THE EFFECTS OF ABC SYSTEMS ON THE PERFORMANCE OF SALES REPRESENTATIVES: A FIELD STUDY IN A TURKISH FIRM

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ABSTRACT

In this study, the differences between traditional costing and activity-based costing system have been exposed by appealing the data which has been gathered from a Turkish white goods manufacturing and selling company. Then, the effectiveness of activity-based costing system for measuring the performance of sales representatives has been analysed and interpreted by the help of calculations which have been made in the field study.

Keywords: Activity-based costing, traditional costing, measuring the performance of sales representatives

1. INTRODUCTION

Today, technology is developing very rapidly. Such kind of technological developments cause to diminish the labour effect in production and increase automation. The margin of labour costs in product costs has decreased and the effectiveness of traditional costing has declined. As a result, the need of new methods arose. One of the most favorite new methods is activity-based costing system. By the help of ABC systems, the companies, whose production systems move from labour-intensive to machine-intensive, can calculate all related product costs more effectively and correctly.

Activity-based costing system can be defined as a system which establishes linear relationships at various levels not only depending on volume between indirect costs. According to ABC, all activities that cause a cost are evaluated and must be added into the cost of product even if they are not changed due to volume fluctuations (Oker, 2003).

The main aim of ABC, which is related to the cost assignment of manufacturing overhead, is to calculate all costs correctly, especially the cost of product (Sakrak, Hacirustemoglu, 2002). Besides, there are a lot of benefits of ABC. For example, businesses can improve the profitability of customer distribution channel and labour force since ABC provides more accurate and actual data which enables top management decide more easily. Wherefore, the future becomes brighter for companies. However, all departments in a company must be aware of the systematic of ABC in order to get successful and useful results. All operations and activities must be organized under the aim of ABC. Unless all of the personnel sense the purpose of ABC, it is very clear that the correct and actual costs cannot be calculated. It means that the integration is very important to get a proper ABC system.

ABC clarifies activity costs by the help of cost drivers, and exhibits how the related activities increase the cost of production, and moreover calculates how much resources are allocated. In this direction, first; the resources should be identified and second; cost drivers should be defined. Following, all activities should be determined. Lastly, the purpose of business should be indicated very clearly (Gupta, Galloway, 2003). After defining and indicating the purpose accurately, it might be easier to define activities.

The ABC System is very creative and effective. Because, it helps companies to determine how much the activities affect the cost of product. As a result, decision making becomes easier and more accurate decisions are obtained (Turney, 2008). Today, the business environment is very complicated, and the competition is very tough. That’s why the requirement of accurate and correct information increases more and more.

There are some compulsory activities for a product/service. ABC focuses on these compulsory activities. Due to this reason, the definition of activity must be done correctly. Defining activity is the first step of all applications. If there is any mistake while defining activities, it will probably corrupt the following steps. Consequently, the company cannot calculate the accurate cost and realistic profit; all calculations do not mean anything.
Activity can be defined as a function or a set of all related transactions, which is done in order to perform a task (Oker, 2003). For example, a number of processes and operations like machine setup before production, materials handling, preparing supply agreements with the suppliers, preparing a detailed list of the required parts, etc. are all called as “activity”. In a narrower scope, we can define activity as a job which is done in any organization.

ABC checks every activity of all departments in a company whether the activity reflects an increase in the cost of product or not. Today, sales and marketing department also affect the cost of product quite a lot. Competition is getting harder day by day and it’s not enough to offer a product with lower prices at a reasonable level of quality. The companies show a great effort so as to add consumers into their customer portfolio. Because of that, they make huge investments to create a strong sales force. While negotiating a sale, a sales representative may agree in the terms that increase the company’s cost. Sales representatives promise of sale without considering that these promises may increase costs. In ABC system, all sales activities which increase the cost of product must be considered and checked whether they have a cost or not. By the help of this fact, sales techniques of representatives can be investigated. If there is any activity which increases costs but not improve sales volume, it should be eliminated immediately. Otherwise, the costs of unit product increase and the companies lose its competitive force. By the way, it is very clear that ABC system directly influences the performance of sales force.

