

**T.C.**  
**ISTANBUL AYDIN UNIVERSITY**  
**INSTITUTE OF GRADUATE**  
**STUDIES**



**ACTIVITY BASED COSTING, MANAGEMENT AND BUDGETING,**  
**WITH AN APPLICATION TO THE HOSPITALITY SECTOR**

**MASTERS THESIS**

**Meshal ALSORKHEEE**

**Department of Business**

**Business Administration Program**

**DECEMBER, 2019**



**T.C.**  
**ISTANBUL AYDIN UNIVERSITY**  
**INSTITUTE OF GRADUATE**  
**STUDIES**



**ACTIVITY BASED COSTING, MANAGEMENT AND BUDGETING,**  
**WITH AN APPLICATION TO THE HOSPITALITY SECTOR**

**MASTERS THESIS**

**Meshal A. ALSORKHEEE**

**(Y1712.130127)**

**Department of Business**

**Business Administration Program**

**Thesis Advisor: Assist. Prof. Dr. HÜLYA BOYDAŞ HAZAR**

**DECEMBER, 2019**



T.C.  
İSTANBUL AYDIN ÜNİVERSİTESİ  
LİSANSÜSTÜ EĞİTİM ENSTİTÜSÜ MÜDÜRLÜĞÜ



YÜKSEK LİSANS TEZ ONAY FORMU

İşletme İngilizce Anabilim Dalı İşletme Yönetimi İngilizce Tezli Yüksek Lisans Programı Y1712.130127 numaralı öğrencisi Meshal Alı Amien ALSORKHEE'nin "Activity Based Costing, Management And Budgeting With An Application To The Hospitality Sector" adlı tez çalışması Enstitümüz Yönetim Kurulunun 16.12.2019 tarihli ve 2019/03 sayılı kararıyla oluşturulan jüri tarafından oybirliği/oyçokluğu ile Tezli Yüksek Lisans tezi 25.12.2019 tarihinde kabul edilmiştir.

	<u>Unvan</u>	<u>Adı Soyadı</u>	<u>Üniversite</u>	<u>İmza</u>
<b>ASIL ÜYELER</b>				
Danışman	Dr. Öğr. Üyesi	Hülya BOYDAŞ HAZAR	İstanbul Aydın Üniversitesi	
1. Üye	Dr. Öğr. Üyesi	Nurgün KOMŞUOĞLU YILMAZ	İstanbul Aydın Üniversitesi	
2. Üye	Prof. Dr.	Engin DEMİREL	Trakya Üniversitesi	
<b>YEDEK ÜYELER</b>				
1. Üye	Dr. Öğr. Üyesi	Esin Nesrin CAN	İstanbul Aydın Üniversitesi	
2. Üye	Dr. Öğr. Üyesi	Levent POLAT	Işık Üniversitesi	

**ONAY**

Prof. Dr. Ragıp Kutay KARACA  
Enstitü Müdürü



قال الله تعالى: بسم الله الرحمن الرحيم ﴿ وَقُلْ رَبِّ زِدْنِي عِلْمًا ﴾

سورة طه, اية 114







## **DECLARATION**

I am MESHAL ALSORKHEE hereby declare that I am the sole author of this master thesis titled “ACTIVITY BASED COSTING, MANAGEMENT AND BUDGETING, WITH AN APPLICATION TO THE HOSPITALITY SECTOR” and that I have not used any sources other than those listed in the bibliography and identified as references. I further declare that I have not submitted this thesis at any other institution in order to obtain a degree.

MESHAL ALSORKHEE





## **FOREWORD**

With my regards, appreciation, and sincere thanks to Assist. Prof. Dr. HÜLYA BOYDAŞ HAZAR, thesis advisor, for his adept guidance, worthy suggestions, deep cooperation and encouragement during my master courses as well as the preparation of the thesis.

I proudly announce my pleasure to thanks to all the professors of the Department of Business Administration, Istanbul Aydin University for their timely help and support me during my master courses.

I would like to thank especially the one that God rewarded him with prestige and honor, the one that I carry his name with all pride and ask God to extend his age and preserve him ... My dear father

I would like to thank especially my angel in life, the meaning of love and compassion, the smile of life and the secret of safety, that her prayer was the secret behind my success ... My beloved mother

I would like to thank my lovely lady, the secret of my passion, the one behind a great moral support to continued success, from which I derived my positive energy... My soulmate

I would like to express my appreciation to my brothers and sister for their invaluable support in general, and moral support during this research. And my friends to help me in my life in Turkey.

Finally, always be confident that duaa rearranges the scene.

**NOVEMBER 2018**

**Meshal A. ALSORKHEE**



<b>TABLE OF CONTENTS</b>	<b><u>Page</u></b>
<b>DECLARATION</b> .....	<b>v</b>
<b>FOREWORD</b> .....	<b>vii</b>
<b>LIST OF TABELS</b> .....	<b>xiii</b>
<b>LIST OF FIGURES</b> .....	<b>xvii</b>
<b>ÖZET</b> .....	<b>xix</b>
<b>ABSTRACT</b> .....	<b>xxi</b>
<b>I. INTRODUCTION</b> .....	<b>1</b>
<b>II. ACTIVITY BASED COSTING (ABC)</b> .....	<b>7</b>
A. INTRODUCTION.....	7
B. COST ACCOUNTING .....	8
C. COST ACCOUNTING OBJECTIVES.....	8
D. ACTIVITY BASED COSTING SYSTEM.....	9
E. ACTIVITY BASED COSTING SYSTEM DEFINITION .....	9
F. ACTIVITY DEFINITION .....	10
G. ACTIVITY TYPES .....	10
H. COST DRIVER .....	12
I. ABC HISTORY AND STAGES OF EVOLUTION .....	13
J. THE MOST IMPORTANT REASONS THAT LED TO SWITCH TO ABC.....	14
K. THE BEGINNING OF THE APPLICATION OF THE ABC SYSTEM IN THE COMPANIES .....	15
L. THE IMPORTANCE OF APPLYING ABC SYSTEM .....	15
M. THE ADVANTAGES AND DISADVANTAGES OF APPLYING ABC SYSTEM ACCORDING TO CIMA.....	16
N. ABC SYSTEM ASSUMPTIONS .....	17
O. SUCCESS ELEMENTS OF APPLYING ABC SYSTEM .....	17
P. THE MAIN STEPS TO APPLY ABC.....	18
Q. ABC SYSTEM APPLICATION LIMITATIONS .....	23
R. PROBLEMS ENCOUNTERED WITH THE IMPLEMENTATION OF AN ABC SYSTEM .....	25
S. COMPARISON BETWEEN TRADITIONAL COSTING SYSTEM AND ACTIVITY-BASED COSTING.....	26
<b>III. ACTIVITY-BASED MANAGEMENT (ABM)</b> .....	<b>29</b>
A. INTRODUCTION.....	29
B. ACTIVITY BASED MANAGEMENT SYSTEM DEFINITION .....	29

C.	ACTIVITY BASED MANAGEMENT SYSTEM HISTORY .....	30
D.	THE IMPORTANCE OF ABM SYSTEM .....	32
E.	THE DIFFERENCE BETWEEN ABM SYSTEM AND ABC SYSTEM .....	35
F.	THE MANAGERIAL DECISIONS TYPES UNDER ABM .....	36
G.	ABM SYSTEM APPLICATION LIMITATIONS .....	39
H.	INTEGRATION OF THE ABM SYSTEM AND THE ABC SYSTEM.....	40
I.	THE OUTPUTS OF ABM SYSTEM .....	42
J.	PRACTICAL GUIDANCE ON IMPLEMENTING ABM.....	44
K.	ABM IMPLEMENTATION PHASES.....	46
<b>IV.</b>	<b>ACTIVITY BASED BUDGETING (ABB) .....</b>	<b>51</b>
A.	INTRODUCTION.....	51
B.	BUDGET DEFINITION .....	53
C.	BUDGET FUNCTIONS .....	54
D.	TYPES OF ESTIMATED BUDGETS.....	56
E.	THE LIMITATIONS OF TRADITIONAL BUDGETING METHODS.....	59
F.	INTRODUCTION TO ACTIVITY BASED BUDGETING .....	61
G.	ACTIVITY BASED BUDGETING DEFINITION .....	62
H.	THE ADVANTAGES OF APPLYING ABB SYSTEM .....	63
I.	COMPARISON BETWEEN TRADITIONAL BUDGETING SYSTEM AND ACTIVITY-BASED BUDGETING.....	65
J.	THE IMPORTANCE OF ABB SYSTEM .....	66
K.	THE MAIN STEPS TO APPLY ABB SYSTEM .....	67
L.	THE INTEGRATION BETWEEN ABC, ABM AND ABB SYSTEMS.....	70
M.	METHODS OF APPLYING THE ACTIVITY-BASED BUDGETING.....	75
N.	CONSTRAINTS ON THE ACTIVITY-BASED BUDGETING SYSTEM .....	78
<b>V.</b>	<b>HOSPITALITY SECTOR.....</b>	<b>81</b>
A.	INTRODUCTION TO HOSPITALITY SECTOR .....	81
B.	TRADITIONAL COSTING SYSTEM IN HOTELS .....	84
	.1 Mechanism of the Cost Accounting System in the Procurement Phase of the Hotel Raw Materials .....	84
	2. Mechanism of the Cost Accounting System in the Production Phase of the Hotel Service.....	90
C.	TRADITIONAL BUDGETING SYSTEM IN HOTELS .....	94
D.	THE PROPOSAL ACTIVITY BASED MODELS IN HOTELS .....	97
<b>VI.</b>	<b>APPLICATION .....</b>	<b>103</b>

A. GENERAL INFORMATION ABOUT CROWNE PLAZA AMMAN HOTEL	103
B. ANALYSIS OF COST ELEMENTS IN THE HOTEL.....	104
C. IDENTIFY THE ACTIVITY AND APPLY ACTIVITY-BASED COSTING (ABC) SYSTEM IN THE HOTEL .....	112
D. COMPARISON BETWEEN TCS SYSTEM AND THE ABC SYSTEM IN THE HOTEL .....	143
E. APPLY ACTIVITY-BASED MANAGEMENT (ABM) SYSTEM IN THE HOTEL .....	145
F. APPLY ACTIVITY BASED BUDGETING (ABB) SYSTEM IN THE HOTEL	169
<b>VII. RESULTS AND ANALYSIS.....</b>	<b>185</b>
A. ACTIVITY-BASED COSTING RESULTS .....	185
B. ACTIVITY-BASED MANAGEMENT RESULTS .....	189
C. ACTIVITY-BASED BUDGETING RESULTS .....	191
<b>VIII. CONCLUSIONS AND FUTURE RESEARCH .....</b>	<b>193</b>
<b>REFERENCES .....</b>	<b>195</b>
<b>RESUME.....</b>	<b>202</b>





## LIST OF TABELS

	<u>Page</u>
<b>Table 1:</b> Calculating Mechanism for a Dish in the Hotel Menu .....	91
<b>Table 2:</b> Food & Beverage Cost Calculation the hotel.....	93
<b>Table 3:</b> Traditional Budget in Hotels.....	94
<b>Table 4:</b> Estimate Expenses in Hotels .....	95
<b>Table 5:</b> Hotel Energy Consumption in August .....	104
<b>Table 6:</b> Hotel Departments Area.....	104
<b>Table 7:</b> Electricity Usage .....	105
<b>Table 8:</b> Energy Consumption Based on Section Area .....	105
<b>Table 9:</b> Management Consumption in Food and Beverages Section.....	106
<b>Table 10:</b> Cost Price for the Management Consumption in Food and Beverages Section .....	107
<b>Table 11:</b> Linen Washing Report.....	108
<b>Table 12:</b> Uniform Washing Report.....	108
<b>Table 13:</b> Managers Laundry in August .....	109
<b>Table 14:</b> Total Food & Beverage Purchases .....	110
<b>Table 15:</b> Purchases of other sections .....	110
<b>Table 16:</b> Employees' Salaries Analysis .....	111
<b>Table 17:</b> Rooms Accommodation Activities .....	113
<b>Table 18:</b> Food & Beverage Activities.....	114
<b>Table 19:</b> Laundry Service Activities.....	115
<b>Table 20:</b> Parking Activities.....	115
<b>Table 21 :</b> Renting Shops Activities.....	116
<b>Table 22:</b> Health Club Membership Activities.....	116
<b>Table 23:</b> Auxiliary Departments .....	117
<b>Table 24:</b> Number of Contracts and Agreements signed .....	118
<b>Table 25:</b> Sales & Marketing Department Activities Cost.....	118
<b>Table 26:</b> Number of Working Hours .....	119
<b>Table 27:</b> Housekeeping Activities Cost.....	119
<b>Table 28:</b> Number of Orders Done by the Maintenance Team .....	120
<b>Table 29:</b> Maintenance Activities Cost .....	120
<b>Table 30:</b> Human Resources and Training Department Activities Cost .....	121
<b>Table 31:</b> Laundry Activities Cost .....	122
<b>Table 32:</b> Laundry for Productive Department .....	123
<b>Table 33:</b> Number of Guests Who Visited Each Department .....	123
<b>Table 34:</b> Car Valet Activities Cost.....	124
<b>Table 35:</b> Number of Guests Who Visited Each Department Regarding Security Department .....	124
<b>Table 36:</b> Security Department Activities Cost.....	125
<b>Table 37:</b> Number of Accounting Record Related to Each Department .....	126
<b>Table 38:</b> Accounting Departments Activities Cost.....	126
<b>Table 39 :</b> Staff Canteen Activities Cost.....	127
<b>Table 40:</b> Contribution Rate in Total Income for Productive Departments.....	128
<b>Table 41:</b> General Management Activities Cost .....	128
<b>Table 42:</b> Utilities-Energy Consumption According Productive Section Space m2.....	129

<b>Table 43:</b> Utilities-Energy Consumption According Separate Meter.....	129
<b>Table 44:</b> Utilities-Energy Consumption Activities Cost.....	130
<b>Table 45:</b> Number of Technological Devices on Productive Sections.....	131
<b>Table 46:</b> IT Department Activities Cost .....	131
<b>Table 47:</b> Number of Calls Related Productive Sections .....	132
<b>Table 48:</b> Call Center Activities Cost.....	132
<b>Table 49:</b> Rooms Division Activities Cost.....	134
<b>Table 50:</b> Food & Beverage Division Activities Cost.....	136
<b>Table 51:</b> Health Club Department Activities Cost.....	138
<b>Table 52:</b> Laundry Service Activities Cost .....	139
<b>Table 53:</b> Laundry for Productive Department .....	140
<b>Table 54:</b> Parking Service Activities Cost.....	141
<b>Table 55:</b> Renting Shops Activities Cost.....	142
<b>Table 56:</b> Full Hotel Cost Calculation.....	142
<b>Table 57:</b> ABC for CPA .....	144
<b>Table 58 :</b> TCS for CPA .....	144
<b>Table 59:</b> The Activities Utilization for the Financial and Operational Resources in the Rooms Division.....	147
<b>Table 60:</b> The Distribution of the Costs of the Rooms Division of the Total Hotel Costs .....	149
<b>Table 61:</b> Sales, Cost and Profit Performance for the Rooms Division from the Full Hotel Amounts .....	150
<b>Table 62:</b> Rooms Division Performance.....	150
<b>Table 63:</b> The Activities Utilization for the Financial and Operational Resources in the Food and Beverages Division.....	151
<b>Table 63:</b> (continue) The Activities Utilization for the Financial and Operational Resources in the Food and Beverages Division .....	152
<b>Table 65:</b> The Distribution of the Costs of the Food and Beverages Division of the Total Hotel Costs .....	153
<b>Table 66:</b> Sales, Cost and Profit Performance for the Food and Beverages Division from the Full Hotel Amounts .....	154
<b>Table 67:</b> Food and Beverages Division Performance .....	154
<b>Table 68:</b> The Activities Utilization for the Financial and Operational Resources in the Health Club department.....	155
<b>Table 69:</b> The Distribution of the Costs of the Health Club department of the Total Hotel Costs .....	157
<b>Table 70:</b> Sales, Cost and Profit Performance for the Health Club department from the Full Hotel Amounts .....	158
<b>Table 71:</b> Health Club department Performance .....	158
<b>Table 72:</b> The Activities Utilization for the Financial and Operational Resources in the Parking Service.....	159
<b>Table 73:</b> The Distribution of the Costs of the Parking Service of the Total Hotel Costs .....	160
<b>Table 74:</b> Sales, Cost and Profit Performance for the Parking Service from the Full Hotel Amounts .....	160
<b>Table 75:</b> Parking Service Performance .....	161

<b>Table 76:</b> The Activities Utilization for the Financial and Operational Resources in the Laundry Service .....	161
<b>Table 77:</b> Laundry for Productive Department Ratio.....	162
<b>Table 78:</b> The Distribution of the Costs of the Laundry Service of the Total Hotel Costs .....	163
<b>Table 79:</b> Sales, Cost and Profit Performance for the Laundry Service from the Full Hotel Amounts .....	163
<b>Table 80:</b> Laundry Service Performance .....	164
<b>Table 81:</b> The Activities Utilization for the Financial and Operational Resources in the Renting Shops .....	164
<b>Table 82 :</b> The Distribution of the Costs of the Renting Shops of the Total Hotel Costs .....	165
<b>Table 83:</b> Sales, Cost and Profit Performance for the Renting Shops from the Full Hotel Amounts .....	165
<b>Table 84:</b> Renting Shops Performance .....	165
<b>Table 85:</b> The Estimated Sales Volume for Each Department and Services .....	170
<b>Table 86:</b> Rooms Division Activities Structure .....	172
<b>Table 87:</b> Food & Beverage Division Activities Structure .....	173
<b>Table 88:</b> Health Club Department Activities Structure .....	174
<b>Table 89:</b> Renting Shops Activities Structure .....	174
<b>Table 90:</b> Laundry Service Activities Structure .....	175
<b>Table 91:</b> Parking Service Activities Structure .....	175
<b>Table 92 :</b> Total Variable Room Division Activities Cost .....	176
<b>Table 93:</b> Total Fixed Room Division Activities Cost.....	177
<b>Table 94:</b> Total Expected Activities Cost for Rooms Division.....	178
<b>Table 95:</b> Total Expected Activities Cost for Food & Beverage Division.....	179
<b>Table 96:</b> Total Expected Activities Cost for Health Club Department.....	181
<b>Table 97:</b> Total Expected Activities Cost for Laundry Service .....	182
<b>Table 98:</b> Total Expected Activities Cost for Parking Service .....	183
<b>Table 99:</b> Total Expected Activities Cost for Renting Shops .....	183
<b>Table 100:</b> Full Hotel Summary According the ABB .....	184



## LIST OF FIGURES

	<u>Page</u>
<b>Figure 1:</b> Technique for Allocate Costs Based on ABC .....	10
<b>Figure 2:</b> Relationship Between Activities in the Facility (Awad, 2009:35).....	11
<b>Figure 3:</b> (Facility Functions, Departments Functions and Departments Activities ).....	19
<b>Figure 4:</b> Hierarchical Organization of the Facility Costs According to Activities (Khalel, 2016:34) .....	20
<b>Figure 5:</b> Cost Drivers Levels .....	21
<b>Figure 6:</b> Activity-Based Costing (ABC) (Awad, 2009:26) .....	27
<b>Figure 7:</b> Traditional Costing System (TCS) (Awad, 2009:26).....	27
<b>Figure 8:</b> Traditional Costing System (TCS) VS Activity-Based Costing (ABC) .....	28
<b>Figure 9 :</b> ABM System and its Importance for the Internal and External Parties .....	32
<b>Figure 10:</b> The Relationship Between ABC and ABM (Bahub, 2010:7).....	35
<b>Figure 11 :</b> Using ABM for Operational Improvements and Strategic Decisions .....	39
<b>Figure 12:</b> Integration of the ABM System and the ABC System.....	41
<b>Figure 13:</b> ABM Outputs .....	43
<b>Figure 14:</b> The Relationship Between the Management Functions .....	51
<b>Figure 15:</b> Planning and Control Role in Budgets (Hansen and Mowen, 2003).....	53
<b>Figure 16:</b> The Objectives of the Estimated Budgets and How They Work (Al-Najjar, 2006:22) .....	56
<b>Figure 17:</b> Estimated Budgets According to the Time Period (Horngren, Sundem and Stratton, 2005:131).....	56
<b>Figure 18:</b> Comparison Between TBS system and ABB .....	65
<b>Figure 19:</b> The Integration Between ABC, ABM and ABB Systems .....	71
<b>Figure 20:</b> The Mechanism of ABB Reverse of ABC .....	76
<b>Figure 21:</b> Four Stages to Prepare Budgets Successfully.....	78
<b>Figure 22:</b> The Difference Between the Actual and the Estimated Budgets .....	97
<b>Figure 23:</b> Proposal Activity Based Model in Hotels .....	97
<b>Figure 24:</b> Analysis the Hotel Services and Products and link them to Department .....	98
<b>Figure 25:</b> Identify Activities for Auxiliary Departments.....	99
<b>Figure 26:</b> Aggregate the Costs of Productive Departments to Get the Cost of the Hotel .....	100
<b>Figure 27:</b> Make decisions according on the outputs of the ABC system .....	101
<b>Figure 28:</b> Prepare the Estimated Budgets According to the Outputs of the ABC and ABM systems .....	102
<b>Figure 29:</b> Hotel Products and Services .....	112
<b>Figure 30:</b> Auxiliary Departments Assist the Productive Departments .....	133
<b>Figure 31:</b> ABC for the Rooms division .....	143
<b>Figure 32:</b> TCS for the Rooms division .....	143
<b>Figure 33:</b> ABM Implementation Mechanical .....	145
<b>Figure 34:</b> ABM Planning .....	146

