

Activity-Based Budgeting for Hotel Food and Beverage Services: A Case Study

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Abstract

Tourism is an industry where tough competition exists. Thus, an activity-based budgeting system, which means the efficient allocation of general production overheads and services instead of traditional budgets could lead the way for hotel businesses as an important option. The aim of the research is the use of an activity-based budgeting system for hotel businesses operating in the all-inclusive system. In accordance with the purpose of the study, a qualitative research approach was adopted and an instrumental case study was chosen. Semi-structured interview and document analysis techniques were preferred for data collection. According to the findings, analyzing cost data in the previous periods is in line with forecasting the future sales, the determination of the production volume, planning the raw materials and materials, and the labor. With the development of activity-based budgeting studies, hotel businesses operating in the all-inclusive system will be able to accurately track their costs in food and beverage services.

Keywords: Food and beverage service, all-inclusive hotels, activity-based budgeting, Turkey.

1. Introduction

Nowadays, the hospitality industry has become one of the most important lines of business in the world. According to 2018 data of the United Nations World Tourism Organization, the number of international tourists reaching 1.4 billion, which has been increase since 1950, and the increase in the unpredictable domestic travels is the most significant signs that indicate the rapid development of the hospitality industry (UNWTO Tourism Highlights 2019 Edition). When direct and indirect effects of the hospitality industry on the economies of the country and the region are considered, the size and importance of the industry can be better understood. The primary services offered by hotel businesses operating in the hospitality industry are overnight accommodation and food and beverage. Both of these services meet the basic physiological needs of people, such as sheltering and food. These needs are the most basic needs of people who move away from their places for tourism purposes. In this context, it is possible to say that both services are centered on all the services offered by hotel businesses. When the issue is considered in terms of food and beverage services, it can be stated that food and beverage services are important in hotel businesses, as they are both expense centers and income-generating services.

The food and beverage production process comprise various stages. Although these stages show some variations for different businesses, the following order is generally accepted; realization of demand forecasting, menu planning, standard recipes and costing, purchasing, receiving, storage and drawing goods, production, service. In conjunction with the change in traditional production and presentation styles, technological developments and competitive conditions force hotel businesses to produce accurate cost information as well. Thus, activity-based costing, which is an alternative system in the hospitality industry, and the practicality of budgeting studies carried out accordingly constitute the main issue and subject of this study. A qualitative research method was preferred for the purpose and subject of the study and in-depth interviews and document analysis techniques were used with the managers of a hotel business that has been using an all-inclusive system for 12 years. The results ensured the determination of the activity levels and cost drivers within the all-inclusive system. Therefore, it turns out to be an alternative for the accurate determination of costs, which is one of the biggest competitive factors of hotel businesses. The

practical results of the study are for hotel businesses and its theoretical background, method, and results will contribute to the relevant literature.

2. Activity-based Budgeting

The background of the activity-based budgeting relies on activity-based costing approach /concept. This system is based on the principle that production overheads are incurred from the use and consumption of enterprise resources by the operating activities, and the said operating activities are consumed by the cost drivers (semi-finished, finished goods, services, etc.) Traditionally, production overheads are loaded on each product manufactured using allocation keys such as direct labor costs, direct first material, and material costs, machine hours, and manufactured product units. These allocation keys are volume-based ones. The number in the denominator of the formula used in the calculation of the loading rate will increase as production increases while loading production overheads onto the products through volume-based allocation keys; thus fewer production overheads are loaded on the unit product. This, in return, leads to lower product costs in high production volumes, as the fixed production overheads are allocated over more products.

There are various criticisms brought against the traditional budgeting process. One of such criticism is the time spent on budgeting. According to some estimates, budgeting and the budgeting process cause senior management to spend 20% of their time (Neely et al., 2003, p. 25). Libby and Lindsay (2003) pointed out that the budgets may take four or five months to complete and occupy 20-30% of financial managers’ time. According to research carried out with the managers of Centage Corp., the Institute of Management and Administration (IOMA), most companies allocate 4-8 weeks to prepare annual budgets (Williams, 2008). Activity-based budgeting is formed based on an activity-based costing method. However, in activity-based budgeting, the process of activity-based costing is reversed and the demand for the goods and services is directed to activities and then to resources instead of directing the costs of resources to activities and then to goods and services. The process of activity- based budgeting is shown in Figure 3 (Cooper and Slagmulder, 2000)

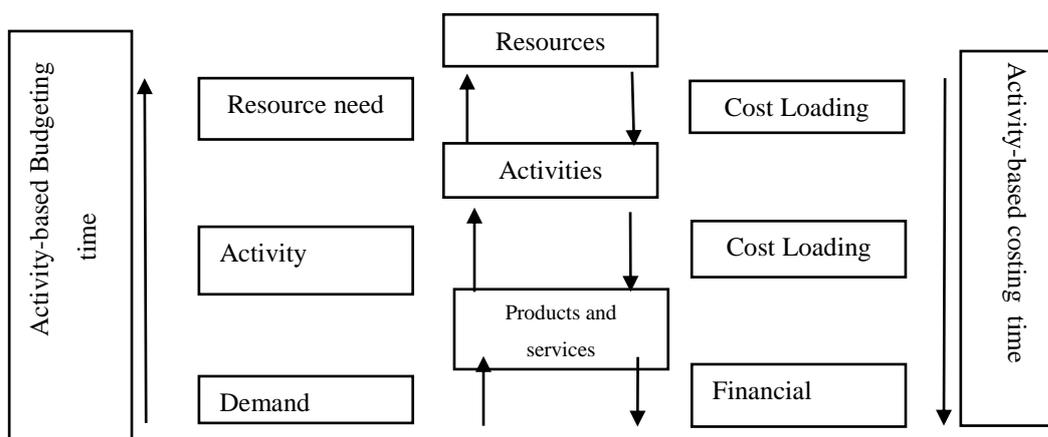


Figure 3. Activity Based Budgeting Process (Cooper & Slagmulder, 2000)

3. Literature

Since the mid-90s, various studies have been made on modern cost systems, budgeting techniques, and activity-based costing of hotel businesses. General studies concerning the use of budgets carried out in the early years gave way to in-depth analysis of cost and management accounting applications and determine the effect of the use of various tools together on the financial success of the hotel business. The studies on budget systems, activity-based costing, and activity-based budgeting within the scope of hotels, food and beverage enterprises, and related businesses are shown in Table 1.

