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ESTABLISHMENT OF ACTIVITY BASED MANAGEMENT ACCOUNTING FOR STRATEGIC PRICING IN A TRADING COMPANY IN THE FURNITURE INDUSTRY

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ABSTRACT

Today, businesses need the right tools to use scarce resources more efficiently. As well as allocating resources in an efficient way, companies must develop and support ideal management approaches with these tools. The application of activity-based management accounting for strategic pricing in companies includes a shift from traditional cost accounting methods to a more comprehensive approach relating costs to activities and ultimately to pricing decisions. Activity-based management accounting provides a better understanding of cost behavior by identifying and analyzing the activities which are involved in producing and delivering products or services. In this regard, the purpose of this study is to develop an activity-based management model for strategic pricing in a trading company in the furniture industry. The developed model is significant since it details the stages of realization, considers strategic price variables and fixed costs of resource production one by one. To establish activity-based management accounting, all activities involved in the company's operations must be defined, classified, and cost assigned to each activity, which will enable the company to identify the cost factors for each activity and how these affect the overall cost of production. Companies can also analyze the profitability of their products or services using activity-based management accounting to determine which activities contribute to profit and which do not.

KEY WORDS: ***Strategic Pricing, Activity-based costing, Activity-based management***

1.INTRODUCTION

In today's competitive business environment, companies must adopt the most effective cost accounting methods so as to make the right pricing decisions and maintain their profitability. Traditional cost accounting methods have some limitations in determining the true cost of products or services accurately, which can lead to incorrect pricing decisions. On the other hand, activity-based management accounting has emerged as a more comprehensive cost accounting approach which relates costs to activities and pricing decisions. Activity-based management accounting comes up with a better understanding of cost behavior by identifying and analyzing the activities involved in producing and delivering products or services. This approach enables managers to make the right pricing decisions in line with the company's strategic aims and increase overall profitability.

The aim of this study is to construct an activity-based management accounting modeling for strategic pricing and to apply it in the furniture industry. In this regard, a case study approach was applied to display how operational management accounting models can be adapted to proposed strategic pricing. By reviewing the theoretical background of activity-based costing, activity-based management and strategic pricing, the necessary data for the company operating in the furniture sector, which is the subject of the study, were collected through interviews with the operators. The proposed implementation approach to build and apply an activity-based management accounting model for strategic pricing consists of three stages:
Stage 1: Structuring the activity center and its sub-activity
Stage 2: Identifying activity factors
Stage 3: Defining and grouping resources.
The data relevant for 2021 are used to compare the cost system of the company operating in the furniture sector. In the distribution of the expenses, the expenses that are 1% or less of total expenses are distributed as head office expenses. Variable expenses are distributed equally to product groups as equal time is spent in marketing the product in the activity centers. Export sales are not taken into consideration. It is not checked whether there are semi-fixed variables in expense types and they are taken as variable expenses.

To establish an activity-based management accounting in the business, the company needs to identify and classify all activities involved in its operations and assign costs to each activity. This action will enable the company to identify the factors of the cost for each activity and how they affect the overall cost of production. Companies can also analyze the profitability of their products or services using activity-based management accounting to determine which activities contribute to profit and which do not.

2. LITERATURE REVIEW

Activity-based costing (ABC) is a modern costing technique introduced on the basis of classical costing systems and offers

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a new option for allocating production costs in general (Ergun and Karamaraş, 2002: 94). According to ABC, the general expenses incurred in the production process arise from the activity efforts that are necessary for the continuation of the production and the execution of the operational processes (Roztocki and Needy, 1999: 17-25). Hence, with this approach, calculations are made process-oriented, not product or sectoral (İlter, 2001: 214). The main objective of ABC is to avoid errors in product cost estimation by assigning costs to each product according to the power consumed using the appropriate allocation key. To do this, ABC relates cost objects to the activities they consume and activities to the resources they consume (Kaplan, 1992: 58; Şakrak, 1997: 80). It is a method that can provide significant information about cost factors, activities, resources, cost objects and key success indicators according to the current cost of the activity (Karcıoğlu, 2001: 12). ABC provides sufficient and accurate data to make strategic decisions such as pricing of products and services and process improvement in the profitability analysis of the buyer and the product (Christensen and Sharp, 1993: 38). Moreover, this method reveals causal relationships in the costing process by adding activities to the relationship between costs and outputs (Ülker and İskender, 2005: 196). The ABC method also helps to measure a company's profitability potential, analyze profit volume according to sales targets and sales lines, and constitute sales and marketing strategies (Pazarçeviren, 2006b: 53).