2. LITERATURE

Studies of ABC implementation had been undertaken by academics and management consultants since the early 1990s. Some of the earlier studies had been focused on the technical aspects of ABC. Focuses of some of the earlier studies were primarily on the technical aspects of ABC, such as selection of activities, cost drivers and process design (e.g., Cooper, 1990; Cokins et al., 1993; Morrow and Connelly, 1994). With the realisation of the association of ABC in a social setting, case studies adopting a social science stance have been carried out in an attempt to gain a better understanding of ABC implementation from a wider perspective (Innes and Mitchell, 1998). From a longitudinal study of an organisation’s initiation and implementation of ABC concepts, Innes and Mitchell (1991) reported some success factors of an ABC implementation. These factors included the establishment of clear and achievable objectives for an ABC implementation to match the underlying strategic policies and goals of an organisation, steadfast support from top management, provision of adequate resources in a timely manner, involvement and consultation of staff, and adoption of a participative approach in data gathering. They also revealed some difficulties encountered. Also, the process activity information revealed by ABC may be incongruent with functional structure of an organisation and, thus, may cause some potential conflicts during an ABC implementation process. (Lui, Pan, 2007).

In recent studies, ABC has been applied in a wide variety of commercial manufacturing businesses, public utilities, wholesale and retail organisations and a range of service firms.

Schoute (2011), examined the associations between product diversity, usage of advanced manufacturing technologies and activity-based costing adoption. The paper contributed to the literature by showing that, consistent with the underlying theory, product diversity, on average, is positively related to both activity-based costing adoption and activity-based costing ABC use, but also that these relationships are indeed inverted U-shaped and that the relationship with activity-based costing ABC use is negatively moderated by usage of advanced manufacturing Technologies (Shoute, 2011).

Pike, Tayles, Mansor (2011) were examined user perceptions of Activity based costing performance for three different types of system in a major information and communication provider in South East Asia. The results show that both the development inputs and user performance perceptions varied with the type of system (embedded, stand-alone, ad-hoc). While embedded systems enjoyed far stronger inputs (e.g. top management support, rewards and recognition, task significance) and greater development team cohesion than stand-alone systems, they were perceived by users to perform significantly less well. These findings suggest that system type is an important factor in assessing ABC performance (Pike, et al., 2011).

Lin (2012) was explored the relationship between financial performance and customer service using data envelopment analysis as part of the activity based costing in their study (Lin, 2012).

Werner and Xu (2012) were stated in their study that how activity based costing can help manufacturers to increase product cost accuracy and to reduce costs (Werner, Xu, 2012).

Schulze, Seuring, Ewering (2012) conclude with a critical reflection on the findings by discussing the chances and limitations of inter-firm activity-based costing in their study (Manuel, et al., 2012).

Mansor, Tayles, Pike were stated in their paper (2012) that ABC provided better information in areas of budgeting and planning and opportunities for improvement in other business areas. In relation to ABC making changes in business decisions, these were less successful in the various business functions. The implications of these findings share the experiences of the present organisation and their perceptions on the usefulness of ABC information and
where it stands in changing business decisions in their operations (Mansor, et al., 2012).

Carmo, Padovani (2012) were focused on the challenges of adoption of the ABC system in the public sector in Latin America, in countries like Brazil, Uruguay and Colombia, always in a comparative perspective with the case of United States (Carmo, Padovani, 2012).

Jänkkälä, Sinikka, Hanna Silvola (2012) were contributed to the earlier small business literature by investigating the lagging effects of the use of activity-based costing on small firms’ performance. The survey results indicate that small firms with adequate financial resources as well as firms experiencing declining growth tend to use ABC and such use facilitates their subsequent growth and profitability (Jakala, Silvola, 2012).

3. THE COMPARISON BETWEEN ABC SYSTEMS AND TRADITIONAL COSTING

According to ABC systems, all expenses are made to carry out the required activities. Manufacturing cost assignments are also made by depending on how much a product/service changes the cost of product. While assigning manufacturing cost to the unit cost of a product, they benefit from the activities. In brief, firstly the cost of activities is determined, and then cost assignments are performed. In traditional costing, the costs are assumed to vary only at the unit-level, and the costs are assigned into three categories: direct materials, direct labours and manufacturing overhead. Traditional costing takes these categories into consideration while calculating costs, and ignores all activities that the related activities are not assigned to the costs. By this way, the possibility to overlook some costs is very high. And, it gets more difficult to calculate the actual cost of a product (Cooper, Kaplan, 1991).