Table 1 – Studies on Budgeting and Activity-Based Budgeting carried out in hotel businesses

Author/Year	Objective	Result
Ghosh ve Chan, 1997	The intended use of budgeting is emphasized.	It has been found that 97% of the participating businesses use a budget.
Jones, 1998	Budgeting process is emphasized.	The root cause of budgeting is identified as planning, control, and performance. It is revealed that 54.6% of the participants have prepared top-down budgeting.
Ahmad et al., 2003	The intended use of budgeting is identified.	It is found that budgets are used as planning and control tool.
Jones, 2008	The use, types and process of budgets are analyzed.	It is emphasized that the root causes of budgeting are planning, control and performance review. Also, it is identified that a mixed budgeting method is used as the process.
Schmidgall and DeFranco, 1998	The preparation process and intended use of the budgets are analyzed.	It is found that all participating hotel businesses use activity-based budgeting. The importance of cooperation between the departments is emphasized.
Wijewardena and Zoysa, 1999	The use of management accounting tools is evaluated.	It is concluded that participating enterprises consider budgeting as the most significant management accounting tool.
Oak and Schmidgall, 2009	The budgeting process and the intended use of budgets are analyzed.	It is emphasized that more than 90% of the participants use participatory budget and planning and control aspects of budgeting
Steed and Gu, 2009	The preparation process of budgeting process is emphasized.	It is emphasized that budgets are prepared through mixed method and 64.3% of the managers take macro-economic conditions into account during budgeting process.

Pavlatos and Paggios, 2009	Management and cost accounting practices are analyzed.	It is concluded that budgets are used for planning annual activities, cost control, interdepartmental coordination and performance review. It is understood that businesses participating in the study prefer traditional budgeting.
Diavastis et al., 2016	Activity-based budgeting is discussed in terms of knowledge system and associated with financial performance	It is found that use of information systems actively and preferring activity-based costing system increases the satisfaction and financial performance of the users.
Mashayekhi and Ara, 2017	The use of activity-based costing system is identified.	It is set forth that activity-based costing may help hotel businesses in terms of profitability analysis, budgeting and pricing.
Bataineh, 2018	The compatibility of the businesses to activity-based costing system is analyzed.	It is found that activity-based costing system can be used in hotel businesses.
Faria et al. 2018	The relationship between the activity-based costing system and other management accounting tools is emphasized.	The activity-based costing system is associated with customer profitability analysis (CPA) and traditional cost systems are criticized in terms of customer's profitability.

4. Activity-based Budgeting Models

The activity-based budgeting model developed by Brimson and Fraser combines the concepts of activity-based cost management with total quality management practices. Brimson and Fraser brought forward that the most important feature of activity-based budgeting is that it strengthens the link between planning and budgeting. Therefore, they stated that the main purpose of the activity-based budgeting model is to develop a process that allows a business to create a cost-effective budget and to plan and control the expected activities of the business (Brimson & Antos, 1994) to achieve the strategic goals and estimated workload of a business. In this process, planning and budgeting should support continuous improvement and be stiffened with management accounting. About budgeting, there is much focus on financial forecasting studies and effective distribution of resources (Brimson & Fraser, 1991, p.42).

In the activity-based budgeting model suggested by Kaplan and Cooper (1998), as previously stated, the opposite of the activity-based costing process is expressed. The activity-based costing process begins with the allocation of resource expenditures to activities via cost drivers, and is directed to the allocation to cost objects such as products, services and customers. In activity-based budgeting, the process works oppositely (Kaplan & Cooper, 1998, p. 303). Accordingly, the process starts with predicting the demands for products and services.

The International Consortium for Advanced Production (CAM-I) has mapped out a model that combines activity-based budgeting and planning (Newing, 1994, p.50). In the developed model, the functioning of the activity-based budgeting process has been outlined in detail. The closed-loop model for the activity-based budgeting process of CAM-I suggests a forward-looking, demand-oriented budgeting and planning analysis that draws attention to capacity issues (Bleeker, 2002). From this aspect, the closed-loop model has been the first budget approach that clearly shows the links between products and services, activities, and resources. Although the model introduces something new to the budgeting process as a perspective, it is not open to development in practice. This model is still being argued in the theoretical context and there are various examples of practices in the production industry (Stevens, 2004).

Bleeker (2002), put forward a model that clearly shows the functioning of activity-based budgeting, by developing an activity-based budgeting model designed by CAM-I. The activity-based budgeting model, in which activity-based budgeting stages are briefly summarized, is shown in the figure below.

It is possible to state that the activity-based budgeting model developed by Kaplan and Cooper (1998) is quite comprehensive and detailed. The model covers a wide process ranging from the estimation of sales and production volumes for the next period to identifying the activity capacities. In this model, based on the principles of the activity-based costing system, budgeting was also recommended structures that require a complex costing system with a variety of services like hotel businesses. Liu et al. (2002) performed a study on the implementation and verification of this system in a beverage-producing business. This model, which was developed in a study by Şen (2013) in later years, was implemented in five-star hotel business. The food and beverage system of the hotel in question is based on à la carte service.