Pricing processes are required to analyze a business's cost structure and objectives, customer preferences and competitors' pricing intentions in order to understand them (Nagle, Hogan and Zale, 2015: 124). Pricing strategies can be categorized as cost-based pricing, demand-based pricing, competitive pricing, and value-based pricing. Cost-based pricing is characterized by being the most common price setting strategy. In cost-based pricing, the product is first designed, manufactured and then costed. In demand pricing, firms need to develop methods to measure demand at specific times in order to develop more effective strategies. The information gathered through measurement can give firms an idea about price. Competitive pricing is used when competition is high and companies generally do not differentiate their products. Companies should not ignore consumer demands and expectations when observing what competitors are doing. It is much better for companies to use both approaches in a hybrid way, since it puts them at risk to be unknowingly committed to one of the price-setting strategies discussed so far (Phillips, 2011: 49).

The purpose of an activity-based costing system for strategic pricing is to create a vital link between the financial and operational process by combining planning and budgeting from an activity-based perspective to create achievable plans and budgets. To achieve this objective of an activity-based costing system for strategic pricing, an organization determines how much resource it needs and how much it costs to achieve its objectives in a given time frame. The activity-based costing system for strategic pricing helps to clearly represent the cause-and-effect relationships between techniques, works, products and services since it is the stage of planning and controlling the planned work in an organization. As a consequence, activity-based costing for strategic pricing is the approach that can support continuous improvement and process system, and activity-based costing for strategic pricing can be associated with operational control.

Cinoğlu (2019) determined the pricing strategy with accurate cost information by comparing the existing system in the gear manufacturing company with the system prepared in accordance with management accounting tools. It is stated that the company does not reflect the activities and cost expenses consumed in the production process to the resources. In this context, the costs were categorized within the framework of strategic management accounting and a pricing system was created to price the products. With this system, the information provided by the departments of the company was associated with each other and the financial situation of the company, pricing decision, the most profitable product and customer profile were revealed.

Yılmaz and Altın (2022) revealed the effect of new product development on pricing decisions within the framework of strategic management accounting. They emphasized that one of the prominent issues in the new product development phase is the measurement of the benefit that the product will provide to the company and that this benefit should be calculated over the price and cost of the product. However, if the company's new product is similar to its existing products, idle capacity should be considered when calculating the cost of the new product since the processes are the same. In this study, the effect of idle capacity on the benefit that the new product brings to the company is shown by considering cost data.

Demireli and Yılmaz (2013) discussed the effects of time-oriented activity-based costing method on product costs and product pricing activities on strategic marketing decisions in businesses. They emphasized that when time-oriented activity-based costing method is used while making strategic marketing decisions, costs and therefore product profitability will be calculated more accurately with the use of time-oriented activity-based costing method because it will create more effective results than traditional cost methods and ABC method. It will also realize decision making in a shorter time.

Özdemir and Kaygusuz (2009) showed how to use activity-based costing to accurately calculate customer profitability and how the information obtained from customer profitability analysis can help improve marketing decisions on product design, pricing, promotion, segmentation and targeting.

Yılmaz and Altaş (2018) explained the effect of strategic management accounting pricing decisions on the cost, profitability and market of the product, showing its effect on the sales capacity in the market and the effect of the enterprise on its own capacity in the internal process. He stated that the change in the capacity and production resources of enterprises also manifests itself in pricing strategy, cost behavior and resource consumption.

Last but not least, İtik (2020) stressed that hotel businesses operating in the service sector should benefit from the ABC method in order to reach more accurate cost data.

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3. APPLICATION

A case study was carried out in order to indicate how operational management accounting models could be adapted to proposed strategic pricing in this study. The data belonging to the company operating in the furniture industry for the year 2021 were used. The furniture company, which is the subject of the study, follows its costing in three different expense accounts, which are: a) marketing, sales and distribution expenses, b) general administrative expenses and c) financing expenses, since it is a trade business. According to the operational data of 2021, it has three branches, namely the headquarters, Serdivan and İnegöl. There are 6 regional marketers in Istanbul Anatolia, Istanbul Europe, Aegean region, Eastern Anatolia, Black Sea and Ankara regions. To deal with the activities and costs in each of them separately, each of them was created as a different activity center.

Due to the fact that there are no activity centers & fixed and variable cost distinctions in the current cost structure of the company, activity centers were created in the system. In the uniform chart of accounts, costs were categorized as fixed and variable costs. The types of expenses were distributed to the determined activity centers by making a distinction between fixed and variable. The distinction between fixed and variable costs of related expenses was categorized on the basis of whether that expense changes on a monthly basis or not. Interest cost was considered as variable cost. The distribution of interest expenses was calculated by subtracting the weighted average maturity days from the weighted average maturity days in the sales made by each activity center. Then this maturity was multiplied by the total turnover in days and the weighted average was found again. With these averages, a distribution key was created to the activity centers in direct proportion to the total interest payment. The distribution key of interest expenses is displayed in Table 1.

