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Optimization of Product Costs in the Food and Beverage Business: A Target Costing Approach

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ABSTRACT

Purpose – The study aims to evaluate the feasibility of implementing the target costing method in a local food and beverage business, aiming to optimize product costs and boost product demand through cost reduction and pricing products below market prices.

Design/methodology/approach – Interviews were conducted with business owners to develop standard recipe cards for the four products, and a comparison was made between current costs and target costs. Analysis of standard recipe cards for these products was performed to calculate material cost ratios, unit contributions, and contribution rates. The target costing method was implemented by adjusting the quantities of components and exploring supplier alternatives to reduce costs and increase target cost indices.

Findings – The findings revealed that the target costing approach led to varying degrees of cost reduction and improved contribution margins for the four products. However, the desired enhancements in target cost indices were not fully achieved, highlighting the need for further assessment of supply, pricing, and material sourcing.

Discussion – The study highlights the potential of target costing in optimizing costs and stimulating demand in the food and beverage industry. It also suggested that additional research and adjustments might be necessary to fully realize the benefits of the target costing method in specific cases. Furthermore, comparing costs across multiple businesses or considering franchise establishments in future studies could offer more insights into the effectiveness of target costing in different scenarios.

1. INTRODUCTION

Adapting rapidly to changing financial dynamics is now a necessity for businesses. The evolving technology, management, methods, and techniques relevant to their industries will positively impact both internal and external aspects of a company's management. Particularly, enabling companies to maintain their cost control and market share within their sector. Cost management methods employed by a business should serve two primary purposes: facilitating the production of new products that meet customer demand at the lowest possible cost and aiding in reducing the costs of existing products by eliminating inefficiencies. To achieve these objectives, businesses require a comprehensive cost management system that incorporates target costing (Monden and Hamada: 1991). There are several types of costing methods that businesses can employ to preserve their target costs. One of these methods, target costing (TC), is a strategic cost management system that encompasses not only cost reduction or cost control mechanisms but also includes value analysis (Dutton and Ferguson: 1996). Target costing, also defined as performance-based cost planning and control, serves as an instrument of strategic cost management. It aims to enhance the competitive edge of businesses by managing their activities related to the produced product in a market-driven and cost-focused manner.

TC is a method utilized through departments such as engineering, production, research & development, accounting, and marketing to reduce costs (Yıldıztekin: 2009). TC originated in Japan in the 1960s, although it remained undisclosed for several years. However, since the 1980s, when it was widely acknowledged as a significant contributor to the competitive advantage of Japanese companies, substantial efforts have been made to introduce target costing to Western businesses. Many large businesses in North America and Europe have sought to adopt target costing to enhance their cost management strategies and, consequently, improve

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their competitiveness. As a result, numerous adaptations of TC have been developed and are utilized across various countries (Feil, Yook and Kim: 2004). In the early 20th century, the concept of TC was first introduced during the development of a product called Model T by Ford (Jacomit and Granja, 2011: 115). While management accounting techniques traditionally aim to reduce costs and quality management frameworks focus on enhancing quality, TC uniquely integrates both objectives (Sedevich-Fons: 2023). The formula for target costing is as follows (Ansari, Bell and Okano: 2006):

Target Cost = Target Selling Price - Target Profit

TC is widely used across all industries, allowing the estimation of expected profit margins through cost reduction. Consequently, this study encompasses the analysis of product costs for a food and beverage industry business and evaluates the effectiveness of target costing in analyzing and controlling these costs.

Cost control in food and beverage businesses encompasses the efficient management of purchasing, receiving, storage, inventory control, production, and sales processes (Ninemeier: 1998). Among these stages, the production phase is particularly critical. Accurately calculating the quantity and costs of food and beverages based on standard menus and determining the required quantity during the production stage and maintaining effective material control can be achieved through a standardized approach. TC is a method that allows the calculation of costs based on desired profit margins and selling prices for both current and future periods using standard recipes (Alagöz: 2005).