5. Methodology

When some features of the all-inclusive system (variety of food and beverages, serving at very different hours, customers demanding food and beverage constantly, etc.) are considered, it is seen that traditional costing methods are insufficient to solve the cost problem in this system. To make up for such deficiencies, modern cost approaches used in various enterprises of the service industry can also be an alternative for food and beverage services. In this regard, it is possible to consider activity-based budgeting as the appropriate option in food and beverage services, having various services. From this point of view, the study aims to suggest an alternative cost model that can be used by all-inclusive hotel businesses in the budgeting process of food and beverage services. For that purpose, the model developed by Kaplan and Cooper will be predicated on. The sub-objectives of the study in line with the main objective of the research are as follows:

- To identify cost systems used in food and beverage services.
- To compare the budgeting systems applied to food and beverage services.
- To allocate general production overheads to costs and include such in the budgets.

Qualitative research was preferred in the study and the case study technique was used. A case study is an in-depth description and analysis of a limited system (Merriam, 2013). It is used to identify and see the details that cause an event, to develop possible explanations for the event, and to evaluate an event in case studies that reveals the case themes (Gall, Borg, & Gall, 1996; cited in Büyüköztürk et al., 2010). A case study is a type of pattern within qualitative research that can be both the product and the object of the research. The unit of analysis in a case study can be more than one case (working in multiple locations) or a single case (single location study) (Creswell, J. W., 2018; 97).

In the research, the data was collected by using semi-structured face-to-face interviews, document analysis, and focus group methods. To that end, a total of six and a half hours of meetings were held with the cost control manager of X hotel between 23 and 24 June 2019. In this semi-structured interview, a voice recorder was used with the consent of the interviewer. After that, the interview records were transcribed. In this interview, general features of the hotel business were emphasized first, then the organizational structure, working order, and production process of food and beverage services were discussed. A focus group meeting was held with the hotel's cost control manager, food and beverage manager, and Chef de Cuisine on 12 June 2020 in order to associate the data obtained with the activity-based budgeting system. In line with the aim of the study, the activities involved in the food production process were identified. The menu planning and food production process of the business were presented in detail. Using the interview form used in the interview, how the relevant activities emerged as a cost factor could be set forth. In addition, the classification of activity levels and the allocation of general production overheads to food and beverage services are emphasized.

6.1 Research Area

In terms of service and activity diversity, the research was deemed appropriate to be carried out in a large hotel and thus a five-star hotel was included in the scope of the study. While selecting this five-star hotel, attention has been paid to the fact that the business has been using the all-inclusive system for at least five years. In this way, it is considered that the system is implemented in an established manner in the hotel. The five-star Hotel X, where the research was carried out, is located in Mahmutlar district of Alanya. The hotel facility, built on a total of 120 acres, has been operating for 12 years. The hotel, operating seasonally (15 March - 31 October) and serving 210 days annually, has 614 rooms. The cost and budget plans of the enterprise, which has a deluxe all-inclusive service system, are prepared on a yearly basis (210 days). Various food and beverage units offer 24-hour service. Although the menu of the hotel is based the French cuisine, food and beverage service may vary according to the agreements made with the agencies. Alcoholic beverage at the hotel has quality above the standards. In planning the service, customers' country of origin and their habits are reviewed and nationality analysis is performed to that end. For example, as Russian customers often prefer vodka, they are trying to serve the best quality vodka possible. Whiskey and liquor are often offered to European tourists.

6.2. Data Analysis

This study was planned and carried out as a single instrumental case study and in the first stage of the interview analysis; the audio recording taken during the interview with the hotel management cost control manager was transcribed by the researcher. The data then was also analyzed by the

researcher, and no software was used. In data analysis, the information obtained from the interviews was collected in certain categories (food and beverage production process, classification of costs, operating costs, budgeting), and these categories were combined into two themes as the cost structure of the enterprise and the budgeting system (Table 2). Analyzes were carried out on cost control and budgeting system themes.

Table 2. Themes and Categories identified in the research

Themes	Categories
<ul style="list-style-type: none"> • Cost process • Budgeting system 	<ul style="list-style-type: none"> • Food and beverage production process • Classification of costs • Operating costs • Budgeting process

6.3. Findings

Department managers and chefs work for 12 months (around 10-15 employees) in the food and beverage department, other personnel is employed seasonally (around 100). The contract of employment of the seasonal personnel ends at the end of the season, and the personnel is called around again at the beginning of the season. Furthermore, trainees are also accepted from tourism schools on a seasonal basis. A system called deluxe meaning all-inclusive is used at the hotel. According to the system, all customers are entitled to free access to all food and beverages during their stay at the hotel, except for the room service.

The products (foods) obtained in the production process are basically divided into four groups. These are meat products, seafood, grocery products, and other foods. Meat is categorized into three groups as red, white, and delicatessen and is costed accordingly. Seafood is classified as fish yet to cover all seafood varieties by kilogram and piece. It is seen that fruits products are classified as fruits, vegetables, frozen vegetables/fruits and sub-categories as fruits/vegetables by number. Beverages, the second main cost category, are reviewed under three categories. These are soft drinks, alcoholic beverages, and hot beverages respectively. There is also a distinction between domestic and foreign alcoholic beverages. A standard 4 cl and 5 cl have been set for foreign and domestic alcoholic beverages respectively. However, the concept of the unit has turned out to be slightly confusing. In addition, since all alcoholic beverages can be produced domestically now, the business manager has recommended that all beverages can be standardized by 4 cl for the all-inclusive system.