Table 1. Distribution Key Table of Interest Expenses

PAID INTEREST: 2.043.198	IST.EUROPE	MEDITERRANEAN	IST. ANATOLIA	ANKARA	EASTERN ANATOLIA	BLACK SEA
AVERAGE MATURITY	164	204	141	112	169	141
PURCHASING MATURITY	102	102	102	102	102	102
THE REST MATURITY /DAY	62	102	39	10	67	39
INTEREST COST (TL)	770.175,15	946.715,60	66.183,74	41.853,02	210.746,71	7.524,37

By subtracting the total purchase maturity from the calculation total sales maturity, the total finance maturity incurred was found. The average interest rate was revealed by dividing the total interest by the total purchase amount. In this way, the daily interest rate was calculated as 0.000339664. The daily interest cost of the activity center was detected by multiplying the net purchase amount obtained by subtracting the gross profit from the total turnover in the relevant activity center and the average interest amount. This amount was included as variable cost in the 780 financing costs of distribution activity centers by deducting the purchase maturity of the relevant activity center and multiplying it by the net sales maturity obtained. In the branches, on the other hand, owing to the fact that the sales are in cash and credit card installments, the maturity of the installment sales is taken as 120 days and a cash day, and as a result, the average net maturity is one day and this does not create any costs in the branches. The distribution of the paid interest to the activity centers is presented in Table 2.

Table 2. Distribution of Interest Paid By Activity Centers

		IST.EUROPE	MEDITERRANEAN	IST.ANATOLIA	ANKARA	EASTERN ANATOLIA
760	FIXED EXPENSE	-	-	-	-	-
	VARIABLE EXPENSE	40.836,94	48.406,00	57.312,05	26.985,21	53.133,81
770	FIXED EXPENSE	118.060,00	111.541,00	50.740,00	108.195,50	100.028,14
	VARIABLE EXPENSE	14.473,71	14.589,71	14.223,71	26.233,61	14.683,71
780	FIXED EXPENSE	-	-	-	-	-
	VARIABLE EXPENSE	770.175,15	946.715,60	66.183,74	41.853,02	210.746,71
TOTAL	TOTAL FIXED EXPENSES	118.060,00	111.541,00	50.740,00	108.195,50	100.028,14
	TOTAL VARIABLE EXPENSES	825.485,80	1.009.711,31	137.719,50	95.071,84	278.564,23
	TOTAL EXPENSE	943.545,80	1.121.252,31	188.459,50	203.267,34	378.592,37
	TOTAL TURNOVER	43.826.473,00	33.547.221,00	6.311.250,00	15.115.866,00	11.339.968,00
	TOTAL INCOME (GROSS PROFIT)	7.254.509,00	6.221.613,00	1.315.080,14	2.793.976,19	2.079.424,57
		BLACK SEA	HEADQUARTERS	SERDİVAN	BURSA	TOTAL
760	FIXED EXPENSE	-	701.000,00	109.000,00	60.000,00	-
	VARIABLE EXPENSE	37.191,13	1.412.940,60	29.988,72	191.838,25	226.674,01
770	FIXED EXPENSE	60.487,75	3.072.357,38	42.719,28	71.430,26	488.564,64
	VARIABLE EXPENSE	16.352,84	2.552.966,92	36.231,54	22.743,96	84.204,45
780	FIXED EXPENSE	-	13.691,83	-	-	-
	VARIABLE EXPENSE	7.524,37	-	-	-	2.035.674,22
TOTAL	TOTAL FIXED EXPENSES	60.487,75	3.787.049,21	151.719,28	131.430,26	488.564,64

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TOTAL VARIABLE EXPENSES	61.068,34	3.965.907,52	66.220,26	214.582,21	2.346.552,68
TOTAL EXPENSE	121.556,09	7.752.956,73	217.939,54	346.012,47	2.835.117,32
TOTAL TURNOVER	777.247,00	41.616.781,00	14.423.102,00	16.014.037,00	110.140.778,00
TOTAL INCOME (GROSS PROFIT)	209.237,23	9.954.349,50	6.306.106,07	3.876.548,30	40.010.844,00

Table 3 displays 760 marketing expenses. According to each license plate, vehicle maintenance-repair expenses and fuel expenses are revealed separately. To this end, it is shown as a single account by specifying as multiple accounts. Since the costs in the promotional truck mobile showroom could not be clearly distributed to the relevant activity center, they were added to the costs of the headquarters. Nevertheless, the total of the fair participation expenses is a common expense and could not be distributed to the activity centers and was added to the costs of headquarters. Since the benefit and effectiveness of TV radio advertisements and training expenses cannot be measured on the basis of activity center, they were added to the cost of the headquarters.

