

Production cost per unit = $(9.17+8.15) = 17.68$ BDT

Costing system after Implementing ABC in ACME

In 2009, The Acme Laboratories switched from tradition costing to Activity based costing system to allocating their overhead costs. It enables the firm to allocate overhead costs based on the resources that actually consumed by the product. As a result the firms and easily classify more profitable and less profitable products. It enhances the cost control and the decision-making. The ABC costing begins with standard setting. At first ACME identifies cost centers. At first ACME identifies cost center. Cost center is a defined area where all the direct and indirect cost are allocated. Then they recognize cost drivers, which are more relevant with the cost centers. Cost driver is any activity that incurs cost. According to ACME, they follow the following table to determine the Cost center and cost drivers

Code no.	Cost center	Cost driver
69	Administration & HR (Plant)	Number of Employee
X2	Electricity Generation, Distribution & Supply	Consumption of electricity
O6	Water	Consumption of Normal water (Ltr.)
X1	Steam Generation & Distribution	Consumption of steam
N3	Factory Canteen	Number of Meal
W8	Engineering & Machine Maintenance(Workshop) + Eng. Store	Number of preventive and troubleshooting
W5	Nitrogen / Oxygen Gas Supply	Consumption of gas
W6	Compressed Air Producing & Supply	CFM
70	Store & Accounts-Human	% of Demanded services by various dosages form
X4	ETP	Normal water purify (Ltr.)
44	Production Overhead-Human	Number of Employee at Human Division Dosages form
31	Capsule Department-Human	Machine hour
U1	Ointment Department-Human	Machine hour
U2	Cream Department-Human	Machine hour
33	Dry Syrup Department-Human	Machine hour
34	Eye, Ear & Nasal Drop Dept.-Human	Machine hour
35	Injection Department-Human	Machine hour
36	Liquid Department-Human	Machine hour
U3	Inhaler Department(Dpi)	Machine hour
U4	Inhaler Department(Mdi)	Machine hour
39	Suppository Department-Human	Machine hour
U5	Batch Over Printing -Human	Machine hour
U6	Blister Packing-Human	Machine hour
U7	Strip Packing-Human	Machine hour

After determining the cost centers and the relevant cost drivers, costing department gives an “activity profiling form” to the product-manufacturing department (PMD). In the activity profiling form, all the activities that are needed to perform to produce the medicine in a batch size are listed down and the respective responsible person fills the form and sends it back to the costing department. From this information, the costing department categories the activities with their respective activity center cost pool. For example, after receiving the activity information from the PMD they could classify the activities into setup cost, machine

and power cost, warehouse cost. From the activity cost pool the costing department, matches the relevant activity cost pool.

Activity Profiling Form

A) Primary cost

ABC Form 1

Head/Item	Transferred from	Nature and Description
Raw Materials		
Packing Materials		

B)

B) Sub Activities:

Name	Function	Remarks
Materials Receiving & Checking	Materials receive from warehouse	Common for all process
Melting	To melt the raw materials	Common for all process
Mixing	Proper mixing of all ingredients	Common for all process
Tube Filling & Sealing	Fill into the tube	Common for all process

C) Manpower Required

Sub activity	Permanent	Daily	Total
Materials Receiving & Checking	1	0	1
Melting	1	1	2
Mixing	1	1	2
Tube Filling & Sealing	3	1	4

D) List of Machinery Main process only

Name	No. Of Machine	Sub activity	Total Working Hour/Day	Down Time	Net Working Hour
Vacuum Emulsifier	1	Melting & Mixing of all ingredients	10	4.00	6.00
Tube Filling & Sealing Machine	1	Tube Filling & Sealing	8.5	3	8.00

After finishing activity profiling, they prepare the labor hour activities and the machine hour activities form. Labor hour activities form contains all the labor hour required to perform each of the activities to produce the particular medicine. From this information, costing department calculate how much labor hour consuming each activity and what are the actual labor costs incurred under each activity. Unlike traditional costing, here rate of labor hour changes under each activity. Therefore, those products that are more labor intensive and more sophisticated is consuming more factory overhead apportioned based on labor hour.