Numerous studies are dedicated to target costing and analysis (Nicolini et al.: 2000; Alagöz et al.: 2005; Kalkancı: 2008; Gayret: 2010; Bozdemir and Orhan: 2011; Yereli et al.: 2012; Koşan and Geçgin: 2013; Acar and Şenol: 2014; Tandoğan and Şahin: 2014; Okutmuş and Ergül: 2015; Terzi: 2017; Karahan: 2018; Karaosman: 2019; Güveş: 2019; Çetin and Bahşi: 2019; Görücü: 2019). These relevant studies and more have highlighted that target costing can be applied in any sector and can be integrated into various research endeavors. Some studies focused on specific sectors include: Nicolini et al. (2000), investigated the applicability of target costing in a construction company operating in the UK. As a result of the research, it has been determined that target costing is applicable in the construction industry as well.

Alagöz et al. (2005), the applicability of target costing was investigated by conducting a survey with fifty-five enterprises operating in the automotive, agricultural machinery, industrial plant machinery and milling machinery industry in Konya. As a result of the research, it has been determined that the easy applicability of target costing in these sectors, but target costing in enterprises is not fully understood and / or applied. Bozdemir and Orhan (2011) conducted a study to examine the feasibility of target costing in the Turkish automotive industry. The research involved a survey conducted with 249 automotive enterprises. The findings revealed that the target costing approach was not fully implemented by these enterprises. In both studies, the researchers explored the adoption and effectiveness of target costing as a cost management strategy in different industries. The findings shed light on the challenges and opportunities for implementing target costing practices in specific sectors and provided valuable insights for businesses aiming to optimize their cost structures.

Kalkancı (2008), investigated the applicability of target costing in the textile industry. As a result of the research, it has been determined that target costing can be applied in the textile sector and the damage can be minimized as a result of the studies carried out in the work gloves and apron production company operating in Bursa.

Gayret (2010) investigated the applicability of target costing in a glass manufacturing plant. The research findings indicated that costs could be reduced, and improvements could be made in the design and production process to meet customer demands without compromising product quality.

In their study, Yerel et al. (2012) examined the feasibility of implementing target costing in the white goods sector. The research revealed that when estimated product costs exceed the expected costs, cost and profit are safeguarded by selecting parts with lower costs for the machines.

Koşan and Geçgin (2013) conducted a study to investigate the application of target costing in a food and beverage business operating in Mersin. They utilized the survey technique and case analysis method, focusing on the menus offered by the enterprise. The research findings revealed that customer satisfaction was

significantly influenced by three main factors: the taste of the food, the size of the portion, and the price. Furthermore, the study determined that the food and beverage business implemented target costing strategies by reducing the portion sizes.

In their research, Tandoğan and Şahin (2014) aimed to examine the feasibility of implementing the target costing method in a food and beverage business located in Muğla. The study focused on standard recipes used by the enterprise. Tandoğan and Şahin concluded that the target costing method could be effectively implemented in the food and beverage business they studied. The method allowed for cost reduction and weight optimization in the standard recipes used by the company, demonstrating its practicality and potential benefits for cost management in the industry.

Karahan (2018) conducted a case analysis study to explore the feasibility of implementing target costing in a carpet business. The study's findings indicated that target costing can be effectively applied in carpet businesses. To achieve cost reduction, the research emphasized the importance of considering price reductions within the supplier chains, the customer structure, and the competitive factors influencing the company. By taking these factors into account, the carpet business could successfully implement target costing and optimize its cost management strategies.

Güveş (2019) explored the practicality of target costing management within the telecommunications industry. The research findings indicated that the target costing approach empowers businesses to effectively manage their costs in line with market sales prices, allowing them to allocate their investment funds strategically to productive areas.

Çetin and Bahşi (2019) examined the feasibility and advantages of implementing target costing in agricultural production activities. The research findings revealed that for successful implementation of target costing, the entire enterprise must be involved in this process, and it should be carried out before the actual production phase.

In their study, Kahveci and Okutmuş (2021) conducted a case study within the logistics industry, aiming to integrate target costing, value analysis, theory of constraints, and Kaizen costing. The results of the research revealed that the integrated model effectively reduced costs. The study highlighted the significance of cost management, demonstrated the successful reduction of logistics sub-activity costs through the implementation of Kaizen techniques, and resolved capacity constraints in business packaging activities by applying the theory of constraints.