Table 3. Table of costs of marketing, selling and distribution expenses and general administrative expenses

Costs of marketing, selling and distribution expenses		**Costs of general administrative expenses**	
Category of Expense	**Type of Expenses**	**Category of Expense**	**Type of Expenses**
Variable Expense	Vehicle Fines	Fixed Expense	Normal Wage Expenses
Variable Expense	Work Clothes Clothing Aid	Variable Expense	Additional Payment Excluding Salary - Allowance
Variable Expense	Forklift-Machine and Fixture Maintenance and Repair Expenses	Fixed Expense	Annual Leave Fees
Variable Expense	Promotion Truck, Mobile Showroom Project Expenses	Fixed Expense	Health Insurance (SGK) Premiums
Variable Expense	Exhibition Participation Expenses	Fixed Expense	Health Insurance (Bağkur) Premiums
Variable Expense	Internet Sales Commission Expenses	Fixed Expense	Severance Pay Expense
Variable Expense	Marketing Sales Travel Expenses	Fixed Expense	Food Expenses
Variable Expense	TV Radio Advertising Expenses	Fixed Expense	Personnel Transportation Expenses
Variable Expense	Vehicle Insurance-Hull Policy Expenses	Variable Expense	Electricity Expenses
Fixed Expense	Workplace Rents	Variable Expense	Telephone Expenses
Variable Expense	Vehicle Rents	Variable Expense	Cargo and Courier Expenses
Variable Expense	Highway Pass Expenses	Variable Expense	Workplace Maintenance
Variable Expense	Training Expenses	Fixed Expense	Financial Consultancy Expenses
Variable Expense	Stationery and Printed Document Expenses	Variable Expense	Certified Public Accountancy Expenses
Variable Expense	Accommodation Expenses	Variable Expense	Water Expenses
Variable Expense	Various Material Expenses Used in Warehouses	Variable Expense	Contract Manufacturing Fees
Variable Expense	Transportation Expenses for Sales	Fixed Expense	Teamgram Payments
Variable Expense	Marketing-Sales Miscellaneous Expenses	Variable Expense	Travel Expenses (Abroad)
Variable Expense	Fuel Expenses (Multiple Accounts)	Variable Expense	Social Media Consultancy Expenses
Variable Expense	Vehicle Maintenance and Repair Expenses (Multiple Accounts)	Variable Expense	Stationery and Printed Document Expenses
Variable Expense	Forklift-Generator Fuel Expenses	Variable Expense	Aid and Donations
Variable Expense	Rental Car and External License Plate Small Amount Expenses	Fixed Expense	Room Dues
Variable Expense	Representation Expenses	Variable Expense	Expenditures for Barcode

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Table 4. Table of Finance Expenses

CATEGORY OF EXPENSE	TYPE OF EXPENSE
Variable	Bank TL. Loan Interests
Variable	Pos Costs
Fixed	Letter of guarantee. Commission. deductions
Variable	Currency Difference Expenses

In the current costing system, the company can access the details of the sales turnover, gross profitability of the activity centers and how much these are in which product groups, but cannot see further. The company can see its net profit by subtracting the costs incurred during the year from the total gross profit. It cannot reduce this net profit to the branch or marketing/region, so it cannot see which product is profitable in which market. The present situation makes the business uncontrolled and causes not to see the possibility of making low profits although it generates high income. In this way, the market investments in the business weaken or the accuracy of the investment decisions is questioned. With reference to this point, we first need to calculate the contribution margin on the basis of product group as a result of the distribution of the activity costs. It is a must to reveal which product group is more profitable in which activity center. While calculating the contribution margin, the gross profit is obtained by subtracting the purchase price from the selling price of the product. After that, the variable costs of the relevant product group are subtracted from the gross profit and the contribution margin of that product group is calculated. It is a necessity to find the contribution margin according to the activity centers. Thus, it can be seen which product group has a high contribution margin in which market. Table 5 displays the total contributions by regions.