Findings on cost system

X Hotel uses the software "Elektra" for tracking the costs. The hotel uses the "weighted average cost method" to track the costs. Since the software can be adapted to business needs, the cost method is entered into the software and applied. According to the business manager interviewed, what is ideal to track costs and price the products is to apply the first in first out (FIFO) method. However, it is difficult to track all as the main kitchen often supplies a wide variety of materials from the storage. Therefore, the weighted average cost method has been preferred in the business.

Since the all-inclusive system is used in the hotel, the costs are determined by the number of people who stay. This is because customers checking-in the hotel do not pay for any food or drinks during their stay. Moreover, since the cost of food and beverage is considered as a whole in the all-inclusive system, costs other than the main kitchen do not mean anything individually. All of them are included in the cost of the banquet service. Costs consumed and converted into expenses are determined by the end-of-month inventories.

Although there are different units in the business where customers receive food service, food production is organized through the main kitchen. Therefore, all inventory costs and food production arise from the main kitchen. In identifying the costs, the capacity of the hotel and the sale of beds stand out as the determinants. In addition, the total number of people to use the banquet service is found by adding the number of free beds offered. The determinant in food costs is the chef's decisions. The main place where costs are incurred is the kitchen. The products that have an effect on food and beverage costs are analyzed in detail. This analysis helps to create statistical reports for both budget and hotel consumption. Purchasing decisions are also planned accordingly. This is considered important data. Contracts with companies are carried out on a unit price. For example, the unit price of 10 thousand liters of wine and the unit price of 5 thousand liters of wine is not the same. As the consumption increases, the unit cost decreases. The cost of the staff meal is calculated over the lists given by the chef. Following the costing, the average monthly cost per person is calculated over the average number of personnel in that month. Afterward, the food cost of the relevant unit is obtained by multiplying it by the number of personnel working in each unit.

Beverage costs are also monitored in the establishment, just like the cost of food. The cost of food can be limited, but it is not possible to limit the cost of drinks (other than purchases of substantial large quantities). Alcoholic beverages constitute 60% of the total beverage cost. When the seasonal averages are reviewed, the cost of food is 7.4 Euro, and the cost of beverage is 6.2 Euro. Beverage consumption in spring is higher than in summer. Even in May and October, beverage costs are higher than food costs. The business manager stated that this depends on the socio-economic structure of the tourists arriving at the hotel in the relevant period. Tourists staying in the hotel during spring months consume more alcohol in return for the fee they pay. However, tourists in peak season are more accustomed to taking a holiday and their beverage consumption is relatively low. For example, in May 2019, the cost of beverage was 7.5 Euros, while the cost of food was 7.2 Euros.

The cost of food and beverage in the hotel for the last 3-4 years has been around 13-14 Euros. There has been no significant change in this amount due to the increases in the exchange rate. However, it was stated that if there were a change in the concept (for example, if the hotel decides to give bottled beer in the minibar), there would be an increase in costs. The cost calculation for the whole hotel is carried out as follows: 1 unit for all costs, 1 unit for the hotel rent, and 1 unit for profit. That is, costs are multiplied by 3 for pricing. Some facilities prefer the cost times 2 system during the depressed seasons or if the hotel does not pay any rent. Thus, it can be ensured that the business continues its activities, the permanence of the personnel, and the fixed costs are met. It has been stated that monitoring the costs accurately will ensure correct pricing as well. In order to

realize activity-based costing and budgeting applications, the activity levels should be determined first. The activity levels of the business are shown in Table 3.

Table 3. Activity Levels

Establishment Activities	Service Activities	Food and Beverage Activities
General management activities	Accommodation activities	Main Restaurant
Cost control activities	Spa activities	A la carte restaurant
Human resources activities	Recreation activities	Lobby bar
Security activities		Beach bar
Maintenance-repair activities		Pool bar
		Aqua park bar
		Vitamin bar

The findings show that activities take place at three levels. These are business level, service level, and food and beverage service level respectively. According to the scope of the study, activities at the food and beverage service level and activities directly related to the realization of these activities were discussed. Food and beverage service level activities are the main restaurant, à la carte restaurant, lobby bar, beach bar, pool bar, aqua park bar, and vitamin bar. As it is known, material and labor costs can be loaded on products and services by the direct loading method, but the same is not the case for the production overheads. In this way, it is aimed to allocate production overheads, which we encounter as a problem in cost allocation in hotel businesses, in a sound way. In order to load the production overheads, it is necessary to correlate cost activity expenses with cost factors. As a result of the interview with business managers, operating expenses from food and beverage and the cost factors of these expenses are given in Table 3. The match-ups established for operating expenses and cost drivers are given in Table 4.