The final part of the standard setting is the collection of the machine hour activities form. It contains all the machine hour that are required to perform all the activities to produce the medicine. After collecting this information, costing department set the standard of allocating overhead based on the machine hour.

Manufacturing process time in labor hour for Nystat Tab As follows:

ABC Form 2

Product Name	Batch Size	Batch No	Materials Receiving & Checking			Melting & Mixing			Filling & Sealing			Total
			Man	Hour	labor Hour	Man	Hour	labor Hour	Ma n	Hour	Labor Hour	
Nystat Tab	100,00	DB9017	1	1	1	2	2	4	3	8	24	29

Manufacturing process time in Machine Hour hour for Nystat Tab As follows

ABC Form 3

Code	Product Name	Batch Size	Batch No	Melting & mixing	Tube Filling & Sealing	Total Hour
				Hour	Hour	Hour
061037	Nystat tab	10000	DB9017	3	8	11

Profitability analysis under both costing system

Under activity based costing system, the direct costs are same as the traditional method. Direct cost includes the cost of raw material and the cost of labor hour. Therefore, from the earlier calculation the direct cost of producing one PC of Nystat v, Tab is 9.17 BDT. The factory overhead is allocated based on the actual machine hour, actual labor hour.

During the manufacturing, factory overhead absorbed based on the cost of labor hour and the machine hour per batch production.

Actual labor hour consumed (from the labor hour activity form 2) = 29

Actual machine hour consumed (from the machine hour activity form 3) = 11

During the production period, overhead absorbed for the batch of production at the rate of Tk 1035.8 per Labour hour and Tk 1240.7 per Machine hour.

Total Overhead allocated to Nystat= $29 \times 1035.8 + 1240.7 \times 11$

So, per unit OH = $\text{Tk } 24162.6 / 10000$

= Tk 2.40

Product cost per unit under ABC = $\text{Tk. } 9.17 + \text{Tk. } 2.40$

= Tk. 11.57

In 2009, Nystat is one of the most selling products of the company. The market-selling price for the Nystat Tab was 29.25 taka per pack. Recently other leading pharmaceuticals reduce the price of the same type of medicine to grab the market share. The recent price of the same product of Square is 21.65 taka. It is much lower than the ACME's price and ACME was failed to match its competitor's price because of following the traditional costing system. Under the traditional costing, the cost of production is 17.68 taka and profit they earn by selling one Pack of Nystat is 11.57 taka. Therefore, if they want to match the price of their competitor then the profitability of the medicine will be drop significantly. If they sell the product at the competitor's price then their profit will be 3.94 taka only. So if ACME do not reduce the price then the market demand of this product will fall due to high price and if they change the price the medicine will no more profitable to company. However, in this same case if, they re-costing the product by using the ABC then the scenario would be different. In ABC, the product will actually absorb that amount of factory overhead that it actually consume. As a result the product does not have to bear the other products production cost and the overhead cost significantly falls. Under the ABC, costing the product costs 11.57 taka. Therefore, if, they re-adjust their price with competitor, which is 21.65, still they will earn profit of 11.65 taka. Before applying ABC, considering all the conditions the product was not lucrative any more to the company. The management might think to drop it from production, despite having good name and demand in the market because they cannot sustain in the market with that price. Nevertheless, after applying ABC they can easily re-adjust the price of the product without hampering their profitability.