Because of the importance of customers, a costing system should focus on customers and consider them as the most important cost drivers (Goebel, et al., 1998). In these days, companies are involved in various activities in order to meet customer needs, increase customer satisfaction and survive in this tough competition. All of these customer-oriented activities definitely affect the cost of products. At this point, it is not possible to calculate these cost-increasing activities by traditional costing. ABC will be one of the best alternatives to make right calculation.

ABC and traditional costing system differ especially when the point is manufacturing overhead. The biggest problem for companies is to calculate unit product cost. As if it seems easy, it is certainly not. As it is known, unit cost of a product is calculated according to direct material, direct labour and manufacturing overhead. It is not so difficult to determine the direct material cost and the direct labour cost. But, there are serious difficulties in determining the manufacturing overhead. In recent years, these difficulties are increasing very rapidly. Because, the margin of labour cost in unit price decreases as the technology increases. Today’s production plants are generally automated. Due to the increase of automation in production lines in virtue of technology, the number of required workers is decreasing. That’s why traditional costing is not enough; companies should use ABC systems in order to keep pace with technology (Dickinson, Lere, 2003).

Most of the costing methods, which are used recently, focus on calculating the unit cost of homogenous products (Chan, 1993). Since mass production is very common in all industries. The output of mass production is completely homogenous. Because of that, the costing method which depends on calculating the unit price of homogenous product is very popular and widespread. On the other hand, traditional costing methods are more useful for manufacturing firms. But, ABC system can be applied in both manufacturing firms and service companies. Especially in health industry, we can see many applications of ABC systems.

By traditional costing, we can have unit-level cost data, but there are some costs that vary with unit-, batch-, or product-level. It is sometimes impossible to calculate such kind of costs in traditional costing. In today’s world, it is not enough to proceed only with unit-level cost data. Therefore, companies must be aware of what kinds of activities are operated in their facilities. Every function of a company needs ABC system. But in our own field study, we will only concentrate on sales and marketing functions.

As we mention before, there are some cost drivers in ABC systems in contradistinction to traditional costing. According to ABC systems, consumption of all kind of resources causes a cost. And these costs must be measured. At this point, cost drivers are used for the measurement of resource consumption. In other words, cost drivers represent the products and the activities. By the help of cost drivers, we can get data about the costs of product and activities.

We have seen that activity costs are examined only at the unit-level in traditional costing. In view of ABC systems, we will categorize activity costs into four groups: unit-, batch-, product-, and facility-level. Unit-level activities are direct labour, direct material, energy, and machine costs. Batch-level activities are machine setup, material handling, inspection, and purchase orders. Product-level activities are re-designing process, product development test, preparing prototype, part administration, certifications of products, and process engineering. Facility-level activities are building production plant, managing production plant, heating, cooling, aspirating and lightening the production plant (Cooper, Kaplan, 1993).

4. A FIELD STUDY IN A TURKISH FIRM
Objective: Our aim is to show differences between traditional costing system and ABC system by using the information of a Turkish firm which operates in white goods industry and illustrates the effects of ABC system on the performance of sales representatives by representing some related calculations.

Company Overview: XYZ Co. operates its sales activities all over the world including its home country. They produce white goods in reference to the demand of their customers. Regarding the instructions of sales representatives, they may change their standard product range. They have their own brand, but this brand is valid only for domestic sales. International sales are performed under the brands of representatives, they may change their standard product range. They have their own brand, but this brand is valid only for domestic sales. International sales are performed under the brands of customers. All specifications and the brand names are determined by the international customer.

The Scope of Our Field Study: This Company produces every kind of white goods. But, we will be interested in only one product category: Washing Machine. The model number of the related washing machine will be called as “KLM”.

Managers have to make a decision in how the scarce resources will be allocated, how the price of a product will be determined, when a product line will be ended, and how the products and the processes will be organized. Information is the main element of decisions. Better information helps us make better decisions (Barnes, 1992). In this field study, we will illustrate how the managers, who make the right decision, can improve the performance of sales representatives.