Target costing is a cost management accounting approach primarily utilized by large-scale businesses, especially with the advancements in technology (Türk: 1999). However, a review of the literature reveals that small-scale businesses also benefit from the target costing system. Hence, in this study, a local business is chosen to apply the target costing system to the products manufactured by the business.

The purpose of the study is to assess the applicability of target costing in a local food and beverage business. The foundation of the study lies in determining whether cost and profit analyses of local businesses can be conducted using the findings obtained from the study. The second section of the study presents the materials and methods used in the research, while the third section contains the findings. Finally, the study is summarized in the conclusion section.

2. MATERIALS & METHODS

This study explores the approach of target costing in a local business. The product costs of a food and beverage business have been analyzed using the target costing method. The study has conducted in a food and beverage business operating in Osmaniye. The business is involved in the production and sale of food and beverages, offering both table service and take-out options to its customers. During the implementation phase, face-to-face meetings have been held with the business's management and employees to gather insights into the production and sales processes.

The study has been encompassed standard recipe cards for the four most consumed items on the menu (including ingredients, quantities, and cost rates per unit) as discussed with the management. Three of these products are food items, and one is a beverage. The first product is the toast menu (Y-1), the second is chicken pappardelle alfredo (Y-2), the third is chicken with curry sauce, and the fourth is a fruity milkshake (I-1). Based

on the information obtained from the business, the study on target costing method has completed using these four products since consumers mostly prefer them. The calculations have performed using material cost ratio, unit contribution, and contribution rate (Yükçü, 1999; Alagöz et al., 2005).

Material Cost Ratio = Material Cost / Sales Price

Unit Contribution = Sales Price - Portion Material Cost

Contribution Rate = Unit Contribution / Sales Price

These ratios have used to create cost indexes. Within the scope of the research, ratios of each product have calculated and compared using the target costing method. Additionally, target cost indexes have calculated for four products based on factors such as price, speed, saturation, and order time, and compared with standard cost indexes. The use of these four factors has determined based on the information that they influence consumer preferences for the products in the menu selected by the business. Reductions in the gram amounts and costings of products that would not compromise the product have made in the identified standard recipes. These data are explained in detail in the following sections.

3. FINDINGS

The study focuses on the analysis of products, namely Y-1, Y-2, Y-3 (three foods), and I-1 (a beverage). The actual sales data for these products in May 2023 are as follows: Y-1 had 174 portions sold at a unit price of 60 ₺, Y-2 had 38 portions sold at a unit price of 120 ₺, Y-3 had 31 portions sold at a unit price of 85 ₺, and I-1 had 98 portions sold at a unit price of 54 ₺.

The contribution margin and contribution rate were determined by utilizing the material costs and sales price information from the standard recipes. This analysis aimed to quantify the portion of revenue that each unit product contributed to the overall profitability of the business. In this way, the study provided insights into the profitability of each individual product and assessed the extent to which they contributed to the business's overall profit.

The standard recipe formats of the four products examined below and their contribution to operating profit are explained in detail:

Table 1: Y-1 Standard Prescription Card

Material Cost Ratio: 64,46%	Unit Contribution: 21,32 (₺)	Contribution Rate: 35%
	Monthly Sales	174 units
	Sale Price	60 ₺

Amount (gr)	Type of Material	Purchase Price (₺)	Measure Price (₺)
100	Cheese (B1)	252	25,2
50	Bread (B2)	5	5
15	Butter (B3)	200	3
10	Sauce 1 (B4)	20	0,2
10	Sauce 2 (B5)	23,5	0,24
140	Potatoes (B6)	36	5,04
	Total Material Cost		38,68

Calculations related to the prescription card:
Material Cost Ratio = Material Cost / Sales Price (38,68/60=%64,46)
Unit Contribution = Sales Price - Portion Material Cost (60-32,62=21,32)
Contribution Rate = Unit Contribution / Sales Price (27,38/60=0,35)

Y-1 is composed of six ingredients.The material cost ratio of the product is 64.46%; the unit contribution margin is 21.32%, and the contribution margin is 35%. A total of 174 units of the Y-1 product were sold within a month, and the product price is 60 Turkish Lira. When looking at the product ingredients, it's evident that cheese and potatoes have the highest share, as seen in Table 1.