Recommendations

The ABC system is quite new in Bangladesh. There is very few information is available in industry on ABC in Bangladesh. As a result, ACME could not use other companies experience to improve them. There are several points, where ACME could work to improve the efficiency of the system. Success of ABC mostly depend on the selection of the relevant cost driver and the basis for allocate the overhead costs. The more accurate and relevant basis you select, the more accurate product costing will be. ACME generally use generalized cost drivers and basis for all of its medicines. They could categories their medicines like oral tablets, suspensions, syrups, injections etc. and set separate cost drivers and basis for each of the category. This will give more accurate basis because the different type of medicines requires different machinery and process. Besides that, ABC shows all the activities and cost of activity at each level in the activity profiling form. As a result, management should review all the process very carefully. The cost of production will be significantly lower if they could redesign the process in an efficient manner. Again, the factory overhead cost is quite high in ACME. Finished goods warehouse cost, raw material store cost, accumulates the large portion of the factory overhead. If ACME could forecast the market demand for medicines more precisely and change their production accordingly, the storage and warehouse cost will fall extensively. Again, every year they had to destroy a large amount of unsold expired products, which add cost to their business. By applying proper inventory management and forecasting, they could manage this. Furthermore, two department- costing & PMD do the costing process. Production department does not have the access to the unit prices and the costing department does not have the access for review the quantity of raw materials that required. In this case, costing department is entirely depended on the PMD. This problem could be solved by introducing proper ERP. If the costing department and the production department could review each other works then the product pricing and costing will be more accurate. By keeping all things considered, the summarize recommendation for The ACME laboratories is to focus on overall cost control, more effective budgetary control and standard profiling systems have to be introduced so that persons can be identified with responsibility for the work done improperly and wrongly and ensure the best capacity utilization and minimize the idle capacity by redesigning the production process and inventory management.

Conclusion

Bangladesh has the ability to bring revolution in the pharmaceutical industry, if the country could make the most of the opportunities optimally. Bangladesh has a huge market for the pharmaceutical products and the market is in its growing phase. Moreover, mainly the local companies fulfill the demand of this large growing market. The study on ACME Laboratories is done to analyze the company's problem and the decisions that they have taken as solution.

The pharmaceuticals industries in our country are heavily depended on the technology and the modern production facility. More or less, almost all the large and pioneer pharmaceuticals companies in our country have the same type of production facility technology. However, in this highly competitive market, the ultra-modern production facility and R&D is not only the winning factor. Managerial qualities of the employees make a significant difference between the rival companies. The accuracy of the decision is mostly depending on the quality of the information. If the right information is timely available to the management, then the management can make the decision in a more scientific, effective and efficient manner. To make the information available to the management, cost accounting system plays a very important role. Better cost accounting system provides the detailed breakdown of the costs, so management can easily review the activities and redesign the process.

Switching to ABC from traditional costing system was a risky decision for ACME, because the implementation cost was very high, and it was a very new concept for the industry. Again, in that, time the company was suffering to maintain its profitability and it became very hard for them to sustain in the market. Other new companies were providing medicine at a much lower price, so they are losing the market capture gradually. Besides that, ACME was unable to bring new medicines because of high production cost new medicines were failed to achieve a good grade in the profitability analysis. However, the decision turns into a survival decision for the company and the company performed very well under the ABC system. After ABC, they have introduced several new medicines and stopped production of few over-costed medicine. Moreover, their market share is stable now, because of offering variety of products at a competitive rate.

In the final analysis, the ABC was a very successful decision for the company. The management is also motivated for constant development of the system, which reflects on the financial condition of the company. Though there are some lacking and the report contains some recommendations that how would ACME overcome those.

References

- Bangladesh Association of Pharmaceutical Industries. (2015). *Pharmaceutical Industry Report Bangladesh*. Dhaka: Directorate General of Drug Administration (DGDA).
- Brimson, J. (2005). *Activity Accounting: An Activity-Based Costing Approach*. New York: Wiley & Sons.
- Cokins, G. (1996). *Activity-Based Cost Management Making It Work: A Manager's Guide to Implementing and Sustaining an Effective ABC System*. New York: McGraw-Hill.
- export.gov . (2016). *Bangladesh - Pharmaceutical*. Bangladesh: Directorate General of Drug Administration (DGDA).
- Mahamudul Haque Ullash. (2011). *Problems and Prospects in Implementing Activity Based Costing (ABC)*. Dhaka: South East University .
- Momammed Faruque Ahmed. (2009). *Impementaion ABC in ACME*. Dhaka: The Institute of Cost Management Accountants of Bangladesh.
- Raiborn, C. (2009). *Cost Accounting: Foundations and Evolutions*. South-Western Cengage Learning.
- The ACME Laborotries . (2016). *Annual Report* . Dhaka: Sinha Printer.
- Thomas, C. (2008). *Cost Accounting: A Managerial Emphasis*. Pearson.