**Figure 35:** Hotel Costs.....166  
**Figure 36:** Cost Breakdown.....167  
**Figure 37:** Gross Profit with Related Revenue.....168  
**Figure 38:** Applying steps of the ABB System in The Hotel.....170  
**Figure 39:** ABB Implementation Mechanism .....171



# AKTİVİTE TABANLI MALİYET, YÖNETİM VE BÜTÇELEME, OTEL SEKTÖRÜNE UYGULAMALI

## ÖZET

Bu çalışmanın amacı, otelcilik sektöründe Faaliyete Dayalı Model uygulamasının başarısını belirlemekte olan bu model, ürün ve hizmetleri içeren yeni bir yapı inşa etmek için faaliyete giren Faaliyete Dayalı Maliyetleme ile başlayan üç ana eksenenden oluşmaktadır. Bu ürünler ve servisler tarafından tüketilen, doğrudan veya dolaylı olarak ve ardından bu faaliyetlerin her birinin maliyetini doğru bir şekilde ve etkinliği ürünle ve hizmetle ilişkilendiren Maliyet Sürücüsüne bağlı olarak belirleyip ardından her hizmet veya ürün için bu faaliyetler için maliyet havuzu oluşturarak bağımsız olarak ve hizmetler ve ürünler için bu maliyet havuzunun toplamı, ürünleri ve hizmetleri etkinliklerle bağlayacak şekilde otelin toplam maliyetidir, bu faaliyetler farklı otel kaynaklarını tüketir. Bu durumda rol ikinci ekseninde, yani Faaliyete Dayalı Yönetim sistemi, katma değer etkinliğini iyileştirmek amacıyla Girdi olarak Faaliyete Dayalı Maliyetleme verilerini kullanarak katma değeri olmayan faaliyeti sınırlandırmak, bu şirketin kârlılığını arttırmak ve katma değeri yüksek ürünler sunmak için yol açacaktır; ayrıca yöneticilerin operasyonların performansını iyileştirmelerine ve faaliyetleri analiz ederek maliyetleri düşürmelerine yardımcı olmak için tasarlanmış bir araçtır ve Yöneticilerin ürünlerin maliyetini belirlemek için daha doğru yöntemler geliştirmelerine yardımcı olmak için. Faaliyet Tabanlı Bütçeleme, faaliyet felsefesine dayalı Faaliyet Tabanlı Maliyetleme verilerini de kullanır ve bütçe performansının genel kriteridir, Faaliyete Dayalı Maliyetleme'ye ayrılır ve Ürüne değer katmayan belirli faaliyetlere veya faaliyetlere tahsis edilmemiş maliyetleri dahil etmeyin, ürünlerin büyüklüğünü belirlemek ve daha sonra belirli bir süre için işi yapmak için gereken faaliyet seviyesini belirlemekle başlayan bir finansal plandır.

**Anahtar Kelimeler:** *Faaliyet Tabanlı Model, Faaliyet Tabanlı Maliyetleme, Faaliyet Tabanlı Yönetim, Faaliyet Tabanlı Bütçeleme, Maliyet Sürücüsü*





**ACTIVITY BASED COSTING, MANAGEMENT AND BUDGETING,  
WITH AN APPLICATION TO THE HOSPITALITY SECTOR**

**ABSTRACT**

The aim of this study to determine the success of the application of the Activity Based Model in the hospitality sector, this model consists of three main axes which start from Activity Based Costing that works to build a new structure containing products and services and all the activities consumed by these products and services, whether directly or indirectly and then determine the cost of each of these activities accurately and depending on the Cost Driver that links the activity with the product And service and then make cost pool for these activities for each service or product independently and the sum of these cost pool for services and products is the combined cost of the hotel, in a way that links products and services with activities, these activities consume different hotel resources., The role then comes on the second axis, namely the Activity-Based Management system this using the Activity Based Costing data as an input in order to improve the added value activity and eliminate the non-value-added activity, this will lead to Increase the profitability of the company and provide products with high value added, also it is a tool designed to help managers improve the performance of operations and to reduce costs by analyzing activities, and to help managers to develop more accurate methods to determine the cost of products., Activity Based Budgeting is also used the Activity Based Costing data based on the philosophy of activities and are the general criterion for budget performance, they are allocated to Activity Based Costing and do not include any costs not allocated to specific activities or activities that do not add value to the product, it's a financial plan that starts with determining the size of the products and then determining the level of activity required to perform the work for a certain period

**Keywords:** *Activity Based Model, Activity Based Costing, Activity-Based Management, Activity Based Budgeting, Cost Driver*



## I. INTRODUCTION

Many good results came from applied the Activity Based Models (ABMs) to companies this include (ABC, ABB and ABM). Most researchers confirm that industries that chose this model may have a lot of benefits and they will develop their strategy. (Horngren, Datar and Rajan, 2015:131) mention that the purposes for adopting ABSs in the all industries: production techniques, products life is getting short, competitive pressure, diversity in type of services, inaccurate cost determination of overhead costs and the costs of operating and developing the ABM have reduced by the computer technology

The essence of the budget document by being the most important tool in the extent to which the company achieves its goals, so in the past all the offers Was gone to develop and to improve the budget by focused on the inputs like staffing and general resources, however now we have something different, the efficiency, effectiveness, and the activities cost that listed on the budget are under the microscope with the development of a culture of accountability .The scientific management methods and strategic planning methodologies that are used to Prepare the budget, provides strong that its result is the calculation of the exact price of the services and products, helps the diction maker by providing all the information required. Among these techniques is Activity Based Management that is a useful technique to study the factors affecting the performance of the operating budgets of originations

There is a widespread recognition that the world is changing, the Activity Based Management is a procedure that originated in the at the beginning of the eighties for analyzing the processes of a business to identify weaknesses and strengths and now a day is an important role helps the managers to seeks out areas where a business is losing money so that those activities can be eliminated or improved to increase profitability. Activity Based Management goes through all department on the organizations by analyzes the costs of employees, equipment, facilities, distribution, overhead and other factors in business to determine and allocate activity costs.

The Activity Based Management improve the efficiency and the effectiveness by analysis the cost activity, the resource is traced to activates to facilitate evaluation of these activates. the Activity Based Management begin by determine major activates then identify resources used by each activity thereafter evaluate the performance of the activists afterwards identify ways to improve the efficiency and/or effectiveness of the activates Activity Based Management goes together with both Activity-Based Costing and Budgeting. Therefore, with the increasing success of Activity Based Costing system the way in which companies operated start changing. This required the budgeting and management system of firms to be in line with Activity Based approach, thus leading to the implementation of Activity-Based Budgeting and Activity Based Management which were complementary to the successful running of Activity Based Costing system. Basically, managers use Activity-Based Costing and budgeting to make decisions about the company. Usually, the goal of Activity-Based Management is to try to improve the business' customer satisfaction and profitability. Activity-Based Management (ABM) is an approach to management in which process managers are given the responsibility and authority to continuously improve the planning and control of operations by focusing on key operational activities. ABM strategically incorporates activity analysis, Activity-Based Costing (ABC), Activity-Based Budgeting, life cycle and target costing, process value analysis, and value-chain analysis. Enhanced effectiveness and efficiencies are expected for both revenue generation and cost incurrences. Since the focus is on activities, improved cost management is achieved through better managing those activities that consume resources and drive costs. The focus for control is shifted away from the financial measurement of resources to activities that cause costs to be incurred.

As an overall framework, ABM relies on ABC information. ABC deals with the analysis and assignment of costs. In order to complete cost analyses, activities need to be identified and classified. An activity dictionary can be developed, listing and describing all activities within an organization, including information on each activity's location, performance measure(s), and key value-added and non-value-added attributes. ABC information is extremely helpful in the strategic analysis of areas such as process and plant layout redesign, pricing, customer values, sourcing, evaluation of competitive position, and product strategy.

Because costs are initially assigned from resource cost pools to activity cost pools and from there to final cost objects, Activity-Based Costing is viewed as a two-stage allocation process. Once activities have been identified, an Activity-Based Costing analysis can be completed. Activity-Based Costing is a form of cost refinement, designed to obtain greater accuracy than traditional allocations in cost assignments for product costing and decision-making purposes. Costs are assigned to activities from resource cost pools. Costs are first accumulated according to the type of resource, such as materials or labor, with which they are associated. Then resource (cost) drivers, which measure the consumption of a resource by an activity, are identified and used to assign the costs of resource consumptions to each activity. The result of this assignment is an activity cost pool for each activity. From the activity cost pool, the focus shifts to one or more activity drivers. An activity driver measures the frequency or intensity with which a cost object requires the use of an activity, thereby relating the performance of an activity's tasks to the needs of one or more cost objects. A cost object is why activities are performed; it is a unit of product or service, an operating segment of the organization, or even another activity for which management desires an assignment of costs for unit costing or decision-making purposes. The activity cost pools are then reassigned to the final cost objects according to the intensity with which each cost object used the respective activity drivers. A cost driver may be defined to be "any factor that has the effect of changing the level of total cost for a cost object" (Blocher et al., 1999:8). In general, four types of cost drivers can be identified: volume-based, activity-based, structural, and executional (Blocher, et al., 1999:61). Activity-Based Management focuses on Activity-Based Cost drivers. In investigating and specifying cost drivers, many methods are used, such as cause-and-effect diagrams, cost simulations, and Pareto analysis. Traditional cost assignment systems typically would assign directly to the cost objects the costs of those resource consumptions that can be economically traced directly to units of output requiring the resources. The remaining costs, referred to as indirect costs, would be accumulated into one or more cost pools, which would subsequently be allocated to the cost objects according to volume-related bases of allocation. When different products consume resources at rates that are not accurately reflected in their relative numbers (volumes), a traditional cost allocation approach will result in product cost cross-subsidization. That is, a high-volume, relatively simple product

Will end up over costed and subsidizing a subsequently under costed, low-volume, relatively complex product, resulting in inaccurate unit costing and suboptimal product-line pricing decisions and performance evaluations. Activity-Based Costing tries to take the no uniformity of resource consumption across products into account in the assignment of costs.

Recently the number of the hotels in Jordan are Increasing with the passing of days, the competition become more difficult, so all hotels trying to keep them share of market and to increase their profit without detracting the quality of the services and by reducing the cost, that's why they are moving to a new advanced managerial system and cost system to controlling the cost at all stages until reaching the final services for the guest after that to implementing the Activity Based Management and the Activity Based Budgeting , to complete the whole modern system

The main objective of this study applying the ABB, ABC, ABM at CROWNE PLAZA AMMAN and study the result of the implementation from this model and what helps the manager to make decision and preparing the budget under this model and we can provide more sub objective from the main objective:

- To know the ABB, ABC, ABM terms of concept, ingredients and characteristic of their use
- The main role of ABB, ABC, ABM to reduce the cost of services served at hotel.
- Create a philosophy to link the ABB, ABC, ABM between each other to know their role by reducing the cost

This research deals with a model based on the activity and the most important definitions associated with this research:

Activity Based Costing: A system combines the indirect cost for every activity for the origination activities in cost center after that allocate this cost on the final products or services determined by causes or guidelines based on the causal relationship (Horngren, Sundem and Stratton, 2005:131)

Activity Based Management: tool designed to help managers improve the performance of operations and to reduce costs by analyzing activities, analyzing cost drivers and measuring performance (Roberts, Muras and Paschall, 2002:621)

Activity Based budgeting: The style of budgeting methods has been developed based on cost and activity that's mean the Activity Based Costing

Activity: is any action or event or task performed by the Facility and cause the cost driver (Abu hashesh, 2011:464)

Budget: A financial translation of a quantitative plan covering all aspects of the project activity for a future period in a comprehensive and coordinated manner, approved by, and associated with, the influential officials and an objective on which to monitor the results of the actual implementation of the control and enable the Department to take corrective actions to address deviations and achieve maximum efficiency (Abu Rahma, 2008)

Cost Driver: Quantitative measure of activity output, the choice of the cost-of-activity factor reflects a fundamental point between accuracy and measurement cost (Al-Qabbani, 2009:47)





## **II. ACTIVITY BASED COSTING (ABC)**

### **A. INTRODUCTION**

The cost accounting helps the management in all levels to measure and analyze the costs, and providing the financial information and showing the profit and loss and the and the statement of financial position at the end of the financial period , with time the cost accounting become more managerial tool which is cost management by using the modern accounting model which have important role in the planning of costs and control of their occurrence, through the so-called life of the service, which helps to achieve the objectives required and the most important of these goals reduce costs because of its impact in addressing the challenges and current and future challenges .

The increasing number of hotel groups, which were followed by developments in all areas in the provision of services and products in these hotels, which led to an increase in the proportion of indirect costs in all hotel departments at the expense of direct costs, all this was caused by the reduction in the use of traditional methods in the calculation of costs, especially the method used to charge the Indirect costs on products and services provided

These reasons and the increase in the number of hotels and the expansion of their activities and services and features in the same field, was the reason for the need to reduce costs in order to reduce the prices of services and products, and able to compete and defend its share in the market, which led to the search for advanced methods in the division of labor and privatization and control of the cost elements In order to know sites of waste, loss and damage

These developments have contributed to the need to manage the necessary information on how the performance of the different sections in the hotel, which led to the development of the cost accounting system, which was the reason for the transition to new systems that help management in planning and control and make decisions

## **B. COST ACCOUNTING**

An analytical tool that is controlled by a set of scientific principles and applied by the cost accountant in order to track, record and analyze cost elements of materials, labor and services, and link this cost element to units of products or services, in order to measure costs in addition to control to reduce them and support management in making decisions from among the available alternatives to reach the maximum degree of sufficient managerial productivity (Al-Maqaseed, 2011:22)

And also defined as the A set of methods and procedures used to collect, tabulate and record cost data and analyze it in order to calculate the costs of production, services or various activities in order to provide the necessary information for the administration for the purposes of pricing and practicing administrative functions and performance evaluation (Al-Rubaie, 2008:16)

## **C. COST ACCOUNTING OBJECTIVES**

The purposes of cost accounting are numerous by the multiplicity of goals that the various projects seek to achieve, they are not an aim in themselves, but are a means to achieve many of the goals, and the most important objective:

- 1) Measurement of cost of each component of costs used in production, stages, centers and product categories, to assist management in making appropriate decision
- 2) Control costs and reduce the cost of units, which has a significant impact on performance control and cost control
- 3) Raise effective and efficient management work during the practice of its various functions of planning, organization, guidance and control, by drafting financial reports to help management making appropriate decisions in a timely manner
- 4) Help the administration in the preparation of the estimated budgets and the formulation of appropriate and correct price policies for different products and services in all forms at all levels
- 5) Aimed at economic development at the national level through achieving economic savings and full exploitation of available productive capacities

## **D. ACTIVITY BASED COSTING SYSTEM**

The Activity Based Costing System aims to achieve greater accuracy in calculating the indirect costs of the activity unit leading to a more accurate measurement of the cost of that unit. Rather than relying on the traditional method of linking the indirect cost components to the cost centers, , Then the allocation of production centers to the unit of the product according to the basis of arbitration does not lead to a fair distribution of indirect costs, and then access to an inaccurate measurement of the cost of the production unit, it becomes the use of the input of the Activity Based Costing when determining the relationship between the activity unit and materials (cost elements) They are creates Demand for activities and activities creates demand for resources (Alfadel et al,2007:35)

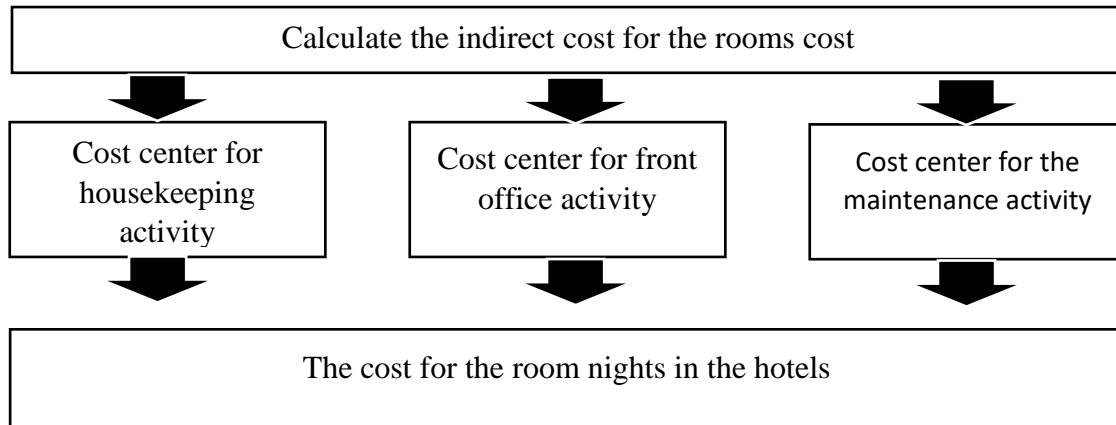
## **E. ACTIVITY BASED COSTING SYSTEM DEFINITION**

The Activity Based Costing System is defined as:

A system combines the indirect cost for every activity for the origination activities in cost center after that allocate this cost on the final products or services determined by causes or guidelines based on the causal relationship (Horngren, Sundem and Stratton, 2005:131)

It is an integrated cost system through which the cost of the product unit can be obtained. It includes components of the complete system of inputs, processes and outputs (Al-Tikriti, 2017:164)

The system is also defined as a way to improve traditional cost activities by focusing on activities as basic purposes, by allocate the indirect costs or cost of materials to the activities that benefit from them therefore the cost of these activities is therefore allocated to products according to the rate of utilization of these products Activities (Hijazi, 2012:99), and the following chart shows example for the needed technique for Allocate costs based on ABC on CPA



**Figure 1:** Technique for Allocate Costs Based on ABC

## F. ACTIVITY DEFINITION

Activity is any action or event, or task performed by the Facility and cause the cost driver (Abu Hashish, 2011:464)., In the hotel the process of marketing services is an activity, and the process of selling this room or meal is an activity, and the process of preparation is an activity, and the management of these operations in the hotel is an activity

Also, the activities knowns as the Events, tasks or work units related to a object. (Al-Jakhlub, 2007:28)

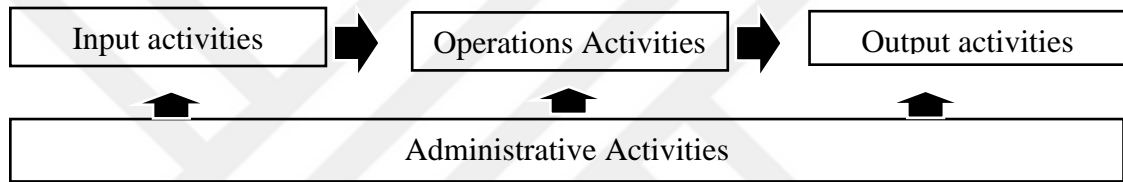
## G. ACTIVITY TYPES

The activities are divided into four types (Al-Dalahmah, 2014:292)

- Input activities: These activities are related to the preparation and readiness of the product industry such as the activity of purchasing raw materials
- Operations Activities: These activities are related to manufacturing operations and preparation of the product to be ready for sale or use and the activity of storage the goods under operation
- Output activities: These activities are related to the sale of the product and these activities deal with customers in relation to the completion of sales and after that the financial collection and so on

- **Administrative Activities:** These are activities that assist and support the activities of the input activities, operations activities and the outputs activities and examples of them are the accounting department,

The Activity Based Costing if the final products do not consume the resources of facility, but it consumed by the activities. These activities consume the resources of the facility of raw materials and labor. Therefore, the indirect costs which are added to the products and services must be based on the activities consumed by these products and services, which leads to accurate costs allocation to achieve fairness and accuracy in calculating the cost, and the following chart showing the Relationship between activities in the facility.