Table 5. Total Contribution Margin by Regions

	CATEGORY OF EXPENSE	IST.EUROPE	MEDITERRENEAN	IST.ANATOLIA	ANKARA
760	**FIXED EXPENSE**	-	-	-	-
	VARIABLE EXPENSE	40.836,94	48.406,00	57.312,05	26.985,21
770	**FIXED EXPENSE**	118.060,00	111.541,00	50.740,00	108.195,50
	VARIABLE EXPENSE	14.473,71	14.589,71	14.223,71	26.233,61
780	**FIXED EXPENSE**	-	-	-	-
	VARIABLE EXPENSE	770.175,15	946.715,60	66.183,74	41.853,02
TOTAL	**TOTAL FIXED EXPENSES**	118.060,00	111.541,00	50.740,00	108.195,50
	TOTAL VARIABLE EXPENSES	825.485,80	1.009.711,31	137.719,50	95.071,84
	TOTAL EXPENSE	943.545,80	1.121.252,31	188.459,50	203.267,34
	TOTAL TURNOVER	43.826.473,00	33.547.221,00	6.311.250,00	15.115.866,00
	TOTAL INCOME (GROSS PROFIT)	7.254.509,00	6.221.613,00	1.315.080,14	2.793.976,19
	CONTRIBUTION MARGIN	6.429.023,20	5.211.901,69	1.177.360,64	2.698.904,35

In Table 5, the contribution margins of the activity center are indicated. The activity centers with high or low contribution margins or the contribution margin of each activity center can be evaluated separately. While calculating the contribution margin on the basis of the product group, the sum of the variable expenses of the relevant activity center is shared equally with the number of product groups. The reason for this process is that equal time is allocated in the marketing of each product group. While it would also be very meaningful to distribute fixed costs in the present study, this activity was not carried out because it would be the subject of another study. In addition, the contribution margin of activity centers on the basis of product group is displayed in Table 6.

Table 6. Analysis of Gross Profit and Contribution Margins in Product Groups by Activity Center

			IST.EUROPE	AKDENİZ	IST.ANATOLIA	ANKARA
GROSS PROFIT AND	**Profile**	**Gross Profit**	1.548.856,84	2.358.818,53	63.188,64	284.228,27
		Contribution Margin	1.497.263,97	2.295.711,57	54.581,17	278.286,28
		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Bedding fabric	**Gross Profit**	2.473.592,94	1.578.711,24	306.169,47	152.878,91
		Contribution Margin	2.422.000,08	1.515.604,28	297.562,00	146.936,92
		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Sponge	**Gross Profit**	453.620,01	267.527,89	145.379,79	627.128,44
		Contribution Margin	402.027,15	204.420,93	136.772,32	621.186,45

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		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Chipboard	**Gross Profit**	634.293,42	181.865,83	127.319,51	207.746,92
		Contribution Margin	582.700,56	118.758,87	118.712,04	201.804,93
		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Wire	**Gross Profit**	512.894,65	471.826,02	-	91.405,85
		Contribution Margin	461.301,79	408.719,06	- 8.607,47	85.463,86
		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Fiber	**Gross Profit**	380.329,68	76.649,81	230.435,84	25.767,70
		Contribution Margin	328.736,82	13.542,85	221.828,37	19.825,71
		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Felt	**Gross Profit**	322.800,61	37.785,46	127.303,36	7.567,08
		Contribution Margin	271.207,75	25.321,50	118.695,89	1.625,09
		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Upholstery fabric	**Gross Profit**	355.869,84	52.292,07	53.622,59	731.749,71
		Contribution Margin	304.276,98	-10.814,89	45.015,12	725.807,72
		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Lining	**Gross Profit**	172.099,78	154.388,38	20.434,13	53.110,18
		Contribution Margin	120.506,92	91.281,42	11.826,66	47.168,19
		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Material	**Gross Profit**	142.017,14	247.358,66	134.193,67	167.486,54
		Contribution Margin	90.424,28	184.251,70	125.586,20	161.544,55
		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Mechanism	**Gross Profit**	101.215,68	567.678,91	5.183,71	163.569,01
		Contribution Margin	49.622,82	504.571,95	- 3.423,76	157.627,02
		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Package	**Gross Profit**	55.008,10	-2.132,75	21.231,53	41.299,03
		Contribution Margin	3.415,24	- 65.239,71	12.624,06	35.357,04
		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Leg	**Gross Profit**	87.967,55	89.466,24	27.055,18	173.980,67
		Contribution Margin	36.374,69	26.359,28	18.447,71	168.038,68
		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Adhesive	**Gross Profit**	12.703,44	104.874,40	29.224,67	5.228,61
		Contribution Margin	- 38.889,42	41.767,44	20.617,20	- 713,38
		Difference	51.592,86	63.106,96	8.607,47	5.941,99
	Screw	**Gross Profit**	1.134,63	34.109,52	23.912,35	57.813,81
		Contribution Margin	-50.458,23	-28.997,44	15.304,88	51.871,82
		Difference	51.592,86	63.106,96	8.607,47	5.941,99

There are 3,286 product types in the company. Due to the fact that the profit margins of the product groups are the same, it was deemed suitable to conduct the contribution margin analysis at the product level. Moreover, special software is required to perform contribution margin analysis at the product level. For this reason, analysis was made at the product group level.