Table 4. Operating expenses due to food and beverage and cost drivers

Operating expenses due to food and beverages	Cost Drivers
Fuel used in kitchen	Area/m ²
Kitchen heating	Area/m ²
Restaurant heating	Area/m ²
Customer supplies used in the kitchen	Number of people using the supplies
Customer supplies used in the restaurant	Number of people using the supplies
Kitchen cleaning and dishwashing costs	Area/m ²
Restaurant cleaning and dishwashing costs	Area/m ²
Storage lighting	Area/m ²
Storage cooling	Area/m ²
Stationeries	Usage rate
Other materials used in food production in the kitchen	Area/m ²
Other materials used in food serving at the restaurant	Area/m ²
Electricity used for lighting	Area/m ²
Electricity for the equipment	Direct
Water usage in the kitchen	Usage rate/m ³
Indirect Labor	Number of personnel
Legal payments due to personnel	Number of personnel
Lodging for the personnel	Number of personnel
Personnel mess hall	Number of personnel
Personnel transportation	Number of personnel
Depreciation due to machinery and equipment	Number of people using them
Depreciation of the building	Area/m ²
Property tax of the building	Area/m ²
Insurance of the building	Area/m ²
Kitchen repair-maintenance	Machine hour/kwS-Labor hour
Restaurant repair-maintenance	Machine hour/kwS-Labor hour

Findings on operating expenses

Legal personnel costs are dealt with at the level of units in the enterprise. There is a differentiation between employees working in customer-facing units and those working in the background. The personnel for general administration, technical service, and yardwork are employed for 12 months. While only managers work for 12 months in the food and beverage, reservation, front office, and housekeeping units, other personnel and trainees are employed seasonally when the need arises. At the end of the season, the employment contract of the relevant personnel is terminated. All costs of the personnel such as legal costs, food and beverage, and lodging are calculated on each unit. The hotel also provides in-service training, especially for seasonal staff. For expenses such as facility, construction, energy, electricity, heating, cooling, and lighting, only financial accounting records are kept. Other than that, there is no cost control for the relevant costs. For example, the main

building and lodging have different electricity meters. The amount in the electricity bill is recorded as power consumption and accounted as the hotel overhead. In addition, the hotel does not use a central cooling system; there are only air conditioners in the rooms and offices of the units. Cooling costs are also included in the electricity bill.

Findings on budgeting process

The annual budget is constituted by way of monthly budgets. While budgeting, the figures of the past two years are taken as a basis and an evaluation is made over the expected increases in the next year's figures. The estimated consumption of the next year is identified over on the consumptions (liters, kg, etc.), of the previous two years and the relevant year, the quantities of the materials to be used are communicated to the companies before the calendar year begins and the hotel is opened, and price offers are received. Upon receiving the orders, the next year's budget is prepared by analyzing the rates of rising that may be incurred during the season. These budgets are allocated to the units that will consume following the next year's quantity consumption and cost consumption planning. The units consuming the materials in line with this budget are forwarded and then the cost control process begins. When the season starts, daily costs are reported by the accounting to the relevant units as per this budget.

The main source for the food budget is production in the kitchen. At this point, the chef is in charge. The budget for the beverage is also based on the consumption at the bars. The budget is prepared through a process similar to food. Food and beverage costs are budgeted according to food groups and material consumption is analyzed in this regard. For example, the consumption volume of vodka or cheese varieties is analyzed. The innovations to be added to the concept, if any, are discussed and decided during the budget before the season starts. For example, if it is planned to enrich the menu for the following year and include and two red meat varieties in the menus rather than one, costing is realized together with the chef and the related cost is reflected in the budget. The items such as overhead expenses, operating expenses, and depreciation are also included in the general budget. The budgeted rates for the next year are used over the realized costs of the general production overheads of the previous years.

6.5. Findings obtained as a result of document analysis

As a result of the document analysis performed within the scope of the research, the cost and budget data of Hotel X were reviewed in detail. In this regard, daily and monthly cost reports of the food and beverage groups served in the enterprise were analyzed first. Then, food and beverage budget reports were analyzed in-depth within the scope of budget studies and thus the budget process of the enterprise was discussed in detail. The food inventory from the previous period (month) are added to the food purchased during the period and the remaining inventory at the end of the period is subtracted in order to determine the food cost, The amount found is divided by the total number of people having food from the banquet and the cost per person is found. Cost per person is calculated in two different currencies, in Turkish Lira and Euro. The data regarding the food cost report of the enterprise are given in Table 5.

Table 5. Cost report for X business in May 2019

Rooms Available	19.034		
Rooms sold	17.745		
Occupancy	% 93		
Available beds	57.009		
Rooms sold with pay	37.117		
Total beds sold	46.543		
Banquet Service Number of People	41.939,13		
Euro Rate	6,7514		
Period	01-31/05/2019		
Number of days	31		
Food inventory of the previous month			1.639.332,54
Main Storage Opening Inventory		1.498.303,22	
Kitchen Opening Inventory		141.029,32	
Transfer from beverage (Main Storage) (+)		6.808,00	
Purchased during the month		2.061.412,70	
Transfer from beverage (Bars) (+)		393,44	
Return to company (-)		-	
Loss in Main Storage (-)		-	
Service Food (-)		6.059,36	
Total Inventory			3.701.887,32
Closing Inventory			1.755.550,57
Main Storage Closing Inventory		1.606.075,04	
Kitchen closing Inventory		149.475,53	
Total cost of food consumed			1.946.336,75
Per person TL			52,44
Per person Euro			7,77

Beverage costs in the hotel included in the study are calculated in the same way as the cost of food. What is important in identifying and controlling beverage costs is to find the beverage consumption per person. Beverage cost control is allocated from the main storage to the lobby bar, service bar, pool bar, and bars in the aqua park. The bars in question request the required amount and types of beverages from the storage to serve their customers according to their daily needs. Information on the beverage costs of the enterprise for May 2019 is given in Table 6.