**Figure 2:** Relationship Between Activities in the Facility (Awad, 2009:35)

They can also be classified in terms of the value they add to:

- 1) **Value Add Activity:** Which is the activity for which customers are willing to pay for it. For example, the distribution activity of products is a value adding activity as well as the acquisition of materials and the main manufacturing activities (Fadhal et al. 2007:16)
- 2) **Non Value add Activity:** Which are all activities that do not increase the value of the activity itself, and therefore do not add value to the product and often these activities are the waste for the firms as a result of the performance of these activities, so it is necessary to reduce these activities so that the cost can be reduced without reducing the quality of the product that delivered to the customer , Such as the activities of storage of raw materials or complete goods they do not add value from the point of view of the client as well as the activities of the accounting department, these activities cannot be dispensed but must be reduced (Al-Mashal, 2005:51)

## H. COST DRIVER

The Cost Driver can be Defined as:

Quantitative measure of activity output, the choice of the cost-of-activity factor reflects a fundamental point between accuracy and measurement cost (Al-Qabbani, 2009:47)

It can also be defined as the factor that leads or directs the costs of the activity related to the presentation of a certain cost towards a certain behavior and within the appropriate range and during a certain period. The cost driver the is effective additions made by the system ABC in the field of performance improvement and there are several classifications of the cost driver we will review the most important (Hijazi 2012:114)

### 1. According to the Stage of Treatment of Costs

Cost driver are classified according to this basis into two groups:

- a. Resource drivers: the causes of the cost of the first stage they are the reasons for the allocation of resources on activities and are therefore used to link the costs of resources activities
- b. Activity drivers: The causes of the cost of the second phase: They are the causes of the depletion of activities by the products (cost purposes) and are therefore used to link activities with products
- c. Carla Mendoza has divided the causes of the activities into two subgroups
  - i. Causes related to repeated operations: It is a process that we use in the case of consumption of the product for the same time of activity (the condition of the standard products)
  - ii. Factors related to special operations: Which are related to the consumption of resources as well as the time varies according to the purpose of cost (the case of production love orders or according to certain characteristics)

### 2. By Grade of Cost of Activities

The causes of costs have been classified according to this basis to four levels of causality

- a. Cost factors at the level of produced units (production volume): These are factors that consume some resources in proportion to the volume of products and thus are related to the activities performed each time the product alone produces.
- b. Cost factors at the payment levels: They are the causes that consume resources every time a product is produced. Costs are generated at the level of production payments, depending on the number of production payments and not on the number of units produced. In other words, there is no relationship between the costs of payment and the volume involved Batch of units.
- c. Cost factors at the level of production: the factors that's arise from the necessity of support production of each type of product by these activities, Therefore, the causes at this level can be linked to some products without the other "such as the activity of the examination of some products or issuing orders for engineering modifications to meet the specifications required of customers
- d. Cost factors at the level of factory: these are the causes of public support activities that are necessary to support the manufacturing and production processes of the organization and involve all kinds of products. However, in fact, it is difficult to identify the causal relationships between these activities and the various cost purposes therefore, these causes are identified in many institutions in a traditional way

## **I. ABC HISTORY AND STAGES OF EVOLUTION**

The ABC start from the activity management system and nowadays become different system within three stages ( Awad, 2009:28)

1. Activity Management (AM): focus on the value chain more than the accounting and the financial analysis and Discover and exclude activities that's do not add value to the chain by using (Just-In-Time, JIT), and develop the activities that's already has value to the chain
2. Activity Costing Accounting (ACA): this stage makes sure that's all the costs were minimized or divided by tracing the activity and the relationship between these activates and determination of cost drivers

3. Activity Based Costing (ABC) : this system is based on the Allocation of additional costs more accurately by dividing different activities in to multiple levels then allocate the cost of these activities to cost elements using cost probes this related to an appropriate causal relationship with the elements of cost and therefore misleading results is avoided due to the conventional system.

Several factors have led to a shift from traditional accounting to the ABC system.

- a. Perhaps one of the most important factors that led to the shift to the cost system on the activity is the industrial development and the use of technology which was the credit that led to the development of the productive cycle based on steps and not arranged according to the processing or organization of individuals.
- b. The increase in the indirect industrial costs and the steep drop in the costs of the direct payroll as a result of the multiplicity of products that require the emergence of a new production functions such as re-engineering of production processes research and ongoing training this in turn resulted in an increase in indirect costs of more than %50 of the total cost, direct wages fall by 5-10%
- c. The emergence of sharp competition both in domestic and global markets led firms to reduce costs and diversity products.
- d. Cost accounting is no longer limited to commodity by pricing but has emerged with new functions while supporting management decisions.

#### **J. THE MOST IMPORTANT REASONS THAT LED TO SWITCH TO ABC**

There is a lot of reasons that's lead to switch from the traditional system to the ABC, and the most important reasons is (Khalel, 2016:23)

1. The weakness of the traditional system of cost distribution, and its inability to properly determine these costs, which is difficult to control over costs
2. The accuracy of the data provided by ABC system, and how this system can help the management on the decisions taking like the pricing decision, reducing the production cost and improving the performance of the company, and all this increased the competitiveness of companies.



3. The ABC system distributed the indirect costs fairly, and these costs are the main problem of the traditional system
4. With the development of technical systems in companies and this development led to increased indirect costs in companies, which gave the importance of the application of a system capable of allocating indirect costs fairly

#### **K. THE BEGINNING OF THE APPLICATION OF THE ABC SYSTEM IN THE COMPANIES**

The actual application of the ABC system began at the beginning of the 1980s in the United States. This system was used in the productive institutions, and the results achieved at that time were a strong incentive for service companies to adopt this system. The most important factors that led the enterprises to apply this system, is the increasing expansion of production lines, the life cycle of products became shorter than before, the importance of the indirect cost in the products structure, the difficulty determining the selling price, the need to reduce the costs to meet the competition, calculate the additional costs of applying the quality control system, the attention of the officials of the interests of supporting activities to the need to control expenditures at each level and the necessity to control the pre-production costs.

Several institutions, especially those that adopt the system for a long time have been able to achieve several satisfactory results like reducing the products cost, improving the product quality, developing the processes, increasing the adequacy of the costs management, improving the performance measurement, improving the product pricing process, building a strong cost control system, accurate analysis of customer profitability, developing new inventory valuation methods.

#### **L. THE IMPORTANCE OF APPLYING ABC SYSTEM**

The importance of applying ABC system comes from the following considerations:

1. At a time when competition among companies has increased, and in order to keep profitability at the same level as current prices, companies are aiming to apply a cost accounting system more accurately.
2. Change in cost components as a result of the decrease in the direct labor component against the extraordinary increase in indirect costs, one of the reasons for implementing a system for allocating indirect costs in a fair and accurate manner
3. The diversity of products and the increased differences between them in terms of specifications, size and degree of complexity in the manufacturing process lead to different activities and the level of effort required to produce these products. Therefore, the relationships between the activities and the costs resulting from them are very important, the activities are the consumer's cost-consuming resources, the products consume activities and therefore the activities must be determined so that the cost is precisely defined

#### **M. THE ADVANTAGES AND DISADVANTAGES OF APPLYING ABC SYSTEM ACCORDING TO CIMA**

1. The most important advantages from applying the ABC system according CIMA
  - a. ABC provides a more accurate method of costing of products and services.
  - b. It allows for a better and more comprehensive understanding of overheads and what causes them to occur.
  - c. It makes costly and non-value adding activities more visible, so allowing managers to focus on these areas to reduce or eliminate them.
  - d. It supports other management techniques such as continuous improvement, scorecards and performance management.
2. And the most important disadvantages from applying the ABC system according CIMA
  - a. ABC can be difficult and time consuming to collect the data about activities and cost drivers.
  - b. It can be costly to implement, run and manage an ABC system.

- c. Even in ABC some overhead costs are difficult to assign to products and customers. These costs still must be arbitrarily applied to products and customers.

## **N. ABC SYSTEM ASSUMPTIONS**

The ABC system mostly dependent on a set of assumptions that help in the process of enhancing the mechanism of the system and achieving its objectives. The most important of these assumptions (Al-Mousawi, et al. 2010:20)

1. The first Assumption-Activities consume resources : the resources consumed by the activities within the organization and the consumption of resources leads to the creation of costs.
2. The second Assumption-Products are consumed by activities: that's mean the demand on the product is the resource behind activities.
3. The third Assumption-The system is based on the thought of consuming resources rather than spending them: The system examines the causes of costs. It measures changes in the level of resource consumption and does not measure the change in the level of expenditure
4. The fourth Assumption: There are many activities that can be identified and measured, and these activates link between the costs of a single cost center and these activities measure the relationship between the cause and the resultant consumption of resources
5. The fifth Assumption: The cost pools must be homogeneous, this mean that's each cost center must follow one activity only
6. The sixth Assumption: The costs in each compound are quite commensurate with the activities, this means that's all costs in the one cost center must change in the change of the activity level

## **O.SUCCESS ELEMENTS OF APPLYING ABC SYSTEM**

The organization must provide several factors for the successful implementation of the system, the factors are as follows (Al-Mousawi et al., 2010:.23):

1. Corroboration and support from the top management: The implementation of the ABC system need time and money so the top management support very important for the success of this system
2. Link the performance correction with rewards :when the employee feels that's the implementation of the ABC system is beneficial to his self-performance and his promotion then he will do his best to implement the system in good way
3. Champion of Change: that's mean any employee has a high skill and has a behavioral influence in the organization and can convince others can make the change.
4. Training: this the most important factor for the success of the application of the system, and the training of all employees from senior management and even normal workers and introduce them to the benefits of the system and the accuracy of the information provided by this system

## **P. THE MAIN STEPS TO APPLY ABC**

The main steps taken to implement the ABC system are very important for the success of this system and its proper application (Al-Tikriti, 2007:168)

### **1. PLANNING**

The planning stage is one of the important stages in determining the success of the design and implementation of the ABC system in any company. At this stage, an appropriate team is prepared for the design and implementation of the system. This stage also identifies the problems facing the company and determines the type and level of information required of the decisions related to those problems, as well as solve the problems related to the current management environment and develop its working style in line with the new system.

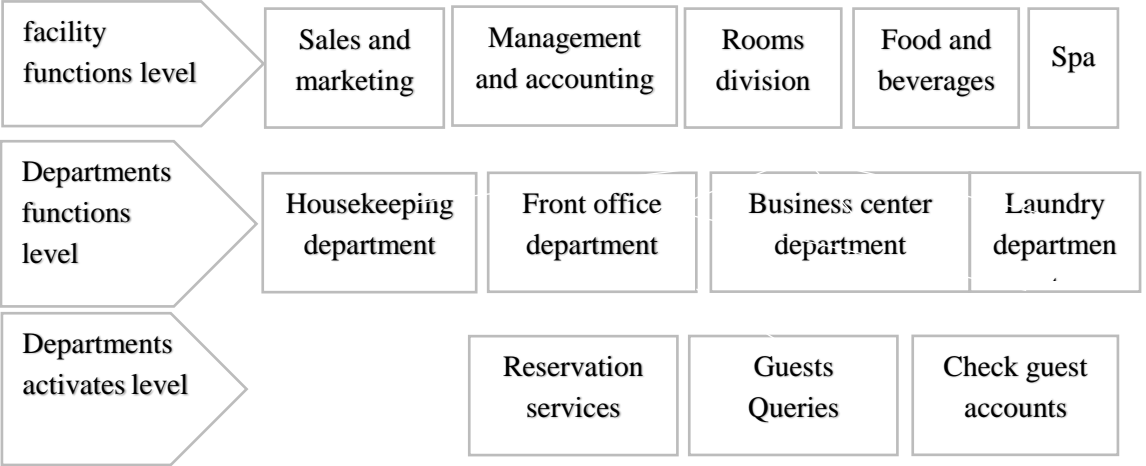
### **2. IDENTIFYING AND ASSEMBLING ACTIVITIES**

This stage is the beginning of the actual design of the system where the study of company and identify the nature of work in each department and how the process of production, where the level of accuracy and expansion in the analysis of activities depends on the management decision and the level of information required in order to obtain the highest

benefit with the lowest costs necessary to operate and maintain this system In general, the ABC system is based on the identification and analysis of activities from the beginning of ordering materials or services through the production process and ending with the activities of placing the product on the market

It is worth noting that if the activities are few, it is possible to allocate the cost of each activity using its own cost driver directly to the products, However, if there are a large number of activities, it can be grouped into cost pools so that each cost pool contains a number of activities where a single cost driver is used for each cost pool of activities, taking the following conditions in mind:

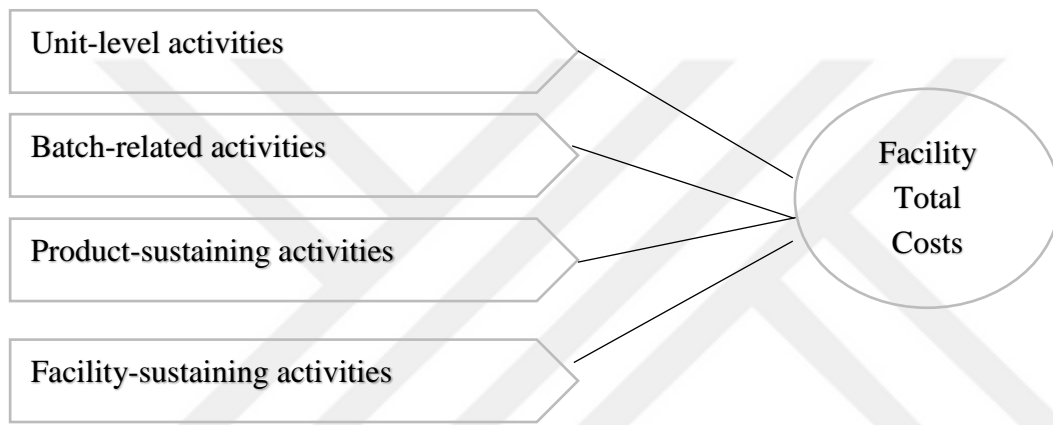
- a. The cost pool should contain homogenies activates, that’s mean the cost driver following the cost pool contained highly related activates, in other words the change in the level of activity in the cost pool reflect change in the other activates
- b. The costs in each cost pool completely suitable with activity where proportionality here means that all costs must be adjusted proportionally to changes in activity level. The analysis process begins by identifying the main functions of the company and then the organizational department necessary to achieve the goal of each job. Then, the study and analysis of the processes and events within each department to determine the activities. The following figure shows three levels: the first level shows facility functions and the second level show the departments functions and the third level shows the departments activates



**Figure 3:** (Facility Functions, Departments Functions and Departments Activities )

### 3. RECORD ACTIVITIES COSTS

After determining the activities and their processes, the costs of these processes are recorded for each activity. The cost of the activity is equal to the total cost of the processes for the specific activity, and to determine each activity the information available in the accounting records can be used, the necessary estimates are made when we didn't have clear information about any process. The following figure shows the hierarchical organization of the Facility costs according to activities



**Figure 4:** Hierarchical Organization of the Facility Costs According to Activities  
(Khalel, 2016:.34)

### 4. DETERMINE THE ACTIVITY CENTERS

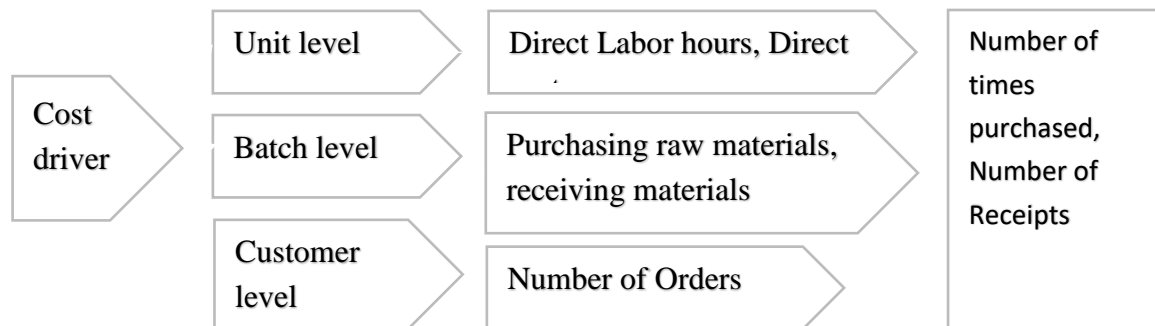
The activity centers are the section of the production process through which the management wishes to record the cost of activities. The choice of this ABC system design does not affect the cost of finished products. The effect is how to record this cost. The traditional system may record a certain product cost of \$ 50, While the ABC record the same product cost of \$ 30 for production activity and \$ 20 for delivery, and the ability to record costs by activity centers gives managers greater control over activities

## 5. CHOICE THE COST DRIVERS

The cost driver concept in the ABC system is "the measure that reflects the underlying reason for the cost element within each activity or in the cost pool - the cost pool is the lowest level of detail at which the costs are aggregated and distributed whether it is a single activity or a combination of Activities have the same utilization rates – the cost driver should be chosen so that they involve a clear causal relationship with activities "(Abdullatif, 2003:355)

It is possible to link the costs of activities and the end product with the same methods used to link the costs of resources and activities (direct charging, estimation, arbitrary allocation) but the multiple types of products in most enterprises make the process of customization following the previous methods useless, so most ABC system designer's uses the appropriate number of cost drivers. (Essa, 1995:.22)

Thus, in the ABC system, the cost driver is chosen in a more precise and objective manner depending on the nature of the activity being implemented. This process can be divided into several levels shown in the below figure:( Hujair, 2003:86)



**Figure 5:** Cost Drivers Levels

In general, the cost drivers can be divided into two main types: (Essa, 1995:111)

- a. Process-specific cost drivers: They are "Factors that focus on the number of times a single activity is performed and it is used if the product group needs the same amount

of activity", such as the number of times the kitchen equipment is maintained, the number of times the rooms are cleaned.

- b. Time-specific cost drivers: They are "factors that concern the period required to produce a particular product and it is used if the volume of the activity to be varied varies according to the quality and quantity of the final product, such as the hours of the warehouse workers

And the trade-off between these two types of cost drivers is economic fundamentals, time-specific cost drivers are more accurate than Process-specific cost drivers but at the same time more expensive when applied.

It may therefore be economically feasible for several homogeneous activities to be grouped into a cost pool having one cost driver, but the problem is that the greater the number of activities collected in a single cost pool, the less likely it is to determine one cost driver. So, the cost drivers should be choice that make reduction in the cost of application of the system without compromising the accuracy of the target system (Brinson, 1991:3)

The following factors must be considered in determining the appropriate number of cost drivers (Attie, 2000:40):

- i. Accuracy required in cost data:

The higher the number of cost driver, the more accurate the cost numbers, which means that whenever an entity wishes to increase the accuracy of cost reports, it will be necessary to increase the number of cost driver to achieve the required accuracy.

- ii. Production diversity:

The greater the diversity of products produced by the establishment in terms of heterogeneity, the greater the number of cost drivers to reflect the different consumption of each product for the different activities, thus positive relationship between product diversity and the number of cost drivers.

- iii. Ratio of cost of activity to total cost of activities as a whole:



In activities that are small in relation to the total incremental cost of an enterprise, it is best not to have multiple cost drivers even if each activity contains a heterogeneous set of works. In this case, it is important to choose a cost driver with the highest correlation with a group Cost for this activity.