Before this field study, XYZ Co. was not categorizing the manufacturing overhead anymore. After this study, they’ve started categorizing the manufacturing overhead into two categories: fixed manufacturing overhead and variable manufacturing overhead. Variable manufacturing overhead increases at the rate of $6.50. On the other hand, depreciation cost of production plant, re-designing cost, retooing cost of a machine for a new production run, and reengineering cost do not vary with volume. These costs are all fixed. The total amount of fixed manufacturing overhead at XYZ Co. is $105,000.

The activities are divided into seven main titles in XYZ Co.: Energy consumption, inspection, machine setup, material handling, parts administration, product engineering and providing free-space for inventory.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Level</th>
<th>Cost Driver</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy consumption</td>
<td>Unit</td>
<td>Machine hours</td>
<td>$1.8/MH</td>
</tr>
<tr>
<td>Inspection</td>
<td>Unit</td>
<td>Units</td>
<td>$1.2/Unit</td>
</tr>
<tr>
<td>Machine Setup</td>
<td>Batch</td>
<td>Number of setups</td>
<td>$380/Setups</td>
</tr>
<tr>
<td>Materials handling</td>
<td>Batch</td>
<td>Moves</td>
<td>$124/Move</td>
</tr>
<tr>
<td>Parts administration</td>
<td>Product</td>
<td>Number of new parts</td>
<td>$450/new part</td>
</tr>
<tr>
<td>Product engineering</td>
<td>Product</td>
<td>Engineering hours</td>
<td>$24/EH</td>
</tr>
<tr>
<td>Providing free-space for inventory</td>
<td>Facility</td>
<td>Square measure</td>
<td>Given below.</td>
</tr>
</tbody>
</table>

Providing free-space for inventory is an activity which is at facility-level. XYZ Co. indicates the cost of providing free-space for inventory as $15,000,000. In traditional costing, this cost is accepted as a fixed cost. As it is clearly seen, the cost of providing free-space for inventory is very expensive. Because, the land prices in the region, where XYZ Co. operates, are high too much.

Assigning fixed manufacturing costs and calculating the cost of facility-level activities is very difficult since they do not vary at the unit-level. Due to this difficulty, these costs should be allocated to units.

In this company, variable manufacturing overhead varies with direct labours. Concurrently, XYZ Co. allocates fixed manufacturing overhead to units by using the rate of direct labour hours. The rate of direct labour hours is $12.5. This rate is calculated by dividing fixed manufacturing overhead ($105,000) by the estimated total working hours for a year (350 working days x 24 hours = 8400 hours). XYZ Co. keeps working during national holidays and special days. After that, the amount of total manufacturing overhead must be calculated by summing up fixed and variable manufacturing overhead rates. The sum of these rates is $19 / direct labour hours. ($12.5 + $6.5 = $19)

The below table (Table 2) is prepared by using these rates. The washing machine model number used in this field study is “KLM”. The related costs of Job KLM are calculated regarding the rules of ABC. All cost information of the activities under Job KLM is indicated in Table 2.
Table 2
Manufacturing Costs of XYZ Co. for Job KLM

<table>
<thead>
<tr>
<th>Direct Labour Hours based Manufacturing Overhead Rate</th>
<th>Direct Material Cost (a)</th>
<th>$58,000.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Labour Cost</td>
<td>$19,000.00</td>
<td></td>
</tr>
<tr>
<td>Manufacturing Overhead</td>
<td>$8,000.00</td>
<td></td>
</tr>
<tr>
<td>Total Manufacturing Cost</td>
<td>$85,000.00</td>
<td></td>
</tr>
</tbody>
</table>

ABC Manufacturing Overhead Rates

| Energy Consumption                                     | $1,800.00                |
| Machine Setup                                          | $1,140.00                |
| Materials Handling                                     | $372.00                  |
| Parts Administration                                   | $900.00                  |
| Product Engineering                                    | $528.00                  |

Providing free-space for inventory                     $4,875.00

Total Manufacturing Cost: $76,395.00

(a) Direct Material cost is $58,000. It is assumed that this job requires 1000 direct labour hours. The wage rate is $8. Total direct labour cost is $8,000. (1000x $8/hour = $8,000) Total manufacturing overhead is $19,000. (1000x $19 = $19,000)