Table 2: Y-2 Product Standard Prescription Card

Material Cost Ratio: 26,4 %	Unit Contribution: 88,27 (₺)	Contribution Rate: 73%
	Monthly Sales	38 units
	Sale Price	120 ₺

Amount (gr)	Type of Material	Purchase Price (₺)	Measure Price (₺)
100	Cream (B1)	59	5,9
180	Pasta (B2)	38	6,84
50	Chicken (B3)	85	4,25
43	Cheese (B4)	250	10,75
1	Spice 1 (B5)	113	0,11
1	Spices 2 (B6)	103	0,10
35	Vegetable (B7)	108	3,78
	Total Material Cost		31,73

Calculations related to the prescription card:
Material Cost Ratio = Material Cost / Sales Price (31,73/120=%26,4)
Unit Contribution = Sales Price - Portion Material Cost (120-31,73=88,27)
Contribution Rate = Unit Contribution / Sales Price (88,27/120=0,73)

Y-2 is composed of seven ingredients. The material cost ratio of the product is 26.4%; the unit contribution margin is 88.27%, and the contribution margin is 73%. A total of 38 units of the Y-2 product were sold within a month, and the product price is 120 ₺. When looking at the product ingredients, it's evident that cream and cake have the highest share, as seen in Table 2.

Table 3: Y-3 Product Standard Prescription Card

Material Cost Ratio: 32,49%	Unit Contribution: 57,38 (₺)	Contribution Rate: 68%
	Monthly Sales	31 units
	Sale Price	85 ₺

Amount (Gr)	Type of Material	Purchase Price (₺)	Measure Price (₺)
160	Cream (B1)	59	9,44
3	Spice 1 (B2)	113	0,34
1	Spices 2 (B3)	113	0,11
1	Spice 3 (B4)	103	0,10
130	Chicken (B5)	85	11,05
85	Pasta (B6)	38	3,23
50	Vegetable 1 (B7)	8	0,4
50	Vegetable 2 (B8)	15	0,75
50	Vegetable 3 (B9)	24	1,2
50	Vegetable 4 (B10)	20	1
	Total Material Cost		27,62

Calculations related to the prescription card:
Material Cost Ratio = Material Cost / Sales Price (27,62/85=%32,49)
Unit Contribution = Sales Price - Portion Material Cost (120-31,73=57,38)
Contribution Rate = Unit Contribution / Sales Price (57,38/85=0,68)

Y-3 is composed of ten ingredients. The material cost ratio of the product is 32.49%; the unit contribution margin is 57.38%, and the contribution margin is 68%. A total of 31 units of the Y-3 product were sold within a month, and the product price is 85 ₺. When looking at the product ingredients, it's evident that cream, chicken, and cake have the highest share, as seen in Table 3.

Table 4: I-1 Product Standard Prescription Card

Material Cost Ratio: 70%	Unit Contribution: 16,21 (₺)	Contribution Rate: 30%
	Monthly Sales	98 units
	Sale Price	54 ₺

Amount (gr)	Type of Material	Purchase Price (₺)	Measure Price (₺)
300	Ice cream (B1)	74	22,2

200	Milk (B2)	16,95	3,39
400	Fruit (B3)	30	12
	Total Material Cost		37,59

Calculations related to the prescription card:
Material Cost Ratio = Material Cost / Sales Price (37,59/54=%70)
Unit Contribution = Sales Price - Portion Material Cost (54-37,59=16,41)
Contribution Rate = Unit Contribution / Sales Price (16,41/54=0,30)

I-1 is composed of three ingredients. The material cost ratio of the product is 70%; the unit contribution margin is 16.21%, and the contribution margin is 30%. A total of 98 units of the I-1 product were sold within a month, and the product price is 54 Turkish Lira. When looking at the product ingredients, it can be observed that almost all ingredients have nearly equal importance in the composition of the product.