With the activity-based costing created in the company, the contribution margins obtained from 16 product groups in 9 activity centers were examined. While the contribution margin of the product group in one activity center is very high, the contribution margin of the same product group in another activity center may be very low or negative, or vice versa.

The contribution margins and rates in the product group of Istanbul Europe activity center are indicated in Table 7. The product with the highest contribution margin in this activity center is bedding fabric with 37.37%, which was sold to 49 different customers with an average gross margin of 28%. The second item was the profile, which was sold with a gross profit of 12% to 17 different customers with 23.10%. The weight of these two items in the total contribution margin was 60.47% in all product groups. The contribution margin of the bedding fabric and profile has a big difference with the particle board, which is the third item with a contribution margin of 8.99%. The contribution rate of the arm product group is very close to zero. The sales made in the product group barely covered the equally distributed variable expenses, and a contribution margin of 104.88 TL was calculated for the remainder. When examined in detail, it was understood that only 1 item of product was sold to 2 companies. On the other hand, it is seen that the adhesive and screw product groups are not able to meet even the variable costs that are evenly distributed. Only 6 items of products from the adhesive product group were sold to 7 different customers. In the screw group; 8 items of products were sold to 4 different customers. While the arm product group causes a waste of time, the screw and adhesive group is seen to be a waste of time.

When the marketing expert was interviewed about these product groups, he informed that there was intense competition

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in the relevant market and that the sales prices of the products were almost half as low as in the market, and this was confirmed with some customers. Considering all these details, the relevant marketing expert should focus on the marketing of the bed fabric product group with high contribution margin and gross profitability, and selling more to the existing customers instead of continuing to market the above-mentioned products because they cannot increase the profit margin in the product groups. Also, it is suggested that, by giving up the marketing of screw, arm and adhesive product groups, new customers can be gained in total. And marketing service can be provided to these customers, starting with the bed fabric product group. Thus, total contribution margin will increase and the company will increase its profit by using its resources more efficiently.

Table 7. Contribution margins and rates in the product group of Istanbul Europe activity center

CONTRIBUTION MARGIN	**Bedding fabric**	2.422.000,08	37,37%
	Profile	1.497.263,98	23,10%
	Chipboard	582.700,56	8,99%
	Wire	461.301,79	7,12%
	Sponge	402.027,15	6,20%
	Fiber	328.736,82	5,07%
	Upholstery fabric	304.276,98	4,70%
	Felt	271.207,75	4,18%
	Lining	120.506,92	1,86%
	Material	90.424,28	1,40%
	Mechanism	49.622,82	0,77%
	Leg	36.374,69	0,56%
	Package	3.415,24	0,05%
	Arm	104,88	0,00%
	Adhesive	- 38.889,42	-0,60%
	Screw	- 50.458,23	-0,78%
	TOTAL	**6.480.616,29**	**100%**

The distribution of contributions in the product group of the Black Sea activity center is indicated in Table 8. The product with the highest contribution margin among the total contribution margins, with 67.57%, was bedding fabric which was sold to 14 different customers and with an average of 30% gross profit margin. The second item was upholstery fabric, which was sold to 16 different customers in the rate of 36.90%, with a gross profit of 47%, as 43 different products. The fact that the firm is new in the market and the marketing expert is new in the sector causes not to earn enough income in an activity center reserved for the company yet. In return, this situation also causes the contribution margin to be low. When the regional market is examined, it serves the provinces of Kastamonu, Amasya, Samsun, Ordu, Giresun, Trabzon, Rize, Gümüşhane and Erzurum. The longest route distance between Kastamonu and Erzurum is 931 km, a journey of approximately 11 hours. The present distance causes the marketing expert to lose days/time. The company has one customer in Erzurum and one in Rize, and two in Trabzon. The ratio of the revenue obtained from the customers in these provinces to the total turnover of this activity center is 5.8%. The sector center in the regional market is Samsun. The number of furniture manufacturers in Samsun is much higher than the number of manufacturers in other provinces of the region. There are 110 customers on a 320 km, 4-hour route such as the provinces of Amasya, Samsun, Ordu, Giresun in the records of the company. By having the marketing expert communicate with customers in this short space, the company can quickly penetrate this market by reducing its gross profitability in the upholstery fabric and bedding fabric product group with a high contribution margin. In order for the region to become productive in a short time, scarce resources such as time should be used in the most efficient way.