If the cost of the activity increases to the total incremental costs of the enterprise, the use of one cost driver may result in a significant reduction in the level of accuracy desired in the cost data and the need to achieve homogeneity of the business performed within the activity and the cost associated with the activity cost driver

iv. Cost of compiling cost drivers' data (Cost of measurement):

The higher the number of cost drivers required, the higher cost measurement for the costing system. If the cost driver is characterized by the difficulty of compiling its own costs, in this case it must be ascertained that the benefit of this expansion in the number of cost driver exceeds the cost of compiling the data of these drivers. Expanding the number of drivers will not increase the cost of measurement. In this case, it is appropriate to expand the number of cost driver to increase the accuracy of the cost data

## **Q.ABC SYSTEM APPLICATION LIMITATIONS**

The system has been subjected to a lot of criticism because there are obstacles facing the applicants of this system, despite the advantages and benefits of this system, we mention the following criticisms (Hejazi, 2012:146):

1. The use of bases based on production volumes to allocate costs for activities at the general support level leads to an increase in total deviation, although the ABC system seeks to understand the actual cost drivers of each activity and these costs often account for the bulk of total indirect costs., As well as the specific need in some cases to use specific allocation rules are available and easy to use
2. Difficulty dividing the individual work time between several activities, especially if the activities are administrative and this leads to deficiencies in the accurate tracking of the costs of activities of products

3. The diversity and magnitude of activities within the organization sometimes lead to the complexity of the ABC system and make it incomprehensible to users
4. The system is more suitable for products with a relatively short lifecycle. Although the ABC system is accurate in tracking the costs distributed over the product life cycle, it needs to determine a judgmental period for products with a long-life cycle.
5. The homogeneous cost pools contribute to the simplification of calculations and the system in general, but these cost pools can include activities belonging to the inability of the cost driver assigned to them to accurately track the resources consumed to products
6. The ABC System definition of the cost driver has taken the hypothesis of the proportionality between cost and volume, but it does not take the potential impact of indirect costs on economies of scale and learning effects. Some studies have shown that indirect costs are not affected proportionally to the consumption of activities.
7. The introduction of the ABC system as one of the advanced information systems in the organization is initially met with internal resistances (resistance to change) at the level of administrative levels due to changes affecting the authority of some officials by this system, as well as that the system reveals places of inefficiency and efficiency over the long term Opposed to maximizing short term profitability.
8. The ABC system can give good results only with the participation of officials at the practical level in the preparation of strategic objectives, and therefore some researchers stressed that the utilization of the system is only in the case of a comprehensive change of the administrative mindset in the institution and give customers paramount importance
9. The application of the system is a complex and comprehensive process and therefore consumes a lot of time, effort and money to operate this system, especially in large institutions that produce thousands of products and whenever the institution wants to reach a higher level of accuracy the more expensive the operation process

## **R. PROBLEMS ENCOUNTERED WITH THE IMPLEMENTATION OF AN ABC SYSTEM**

In addition to the difficulties associated with the application of the ABC system, in terms of determining the activities and the homogeneity of the work component of each activity, as well as determining the quality and quantity of cost drivers, the application of this system may be faced by some other problems, the most important of which are: (Helles, 2007:14)

### **1. The problem of exploiting available energy**

The unexploited fixed costs for the period of activity that lead to the non-exploitation of the available capacity of some activities, and these unused costs can be treated not to be charged to the products (goods, services but by inserting them as an expense or a general burden, but this treatment is an application of the modified total cost system , Which means distance from the ABC system philosophy that carries products at all costs, including indirect costs, accordingly, the variable costs of the activity can be allocated on a discretionary basis according to the capacity available for each department or production line regardless of actual use.

In order to reach a fair standard for calculating fixed costs, we must refer to the reasons that lead for the acquisition of these resources and fixed capacity:

- a. Due to management's decision when processing the establishment's activities, unutilized costs can be considered and treated as overheads and not charged to products
- b. Because of the nature of the combined activities in the cost pool because of the homogeneity between them that achieves a goal within the facility, the unutilized capacity costs can be charged to each activity regardless of the actual activity without charge it on the products, and therefore the unutilized fixed costs are the costs of the unutilized activities not benefited Of which production can be distributed between the activity (section) and public administration by calculate the percentage of capacity utilized in the activity (section)

## **2. The problem of the convenience of ABC system data for Decision support**

Because the time span covered by the ABC system extends to cover the long term, so it may require that the data that rely on it as inputs or produced as outputs is a mixture of actual historical data and estimates data, and the administration is facing the problem of obtaining data appropriate to its decision in this system, which It calls for a choice of data covering the quality and extent of the resolution, whether from traditional data or from data from the ABC system

## **3. The problem of activities and their association with the value of the product**

When preparing cost pools, it is sometimes shown that there are activities that do not add value to the product, these activities should be grouped and excluded from calculating on products cost and considered as general overhead, such as the cost of waiting time and the cost of rebooting.

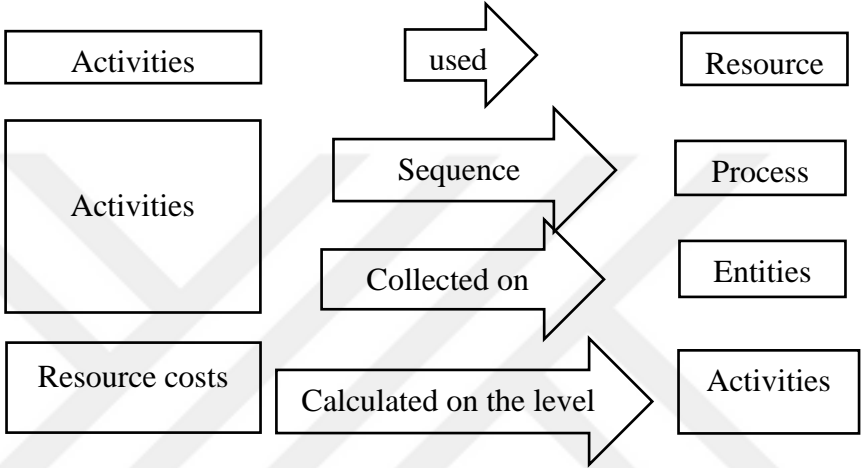
## **4. The problem of choosing a cost driver for each activity**

This problem arises when aggregating a group of sub-works that constitute an activity, which is heterogeneous, necessitating the use of an appropriate basis for allocating the costs of the combined activities of these sub-works. It is then charged to the products, otherwise it is discretionary or judgmental In this regard, statistical analysis methods can be used when applying the ABC system in the field of grouping sub-works or activities within cost pools, Simple or multiple correlation techniques can be used to determine the degree of correlation or homogeneity between a sub-works within each activity, It can also be used in the area of cost drivers selection by selecting a cost driver that has a greater correlation coefficient with the cost elements of the activity.

## **S. COMPARISON BETWEEN TRADITIONAL COSTING SYSTEM AND ACTIVITY-BASED COSTING**

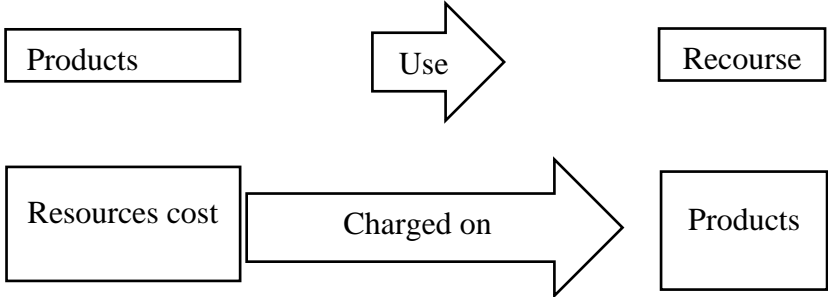
Those familiar with the Traditional costing system (TCS) and Activity-Based Costing (ABC) believe that the ABC system helps to understand and clarify the cost behavior, so

that products do not directly consume resources but the products directly consume activities., Therefore, the ABC system is a means by which we can calculate the indirect costs in an objective and more accurate way, unlike TCS, which is based on one way to calculate the indirect costs is that the products consume resources and the following figure shows the ABC cost tracing techniques



**Figure 6:** Activity-Based Costing (ABC) (Awad, 2009:26)

We note in the following figure the Traditional costing system (TCS) which is based on the distribution of costs on products because products use costs.



**Figure 7:** Traditional Costing System (TCS) (Awad, 2009:26)

The main relevant comparative aspects between Traditional costing system (TCS) and Activity-Based Costing (ABC) are highlighted in the bellow table

**Figure 8:** Traditional Costing System (TCS) VS Activity-Based Costing (ABC)

<b>TCS</b>	<b>ABC</b>
Overhead costs are calculated and assigned to products following with organizational structure (departments or cost centers), based on how many resources used by the product	Overhead costs are calculated and assigned to products following with activities based on how many resources used by each product
Many overhead rates are accumulated: one for each department or cost center.	Many overhead rates are accumulated: one for each activity.
The allocation basis is generally based on volume measure and does not needs to declare a cause-and-effect relation among the allocation basis and the cost.	The allocation basis is minion as the cost driver and needs to declare a cause-and-effect relation among the allocation basis and the cost.
The allocation basis is traceable one and an easily measured, and a few numbers of bases are used; the costing system is not costly to implement and operate.	Because of the large number of cost drivers that should be measured and identified, this ABC can be costly to implement and operate.
Overhead cost calculated in service departments is assigned to production departments. A proportion which is applied to output is then specified for each production department	The service cost has cost driver used to assign the service-related overhead straightway to the products.
Result: Overheads are averaged out among products. The overheads allocated to products are not Reflects of the long-term cut cost if the product has not been on production. so, this method of allocation has shortcoming to long-term decision-making or support strategic	Result: The assigned overhead reflects the range to which that product occasion costs to be incurred. In other words, the overhead allocated reflect the saving amount in the long-term if the product were stopped produced. so, this model of allocation supports long-term decision-making or strategic.

### **III. ACTIVITY-BASED MANAGEMENT (ABM)**

#### **A. INTRODUCTION**

The competitive environment in which most companies operate in different types requires us to make the decisions that will continue production and then stay in the market, with a focus on high quality products and services provide to the market while reducing their costs, which leads to increase the profits of the company at the same time keep the consumer satisfaction compared to other companies

The role of management is not only to maintaining the cash flow, but has many of those functions that relate to the continuity of the company or not, the most important functions of the management planning, organization, direction and control

For the administration to perform the required functions, it is necessary to make different types of managerial decisions and the most important one it is the pricing decisions, the managerial decisions that aim to regulate the company's internal and external work, these decisions related to the survival of the company and profitability and achieve its objectives

The management depends on the decision taken on any information related to this decision. As a result, the safety, quality, timeliness, accuracy and relevance of the information to the problem to be decided will greatly affect the decisions taken and hence the results. After knowing what information and what type of result from the Activity-Based Costing technique, emerged the need to rely on that costs information when making management decisions

#### **B. ACTIVITY BASED MANAGEMENT SYSTEM DEFINITION**

The ABM an effective management style designed to improve the performance of operations (Bahhub, 2010:7)

And, A system that focuses on managing business activities and processes as a tool for continuous improvement by add a value of the product to consumers or in achieving profits (Cokins, Capusneami, 2011:48)

The ABM system aims to help managers to develop more accurate methods to determine the cost of products (Muras, Calhoun and Stripling, 2000:2)

As well ABM A system that focuses on activities to reduce waste, reduce operating time and reduce damage, and can be used in industrial and service companies (Brewer, Garrison and Noreen, 2011:138)

Likewise, it is administrative approach that focuses on administrative activities as a tool to minimize waste, reduce delay and improve production ((Garrison, and Brewer and Noreen, 2012:300). Furthermore, it is a tool designed to help managers improve the performance of operations and to reduce costs by analyzing activities, analyzing cost drivers and measuring performance (Roberts, Muras and Paschall, 2002:621), we can see from all previous definition that's the main ideas from the ABM system as follow:

- The ABM it's a managerial system specially how the firm takes the decision making.
- The data base that's used in the ABM it's the output from the ABC.
- The aim of this system to improve the profitability in the company and minimize waste.
- The managerial decisions cover all the activities among the firm.
- it aims minimize waste in the raw materials used in the production and reduce the production time by ignore the non-value-added activity

And what the researcher sees the ABM it's a system using the ABC data as an input in order to improve the added value activity and eliminate the non-value-added activity, this will lead to Increase the profitability of the company and provide products with high value added.

### **C. ACTIVITY BASED MANAGEMENT SYSTEM HISTORY**

This approach emerged in the early 1980s by Kaplan, but it is worth mentioning that the actual interest compared to profitability at the cost under the name of the management of profitability, it emerged and grew up in the early eighties of the last century by Kaplan and increased interest since the mid-nineties of the last century till Now, because of the highly competitive companies. (Wegmann, 2011:1)



The management way and practices in the last decade have changed considerably and the change is still going on to cope with prevailing economic conditions. The management trends have changed from the vertical management to the horizontal management and the shift from career orientation to rationalization in operations and the technique of quality management and management of engineering products appeared to achieve efficient and effective use of resources for continuous changes in the market, (Blocher, et al. 2008:131)

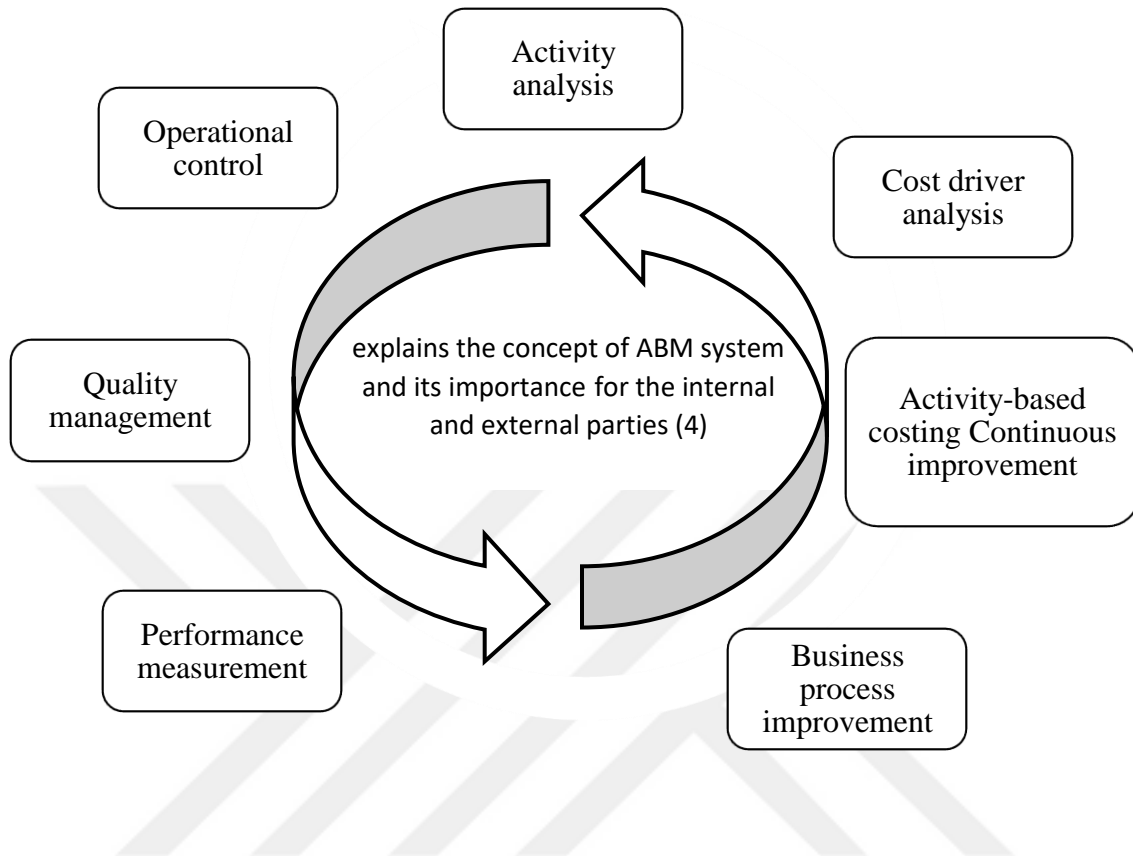
There are many ways and administrative functions within the companies that aim to improve the performance of the work more effectively and efficiently, and to meet the changing requirements of customers, and new patterns appeared in the production and management departments appeared to manage the designs of products, as the style of production time, and increased attention to both types of products and quality appeared: (Grosson, Needles, 2011:17)

- Quality Control Management
- Product Engineering Management
- Production on time Management

It also became clear to us that all these functions are based on administrative decisions relating to the cost and this decision are built on the Activity Based Costing Due to the accuracy of the information provided by this system

The ABC system and the ABM system have brought about a significant change in the cost management systems, where the number of companies applied to the ABM system increased from 3,000 in 1994 to more than 15,000 in the year 1998, Where it can be applied to all types of companies, where the application of the philosophy of these systems on all types of different companies are the identification of activities, has been conducted many studies that prove that the ABM system is applicable to all companies productive and manufacturing and service (Azadvar, Alizadeh and Bozorgmehrian, 2012:1392)

And the following chart explains the concept of:



**Figure 9 : ABM System and its Importance for the Internal and External Parties**

#### **D. THE IMPORTANCE OF ABM SYSTEM**

The ABM system aims to maximize the value of the product to the consumer and increase his satisfaction with the product while reducing costs, the ABM system also enabled the management to make pricing decisions with fairness and confidence, through its accurate determination of the cost of those products or services based on the ABC system and thus knowing the contribution of each product in achieving the company's profitability goals. (Drury, 2001:462)

The increase in indirect costs in most sectors of the company, whether in value or relative and change the nature of indirect costs due to the complexity of production of products and the increase in volume of production, and the impact of the product by new factors

such as quality and new distribution methods, all these reasons have led to an increased need for the emergence of advanced methods of addressing indirect costs(Morin, 2003:77)

The ABM system also enabled management to make well-known decisions, especially regarding production lines, diversification of production and design of products and services to be provided for the distribution and promotion of products and then determine the capital required to provide and invest

The ABM system cannot be considered as an administrative method, but it is a comprehensive system that aims at the continuous and comprehensive development of the company. It does not only have the answers but also has many tools aimed at improving the performance of the company.

The ABM system has provided a number of features and benefits to management accountants, making their work more important by providing many tasks that can be accomplished at a reasonable cost and results include high accuracy, and through the application of the ABM system, it brings personal benefits to management accountants Which is to strengthen their status and provide them with job security as they are directly linked to the senior management (Shane, 2007:195)

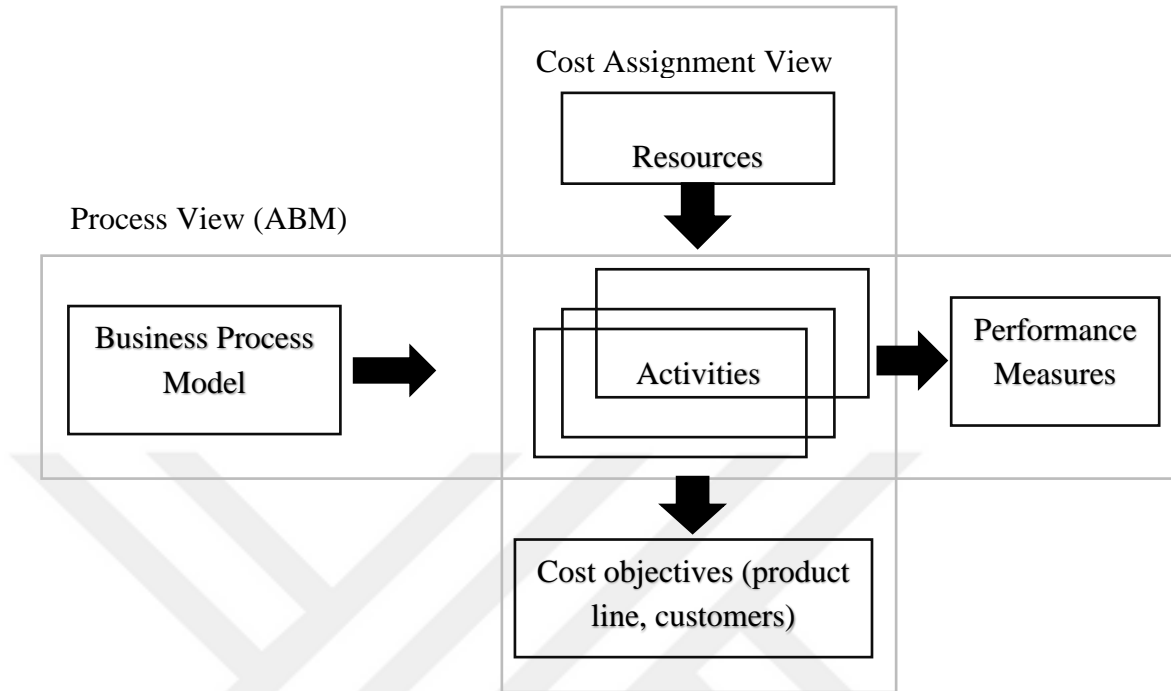
The use of the ABM system ensures that expenditures are spent efficiently and effectively, in the case of the application of this system encourages management to monitor performance results and compare with the external results of companies that produce the same type of products (Segovia, 2014:25)

The ABM system enables us to reduce costs by eliminating activities that do not add value, and also understand the behavior of costs and thus correct them, the general concept of the ABC system helps companies identify and calculate the costs more accurately and produce more effectively (Kinney Michael, 2009:114) The system also contributes to the reduction of costs in companies and contributes to reduce them by 3% -5%, and contributes to increase revenues by 5% -15% (Walker, 2008:1)

Interest in the ABS system has also increased considerably for the following reasons: (Huynh, Gong and Huynh, 2013:183)

- The constant pressure exerted by senior management on the middle and lower management in order to reduce costs
- Severe competitive pressures in competitive markets
- Expanding the activities of companies, diversifying their business areas and distribution areas for their products and increasing the number of their products
- Introduce measurement methods for the administrative performance of the results of the applied administrative policies and the executive and strategic programs, in order to compare with the performance required to be implemented in order to:
  - a. Identify the improvements required of the department to make
  - b. Determine the performance of management departments in similar companies
  - c. Use the results of the performance measurement analysis for management to benefit from it in case of failure of management to achieve the objectives and knowledge of weaknesses
  - d. Attempting to reach the level of successful global administrations in defining their objectives through success in performing the administrative functions of planning, coordination, supervision and control.