Analyzing the cost ratios of the products, it was found that I-1 had the highest cost percentage at 70%, while Y-2 had the lowest at 26.4%. Examining the unit contribution shares, Y-2 had the highest share at 88.27%, whereas I-1 had the lowest share at 16.21%. Regarding the contribution rates, Y-2 exhibited the highest rate at 73%, while I-1 had the lowest rate at 30%.

The calculated product costs and targeted profit after the Target Costing process are provided in detail below:

Table 5: Y-1 Standard Prescription Card - TARGET

Material Cost Ratio: 38%	Unit Contribution: 37,15 (₺)	Contribution Rate: 62%

		Sale Price	60 ₺
Amount (gr)	Type of Material	Purchase Price (₺)	Measure Price (₺)
80	**Cheese (B1)**	**152**	**12,16**
50	Bread (B2)	**5**	**5**
15	**Butter (B3)**	**150**	**2,25**
10	Sauce 1 (B4)	20	0,2
10	Sauce 2 (B5)	23,5	0,24
100	**Potatoes (B6)**	**30**	**3**
	Total Material Cost		**22,85**

Calculations related to the prescription card:
Material Cost Ratio = Material Cost / Sales Price (25,47/60=%38)
Unit Contribution = Sales Price - Portion Material Cost (60-25,47=37,15)
Contribution Rate = Unit Contribution / Sales Price (27,38/60=0,62)

Table 5 presents the target costing analysis for the cost components associated with the Y-1 recipe. The analysis revealed several modifications in ingredient quantities and cost considerations. Specifically, the amount of cheese utilized in the Y-1 recipe was reduced from 100 grams to 80 grams, while the quantity of potatoes decreased from 140 grams to 100 grams. Furthermore, adjustments were made to the brand/supplier for cheese and butter, resulting in a reduction in the cost of cheese from 252 ₺ to 152 ₺, and the cost of butter was updated from 200 ₺ to 150 ₺, thereby affecting the material costs. As a result of these changes, there was a 41% decrease in the amount of materials used, accompanied by a 74% increase in the unit contribution rate and a 77% increase in the contribution rate.

Table 6: Y-2 Product Standard Prescription Card - TARGET

Material Cost Ratio: 27%	Unit Contribution: 65,34 (₺)	Contribution Rate: 73%

		Sale Price	90 ₺
Amount (gr)	Type of Material	Purchase Price (₺)	Measure Price (₺)
80	**Cream (B1)**	**59**	**4,72**
150	**Pasta (B2)**	**38**	**5,7**
50	Chicken (B3)	85	4,25
30	**Cheese (B4)**	**200**	**6**
1	Spice 1 (B5)	113	0,11
1	Spices 2 (B6)	103	0,10
35	Vegetable (B7)	108	3,78

Total Material Cost	**24,66**
Calculations related to the prescription card:	
Material Cost Ratio = Material Cost / Sales Price (24,66/90=%27)	
Unit Contribution = Sales Price - Portion Material Cost (90-24,66=65,34)	
Contribution Rate = Unit Contribution / Sales Price (65,34/90=0,73)	

Table 6 presents the target costing analysis for the cost components associated with the Y-2 recipe. The amount of cream utilized in the Y-2 recipe was reduced from 100 grams to 80 grams, the quantity of pasta was decreased from 180 grams to 150 grams, and the amount of cheese was reduced from 43 grams to 30 grams. Additionally, changes were made to the brand/supplier of the cheese used, resulting in a cost reduction from 250 ₺ to 200 ₺. These modifications led to a 1.5% increase in the material used for the Y-2 recipe, a 26% decrease in the unit contribution margin, while the contribution rate remained unchanged.