Table 8. Contribution margins and rates in the product group of the Black Sea activity center

CONTRIBUTION MARGIN	**Bedding fabric**	102.699,76	67,57%
	Upholstery fabric	56.076,64	36,90%
	Package	18.136,75	11,93%
	Chipboard	2.326,83	1,53%
	Fiber	2.001,80	1,32%
	Leg	1.286,88	0,85%
	Arm	168,80	0,11%
	Material	- 2.418,99	-1,59%
	Lining	- 2.502,38	-1,65%
	Screw	-3.253,87	-2,14%
	Sponge	-3.597,45	-2,37%
	Adhesive	-3.707,86	-2,44%
	Mechanism	-3.780,92	-2,49%

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	Profile	- 3.816,77	-2,51%
	Wire	- 3.816,77	-2,51%
	Felt	- 3.816,77	-2,51%
	TOTAL	**151.985,68**	**100%**

The distribution of the Headquarters activity center in the product group and the contribution margins are presented in Table 9. The product with the highest contribution margin among the total contribution margins is bed fabric with the ratio of 37.25%. The second item was upholstery fabric with 20.58%. The remarkable point in this center is that the contribution margin of the arm product group constitutes a contribution share of 44,224.85 TL, which is close to 1%. Considering that there is no marketing activity here, the contribution of the arm product group is higher in this center compared to other centers. The product groups in which the contribution margin is negative are; chipboard, adhesive, felt and wire. Due to the hot sales the headquarters makes, the segment it serves is boutique manufacturers rather than industrial productions. The sales turnover was not observed to be high because the manufacturers of this style use their chipboard product groups ready-made. Furthermore, in the same customer portfolio, the adhesive is important in terms of price. For this reason, the company made a campaign by acting aggressively in the pricing of the adhesive product group, drawing attention to the cost of the adhesive product by selling the adhesive product, and focused on the strategy of selling different products besides the adhesive and making a profit from the whole. This campaign could not be measured and the result could not be calculated, either. The customers who both bought adhesive and another product could not be reported, and even if it had been reported, the question of whether the customer who bought adhesive would already buy the other product could not be answered at all. Whether this campaign has a profit or not created a result which is based on the experience of the company. The felt product group, on the other hand, has a very low turnover since it is a product group that is not sold in the market in hot sales, and is generally used by industrial manufacturers who buy in bulk. Another product with negative contribution margin is wire. The wire product group is not usually a hot sale or retail product. Hence, it was almost never sold and its turnover was close to zero, and therefore its contribution margin was negative.

Table 9. Contribution margins and rates in the product group of Headquarters activity center

CONTRIBUTION MARGIN	**Bedding fabric**	2.141.354,28	37,25%
	Upholstery fabric	1.183.111,36	20,58%
	Sponge	964.149,13	16,77%
	Material	685.340,42	11,92%
	Leg	510.753,56	8,88%
	Mechanism	311.416,49	5,42%
	Fiber	200.390,99	3,49%
	Profile	96.864,67	1,68%
	Lining	55.630,18	0,97%
	Arm	44.224,85	0,77%
	Package	23.300,23	0,41%
	Screw	22.143,91	0,39%
	Chipboard	-15.978,40	-0,28%
	Adhesive	-46.137,31	-0,80%
	Felt	-205.032,02	-3,57%
	Wire	-222.480,18	-3,87%
	TOTAL	**5.749.052,16**	**100%**

The distribution of the Serdivan branch activity center by product group is displayed in Table 10. Among the total contributions, the product with the highest contribution margin is sponge with the ratio of 36.72%. The second item was upholstery fabric with 19.70%. The remarkable point in this center is that the contribution margin of the arm product group constitutes a contribution margin of 49,244.86 TL, which is close to 1%. Considering that there is no marketing activity here, the contribution of the arm product group is higher in this center compared to other centers. Profile was observed to be the product group in which the contribution margin is negative. Owing to the hot sales Serdivan makes, the segment it serves is boutique manufacturers and upholsterers rather than industrial productions. Manufacturers of this style do not use profiles. Particularly, no marketing activities are observed in this center, and the needs of the customers who come to the workplace are fully met. The reason why the bedding fabric product group contribution margin is high in each center and low in this center is that there are 4 bed manufacturers in or around this center's customer portfolio. The company sold bedding fabrics to 4 manufacturers. Additionally, there are no other bedding fabric vendors providing local service in the region.