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Total beds sold	46.543		
Banquet Service Number of People	41.939,13		
Euro Rate	6,7514		
Period	01-31/05/2019		
Number of days	31		
Beverage inventory of the previous month			2.476.866,87
Main Storage Opening Inventory		2.360.398,66	
Restaurant and Bar Opening Inventory		116.468,21	
Transfer to food (Main Storage) (-)		6.808,00	
Purchased during the month		1.914.260,90	
Transfer from the kitchen (+)		11.499,73	
Returns to company (-)		70.822,00	
Loss (-)		-	
Transfer from food (Main Storage) (+)		6.059,36	
Total Inventory			4.331.056.86
Closing Inventory			2.749.308,59
Main Storage Closing Inventory		2.631.938,10	
Restaurant and Bar Closing Inventory		117.370,49	
Total cost of beverages consumed			1.581.748,28
Per person TL			42,62
Per person Euro			6,31

It is found that the number of rooms made available by the hotel in May 2019 was 19,034, the number of rooms sold was 17,745, the occupancy rate was 93%, the number of available beds was 57,009, the number of paid beds sold was 37,117, the total number of beds sold was 46,543 and the number of people using banquet service was 41,939.13. In the period concerned, the average Euro rate is 6.7514 TL. At the beginning of the 31-day period, the inventory of beverages transferred from the previous month is 2,476,866.87 TL, the cost of the beverage purchased during the month is 1,914,260.90 TL, the transfer from the kitchen is 11,499.73 TL, the return to the suppliers is 70,822 TL, the transfer from the food is 6,059.36 TL, totaling 4,331,056.86 TL and the closing inventory is 2,749,308.59 TL. The total cost of consumed beverages for the period is 1,581,748.28 TL. The beverage cost per person was 42.62 TL corresponding to 6.31 Euro. During the interviews with business managers, how food and beverage costs are set was discussed. The person determining the cost of food in the enterprise is the chef de cuisine. Since food is not consumed in servings in the all-inclusive system, an average cost is calculated by dividing the total cost of food by the number of people eating. Accordingly, daily food costs for May 2019 are summarized in Table 7.

Table 7. Daily food cost of X business in May 2019

Daily food cost	Overnight	TL Total	Euro Total	Per person Euro	Per person TL
Paid adults	36.323	1.332.046	197.006	5,42	36,67
Paid children	1.588	57.881	8.568	5,40	36,45
Free children	8.632	314.853	46.576	5,40	36,48
Daily use	-	-	-	-	-
Free rooms	583	26.384	3.906	6,70	45,26
Personnel meals	16.027	168.785	24.950	1,56	10,53
Total	63.153	1.899.949	281.006	4,45	30,08
Paid guests food cost	37.117	1.704.780	252.150	6,79	45,93

The cost figures in the kitchen are used to identify the actual costs of food on a monthly basis. All food costs are classified into categories as paid adults, paid children, unpaid children, daily use, free room, and staff meals, and then the total number of people/meals is divided by the total food cost, and the cost is loaded in paid guest food cost item. Accordingly, the daily food cost can be found over the per guest staying in. Costs are calculated in two different currencies, in Turkish Lira and Euro. This is because all purchase is made in Turkish Lira and sales are in Euros. When the food cost data for May 2019 are analyzed, it is found that out of 37,117 overnight accommodation, a total of 1,704,180 TL (252,125 Euros) as 45,93 TL and 6.79 Euros per person.

Beverages are dealt with in three groups (non-alcoholic, alcoholic, and hot drinks) at Hotel X being studied. Alcoholic beverages are also divided into two different categories as domestic and foreign. A unit is calculated for foreign alcoholic beverages as 4 cl and for local alcoholic beverages as 5 cl. According to the figures from customer analysis, a customer's daily beverage consumption is 700-

800 cl, and 1.50 liters soft drinks per day. In beverage costs, alcoholic beverages make up 60% of the total cost. In addition, due to the customer profile, beverage consumption in spring is higher than in summer. The reason for this is that customers with lower income have a holiday in the spring months. High-income customers consume relatively fewer drinks. Beverages served in restaurants and bars are offered completely for free during the day as part of the all-inclusive deluxe system, but room service is a paid one. For this reason, customers prefer to take their beverages from the bar and fill them in plastic bottles before they go to their room. According to the May 2019 figures in Table 3.7, the daily beverage cost of the paid guests of Hotel X was 47.65 TL and 7.04. While calculating this, the costs for paid adults, paid children, unpaid children, daily use, free rooms, and VAT are summed up and then divided by the total number of overnight accommodations. Food and beverage costs are calculated separately in the business, and then the total cost of food and beverage per guest is found. The cost of food and beverage is calculated over the total overnight accommodation by guests in all categories, staff meals, and free accommodation. Accordingly, first of all, the cost of a paid adult, a paid child, free child, daily use, free room, staff meals, and VAT are summed up. This total cost is then divided by the number of overnights and the daily cost per person in Turkish Lira and Euro is found. The total cost of food and beverage for May 2019 was 93.58 TL (13.84) per person.

Costs in Hotel X are analyzed on a monthly and daily basis during the season. The actual cost found is compared with the figures of the previous two years, thus it is possible to deepen the cost analysis. In cost comparisons, the food and beverage data of the relevant month are compared with the food and beverage data of the previous two years in Turkish Lira and Euro exchange rates. Therefore, cost data for three years can be evaluated together. When the comparative cost analyzes covering the months of 2017, 2018, and May 2019 are examined, the trend of food and beverage costs within three years can be observed. All analyzes are performed on a daily basis and per person. Accordingly, while the cost of food was 28.08, 35.07, and 46.33 in TL, respectively, beverage costs seem to be 23.60, 31.67 and 46.40. As a result, the total cost of food and beverage per person was found as 51.68, 67.4, and 92.72 TL, respectively. The increase in costs can be explained by the changes in the exchange rate and inflation. All costs are also recorded in Euro equivalents in order to perform a sound analysis. Food costs in Euro were 7.14, 6.95, and 6.86, while beverage costs were 6.91, 6.15, and 6.87. The total cost of food and beverage per person was 14.05, 13.10, and 13.73. When the figures are reviewed, there is a decrease in the cost of food in Euro over a three-year period. Beverage costs increased between 2017 and 2018 and decreased between 2018 and 2019. When both cost objects are analyzed together, it stands out that there is a total decrease of 50 cents in the three-year comparison level. In addition, the number of accommodation for the relevant month was 24,682.5, 28,543, and 37,117, respectively. This result can be construed as follows; under the pressure of the exchange rate and inflation, which almost doubled, the business was able to maintain its service quality and keep food and beverage costs at the same level, while the number of overnight accommodation increased by almost one and a half times within two years. Comparisons of food and beverage costs are shown in Table 8.