Table 7: Y-3 Product Standard Prescription Card- TARGET

Material Cost Ratio: 32%	Unit Contribution: 47,49 (₺)	Contribution Rate: 67%
Sale Price	70 ₺	
Amount (gr)	Type of Material	Purchase Price (₺)	Measure Price (₺)
140	**Cream (B1)**	**59**	**8,26**
3	Spice 1 (B2)	113	0,34
1	Spices 2 (B3)	113	0,11
1	Spice 3 (B4)	103	0,10
100	**Chicken (B5)**	**85**	**8,5**
70	**Pasta (B6)**	**38**	**2,6**
40	**Vegetable 1 (B7)**	**8**	**0,3**
40	**Vegetable 2 (B8)**	**15**	**0,6**
40	**Vegetable 3 (B9)**	**24**	**0,9**
40	**Vegetable 4 (B10)**	**20**	**0,8**
Total Material Cost			**22,51**
Calculations related to the prescription card:			
Material Cost Ratio = Material Cost / Sales Price (22,51/70=%32)			
Unit Contribution = Sales Price - Portion Material Cost (70-26,4=47,49)			
Contribution Rate = Unit Contribution / Sales Price (58,6/70=0,67)			

Table 7 presents the target costing analysis for the cost components associated with the Y-3 recipe. The amount of cream utilized in the Y-3 recipe was reduced from 160 grams to 140 grams, the quantity of chicken decreased from 130 grams to 100 grams, and the amount of pasta was reduced from 85 grams to 70 grams. Additionally, all vegetables used in the recipe were decreased from 50 grams to 40 grams. As a result of these changes, a 1.5% decrease was observed in the material used for the Y-3 recipe. Furthermore, there was a 21% decrease in the unit contribution margin and a 1.5% decrease in the additive rate.

Table 8: I-1 Standard Prescription Card - TARGET

Material Cost Ratio: 51%	Unit Contribution: 26,61 (₺)	Contribution Rate: 49%
Sale Price	54 ₺	
Amount (gr)	Type of Material	Purchase Price (₺)	Measure Price (₺)
250	**Ice Cream (B1)**	**60**	**15**
200	Milk **(B2)**	16,95	3,39
300	**Fruit (B3)**	**30**	**9**
Total Material Cost			**27,39**
Calculations related to the prescription card:			
Material Cost Ratio = Material Cost / Sales Price (27,39/54=%51)			
Unit Contribution = Sales Price - Portion Material Cost (54-27,39=26,61)			
Contribution Rate = Unit Contribution / Sales Price (25,11/54=0,49)			

Table 8 presents the target costing analysis for the cost components associated with the I-1 recipe. The amount of ice cream utilized in the I-1 recipe was reduced from 300 grams to 250 grams, and the quantity of fruit used was decreased from 400 grams to 300 grams. These modifications resulted in a 27% decrease in the material used for the I-1 recipe. Furthermore, there was a significant 64% increase in the unit contribution margin and a notable 63.3% increase in the contribution rate.

Table 9 provides a detailed overview of the issues identified in the standard recipes, expected profit, market, and the process at the product level using the standard recipe and target costing method.

Table 9. The Targets of the Four Products Determined by the Problems in the Target Cost Process

Products	**Y-1**	**Y-2**	**Y-3**	**I-1**
Problems	High material cost, low unit contribution rate	The price is too high compared to the cost. Demand is low	The price is too high compared to the cost. Demand is low	High material cost, low unit contribution rate
	Targets	**Targets**	**Targets**	**Targets**
Profit	37 ₺	65 ₺	47 ₺	26 ₺
TC process in terms of market	Product price kept constant	The product price has been reduced by 15 ₺	Product price reduced by 30 ₺	Product price kept constant
TC process in terms of product	Cheddar, sausage and potato material reduction; retail change	Cream, macaroni and cheese material reduction; cheese retail change	Cream, pasta, chicken and vegetable material reduction	Ice cream and fruit material reduction; ice cream retail change
Expected	Decrease in material cost ratio, increase in additive ratio	Increasing demand by reducing costs and reducing prices	Increasing demand by reducing costs and reducing prices	Decrease in material cost ratio, increase in additive ratio

Table 10 provides an overview of the current problems identified in the products, as expressed in Table 9, along with the planned target indices ratios as proposed solutions.