From the above we can say that the ABM system is a method of cost management and uses cost data for the activities that make up the enterprise in making administrative decisions that are used to reduce cost and improve performance and improve consumer value and improve profitability as well, (Al-Yamour, 2010:231)The ABC system and its relationship to the ABM system can be illustrated in the following Figure (Bahnum, 2010:1)



**Figure 10:** The Relationship Between ABC and ABM (Bahnub, 2010:7)

### **E. THE DIFFERENCE BETWEEN ABM SYSTEM AND ABC SYSTEM**

Interest in the ABS system has been increasing for a long time as this system has clarified a new mechanism to understand costs and thus understand production, it has created new ways of cost accounting to improve profitability. It can be said that this system has enabled companies to increase their profits by understanding the operational processes and cost behavior of operations. (Garrison, et al., 2010: 317)

Administrative decisions taken are the core of the ABM system to correct the wrong course of some costs that can be eliminated or minimized based on the information collected from the ABC system. (The Chartered Institute of Management Accounting, 2001: 2)

The differences between the ABC system and the ABM system can be summarized as follows

1. The ABC system provides information on operation, products and market performance while the ABM system aims to develop and improve it (Webster, 2009:139)
2. ABC focuses on costs, while ABM focuses on the administrative process (The Chartered Institute of Management Accounting, 2001:2)
3. The ABC system is the result of firm analysis by the company while the ABM system is established to make the change (Edwards, 2008:4)
4. (Institute of Management Accounting, 1998:2-3) summarized the most important differences between the two systems as follows
5. The ABC system focuses on understanding costs and their behavior while the ABM system seeks to correct them
6. ABC is mostly based on actual historical costs, while ABM is based on avoiding unnecessary costs and on how to use a company's financial resources
7. The internal ABC system reports on operation while the ABM system reports are strategic and attempts to understand all the internal and external elements affecting product.
8. ABC provides explanatory data, while ABM provides practical information
9. We can say that the ABC system is a diagnostic system for the status of the company while the ABM system is a practical therapeutic system aimed at correcting unnecessary costs

#### **F. THE MANAGERIAL DECISIONS TYPES UNDER ABM**

Make the managerial decisions from core functions of the manager, as the success of any organization depends primarily on the ability and efficiency of administrators and their understanding of administrative decisions and methods of taking the decisions, and with their possibilities to take the right decisions and their effectiveness and the importance of clarity and time to take these decisions, and work to follow up their implementation and evaluation

The decision-making process is the focus of the administrative process, because it is intertwined in all the functions of the Department and its activities, when the management exercise the planning function, it makes certain decisions at every stage of the development of the plan, whether in the development of the goal or policy-making or preparation of programs or identify appropriate resources or selection The best ways and methods to operate them, and when the administration develops the appropriate organization for its various tasks and multiple activities, it makes decisions on the organizational structure, type and size and the basis of the division of departments and sections, and the individuals you need to do different work and scope of appropriate supervision, authority lines, responsibility and communication (Azzi, 2017:17)

The managerial decisions are divided into several types

1. Conventional Decisions (Shams al-Din, 2005:22)

- a. Routine or executive decisions: they are decisions that are taken to address simple recurring problems such as those related to attendance and leave and the distribution of work and absence and vacations, these decisions are taken immediately as a result of the experience of the Director (Al-Bazranghi and Al-Hawasi, 2014:47)
- b. Tactical decisions: it is characterized as repeated decisions even though they are at a higher level of executive decisions and more technical and detailed and entrusted to face the heads of technical and specialists

2. Unconventional Decisions

- a. Operational decisions: these are decisions that relate to vital problems that need to be resolved in order to understand, discuss and exchange views on a large scale, in the face of this kind of problems, the decision-maker invites his assistants and advisors from administrators, technicians and legal to a meeting to study the problem, here, the decision-maker seeks to involve all concerned about the decision from all parties in the meeting, and he gives them all the freedom to discuss with clarifying their strengths and weaknesses, and relates to measuring and evaluating the performance of activities and improving the performance of departments .

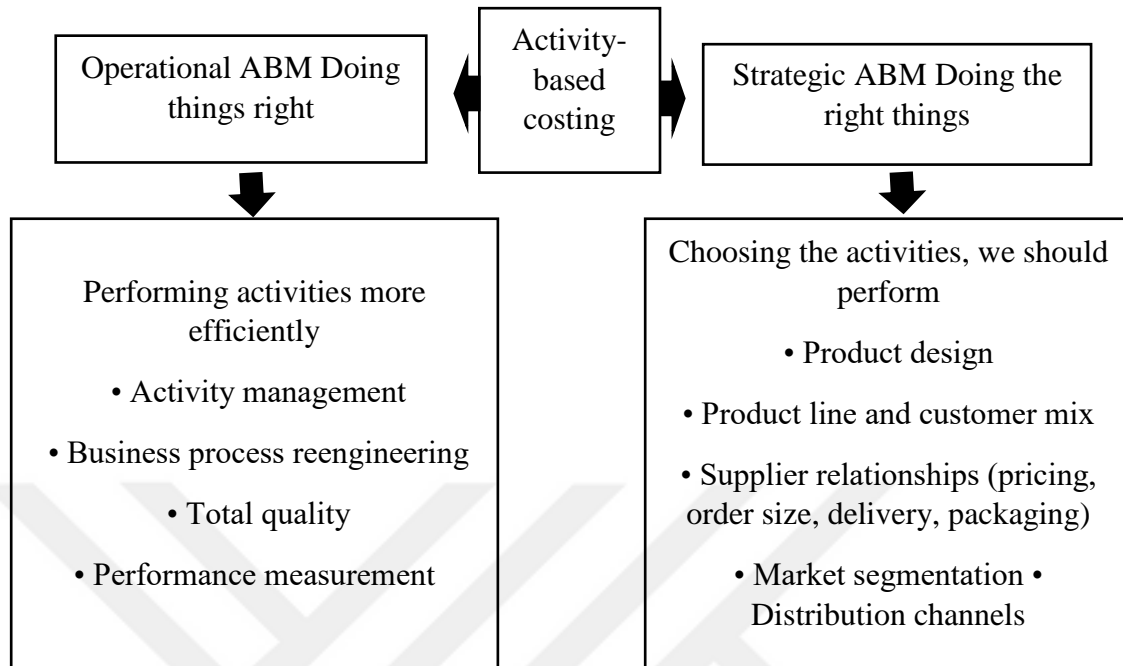
- b. Strategic decisions: unconventional decisions are related to strategic problems of multiple dimensions and complexity, these types of decisions require in-depth research and specialized study that addresses all hypotheses and possibilities and are discussed (Kourdi, 2011:53)

The ABM system is the tool through which the outputs of the ABS system can reach the management and thus lead to the goal of them and to improve administrative decisions that are divided into strategic decisions and operational decisions (Mike, 2006:19), and the following presents the most important strategic decisions (Grosson, 2011:171)

- i. Investment decisions (investment in long - term assets)
- ii. Decisions to replace old assets with new assets
- iii. Pricing decisions for products and services
- iv. Result formation decisions to reach the highest possible number of profits
- v. Decisions related to production in general, size, style and type
- vi. Marketing decisions
- vii. Financing Decisions (Financing of the Establishment)

Therefore, most administrative decisions of various kinds and division cannot be made without the necessary information to make the decision, the ABM system can help management in solving all the company's strategic and operational problems as long as the outputs of the system meet the requirements of decision-making and the following figure shows using ABM for operational improvements and strategic decisions, and the following figure shows using ABM for operational improvements and strategic decisions





**Figure 11 :** Using ABM for Operational Improvements and Strategic Decisions

(Kaplan and Cooper, 1998:89).

### **G. ABM SYSTEM APPLICATION LIMITATIONS**

The implementation of the ABM system requires a large financial resources and a team of highly qualified to implement this system, the threshold in the application of the system is to compare the cost of the application of this system with the return that can be provided by the application of this system and therefore the most important question is whether the return from the application of this system will be greater than the cost and therefore will be the decision to apply or not to apply, but when we looking at the principle of continuity of the company as the main objective of any company is profit, we cannot apply the cost and return method in the short-term, but must be seen in the long-run (Bentien, 2011:19)

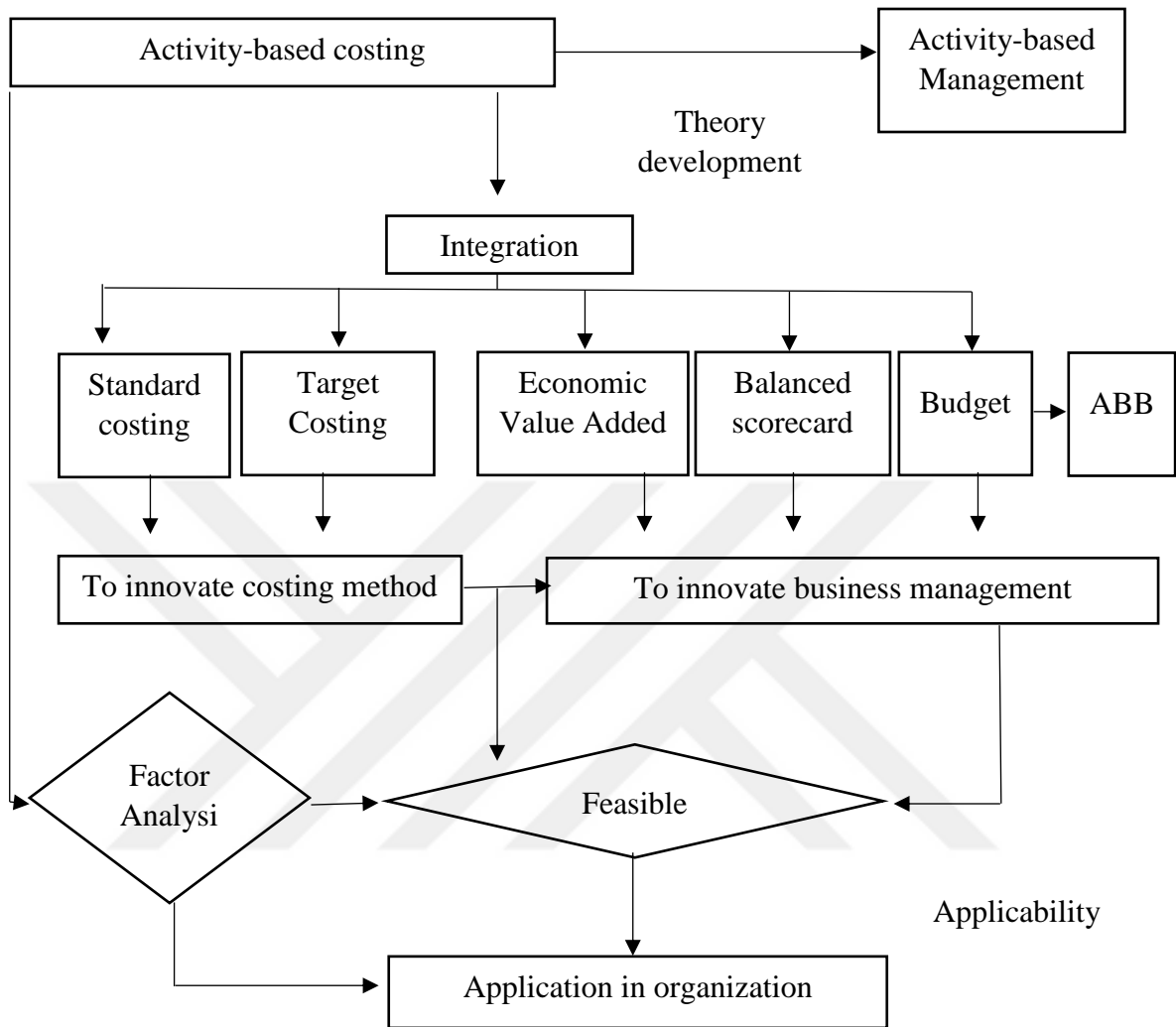
It should also be noted in the application of this system to make sure to know whether it is possible to link the ABM system with the existing systems, especially as already indicated to the need for the existence of the ABC system since the application of the system without the existence of a system that can be integrated with it is not feasible

## **H. INTEGRATION OF THE ABM SYSTEM AND THE ABC SYSTEM**

The ABC and ABM systems are two complementary systems. The ABM system is based mainly on the data provided by ABC system which mainly aims to improve profitability and improve the administrative performance of the company.

We find that companies that have designed the two systems well must make updates to the two systems continuously in order to keep up with the information system based on activities for the continuous change in the business environment

As stated in one of the definitions of the ABM system, it is a system that applies the outputs of the ABC system, since Activity Based Management System cannot work without the existence of an information system can obtain the information needed to produce information outputs capable of achieving management objectives, and the ultimate goal when applying the two systems is to achieve integration between them and the daily accounting operations and expand the target to include the management of the company as a whole and the issuance of information necessary to improve products and rationalize Administrative decisions and find tools to measure the performance of activities and get rid of activities that do not add value and thus improve productivity ( Cardos and Pete, 2011:155) and the following figure shows the Integration of the ABM System and the ABC System (Huynh, 2013:182):



**Figure 12:** Integration of the ABM System and the ABC System

Intense competition nowadays requires a reliable, accurate and effective costing system. Hence, ABC has emerged as a system capable of giving more accurate cost information to products or services than traditional systems, this cost information cannot be taken by the decision maker in its current form as the decision maker not competent to read this information, and therefore, these costs data provide him with general information on the Values of costs and does not give him the options or alternatives through which he can make the decision correctly, and thus the ABM system appeared It is a complementary system to the ABC system and not an alternative system for it , the two systems are based on the same philosophy and principle of activity, so we can track activities and accurately

identify and allocate costs, similarly, when making any operational decision regarding the measurement of a department or management, it will of course be related to the activity. Any department or management that does not affect the activity does not add value to it and then we can exclude it or reduce it as much as possible, if the decision is strategic, it will absolutely be linked to activity regardless of its type.

The two systems provide us with a full of cost and operational information, as the ABC system provides cost information for products, services, operations, activities, distribution channels and all the costs of the company, on the other hand the ABM system uses this information and processes it and produces the information that will be provided to the management, in order to make the managerial decisions that contribute to the achievement of the objectives of the company and then find ways and tools that help in measuring the performance of departments within the company and then improve its performance (Player, et al., 1992: 3)

In sum, the ABC system can never be an integrated system for all sections and departments of the company, and its role is limited to the cost side, as well as cannot apply the ABM system alone as it is useless without the use of information issued by the ABC system, Because ABC and ABM are complementary systems, and one cannot be effectively implemented without the other.

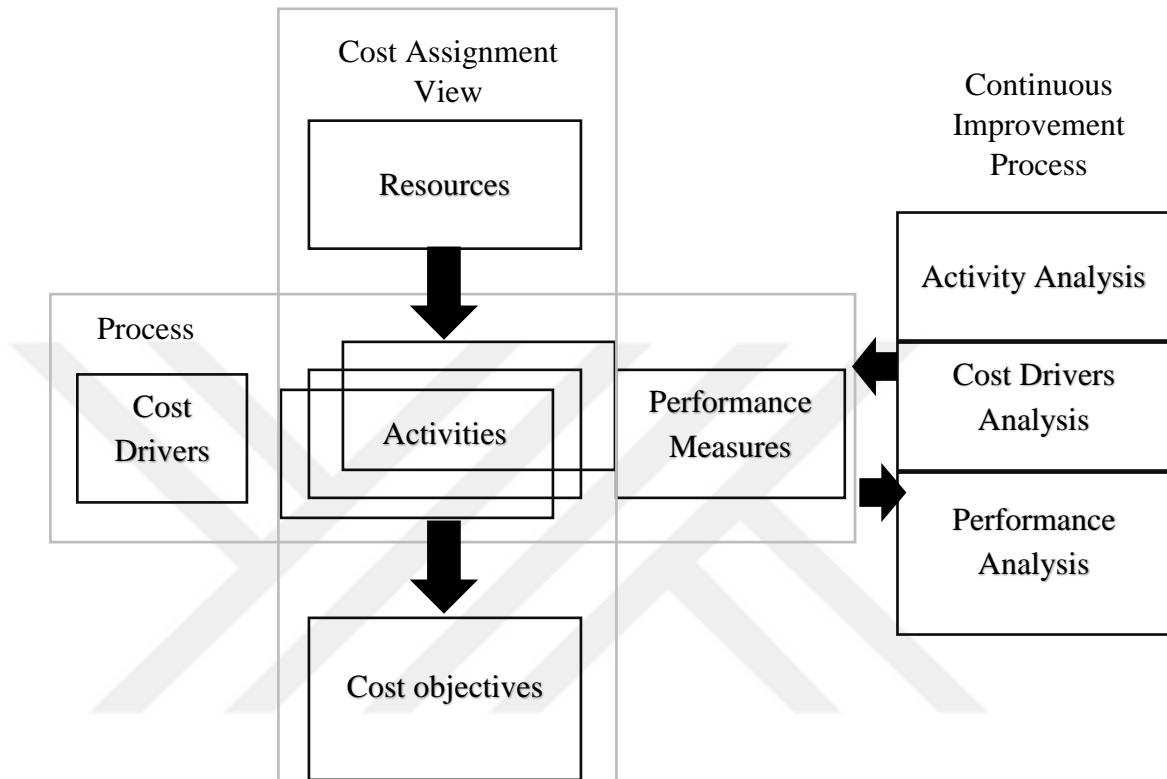
## **I. THE OUTPUTS OF ABM SYSTEM**

According to (Cardos and Pete, 2011:160-161) the outputs of ABM System for any company it will be as bellow

- The cost of activities and the business processes information.
- The non-value-added activities cost
- Performance measures for the activities
- Accurate identification for the products and services cost (cost objects)
- Cost drivers

(Miller, 1996:236) CIMA ( 2001).

And the following figure shows the ABM model outputs



**Figure 13: ABM Outputs**

The following is a breakdown of the outputs of the ABM system (Institute of Management Accounting, 2000: 2-4):

- The cost of activities and the business processes information: The information issued under this system must provide us with information on what is spent in the company and on what activities are spent on it assuming that the cost is related to the activities.
- The non-value-added activities cost: The activities are divided into two main types: activities that add value to the product and those activities that need to be developed and improved, and activities that do not add value to the product and are included in this case at lost cost that must be eliminated in order to improve the performance of the company and increase profitability

- Performance measures for the activities: This system should provide us with information on the performance of these activities, as cost information is only useless to measure the performance of activities, as there are measures of performance of activities, including quality measurement, measurement of the operating cycle and the volume of production and services provided to the consumer will also be useful to measure the efficiency of activities, as These metrics enable management to know the extent to which the activities are committed to achieving the objectives of the company
- Accurate identification for the products and services cost (cost objects): These products and services are distributed in the markets or to consumers through various distribution channels and channels or through contracts, the cost of these channels may be mixed and therefore this identification is very important for the company
- Cost Drivers: Any factor that affects the cost of activities, for example, the quality of the raw elements involved in the production process is influential to the cost and therefore the rawer materials damaged in production increases the cost of production activity, knowing that there are many cost drivers affecting one activity.