Table 8. Comparison of Food and Beverage Costs of X Hotel in 2018 and 2019

	May 2017			May 2018			May 2019		
Euro Rate	3,9309			5,1481			6,7514		
Paid Accommodation	24.682,5			28.543			37.117		
	Total Euro	Per person Euro	Per person TL	Total Euro	Per person Euro	Per person TL	Total Euro	Per person Euro	Per person TL
Lodgment Meal Cost	176.286,19	7,14	28,08	198.323,91	6,95	35,77	254.696,88	6,86	46,33
Lodgment Beverages Cost	170.476,99	6,91	23,60	175.577,66	6,15	31,67	255.066,63	6,87	46,40
Total food-beverage cost	346.763,18	14,05	51,68	373.901,57	13,10	67,44	509.763,51	13,73	92,72

Hotel X within the scope of the research prepares its food and beverage budget for the relevant season according to the cost figures of the previous year and the estimated price increase for the relevant year. The budget is prepared separately for food and drinks and then combined. Budgets are prepared on a monthly basis when the hotel operates from April to October. In the budget, estimated consumption for the relevant year in the budget, actual consumption in the previous year (including differences in amount and rate), number of overnights in the previous year, budget for the previous year (Euro), the actual cost in the previous year (Euro), the budget per person for the year (Euro) and the difference between the two years are given respectively. When the food budget for 2019 in Table 3 is analyzed, the consumption in 2018 was 8,831,854.68 TL, the estimated consumption in 2019 would be 11,255,164.65 TL and the difference was 2,423,309.97 TL. The difference between the two years is 27.44 percent. The budgeted food cost per person for 2018 was 7.19 Euros and the actual cost per person was 7.14 Euros. The food budget per person per day for 2019 was set as 7.04 on average. When the food budget for 2019 is examined, the daily food budget per person was prepared as a 0.10% decrease compared to the previous year. The business tries to keep food costs at the same levels when compared to the previous year. When the 2019 food budget is analyzed on a monthly basis, the share allocated for food increases in July and August, when the occupancy is the highest, and consumption decreases in April and October, the beginning and end of the season. It is predicted that there is a difference by around 30% in food cost per person between the months when the highest and lowest food cost is expected.

As Hotel X within the scope of the research adopts an ultra-deluxe all-inclusive system, the beverage budget is prepared separately. While preparing the beverage budget, the number of overnight accommodations, beverage consumption amounts, and estimated consumption for the relevant year is taken into consideration. Price offers from suppliers are also of great importance in the preparation of beverage budgets. Beverages are not perishable products like food but have a

shelf life that extends over a long period of time, thus if the annual beverage costs are estimated or purchases are made within the bounds of possibility, the budget figures are equivalent to the actual figures. While the beverage budget of Hotel X was prepared for 2019, the number of overnights and consumption amounts for 2018 were reviewed first. Thus, per-person cost was budgeted for 2018 and actual beverage figures were reached. Afterwards, the beverage budget was prepared based on the estimated consumption amounts and accommodation forecasts for 2019. It is seen that the number of overnights in 2018 was 248,536 and consumption was 7,692,570.19 TL. Beverage consumption per person per night was 5.20 Euros on average. The estimated consumption for 2019 was 11,675,477.33 TL in total and the beverage budget per person was 7.20 Euros. Unlike food, the cost per person was low during the peak season in the beverage budget and the cost was high in September and October, which is the end of the season. Business managers brought forward two reasons; customers boarding in low-season consumed more alcohol as they have lower income and families with children decreased at the end of the season. The figures for the 2019 beverage budget of the enterprise are given in Table 9.

Table 9. 2019 Beverage Budget of the enterprise

Months	2019 Estimated consumption (TL)	2018 Consumption (TL)	Difference	Difference %	2018 Overnight	2018 Budget (Euro)	2018 realized per person (Euro)	2019 per person (Euro)	Difference (Euro)	Difference %
April	924.941,83	614.693,81	310.248,01	50,47	20.200	6,25	6.11	7,04	0,93	15,23
May	1.427.175,94	903.780,26	523.395,69	57,91	28.543	6,35	6.15	7,69	1,54	25,07
June	1.656.332,35	1.114.589,49	541.742,86	48,60	39.516	5,85	5,22	6,45	1,23	23,52
July	1.846.886,36	1.163.702,69	683.183,67	58,71	43.613	5,40	4,84	6,51	1,67	34,53
August	1.786.693,06	1.177.201,62	609.491,44	51,77	41.661	5,43	4,38	6,60	2,22	50,77
September	1.991.457,17	1.294.281,71	697.175,46	53,87	37.732	6,05	4.64	8,12	3,48	75,16
October	2.041.990,62	1.424.320,60	617.670,02	43,37	37.271	6,73	5,59	8,43	2,84	50,83
Total	11.675.477,33	7.692.570,19	3.982.907,14	51,78	248.536	6,01	5,42	7,20	1,78	32,93

The activity-based budgeting puts emphasis on not only raw materials, materials, and labor, but also pooling all elements directly or indirectly required for production in cost pools and allocating the resources to the products and services produced in proportion to their consumption. By reviewing the food and beverage production processes in the all-inclusive system, cost managers and department managers in the enterprise can create cost pools and allocation keys and transfer production-related costs to related activities. Thus, the allocation of production overheads becomes prominent. The allocation of general production overheads is added to the total costs in the enterprise, and it has been found that there is no allocation within the scope of food and beverage or other services. In the second interview with the hotel managers, it was discussed at which activity levels the general production overheads incurred and what the cost drivers could be. Accordingly, in the all-inclusive system, it will be possible to reflect all cost inputs for food and beverage services to the services correctly. These data on costs will also form the basis for the budget.