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Table 10. Contribution margins and rates in the product group of Serdivan activity center

CONTRIBUTION MARGIN	**Sponge**	2.293.019,43	36,72%
	Upholstery fabric	1.230.309,47	19,70%
	Material	879.422,80	14,08%
	Leg	500.157,92	8,01%
	Screw	257.742,31	4,13%
	Mechanism	252.443,97	4,04%
	Fiber	184.781,93	2,96%
	Lining	165.112,63	2,64%
	Package	162.758,20	2,61%
	Adhesive	134.257,00	2,15%
	Bedding fabric	93.163,32	1,49%
	Arm	49.244,86	0,79%
	Felt	27.704,04	0,44%
	Wire	9.913,37	0,16%
	Chipboard	8.132,08	0,13%
	Profile	-4.138,77	-0,07%
	TOTAL	**6.244.024,56**	**100%**

4. CONCLUSION

In the present study, the total gross profitability of the company operating in the furniture sector can be seen in the regions where it sells. The fact that the contribution margin, which is the more detailed framework, cannot be reached and the contribution margin cannot be obtained on the basis of the product group causes the company not to make the right or necessary decisions in the relevant market, and to the inefficient use of resources. For this reason, the need for the establishment of an activity-based costing system appeared. With activity-based costing, much more detailed data can be obtained. With these data, decisions can be made according to the product group and the relevant market. While establishing this structure; in 2021, a total of 9 fields of activity were determined with regional marketers and branches. All expense accounts of the company were divided into fixed and variable expenses. All expenses were analyzed on the basis of the journal entry for which activity center they were incurred and then associated with the relevant activity center. Common expenses such as head office staff (accountants, security guards, purchasing/supply employees) wages, national or international fair expenses they participate in, and advertising were transferred to the headquarters branch cost pool. Thus, variable and fixed costs related to activity centers were detected. The turnover and weighted average sales maturity information of each activity center was withdrawn from the system and the financial expenses of the enterprise were distributed to the relevant center accordingly. The gross profitability obtained from the sales made by the activity centers (obtained by multiplying the sales amount by subtracting the purchase price from the sales price) was detected. Here the purchase cost was not created by adding the product transportations to the purchase price, if any, instead, they were tracked in the transportation expenses account and accumulated in the cost pool of the headquarters branch. Together with the gross profit calculation, it was possible to calculate the contribution margin of each activity center. Contribution margins were calculated by subtracting the variable expenses of the relevant center from the gross profit of the relevant center. To analyze the contribution margin on a product group basis, the variable cost was distributed equally to 16 product groups and the contribution margin was calculated. According to the obtained results, in order to increase the profit of the enterprise and use the resources with maximum efficiency, suggestions were made as a result of the analysis.

In marketing, the contribution margin of the Istanbul Europe center is 6,429,023,20 TL, which has the highest contribution share compared to other centers. The fact that the number of employees in this region is only one person and there are many more potential customers and sales in the market, but the existing employees are working at almost their theoretical capacity in terms of time limitation causes the opportunity to be evacuated in the market. Therefore, very fast and precise investment should be made in these markets. One or two personnel to be added to the current market will not reduce the activity center contribution margin in terms of costs, and each additional sale will positively affect the gross profit. Owing to the fact that the branches do not have marketing activities, it is a must to attract more customers to the workplaces so as to increase their contribution margins, namely their commercial profits. This can be done through social means such as various customer relations, or it can be done with pricing strategies. For example, the arm product group, which creates an extra cost because it cannot be sold in all activity centers, can make contribution in the headquarters and Serdivan branch. By reducing all sales of these products to the point where the contribution margin can be reduced to zero, sales can be accelerated and more customers can be attracted to the workplace. Furthermore, by giving up the sale of the arm product group in the marketing regions, waste of time can be avoided and the actual capacity of marketing experts can be expanded. In this way, more opportunities to market new customers or existing high contribution products can be provided. Such an approach would increase the total contribution margins both in the branches and in the marketing regions. Besides, in the adhesive sales of the branches, either the campaign should be terminated and gross profit should be increased, or the effects of the pricing policy should be

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calculated and the results of the campaign should be reported and analyzed.

Looking at the Black Sea region's center of activity, there is a number of customers that a marketing expert cannot reach with his/her actual capacity. Here, very long routes take up the time of the employee. The time spent and the contribution gained create different alternatives. The marketing expert's lack of experience in the sector also slows down his/her time along with the rate of increase in the contribution margin. If an additional staff member with experience in the sector is employed for this region and the branch is divided by two, the contribution margin will increase rapidly in a short time. If the company is hesitant to consider the risk that the contribution share will decrease to negative manner with the additional personnel cost, then it should reduce the cost and ensure effective and efficient use of time by keeping the existing staff responsible only for the customers between Amasya and Giresun, which are already registered more than 100 in the system. In this way, the company gives up 4 customers in the remote area and 5.7% turnover for a certain period of time. While the company currently fills its actual capacity with 36 customers, it can exceed 50 customers in the alternative offered, and in a short period of time, it can make its contribution margin much higher than the present one.

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