If the cost index is less than 1 (<1), it indicates that the product is expensive, whereas if it is greater than 1 (>1), it implies that the product is relatively cheap (Alagöz: 2006). Therefore, cost reduction measures have been implemented to increase the cost indices of the products that have a value less than 1 to above 1. The relevant accounts and strategies applied for each product are described in detail below:

Table 10. Target Cost Indices of Products

	Y-1			Y-2			Y-3			I-1		
Y-1	Standard	Target Cost	Y-2	Standard	Target Cost	Y-3	Standard	Target Cost	I-1	Standard	Target Cost
Comp. Type*	Cost Index	Target Cost Index	Comp. Type*	Cost Index	Target Cost Index	Comp. Type*	Cost Index	Target Cost Index	Comp. Type*	Cost Index	Target Cost Index
B1	0,72	0,88	B1	1,08	1,04	B1	0,38	0,35	B1	0,71	0,81
B2	2,32	1,37	B2	1,99	1,86	B2	2,60	2,12	B2	2,66	2,05
B3	0,97	0,76	B3	1,57	1,22	B3	2,26	1,84	B3	1,07	0,94
B4	1,93	1,14	B4	0,18	0,25	B4	2,49	2,03			
B5	1,61	0,95	B5	1,15	0,90	B5	0,67	0,72			
B6	1,04	1,03	B6	1,27	0,99	B6	3,16	3,20			
			B7	0,76	0,59	B7	3,59	3,90			
						B8	1,47	1,50			
						B9	0,92	1,00			
						B10	1,33	1,35			

*= Component Type

The target cost indices of four products are shown in Table 10. According to the table, the expected index improvement in the materials could not be determined by using the target cost method in the materials in the products. For this reason, it has been suggested to the business to conduct supplier and market research again in order to obtain the desired profit, not to experience loss of quality and to increase the target cost index above 1.

4. CONCLUSION

This study has tested the feasibility of applying the target costing approach in a local food and beverage business. For this purpose, the costs of four products were attempted to be optimized using standard recipe cards. By implementing the specified content weights on the recipe cards and considering supplier changes, the following results were observed: For Y-1, there was a 41% decrease in material usage, a 74% increase in unit contribution margin, and a 77% increase in contribution margin. For Y-2, there was a 1.5% increase in material usage, a 26% decrease in unit contribution margin, with no change in contribution margin. For Y-3, there was a 1.5% decrease in material usage, a 21% decrease in unit contribution margin, and a 1.5% decrease in contribution margin. Lastly, for I-1, there was a 27% decrease in material usage, a 64% increase in unit contribution margin, and a 63.3% increase in contribution margin.

The study findings indicate that reducing costs and products below market prices have the potential to stimulate demand. Y-1 and I-1 products have high costs, therefore the targeted profit could not be achieved. It is believed that changing the product prices will reduce consumer demand, so price increases could not be made. For Y-2 and Y-3, despite their relatively low costs, the prices were set too high, thus consumer demand could not be met. Following these results, the business may need to take a series of measures. Firstly, it should conduct a cost analysis for each product and focus on pricing these products. Specifically, a cost analysis should be carried out for high-cost items, aiming to either reprice them according to market rates or reduce their costs. Pricing for low-cost items should also be re-evaluated to meet consumer demands. The business should explore more efficient and cost-effective material sourcing. At this stage, supplier changes should be considered based on the specified content weights on the recipe cards. This step is crucial in optimizing material resources and improving the supply chain to potentially reduce costs and offer products at more competitive prices. Therefore, it is recommended that the business re-evaluate supply, weights, pricing, and material sourcing as indicated on the recipe cards.

In comparison to the literature studies by Koşan and Geçgin (2013) and Tandoğan and Şahin (2014), which showed positive outcomes, this study on target costing in local food and beverage establishments yielded negative results. Despite the methodological similarities, this disparity may be attributed to various factors such as management practices, internal capabilities, external influences, and the potential for publication bias favoring positive results in the literature. Nevertheless, the findings of this study offer some insights and contribute to the understanding of target costing in this specific industry, providing a basis for further research and improvement in cost management practices. However, as suggested by the analysis, positive outcomes could potentially result from cost reduction and/or supplier changes, as supported by Yereli et al. (2012); Koşan and Geçgin (2013); Tandogan and Şahin (2014); Kahve and Okutmuş (2021).

In future studies, including cost comparisons across multiple businesses or incorporating franchise establishments instead of only local ones will enhance the accuracy of understanding and interpreting the results.

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