Afterwards, businesses will be able to prepare their budgeting in line with the respective allocation rates.

It can be stated that the activity-based budgeting model, which is applied in various enterprises of the production and service industries, could also be used for hotel businesses that adopt an all-inclusive system. The points to be emphasized are the attentive keeping of both financial and cost accounts and identifying the operations of the business. Thanks to the cost information, operating budgets could be prepared in terms of the correct allocation of resources. In this way, businesses will become stronger in issues such as cost reduction, pricing policies, and competitiveness.

7. Conclusion

The starting point of this study is problems of uncertainty regarding the cost control of food and beverage services and budget systems of the hotels adopting an all-inclusive system. Customers from various nationalities, gender, dietary habits, and age groups consume food and beverage within the scope of many different units during their stay in the hotel. However, cost monitoring and control of all these food and beverage services, and consequently, the correct and realistic budget studies are important for the business to continue its operations. For this reason, the cost structure of food and beverage services in the all-inclusive system has been tried to be set forth first. Then, the use of the "activity-based budgeting" system in the literature within the scope of an all-inclusive system was reviewed. In the research, interview, document analysis and focus group techniques were used for data collection. The data obtained from the interviews are thematized in two groups as cost process and budgeting system. The categories are food and beverage production process, classification of costs, operating expenses, and budgeting process. First, the data related to interview results were analyzed in the study.

When the stages in Kaplan and Cooper's activity-based budgeting model, on which the study is based on are reviewed, it is concluded that the practices in the enterprise proceed in a different direction after starting from the point of demand forecasting. By making demand forecasting in the enterprise, the sales and cost estimation for the next year is made with the help of the data of the previous years. Depending on this forecast, the production plan, raw material, material, and personnel needs are determined. The necessary resource use is found after all these assets come together. Kaplan and Cooper's activity-based budgeting model starts with the demand of sales and production volumes for the next period and continues with the forecasting of the demand for business activities accordingly. A distinction attracts attention at this point. The hotel business should determine the resource needs for these activities by determining activities in food and beverage services - besides the traditional accounting recording system. These activities can be identified on the basis of the production process. Therefore, it can be forecast how much resource each activity needs. Thanks to the preparation of budgets within the required resource, general production overheads (electricity, heating, lighting, cooling, etc.) related to production can provide more accurate cost information compared to the system currently in use.

The raw materials and materials used in food and beverage products in the system adopted by the enterprise constitute a source for the total production cost. However, other elements in production inputs are indirectly included in the production cost, thus it becomes impossible to determine how

much resource is consumed for which activity. Although all costs are included in the income statement as expenses at the end of the period, it can be stated that the company cannot reach actual data on food and beverage costs when the issue is considered in terms of cost and management accounting. Particularly in the all-inclusive system, it is extremely important to determine the food and beverage costs accurately and to create the budgets based on these cost data in realizing the long-term goals of the enterprises. It would not be correct to evaluate the activity-based budgeting system as a tool that enables businesses to reduce their direct costs. However, correct budgeting should be seen as an important tool for the enterprise to allocate its scarce resources to the right places. Especially in today's world where competition is tough, accommodation sales prices are determined by external parameters (such as tour operators, travel agencies, competitors, and customers), travel habits, and changes in trends, hotel businesses must be able to produce accurate cost information in order to survive and achieve their goals. Otherwise, even with high occupancy rates, sustainability will be at risk. Therefore, together with other management accounting tools, activity-based management and accordingly activity-based budgeting system can be considered as one of the effective tools that hotel businesses can use.

Certain issues such as cost pressure, competition, and quality standards have an impact on all functions of hotel businesses. In other words, enterprises encounter the necessity of using limited resources in the most appropriate way. In this regard, it can be stated that cost management is extremely important in general, with all its elements such as recording, tracking, and reporting. It should be noted that the activity-based budgeting system, which can be prepared based on activity-based costing and this cost information, will benefit hotel businesses as the following:

- Accurate identification of cost of share resources.
- Providing information on which units, for which activities, and at what level the resources are consumed while the services are offered by the enterprise.
- Determining how and which cost drivers the food and beverage units are affected, which we see as expense centers in the all-inclusive system.
- Reviewing, planning, and development of service and product delivery.
- Ensuring that all business functions are used effectively.

This research was carried out in a 5-star coastal hotel offering services in an all-inclusive system. Although there are different practices within the all-inclusive system, it can be stated that various adaptations can also shed light on other similar hotel businesses, as the basic insights and production processes are similar. Thanks to the use of activity-based costing and budgeting systems, hotel businesses will be able to access accurate cost information and thus make strategic and operational decisions in the most appropriate way. As a result, it will be possible for businesses to achieve their goals. In light of the results obtained from this study, new and different studies can be carried out. For example, research focused on specific issues such as directly determining the fields of activity or allocation of resource needs for future research can be suggested.

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