(b) All data excluding manufacturing overhead is all same. The unit produced for KLM model is 650. In order to produce 650 units, 1000 machine hours, 3 machine setups, 3 material handling, 3 parts administration and 22 hours of product engineering are required. Energy consumption: 1000 hours x 1.8 MH = $1,800, Inspection: 650 units x 1.2 = $780, Machine Setup: 3 x 380 = $1,140, Material Handling: 3 x $124 = $372, Part Administration: 2 x $450 = $900, Product Engineering: 22 hours x $24 = $528, Providing free-space for inventory: 650 units x $7.5 = $4,875

The cost difference between traditional costing and ABC system = $85,000 - $76,395 = $8,605

At XYZ Co., the facility-level activities are assigned to cost according to their usage rates. XYZ Co. targets to produce 2,000,000 units/year. The usage rate of providing free-space for inventory is $7.5. (15,000,000 / 2,000,000 = $7.5)

As it is seen in Table 2, the cost estimate of traditional costing is higher than ABC system’s. If XYZ Co. had used traditional costing, the cost estimates would have been higher. It means that, XYZ Co. will make more resource allocation even if not necessary. By the help of ABC, XYZ Co. becomes able to make more detailed and efficient analysis.

The measurements of sales representatives’ performance may vary with the mission, vision, targets and priorities of companies. If the company aims to increase revenues, they will measure the performance of sales representatives regarding their contribution to the revenue growth. If the company aims to increase profit, all measurements will be arranged accordingly. When the aim is to increase profit, it will not be enough to focus on only revenues; the companies should also increase gross profit as well. Gross profit concentrates on both revenues and costs of goods sold. In these circumstances, the sales representatives who are able to sell with higher profit margins will be more successful. The measurement of sales representatives’ performance does not depend on only huge sales volume in terms of unit. Since the profit margin might be very low even if the number of goods sold is high too much.

In ABC, the cost estimations are divided into two categories. The first category is the cost estimations that are based on the purchase order’s special specifications upon which the sales representatives and the customer agree. The frequency of shipments and the required hours to train customers are good examples for the first category. The second category is the cost estimates that reflect the resources used by sales representative in order to succeed in sale. Special sales offers, attending trade fairs, visiting customer, making sales calls, etc. can be given as example (Dickinson, Lere, 2003).

4.1. Evaluating the Performance of Sales Representatives

To close a sale, there are many details other than price that have to be discussed with the customer. By using traditional costing that only takes into
account costs on unit-level, it is not possible to predict the costs resulting from the activities on batch- and product-levels required for fulfilling the conditions that sales representatives agreed with the customers. These costs are assigned to the cost of goods sold or cost of marketing functions.

In XYZ Co.’s production plant, activities on batch-level for the Job KLM include machine setup. If the customer makes an order under Job KLM and requests the shipment in last week of every month during 8 months, it means that XYZ Co. will make the machine setup 8 times. And every setup means additional cost and these costs have to be added to product price.

In traditional accounting, it is not possible to notice those costs. But credit suppliers, investors and customers may ask to learn details and the total amount of the expenses of the marketing functions. This is also important in terms of company prestige. XYZ Co. declares the marketing costs obviously.

In XYZ Co. and many other manufacturing companies, many costs other than production may occur. Many of these costs result from the conditions that sales representatives agreed on with the customers. It is also impossible to notice those costs by using traditional accounting but companies using ABC system may notice those costs.

XYZ Co. makes shipments to more than 120 countries. In this field study, we will evaluate two sales whose destination schedule is different. These two orders have completely the same features but one of them is shipped to one destination and the other one to three different destinations. Three different destinations may create problems since it may be required to arrange three trucks for every different destination. If the purchase order unit is available for one container, the company can arrange only one truck, but this truck will have to unload the goods at three different locations. Shipment frequency or variety of the destinations is all additional activities and they will lead to increase on costs. But these costs can be determined easily by using ABC system.

In line with the conditions that sales representatives agreed on with the customers, activities on product-level may also be needed. For example, customer orientation costs, special packaging/labelling costs, design changes etc.

The training hours of customers also affect the costs. The costs of 40-hour training programme and 20-hour training programme are exactly different. But this cost difference does not vary with the unit of the purchase order. In this case, it is also possible to forecast the costs by using ABC system.

The same case may also be seen when sales representative agrees on a special packaging/labelling. Standard packaging/labelling is already included in product cost. But special requests cause additional costs and they all also increase product cost and have to be accounted.