## **J. PRACTICAL GUIDANCE ON IMPLEMENTING ABM**

According to The Chartered Institute of Management Accountants, (2001) the following practical guidance on implementing ABM:

1. Focus on critical needs: Before implementing an expensive information system or a more sophisticated costing system, decide what are the organization's most important issues or decisions and what types of information would help address those issues.
2. Get top management support: If you think ABM might be a useful tool in your organization, be sure to get top management's support first. With their help, identify critical information needs, and show how an activity-cost approach could provide valuable information.
3. The main cost system: to have successful implementation for ABM system, try to incorporate ABC methods into your organization's financial reporting process

4. Consider a separate model: If integrating ABC into the main cost reporting system is not feasible, consider developing a separate PC based ABC system that can be used on an infrequent basis for strategic decision-making. The model should be relatively simple and can be updated with data that already is available or easily collected. But even a relatively simple model can be far more accurate than many traditional cost allocation methods.
5. The existing information system: If you implement an ABC costing system, make sure that the input requirements can be easily supported by the existing information system. If not, either change the model or install a more sophisticated integrated system.
6. Smaller companies: Smaller companies need to be especially creative to find reasonable activity cost drivers from their often more limited data. For example, use material cost as a proxy for its weight. Look for available drivers that have some correlation with how resources are spent.
7. The implementation team: Make sure the people who will be actual users of the ABM information are represented on the implementation team. A common mistake is putting managers on the team and not getting enough input from the cost accountants or other analysts.
8. Start simply: The best advice is to start simply. Implement ABM at a high level in order to get concepts across. Once you have created an interest, there will be a “demand pull” for more information. Use spreadsheets until you identify exactly what your needs are, and then buy the software that meets your needs.
9. From manufacturing companies to all industries: For a long time, ABM was viewed as relevant to manufacturing. Experience has demonstrated that activities are universal to all organizations, including service companies, schools, government, and non-profit organizations. To varying degrees, every organization has processes and activities in place to convert capital, materials and purchased services to products/services required by its customers and users.
10. Start with product costing: Product/service costing is the dominant initial application of ABM in most organizations. Don't produce a list of activities which:
  - a. runs into the 1,000s, many with insignificant amounts of cost allocated to them;
  - b. does not identify the cost of wasted activity;

- c. does not identify customer or product specific activity;
- d. takes many hours for a PC to calculate each month; and
- e. is so detailed that the benefits of ABM are lost

## **K. ABM IMPLEMENTATION PHASES**

Pilot efforts to experiment with ABM do not always take a company-wide perspective. As a result, isolated pockets of ABM knowledge can develop independent of other management initiatives. This is not necessarily a negative situation, but to achieve its full potential ABM information systems need to become integrated with mainstream information systems and reflect the organization's cultures and values. As most organizations have learned, a holistic approach to ABM implementation is crucial to gaining and sustaining all of ABM's benefits. When a total approach to ABM implementation is taken, it is important first to complete an overall assessment of the key Processes, activities, and data availability. The elements to be included in the assessment are:

- business process relationship map;
- documentation and relationship of key business processes;
- preliminary list of key and significant activities;
- identification on a preliminary basis of major activities, including possible performance measures and potential cost drivers;
- preliminary costing of activities and business processes;
- estimates of nonvalue-added activities and costs;
- linkage of business processes and activities to the organization's strategic plan;
- application of ABC product/service costing;
- availability of data and information required for the installation;
- existing system capabilities and ability to integrate with activity information;
- primary uses for activity-based information;
- available resources and implementation requirements; and
- recommendations for implementation, steps to be taken, and key time lines.



This preliminary information supports the development of an overall implementation plan. Using a building block approach, the implementation can be completed for one major segment of the business at a time. The steps that need to be completed for each segment include detailed planning, analysis, data gathering, cost tracing, and documentation. Total implementation is complete when a cost-effective, ongoing data collection and reporting system has been developed.

Whether applied on a small scale to a specific area of an organization, such as a department, function, or applications, or used for a large-scale implementation in a specific plant or applied simultaneously to several plants, facilities, departments, or functions, there is no one right way to implement ABM. In fact, the general steps involved in taking a holistic approach to ABM implementation can be expressed in several ways and can be performed in different sequences.

Any approach used should include the same core set of steps: planning, activity analysis, activity product costing, documenting results, data gathering and analysis, developing a data collection and reporting system, and achieving full integration. Choosing a specific model or implementation approach is a matter of personal preference and the specific features and requirements the model is designed to support. Most models, once implemented, yield similar end results. A brief summary of each of the steps in ABM implementation follows

## **1. PLANNING**

The planning phase focuses on identifying the purpose, objectives, and expectations for each specific element of the ABM total implementation. The development of a detailed project plan is a critical element of the planning phase. The project plan should include a time line with assigned responsibilities for task completion, clear definition of the resources required to complete each stage of the implementation, the selection of specific individuals to complete the work, and a precise denotation of the data collection methods to be employed

The scope of the project, management expectations regarding the output of the project, and issues surrounding team development are also important for developing a

comprehensive ABM implementation plan. While planning represents only a small part of the total time and effort of an ABM initiative, it has a major impact on its overall success.

## **2. ANALYZING ACTIVITIES**

Activity analysis, lying at the heart of any ABC/ABM effort, is the second major part of an ABM implementation. It comprises several key steps, including cataloguing of specific activities and business processes, definition of outputs and output measures, value-added analysis, identification of cost drivers, and detailed specification of activity performance. As this list suggests, activity analysis normally consumes the major part (50 to 55 percent) of the time and resources allocated to implementation.

## **3. COSTING ACTIVITIES, PRODUCTS, AND SERVICES**

Activity analysis provides basic information for constructing the ABC cost system. Developing the ABC estimates is the most mechanical part of any ABM implementation. Focused on identifying and documenting cost tracing methodologies and core assumptions, the costing phase ties the financial reporting system to the newly developed activity and process structures of the ABM system.

The development or choice of a specific software system to export, import, and accept the data used to generate the activity-based estimates and to apply these estimates to create product and service costs makes up the bulk of the work completed during this stage. Since the software systems selected or developed as part of this step are often used for the ongoing reporting of activity information and performance, it is important that they be relatively simple to update and maintain.

## **4. DOCUMENTING RESULTS**

While often neglected, documentation is an important part of an ABC/ABM implementation. The work completed, significant results, recommendations, and conclusions should all be included in the documented records of the project. Focused on supporting downstream action and decisions regarding next steps, documentation serves as a crucial bridge between planning and operating an ABM system.

The time spent recording past results and detailing required future actions serves to reinforce the learning process, communicate and assess progress, and adjust the detailed implementation plan to accommodate unforeseen problems and concerns. When a building block implementation approach is used, it is even more important to record the sequence, results, and issues surrounding the activity analysis and development of ABC estimates.

## **5. GATHERING AND ANALYZING DATA**

During the planning stages of the implementation, emphasis is placed on gathering information and data to document the purpose, expectations, and objectives of the initiative. As attention turns to activity analysis and the creation of the ABC estimating system, data gathering takes on more importance as the key to understanding the existing knowledge base in the organization. To complete the activity/product-costing step, information about the consumption of resources by activities needs to be collected and analyzed.

The recommendations, conclusions, and identification of next steps that take place during documentation require a significant amount of data and information. As suggested by Exhibit 2, though, data gathering is an integral part of every phase of the implementation. The payoff to ensuring that the company can achieve total integration of the ABM system lies at the heart of maximizing the relevance of the information it creates. Because it can consume between 25 to 50 percent of the total effort needed to complete the implementation, creating efficient and effective data-gathering methods is an essential part of the ABM initiative.

## **6. DEVELOPING AN ONGOING DATA COLLECTION AND REPORTING SYSTEM**

The development of a cost-effective, efficient data collection and reporting system is the final aspect of a holistic ABM implementation. The information gathered during implementation provides a static snapshot of the activities, and their resource usage, at one point in time. While much is learned from this snapshot, ongoing data collection is necessary to reap the total benefits of the ABC/ABM initiative. To be useful for strategic

and operational decision making, activity information must be collected and reported on a continuous basis. There are two major stages in implementing the ongoing ABM information and reporting system:

- establishing the basic data collection and analysis procedures and
- ongoing system maintenance.

During the first stage, it is often necessary to create new methods for collecting data and new driver-based measures to support the system's use. A hands-on effort, stage one requires the active support of the information systems group as well as the collaboration of managers across the organization as new measures, data formats, and due dates for various measures and reports are developed.

In the second stage, the maintenance requirements of the system are addressed. Activities, measures, products, and services are constantly added and deleted within an organization; the system must be adjusted for each major change. One of the best ways to ensure this is to implement an ABM-updating process as a core part of the firm's project management protocols.

## **7. ACHIEVING FULL INTEGRATION INTEGRATING**

ABM with existing management practices is necessary to achieve its full benefits. If ABM is treated as a separate, freestanding management initiative, it will not survive. The real value of ABM comes from the knowledge and information it provides to support improvement efforts and the management decision process. Full integration of ABM within the fabric of the organization's other information and management systems is complete when people in the organization embrace activity management, take ownership, and internalize it as a better way of doing business and making decisions.

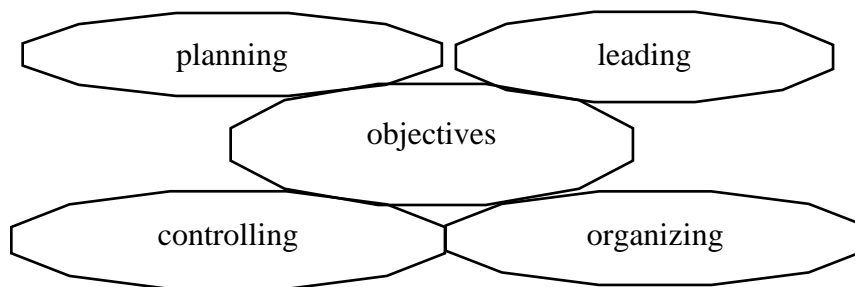
Full integration does not occur overnight. Fully integrating ABM with current and existing organizational philosophies, cultures, preferences, and values can take years to complete. Ongoing efforts are required to drive activity-based thinking deep into the organization. Attention must be paid to linking ABM with the basic information systems used to manage the organization and its ongoing operations. Achieving full integration should be the overall goal and the final measure of success for any ABM initiative.

## IV. ACTIVITY BASED BUDGETING (ABB)

### A. INTRODUCTION

The management of large, small and medium-sized enterprises requires constant and continuous management of four functions: planning, organizing, leading and controlling. These functions apply to all companies, whether large, small, and even medium-sized companies that aim to profit or aim to provide public service. To develop strategies and plans, lead and organize efforts and resources, and control their use. therefore, we find that the most important objectives of the modern departments, at the level of economic or international unity, the optimal use of resources (physical and human) and develop the greatest amount of resources to achieve the company's objectives, including reducing costs and continuity and maintain customers and achieve the largest market share.

The following figure shows the four management functions and the relationship between them, the relationship between these functions is integrated and interrelated, it is an integrated cycle to achieve the goals that were set in advance at the stage of establishing the companies. As the figure shows, the way that link these functions lead us to achieve these goals. Referred to and that there is a defect in the process of achieving these goals must be corrected the course of these jobs to address any defect that has occurred and impact on the achievement of these goals, the role and management functions can be clarified in the following manner:



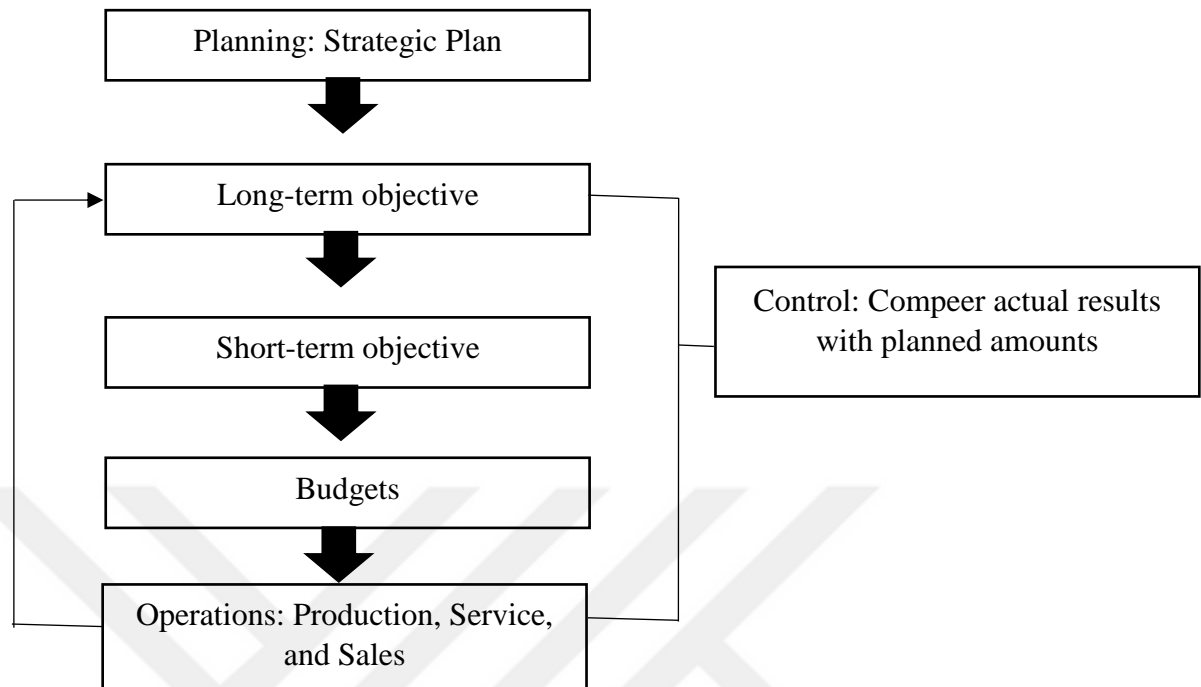
**Figure 14:** The Relationship Between the Management Functions

The previous figure shows that the aim is to achieve the objectives for which this company was established. Due to the multiplicity of companies' activities and the multiplicity of

their field of activity and the complexity of the competitive environment in the local or global market and in order to achieve the objectives efficiently and effectively, the Managements must develop its methods and tools to achieve that's, In the best form possible, and therefore must develop future plans that ensure the achievement of the goals that set in advance, and those future plans are what is called the budget

Budgets are one of the most important means for all Managements to enable them to perform their basic functions related to planning and supervision. Budgets are used in all institutions and companies, both governmental and private, and in all aspects of business activities, whether commercial, industrial, or educational. The tremendous change that accompanied the revolutions Industrial and technology and the large change in the competitive evidence of companies to the development of the concept of budgets and expansion of its types and functions, and has scientific development of budgets has developed significantly over the past years as new stages have passed and have been linked to modern administrative requirements in order to keep abreast of developments and economic and social changes.

Budgeting plays a crucial role in planning and control. Plans identify objectives and the actions needed to achieve them. Budgets are the quantitative expressions of these plans, stated in either physical or financial terms or both. When used for planning a budget is a method for translating the goals and strategies of an organization into operational terms. Budgets can also be used in control. Control is the process of setting standards, receiving feedback on actual performance, and taking corrective action whenever actual performance deviates significantly from planned performance. Thus, budgets can be used to compare actual outcomes with planned outcomes, and they can steer operations back on course, if necessary. The illustration of the relationship of budgets to planning, operating, and control showed as below. Budgets evolve from the long-run objectives of the firm; they form the basis for operations. Actual results are compared with budgeted amounts through control. This comparison provides feedbacks both for operations and for future budgets (Hansen and Mowen, 2003)



**Figure 15:** Planning and Control Role in Budgets (Hansen and Mowen, 2003)

## B. BUDGET DEFINITION

Several definitions of the budget have been defined as:

"A financial translation of a quantitative plan covering all aspects of the project activity for a future period in a comprehensive and coordinated manner, approved by, and associated with, the influential officials and an objective on which to monitor the results of the actual implementation of the control and enable the Department to take corrective actions to address deviations and achieve maximum efficiency (Abu Rahma, 2008)

It is a document summarizing all the operations and activities that the organization intends to undertake for a specific period. This document becomes a work program for the organization during this period. It is a clear translation of the future planning and policies of the organization based on the experience, the absorptive capacity of the organization and the resources available to it. The internal circumstances of the organization and its surrounding external environment (Al-Haj, 2006:3)

"And was defined as a quantitative expression of a plan and for a specific period to include revenue, sales, volume of production and resources for costs, liabilities, and cash flows (CIMA 2005) (Ross, 2008:.3)

It is defined by the researcher as a future financial situation to achieve the goals by managing cost, revenue, assets and liabilities by making decisions and procedures that will achieve those goals.

From the previous definitions we find that most of them include the following points:

The parallel plan is futuristic which it refers to

1. Unpredictable and unexpected events
2. No statement has been produced which can be recorded in the Company's accounting system
3. The time lag from one budget to another, there are long-term budgets and short-term budgets.
4. Quantitative expression: Achieving objectives requires the translation of financial statements into quantitative data and thus allocating the resources available to achieve them, so that this budget is only in quantitative and financial forms.
5. does not end the adoption of the budget, but the subsequent stages, which are to achieve the goals set in advance and then match the actual results with discretion and address deviations, if any of the most important stages of the implementation of the budget
6. The budget is a planning and coordination tool for the Department.

### **C. BUDGET FUNCTIONS**

The most important budget functions mentioned in the definitions are as follows:

1. **PLANNING FUNCTION:** The previous definitions of the budget included a plan. Therefore, the planning function is clear. The companies realized the need in a coordinated planning process based on setting the general objectives of the company to enable them, especially departments, departments and employees to

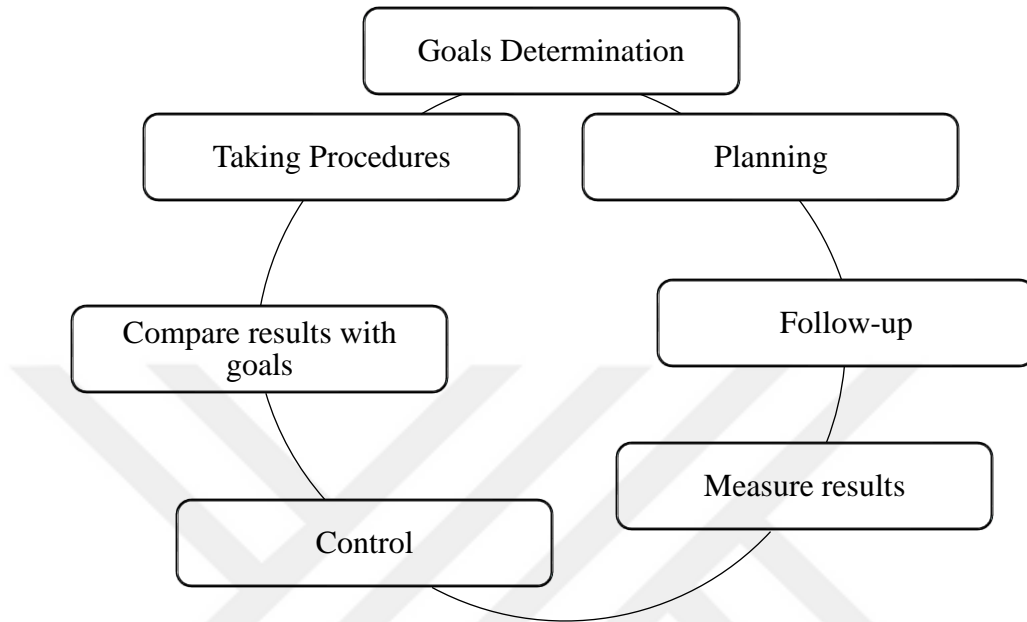


achieve these goals. Budgets The possibility of providing economic data that contributes to decision making, such as determining the cost of the product and designing other decision-making models as a model of cost-benefit analysis.

2. **CONTROL FUNCTION:** The control function is represented in the budget by comparing the estimated budget data with the results of the actual implementation. This comparison is presented periodically through the so-called performance reports. These reports are often prepared according to management's wishes.
3. **COORDINATION FUNCTION:** In order to achieve the company's objectives, especially regarding the implementation of budgets estimated management is required to coordinate the various aspects of the activities is a tool to coordinate between the company's department, whether sales or purchase or production departments or other sections and departments of the company
4. **COMMUNICATION FUNCTION:** Budgets are a tool for communicating their information to all departments, departments or employees of the company in order to identify them and thus the mechanism of their application.
5. **FUNCTION OF PERFORMANCE ASSESSMENT AND MOTIVATION:** Budgets are an effective tool to motivate individuals and encourage them to achieve the objectives of the establishment by directing them to achieve the objectives contained in the budgets, through the use of incentives, bonuses and rewards of encouragement in the event of achieving the results required of them, that is after comparing the actual results with the estimated data and thus evaluate their performance

The effective preparation of budgets requires that they be based on accounting systems that are effective and efficient in achieving their objectives. For example, the institution should have a good system of standard costs and a system of reporting and accountability of responsibility, as well as the availability of a system in the preparation of the budget contributed by members of the institution to express opinion in the details of the budget and build estimates. (Bugabah, 2012:40).