### 4.2. Measuring Performance of KLM coded Job

The so-called performance measurement could be well-defined with a numeric example. There will be two conditions in this example: in the first condition, the order will be produced and shipped in two batches. 20 hours are needed for training the workers. In the second condition; the same order will be produced and shipped in eight batches. 40 hours are needed for training the workers. The price agreed on for these conditions is $219,000 and commission for sales representative is 3%.

In traditional costing, production cost and gross profit are the same for two conditions and it is $127,430. Because direct labour cost does not make any difference on batch-level activities. Some workers will work on machine setup but this is indirect labour cost, not direct.

As seen on Table 3, the purchase order costs in two batches and eight batches are not the same. The purchase order cost in eight batches is more than the other. By using cost drivers, the extra costs could be determined easily. In ABC systems, the gross profits of these two different conditions will differ.
When XYZ Co. uses ABC system, it will meet many non-manufacturing costs. According to XYZ Co. accounting department, the delivery cost of this order is $ 820 and training cost of sales representatives is $ 24/ hours.

While operating based on ABC system, it is seen that the performance of second condition is lower than the first one.

### 4.3. Evaluating the Efficiency of Sales Representatives

Focusing too much on reducing the costs and increasing productivity may sometimes cause marketing functions to be missed out. Marketing is usually measured by efficiency instead of productivity [5]. But sales representatives fulfill their duty with limited resources. While allocating the resources, it is necessary to allocate more resource to the sales representatives who work more efficiently. ABC system provides the marketing manager with accurate and detailed information to make decisions about resource allocation. These data also provide accurate performance analysis. By the help of successful analysis, the right results can be achieved. These right results make it possible for the sales representatives to see where they are unqualified and how they can improve themselves. Marketing managers in XYZ Co. also supports the training programmes for sales representatives and this makes it possible for the sales representatives to improve their skills institutionally.

The performance of sales representatives is usually evaluated by sales volume and gross profit but this evaluation does not reflect the correct performance. XYZ Co. uses more detailed analysis while making this evaluation. Before explaining those analyses, it must be emphasised that traditional costing methods ignore the costs caused by non-standard actions. Therefore it is not possible to make accurate performance analysis by using traditional costing. But ABC system brings detailed information, and sales commissions, prizes or subsidies will be allocated accurately.

The managers in XYZ Co. state that they get highly valuable data owing to ABC system. Previously, they were assuming that a sales representative responding the needs of the customers accurately was thought to be successful. But such effects might also result from pricing. Sales representatives may also disregard the costs caused by disparity of the service. After making analysis using ABC, it has been discovered that sales representatives regarded as successful was making low contribution to the profits of the firm. It was also seen that many unnecessary activities might have been taken just to please the customers. After those analyses, those results were shared with the sales representative and it was seen that they gave up those non-profitable activities voluntarily.

It is necessary to define the unit costs of cost drivers to determine the costs in marketing activities as it is in production costs. Some marketing activities taken in XYZ Co. are number of visits for sale, number of presentations and demonstrations, number of new orders, how many miles taken on travels, hours planned, hours spent, money spent on fun, number of information e-mails, number of special proposals and promotions, number of meetings made to inform customers, number of visits made by customers to XYZ Co. But in XYZ Co. four main marketing functions are...
defined: visit to customer, sales presentation, reporting to top management, sending information. In Table 4, cost drivers and unit costs could be seen.

Table 4
XYZ Co.’s marketing costs rates for ABC

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost Drivers</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit to Customers</td>
<td>The number of visits</td>
<td>$ 2300/visit</td>
</tr>
<tr>
<td>Sales Presentations</td>
<td>The number of presentations</td>
<td>$ 280/presentation</td>
</tr>
<tr>
<td>Reporting to top management</td>
<td>Spending hours for reporting</td>
<td>$ 17 /hours</td>
</tr>
<tr>
<td>Sending information</td>
<td>Number of shipments</td>
<td>$ 5/ shipment</td>
</tr>
</tbody>
</table>

XYZ Co. wants to measure the performance of two sales representatives. The sales representatives called A and B have made sales worth for $ 2,500,000 with a gross profit for $ 195,000. According to traditional costing, these two sales representatives have made the same gross profit with the same performance.