The objectives of the estimated budgets and how they work can be explained in the following figure:

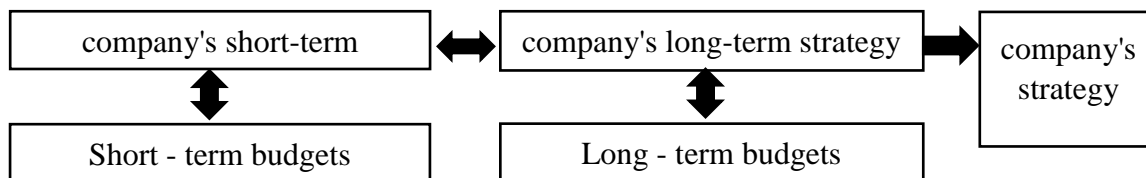


**Figure 16:** The Objectives of the Estimated Budgets and How They Work (Al-Najjar, 2006:22)

#### D. TYPES OF ESTIMATED BUDGETS

Estimated budgets can be divided into several types according to the standard for which they are prepared(Ross, 2008:7)

- 1. ACCORDING TO THE TIME PERIOD,** budgets according to this criterion are divided into the following figure:



**Figure 17:** Estimated Budgets According to the Time Period (Horngren, Sundem and Stratton, 2005:131)

- a. Long - term budgets: the long-term budgets reflect the company's long-term strategy, this type of budget is for a long term (5-10 years) and does not include precise details, its objective is to clarify the overall direction of the organization in the future in terms of expansion, new products or acquisition of new assets.
- b. Short - term budgets: they are part of long-term budgets and represent the reflection of the company's short-term strategy that the company wants to achieve in the short term (less than one year), therefore, there should be no conflict of objectives with the long-term budget.
- c. Continuous budgets: these budgets are prepared if the institution is unable to prepare correct estimates for a period and is prepared on a quarterly or semi-annual basis and is continually adjusted by excluding the month that has ended and adding another month for it in the future.

## **2. ACCORDING TO THE NATURE OF THE BUSINESS COVERED BY THE BUDGET (PURPOSE OF SPENDING)**

The estimated budgets are divided according to the nature of the business covered to:

- a. Operating budgets (or current) are the budgets concerned with the normal activities of the company and divided into:
  - i. Budgeting programs: This budget aims to plan and control the business activity of the economic unit, and examples are the budget of direct wages and the weight of raw materials
  - ii. Budget Responsibility Centers: It aims to measure the commitment of employees to the implementation of budget programs
- b - Capital Budgets: This budget aims to plan and measure investment spending in the company such as adding new assets, adding a new production line, adding new products, where it determines the cost of investment, investment sources, and time to implement the investment budget

### **3. ACCORDING TO THE RELATIONSHIP WITH THE SIZE OF PRODUCTION**

These budgets are related to the company's production level and are divided into:

- a. Fixed budgets: Fixed budget is prepared for a fixed production level in the company, where it makes estimates at this level of production (sales and costs at this level) and is compared at the end of the period with the actual results
- b. Flexible Budgeting: A set of different budgets is prepared for several levels of production and the actual output at the end of the period is compared with the budget that corresponds to the actual production level.

### **4. ACCORDING TO THOSE WHO ARE PREPARING THE BUDGET AND DIVIDED AT THE PARTICIPANT LEVEL:**

- a. Budget imposed: This budget is prepared by senior management and therefore flow to this budget from top to bottom and often this budget is not acceptable to the middle and lower administrations because it is often difficult to achieve, but they are trying to do their best to achieve them.
- b. Participatory Budgeting: This budget is prepared with the participation of various administrative levels where the main concepts are worked by the senior management, and therefore the middle and lower management prepare this budget based on these concepts, and this budget is more acceptable in terms of implementation within the company

### **5. ACCORDING TO THE METHOD OF PREPARING THE BUDGET**

- a. Budgets as per historical data: Historical data is the main source and starting point in the preparation of the budget, it assumes that what happened last year will be repeated during the next period with some variables expected during the period
- b. Traditional Budget (line-item style): This budget is prepared in the form of items and according to the purpose of these expenses where specific items are required for the

operation of the company and then the budget is estimated for each of the items, such as the salaries budget, with all the items necessary for the operation of the company

c. Program and Performance Budget: The budget is prepared by dividing the activities of the company into specific programs, each of which aims to achieve a specific goal, where the budget is prepared for each program separately, and then determine the extent of commitment to that budget

d. Budget planning and programming: It is concerned with comprehensive national planning and focuses this type of budgets on long-term goals, analysis of systems and cost and return, and analysis of alternatives to reach the most efficient programs, as it is comprehensive and focused on achieving the main objectives of the company.

e. Zero budget: The zero budget is based on a logical scientific thought that provides the best conditions for preparing the budget. It does not depend on the budget of expenditure for the previous year, this leads to the transfer of errors of the previous budget estimates to the next budget, but requires independent procedures from year to year and called zero because it requires each administrative manager to justify all the contents of his budget in detail starting from scratch, meaning that it requires that each review and evaluation of its programs and projects The current and new systematic way and the program and projects are reviewed on the basis of cost, return and effectiveness (Al-Sharari, 2009:508)

f. Activity- Based Budgeting: It is considered one of the latest ways to prepare an estimated budget as it has avoided the shortcomings of traditional methods of preparing the estimated budgets and will be discussed in detail in this chapter

## **E. THE LIMITATIONS OF TRADITIONAL BUDGETING METHODS**

1. The main problem of the traditional methods of preparing budgets is estimated from the view of time. In the current era, the life cycle of the traditional budget does not respond to the changing environment of companies and thus lose this data of objectivity and importance when it comes into effect, it is often estimated budgets starting in September and approved on December Every year where the budget cannot be modified after its adoption (Janikova, 2011:28)

2. Traditional budgets are fragile and incoherent, they are unresponsive and cannot be formed and prepared in a stable state in the case of multiple production plans, which change according to the changing economic environment in which they operate, which is constantly experiencing large fluctuations in technology (Al-Bashiti, 2009:34).

3. The correlation between outcome and impact used in measuring the performance of indicators and measuring performance and knowing the extent to which business objectives are achieved cannot be considered effective when attempting to formulate future because we cannot establish a clear and precise mechanism for reaching these plans (Olayan, 2009:52).

4. Conventional budgets reduce opportunities for integration between departments and managements within the company, because each department will protect its activities. Conversely, Activity -Based Budget will unite departments and managements in an attempt to create integrated operational opportunities for the types of goods and services produced by the company. (Olayan, 2009:52).

5. In most cases, traditional budgets will not focus on indirect costs because they do not contain methods to handle such expenses. (Khalil, 2016:113)

6. It will require executives and managers to ensure that the actual performance is matched with the traditional budget, but this commitment will be eliminated at the end of the year because the bonuses and rewards will be based on the actual performance and not on the extent of commitment to achieve the objectives set in the estimated budget. (Khalil, 2016:113)

7. Conventional budgets can be fixed for several years, because most department managers will try to justify any difference when matching actual performance to budgeted performance, Moreover, the senior management does not have the means to ascertain the cause of the differences except by referring to the directors of the departments, which will lead to fixed budgets for several years on the size of the costs, but the change will be on the volume of production (Al-Bashiti, 2009:38).

All of the above deficiencies led to inviting specialists to search for new and effective ways to prepare the estimated budgets, some companies have made fundamental and

radical changes as they completely abolished the traditional concept of budgeting and have developed new, more flexible and effective systems and methods for planning and controlling revenues and costs, Hence the Activity-Based Budget emerged

## **F. INTRODUCTION TO ACTIVITY BASED BUDGETING**

The tremendous progress in the information and communication technology revolution and advanced industrial systems, and that computer-based systems and technology has become the cornerstone of the production process, although the methods and technique of production characterized by tremendous technological progress, which led to the need to respond to the continuous and rapid changes in methods and process Uses of administration however, the traditional management accounting methodology, especially in the methods of preparing traditional budgets, did not keep pace with the evolution, Hence, the plans and the executive work change, which requires management accounting and enable them to prepare appropriate plans and control so that there is a link between them and the environment in which they operate, and therefore Activity Based Budgeting emerged to suit the large changes in the business market and as a modern method that avoids the shortcomings in the traditional methods of preparation Budget.

At some point in an executive's career they will be required to develop a budget for something Indeed, it is a prime responsibility, a budget is merely a plan described in financial terms, knowing which budget plan to choose is a matter of what needs to be conveyed, there are many different budget styles, each with a different purpose, for example, the most common government budget is the line-item style, which answers the question: what is to be bought? This budget plan is oriented toward control and economy. A program budget answers the question: what is to be achieved? This budget plan is oriented toward planning and effectiveness, and a performance budget answers the question: what is to be done? This plan is oriented toward management and efficiency (Riley, 1991); each has its place depending upon the goal, However, one budget style, which has gained popularity over the last few years, has the ability to link activities to costs, giving executives a better understanding of the full costs of service and resource allocation, this plan is an activity-based budget (ABB).

Activity-based budgeting is an outgrowth of activity-based costing (ABC), which is like zero-based budgeting. This budget type accounts for how staff members allocate their effort among activities. Once the full cost of each activity has been calculated, drivers can be established that link support activities to the primary activities of the organization—in a law enforcement environment the primary activities are the direct costs of program delivery (e.g., patrol services, investigations, tactical operations, traffic control, etc.). By developing a comprehensive activity-based budget executive can create a clear nexus between workload and costs. Once developed, executives and managers can exercise control in several ways: (Maddox, 1999:228)

- Assign personnel based upon a demonstrated need,
- Expand or contract personnel proportionately as the need changes,
- Uncover waste and hidden costs,
- View which activities are most and least expensive, thus subjecting them review,
- Assess the full efficiency of the organization, and identify places to cut spending,
- Establish a cost baseline that may be influenced through process or technology changes that reduce effort requirements for the activity, and, perhaps most importantly
- Argue from an informed, objective position in favor of the organization's budget.

## **G. ACTIVITY BASED BUDGETING DEFINITION**

Activity-based budgeting (ABB) is not a new idea, early writings on the subject appeared in the late 1990s. This approach was developed by the US-based CAM-I (ABB - the full name of the ABB-group is the Consortium of Advanced Management–International – Cost Management Systems, Activity-Based Planning and Budgeting Group) which focused its attention on the problems of planning in the traditional budgeting process. They concentrated on the connection between operational planning and financial results, CIMA Official Terminology describes activity-based budgeting (ABB) as a method of budgeting based on an activity framework, using cost driver data in the budget setting and variance feedback processes.



The activity-based budgeting method is an extension of activity-based concepts into the budgeting realm (Hansen, 2011). Also the development of activity-based costing and management led to an immediate desire to extend the methodology into planning and budgeting (Cooper and Kaplan, 1991).

It was also defined as a financial plan that starts with determining the size of the products and then determining the level of activity required to perform the work for a certain period (Roberts, Muras and Paschall, 2002:618)

( Horngren, Harrison and Oliver, 2012:846) defined it as a budget based on the cost of activities needed to produce products, goods and services, and (Coller, 2003:370) added that it is a budgeting method, which was developed according to the cost and activity basis, the entrance of costs based on the activity, and all the above definitions included:

- Budget is a financial plan expressed in figures and quantities for each product or item
- The budget plan reflects the figures and data expected for a specific period
- The starting point is the last point that traditional budgets have reached
- Budgets are based on the philosophy of activities and are the general criterion for budget performance
- They are allocated to Activity Based Costing and do not include any costs not allocated to specific activities or activities that do not add value to the product.

## **H. THE ADVANTAGES OF APPLYING ABB SYSTEM**

Activity-Based Budgeting consider the overhead activities and their related costs. It emphasizes that activity costs may be controllable if activity volume is controlled, where traditional budgeting tends to focus on input costs, ABB takes an outputs-based approach, recognizing that activities drive costs. ABB views the business as a collection of activities, a perspective that links well with organizational strategy, we can list the advantages of this type of budget as follows:

- In Activity-based budgets the costs can be more accurately associated with activities, making the planning process more precise and corrections more effective. Companies using this approach report benefits, including establishing more realistic budgets,

improving accuracy in identifying resource needs, better linking of costs to outputs, allocating more precisely the costs to staff responsibilities (Pietrzak, 2013:27)

- It identifies situations when production plan requires new capacity – both physical capacity and capacity in people resources – to deliver much of support and service activities in organizations
- It provides a more accurate way to project future costs presented that the activity-based budgets begin with output and then determines the resources necessary to create that output. Ideally, the organization translates its vision into a strategy with definable objectives in order to create value (Kaplan, 2008), ( Hansen, Mowen and Guan, 2007)
- (Khalil, 2016:100) believes that the most important advantages of this type of budgets as follow:
  - The activity analysis method is used to link costs to cost drivers and also to link revenues to activity which enables it to make detailed budgets for each product.
  - Explains and identifies opportunities to improve production and reduce costs
  - Activity-Based Budgeting is the process of planning and controlling the expected activities to make an effective budget using costs aimed at improving the size, type, and cost of the work to be performed.
  - This type of budget is more flexible to periodically adjust the figures according to the state of change in the markets or as a result of the imbalance in the budget, so the budget becomes more accurate and objective than other budgets
  - Activity-Based Budgeting to unify tasks within departments and departments to work within a specific path to achieve the objectives of the budget that reflect the objectives of the company
  - It also has a positive impact on the behavioral side of the staff because the Activity-Based Budgeting carries in its aspect's rewards in the case of the implementation of the budget as required
  - There are no fixed costs in the perspective of the Activity-Based Budgeting, but all costs become variable associated with the activity, if any activity found costs found and vice versa
  - Determines the relationships between the quantity of production and the amount of costs needed to produce them

## I. COMPARISON BETWEEN TRADITIONAL BUDGETING SYSTEM AND ACTIVITY-BASED BUDGETING

Making an analogy between the Activity-Based Budgeting (ABB) and the traditional budgets, most specialists in the accounting field identified the following aspects: (CĂPUȘNEANU, et al., 2013:28-29)

**Figure 18:** Comparison Between TBS system and ABB

Activity-Based Budgeting	Traditional budgets
Focus on the work volume and of the costs of processes	Focus on workers and on departmental costs
Measure the effects and determine and identify the unused capacities	Measure the effects, but do not determine and do not identify the unused capacities
Identify the necessary resources for the planned production and not in order to set out expenditure limits	Do not fulfill the purpose of a global budget representing only analytical and control
Ensure the management, with the possibility of transformation of the organizational thinking regarding the fixed costs	They are based on a iterative negotiation process between the managers of responsibility centers and the senior management
Focus on the used capacity versus the unused capacity	Focus on the fixed costs versus variable costs
Represent a possible solution for the budget process by increasing the real participation of the employees	Includes all costs including production costs of lost and damaged products
Unify the efforts made by various functions, such as: processes re-engineering or processes reevaluation in a single effort directed towards the strategic objectives planned by the entity for a short or long term	Traditional budgets focus on the concept of impact, which means that when you pay any cost it will produce an effect regardless of whether it is necessary to produce the production process or not.

Figure 18: (continue) Comparison Between TBS system and ABB

<p>Represent a tangible solution for short term planning of strategic objectives, as they focus on the basic processes of the work place for customer’s satisfaction</p>	
<p>Focusing on the result that means it starts from the end point of the product and then refers to the costs that only contributed to its production.</p>	
<p>It identifies the sources of costs required to produce a pre-determined workload, and does not focus on existing and existing costs, that means, it is based on the activities (only the cost required to produce the work).</p>	

**J. THE IMPORTANCE OF ABB SYSTEM**

1. In addition to the important uses and functions of the ABB system, this system is very useful for owners and investors, it allows them to see clearly the mechanism of disbursement and spending of funds within the company, by linking them to the actual budget and measure the commitment of managers to the tasks entrusted to them, it plays a role in measuring performance on Higher Management, t also determines the extent to which management is committed to the overall objectives of the company, which have been developed by owners and investors. Responsibility is placed on employees and managers in order to perform their required
2. Giving indirect costs the importance of measuring and tracking, as companies are witnessing a significant increase in indirect costs
3. Reduce costs, control and control by linking them directly to the activity of the product and through the development of standard costs and conformity with the actual, and work to address deviations

4. Paying attention to the cost drivers and thus control over activities that occupy large costs, and therefore these activities need more attention
5. Activity Based Budgeting clarify the dynamic workload to be accomplished
6. Activity Based Budgeting system has provided us with a clear and understandable mechanism for linking products to activities and at the same time with the cost drivers

## **K. THE MAIN STEPS TO APPLY ABB SYSTEM**

To build an Activity-Based Budget for the company's department, four steps are needed:

- the output of the department must be determined;
- the activities needed to deliver the output, along with their related drivers, must be identified;
- the demand for each activity must be estimated; and
- the cost of resources required to produce the relevant activities must be determined.

It is critically important to see that ABB is based on expected output. The traditional budget often plans forward from last years' experience, while the ABB plans backward from next year's output. The differences between the two approaches are more than semantic. While it may appear that the same results would hold in both cases, in practice, that is not so. In addition, the ABB approach, using resources and activities to create output, gives the manager much more information as well as ability to consider eliminating nonvalue-added activities (( Hansen, Mowen and Guan, 2007:353)

(Hammad, 2005:1178) mentioned the stages of the activity-based budgeting process as follows:

1. The activity-based budgeting process (ABB) begins with the client. Established a strategy to meet customer needs.
2. The organization should then forecast the work load, management or sales decide the future sales levels and managers need to estimate their workloads as a result of these sales levels. Often, sales forecasting involves new services, new markets and any changes in strategy.

3. Managers must be informed of planning guidelines in order to set specific activity-level objectives within the context of a process, and ultimately each activity manager should have the objectives of improving his value-added activities and eliminating non-value-added activities.

4. Projects with different departments should then be identified because these projects will affect the workload as well as activities in the different departments, they must be coordinated and performed before each manager improves his / her activities.

5. At this point in the budget process, projects can be identified for the level of specific activity, which are projects to improve processes at the level of individual activity. However, the improvement should be within the organizational objectives, the context of a business process and the context of customer satisfaction, or investment-based analysis activities from the definition of improvement projects and evaluation of those projects and then the use of committees to select projects that will meet the objectives of the organization and meet the needs of customers.

6. The final step is to report on activities and workload for the coming year.

The correct application in the practical framework of activity-based budgeting reflects the results to be achieved from the use of this system, (Al-Bashiti, 2009:55-58) mentioned the steps in detail to prepare the budget properly as follows:

- a. Agreement based on activities: It is essential that the activity-based cost basis be anchored in any activity-based budgeting system, which requires the use of standard activity-based costing mechanisms and the identification of tools for linking activities, activity metrics and the utilization rate of core resources, which can be used. Thereafter as a basis for the activity-based budgeting system. The basis may be an activity-based information system, or it may be an independent project, but it will form the basis for initiating the budgeting process, ensuring consistency with actual data.
- b. Confirmation of strategic objectives: Strategic objectives are based on the mission of the enterprise and must consider the external causes of cost affecting the enterprise.