Now, let’s make this evaluation by using ABC system. The sales representative A has made 4 customer visits and 5 presentations; spent 15 hours for reporting and made 5 shipments But the sales representative B has made 3 customer visits and 6 presentations; spent 20 hours for reporting and made 4 shipments. As you can see on Table 5, the performance of these two sales representatives is quite different.

Table 5
Performance measurement for Sales Representatives A and B

<table>
<thead>
<tr>
<th>Sales Representatives</th>
<th>A ($)</th>
<th>B ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Profit</td>
<td>195,000.00</td>
<td>195,000.00</td>
</tr>
<tr>
<td>Commission (a)</td>
<td>-75,000.00</td>
<td>-75,000.00</td>
</tr>
<tr>
<td>Marketing Costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit to Customers</td>
<td>-9,200.00</td>
<td>-6,900.00</td>
</tr>
<tr>
<td>Sales Presentations</td>
<td>-1,400.00</td>
<td>-1,680.00</td>
</tr>
<tr>
<td>Reporting to top management</td>
<td>-255.00</td>
<td>-340.00</td>
</tr>
<tr>
<td>Sending information</td>
<td>-25.00</td>
<td>-20.00</td>
</tr>
<tr>
<td>Sales Representatives Profitability</td>
<td>109,120.00</td>
<td>111,060.00</td>
</tr>
</tbody>
</table>

(a) Sales Commission of both sales representatives: $ 2,500,000 x 0.03 = $ 75,000
For Sales Representative A → Visit to customer= $2300x4=$ 9200 , Sales Presentations: $ 280x 5= $ 1400. Reporting to top management: $ 17x15 hours = $ 255, Sending Information: $ 5 x 5= $ 25
For Sales Representative B → Visit to customer = $2300x3=$ 6900 , Sales Presentations: $ 280x 6= $ 1680, Reporting to top management: $ 17x20 hours = $ 340, Sending Information: $ 5 x 4= $ 20

5. CONCLUSION
As seen in the XYZ Co. case, ABC system is quite a useful method to make accurate and fair performance evaluation. When sales performance evaluation is dependent on simple measurements such as sales volume and gross profit, the costs resulting from marketing activities are missed out and it leads to incorrect performance measurement of sales representatives.

According to the marketing guru, Philip Kotler, “not fabrication, originality is obligatory”. Creating such difference is only possible with a sales and marketing team who can make difference. But it is also necessary for these factors that create difference and make the customer feel special to increase or have a potential to increase the sales.

The conditions agreed on with the customer may be quite different when a sales representative gets an order; it may have to be produced and shipped in different batches, it may be asked to deliver the orders to different locations, non-standard material may be needed, a revision may be required in design process or special packaging-labelling. All of these activities may appear and it is impossible to see them all just by using traditional costing. Unless we see these costs, we cannot warn our sales team to avoid costly activities.
It is also necessary for the resources to be allocated fairly by the sales and marketing managers. Today, the first three sales representatives in the White Goods Sales Team of XYZ Co. make the 40% of the total sales as sales volume in terms of unit. The profitability of these sales should be examined. If the results are positive then those first three representatives should get more shares on resource allocation.

ABC system also provides information to the sales representatives about their unqualified sides. It makes it possible for the representatives to see on what activities they spend much time and on what areas they spend much resource. By reflecting this data accurately, we can improve the sales representatives’ sensitivity and awareness about this matter.

Determining unqualified sides result in arranging necessary training programmes and creating personnel efforts of the representatives to improve their unqualified sides. Thus, it is possible to create more conscious sales force with higher performance.

As technology and global competition increases, the need for accurate information also increases for the companies. It is very important for companies that the activities and the cost of goods produced must be calculated correctly and reflects the reality. Today, Sales and Marketing departments also benefit from ABC system. One of the benefits of ABC is that it brings with great opportunities to improve performance of sales representatives. Because, the activities that do not make benefit but increase the costs as the number of sales increase are only determined by using ABC system, it is impossible to reach those results just by using traditional methods. In that way, it also helps the sales representatives to find their unqualified sides. As a conclusion, it is possible for the sales representatives to improve their performance in a short time by their own efforts, direction of their managers and training programmes.

REFERENCES