- c. Determination of customer needs: Based on strategic objectives, management should be able to identify the needs of customers expressed in the form of a variety of products, activity volumes of products, services, quality, and service standards during the budget period.
- d. Developing business strategies: After identifying customer needs, business strategies can be developed. These strategies will undoubtedly enhance the range of products and services to be provided and the business policies to be followed (on risk, quality, and marketing policies).
- e. Estimation of activity volumes and prices: Once agreed on the product and service chain, the volume of business activity and price structure can be agreed upon. They are then used to determine the planned balance sheet and revenue balance and are the main component of cost budgets.
- f. Inventory of core activities: After estimating the volume of planned activity for products and services, the number of core activities is required, which can be achieved by using the activity-based cost basis as a reference point from which activity measures can be linked to core activities.
- g. Agreement on the capacity of each activity: Depending on the basis of the activities, managers calculate the capacity of each activity in each section, which can be expressed by the size of the activity, and also the cost of accumulating the time required to implement the core activities.
- h. Determination of the voluntary balance: Based on the level of resources spent in the implementation of the core activities identified above, management can now determine the remaining balance for the implementation of the optional activities. This is a simple application based on comparing the capacity of activities within the facility with the estimated level of core activities required to implement the plan. Thus, the level of optional activities to be implemented and the resources available for the implementation of those activities, which is increased or reduced as changes in the level of core activities are now available,
- i. Inventory of optional activities: Prioritization of optional activities can then be determined using the previously developed model. As well as the balance of resources allocated among the top priority activities

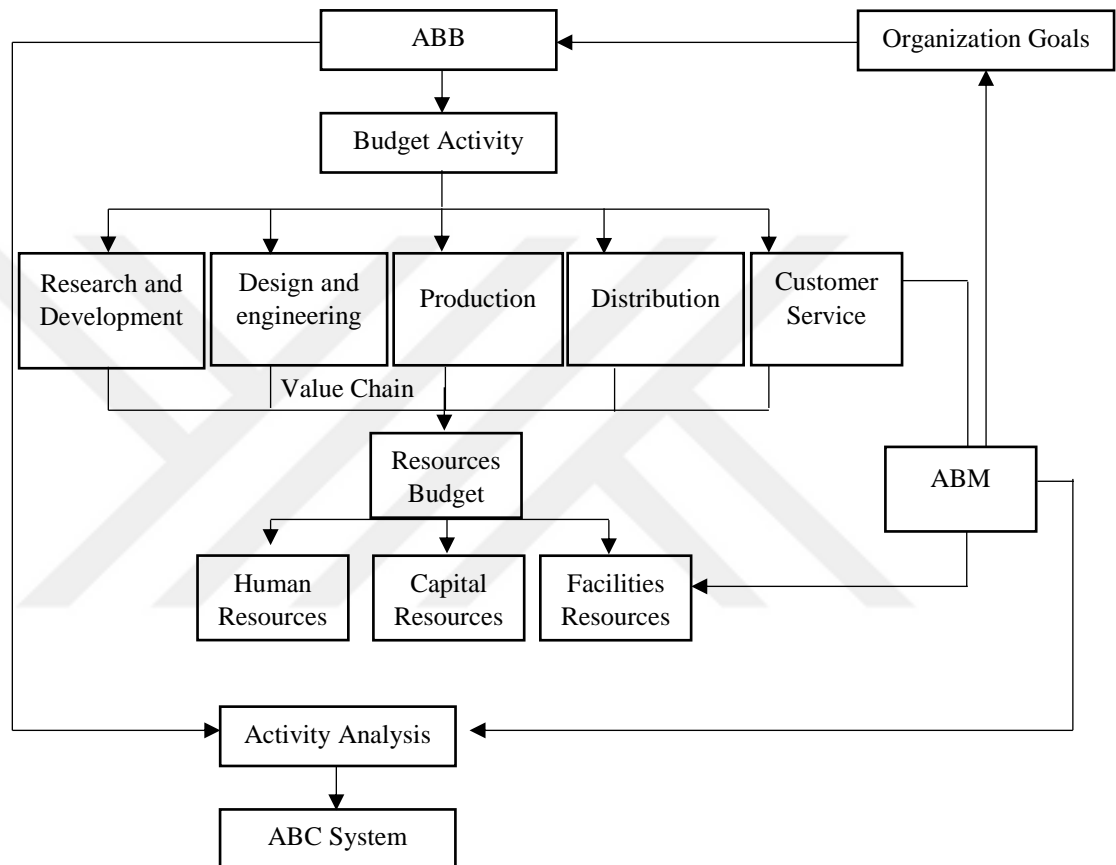
- j. Budget cost figures: costs can then be determined based on estimated activity levels and cost rates Identified in the activity-based cost rule, which can be adjusted to consider any known changes (such as inflation, or planned adequacy improvements)
- k. Determine budget revenue figures at the same time as costing. When budget guidelines are agreed, revenue budgets can be determined. This will undoubtedly be based on estimated activity volumes of products and services, prices and expected profit margins.
- l. Compilation of financial forecasts: It should be noted that the entire process may be repeated over and over with respect to cost and revenue determination and budget guidance, maximizing expected profits. The balance between cost and revenue will depend on the degree of parity between the causes of business volume in the short term and qualitative investments in the long term.
- m. Budget approval and final formulation: The budget may be approved and finalized according to the activities within the scope of specific responsibilities, in case the costs and revenues are balanced so that enough revenues can be generated, if the budgets are prepared according to the activity measures. They must be subject to the control of those activities within their area of responsibility.
- n. Budget execution reports When finalizing budgets, they can be used as a basis for reporting on a monthly basis. Management performance can be measured based on actual expenditure relative to activity measures and can be linked to the size and value of performance, Activity-Based Budgeting can therefore form the basis for the type of cost management referred to above

## **L. THE INTEGRATION BETWEEN ABC, ABM AND ABB SYSTEMS**

(Huynh, Gong and Huynh, 2013:185-186) explained the integration between ABM, ABC and ABB systems that the controlling and improving efficiency are the primary objectives of a budget, ABB have many advantages compare with traditional budgeting. However, ABB just emphasizes the planning and control purpose of cost management. ABB lacks in how to manage organization operating



to achieve what ABM drawn. ABB drawn the target and encourages managers to works toward achieving the organization’s goals. How can managers run the actual organization’s operating to reach ABB line? The mangers need ABM help to manage actual judgments in order to get the best way for goals achieving.



**Figure 19:** The Integration Between ABC, ABM and ABB Systems

When an organization implements ABC system for costing its products, it needs to construct the management system and budgeting based on activity-based. It is not logical if an organization using ABC calculates product costs, but it is set a management systems and budgeting based on traditional methods. However, how can ABB and ABM support each other? How can we integrate ABB and ABM? The following figure present the integration of ABB and ABM.

The organization uses ABB to evaluate its efficiency and effectiveness. Efficiency is achieved when the business process is performed in the best possible way, with little or no waste. The ABB provides an assessment of the efficiency of a manager, this is because

we can compare the actual results with the results-based budgeting activity. Effectiveness means that a manager achieves or exceeds the goals described. Thus, efficiency examines how well the work is done, and effectiveness examines whether or not the right work is being accomplished. These perspectives need the function of ABM

In a highly competitive market environment, corporate professionals should use tools and systems that provide reliable information and data for management to make strategic and operational decisions, ensuring that deficiencies that have been addressed or at least attempted to avoid wastage, ABC, ABM and ABB Systems addressed these problems and shortcomings suffered by the old traditional systems that enabled the production of such useful information in the case of continuous change in the working environment, It has also focused on indirect costs and gives it attention to what has an impact on the profitability of the company and must be taken into account when making important decisions of the company such as pricing decisions or adding a new product line or investment in a particular product, on the other hand Traditional systems have focused on total costs, including fixed and variable costs , Unlike activity-based systems that focus on a basic concept of activity, fixed costs have disappeared and all costs became variable costs that add value to the product or service. (Azadvar, Alizadeh and Bozorgmehr, 2012:1391)

By combining the systems described above, we will be able to avoid the shortcomings and constraints facing each system separately, as it was recognized that when applying the ABC system alone we find that it is a diagnostic system and not a treatment system, and its use alone represents half the distance to the solution is not Sufficient for a unit, as well as when the application of the systems ABM and ABB find that these systems derive their basic information from the ABC system and therefore, their application without the application of the Activity-Based Costing will be useless, and cannot benefit from them.

Referring to the traditional cost systems in the calculation of costs and the associated distortion of the facts and the resulting large mistakes when making administrative decisions, which affected the policy of some companies and then continue to work, for this we find that the application of the Activity-Based Costing is very important to companies due to: (Blocher, et al., 2008:124-125)

1. Intense competition pressure has led to a reduction in corporate profit margin, as well as the calculated margins are also inaccurate.
2. The great diversity of products and services and the multiplicity of distribution channels for customers and sales methods have led to higher costs between products
3. The development of modern production techniques and the replacement of machines instead of the human element led to an increase in the value of indirect costs and increase by more than 50%
4. As a result of technical and mechanical development, the product life cycle has been shortened and thus it has become difficult to adjust the cost and price of the product
5. The high costs and the resulting decisions make the irrational and the result of the failure to determine the cost accurately

The above factors led to the urgent need to apply the Activity-Based Costing system. As for the Activity-Based Management system, all the systems applied in the company are ultimately intended to provide information to its users, and support systems are often developed to assist the management in the performance of its work. The management system is intended to assist management when making the following decisions through: (Blocher, et. al. 2008:126)

- a. Strategic decisions related to pricing decisions, decisions to add or exclude a production line or investment decisions in a new product
- b. Routine operational decisions are important but less important to the existence and survival of the company.

Whereas the ABC system alone is unable to provide information to management in the manner it wants, then the application of the ABM and based on the use of information from the ABC and then processed and produce information capable of assisting management when making administrative decisions and form That you are asking.

The management function does not end with making decisions, but decisions are considered one of the types of tools owned by the administration to achieve the objectives of the company and to address its operations and production, but continue to perform its other functions, some of which are related to planning and control, planning is one of the most important functions carried out by the Department, which shows the line of life of

the company and its course and goal And its direction of action, both in the short and long term, control is also a tool that enables management to control and monitor the performance and the extent of commitment to the goals set by them, The tool through which can reduce waste and costs and waste and emphasize on improving the quality of its products, and is the estimated budget tool that enabled the company to perform these two functions, but the traditional methods of preparing the budget estimates have suffered from several shortcomings in the core budget estimate at the application, accordingly, there was a need to develop the performance of the Activity-Based Budget, which addressed the shortcomings suffered by the traditional budgets, which concluded that it is unable to deal with the economic environment and modern technology, and was not considered flexible enough to address its shortcomings.

Activity-Based Systems (ABC, ABM, ABB) are complementary systems that complement each other with the aim of providing information to management to help them make strategic, operational and corrective decisions, it cannot be said that management is able to dispense with other systems when applied to any system, whether (ABC, ABM, ABB), each system is a particular area, However, it should be said that the Activity-Based Costing system it's represents the cornerstone on which the other two systems are built, namely the Activity-Based Management and the Activity-Based Budgeting,

ABC system serves management in terms of its actual historical data, which is based on determining the actual and objective costs of each product and therefore the company as a whole, and it should be said that ABC eliminated the concept of fixed costs and content With the concept of variable costs, which contribute significantly to the process of production and operation, which only adds value For the product and excluded all other costs, ends here the role of the ABC system, and complements the Activity-Based Management system start from the end point of the ABC system namely outputs (Roztock, 2010:2-3)

It processes this information and produces new information that the management can deal with, understand and use for its important decisions related to the pricing of products or services or upon which investment and strategic decisions are based on investing in new production lines or starting to produce new products, or entering new markets.

The role is complemented by the Activities-Based Budgeting system that uses the information generated from the application of the ABC and processes them and produces an estimated budget capable of assisting management in the planning and control process, measuring administrative performance and raising the overall quality of its products, and then helping it to track the company's commitment to the future objectives set for the company, and then address their shortcomings.

## **M. METHODS OF APPLYING THE ACTIVITY-BASED BUDGETING**

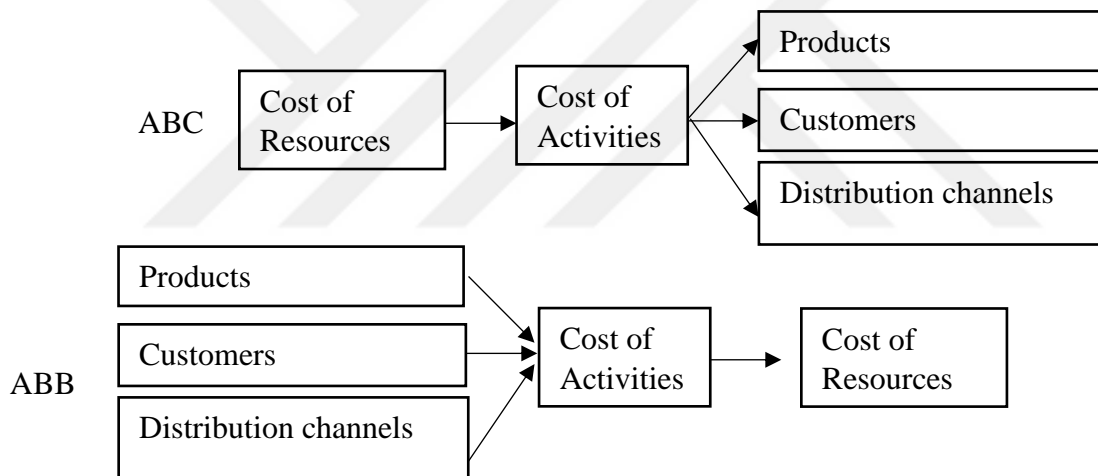
By reviewing the accounting literature in the field of Activity-Based Budgeting, there are three methods used when applying the Activity-Based Budgeting approach. The first method is the reverse operation of the activity-based cost accounting system, which relies on the inverse operation of the cost accounting system to arrive at estimates. The second approach is the integrated activity-based budgeting approach, which relies on the combination of activity-based budgeting and priority-based budgeting. The third approach is activity-based planning and budgeting, which relies on the resource consumption approach and the closed-loop model in the application of the Activity-Based Budgeting approach.

### **1. REVERSE OPERATING METHOD OF ACTIVITY-BASED COSTING SYSTEM**

The Activity-Based Budgeting approach has emerged as a result of the evolution of the use of the Activity-Based Costing to represent a natural extension. It is concerned with achieving the objectives of management through activities related to planning and control by relying on detailed information about the activities to enable the organization to allocate resources more efficiently according to for output volume (Lana et al., 2003:30) Therefore, the first methodology adopted by the organizations that implement the ABC system is the reverse operation of this system, through the supply of demand for outputs and the operation of the model in a reverse manner to estimate the future demand for the

resources of the organization, where the Activity-Based Budgeting approach uses activities and rules but to estimate future demand for the organization's resources. (Cooper, 2000:85)

Thus, the Activity-Based Budgeting approach is a reverse approach to the Activity-Based Costing system. Instead of allocating resource costs to activities and then allocating the costs of activities to outputs as an Activity-Based Costing methodology, outputs are linked to activities using cost drivers, then linking activities to resource costs using Resource consumption rates (Lana et. al.,2003:30) In this regard, the study (Cooper, 2000:85) indicates that the reverse process of the cost-based approach to activities lies at the heart of the Activity-Based Budgeting, and the following figure shows the mechanism of this method (Lana et al., 2003:30) (Cooper and Slagmulder, 2000:85)



**Figure 20:** The Mechanism of ABB Reverse of ABC

However, this approach does not work in this simple reverse way, estimating the demand for resources in this way may lead to inaccurate results, and the reason for these errors is not due to the Activity-Based Model, but rather to the fundamental differences between the Activity-Based Costing and the Activity-Based Budgeting.

(Cooper, 2000:26-27) argues that there are at least four reasons why operating an Activity-Based Costing system in reverse without modifications to that system yields inaccurate results on Activity-Based Budgeting estimates: expenditure patterns (acquisition) different from consumption patterns, outputs of secondary activities; Shared resources, lack of detailed knowledge.

## **2. INTEGRATED ACTIVITY-BASED BUDGETING APPROACH**

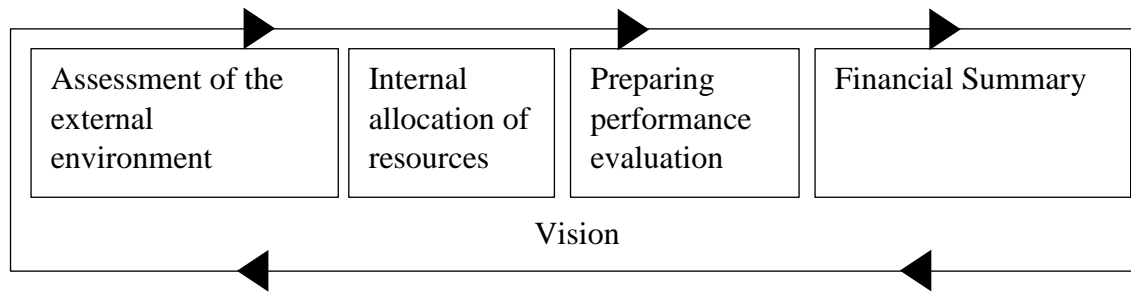
(Connolly; Ashworth,1994:33-43) study provided an integrated approach to budgeting and resource management that helps achieve the organization's vision and strategy and relies on the integration and integration of two cost management tools, namely, Priority-Based Budgeting and Activity-Based Budgeting. This approach has been called an integrated Activity-Based Budgeting approach.

Where Activity-Based Budgeting is a planning tool, it works by understanding the interrelationship between cost drivers and activities, especially those activities that involve creating value for both the value of the product and the value of the customer. While Priority-Based Budgeting its planning tool, it works to reduce expense levels by budgeting effectively. Especially in areas where resource requirements are not directly affected by changes in activity volumes of the organization

The Activity-Based Budgeting fits the main activities that create value for the product and are related to the size of the activity such as activities related to production processes, activities related to sale, marketing and customer service activities. While Priority-Based Budgeting, assistive activities that support core activities are not directly related to the volume of production such as human resource-related activities, secretarial, legal, and information technology activities. This approach helps to achieve the following benefits:

- Effective application of the vision, strategy, goals and plans of the organization
- Effective delivery of goals from top to bottom or bottom to top across the organization
- Optimal allocation of controlled or limited resources across the organization in a manner consistent with the objectives and plans developed
- Focus on continuous improvement initiatives and key performance determinants to achieve future vision
- Achieving a high degree of management commitment to achieve budget targets

In order to achieve the above benefits, the Activity-Based Budgeting must be adopted, which are based on four stages to prepare budgets successfully, which can be illustrated as follows: (Connolly; Ashworth,1994:33)



**Figure 21:** Four Stages to Prepare Budgets Successfully

### **3. ACTIVITY BASED PLANNING AND BUDGETING (ABPB)**

The study of (Brimson, Fraser, 1991:42) indicates that the linkage and integration between the operational planning process and the preparation of budgets under the traditional approach lacks the required efficiency, which requires a methodology to achieve this linkage and integration. a research group affiliated with the International Organization for Advanced Industrialization (CAM-I) came up with a methodology or method for applying the Activity-Based Budgeting approach called Activity Based Planning and Budgeting (ABPB). The ABPB is so flexible that it is more suited to the needs of the dynamic business environment currently faced by business organizations and supports modern initiatives and approaches. Adopted by organizations such as Balanced Scorecard, Continuous Improvement, and Energy Management (Derek el. al., 2003:17). The benefits of using an Activity Based Planning and Budgeting (ABPB) can be expressed by demonstrating how they overcome the shortcomings of the Traditional budgeting.

The Activity Based Planning and Budgeting (ABPB) relies mainly on a model called the Closed Loop Model, which in its work mechanism relies on the Consumption based approach (Derek el. al., 2003:17).

### **N. CONSTRAINTS ON THE ACTIVITY-BASED BUDGETING SYSTEM**

Despite the important advantages and benefits of the Activity-Based Budgeting system that affect the structure of the company and how the cost system of the company, it suffers from shortcomings, the most important of which is that it needs when building a special modern model different from traditional systems, this model requires a thorough



understanding of the company Therefore, this obstacle can be easily overcome when applying the ABC system, which uses an accurate and objective system in allocating costs according to activities. Therefore, this system can be relied mainly on relying on costs according to the activities and results of the application of ABC system, where we can continue to work and apply Activity-Based Budgeting system

(Al-Bashiti, 2009:73) listed several obstacles encountered in implementing the ABB system as follows:

1. It takes a lot of effort and time to identify activities and cost drivers, but when applying budgets in companies that apply costs on an active basis, they will save a lot of time and effort to identify activities.
2. It may be difficult to clearly link individual responsibilities with activities in the case of negligence in the performance of their duties.
3. Indirect costs may be difficult to control and therefore do not change much in the range of shortcomings and need a greater extent to make the picture clearer
4. Resistance to change on the part of employees in the case of the application of a new system, especially if the budget objectives differ from the objectives of employees, or if they are difficult to implement or exaggerated in its objectives and requirements.
5. Lack of support by senior management of the budget execution staff based on activities because they do not know their importance and role in improving job performance.
6. Lack of staff capable of adopting the budget based on activities and their application and their need to attend training courses and workshops.

We find that most of the constraints mentioned earlier are simple problems that can be overcome in the case of a commitment by companies to apply the Activity-Based Costing System.



## **V. HOSPITALITY SECTOR**

### **A. INTRODUCTION TO HOSPITALITY SECTOR**

Tourism is an important productive sector in the economies of many countries. It increases production and consumption and is considered a market for expansion, they also require high financial investments when compared to other productive industries, in addition, this vital sector is a major source of export, with tourists from different countries pumping foreign currencies directly into the economy.

The hotels in the present time of the most advanced economic activities in the world, most of the countries concerned with this activity as a manifestation of the progress of any country that has become known as the "hotel industry", which showed a huge tourist facilities spread its branches all over the world and exceed their funds billions capital

Considered the hotel industry of the most important service industries, since it depends on many service activities accommodations, feed, drinks and parties to other miscellaneous service activities, and this is what makes the hotel operations is unlimited both in terms of revenue or in terms of costs associated with these revenues, The traveler need for food and accommodation has not changed much since the establishment of the first small hotels at the Roman Empire until the establishment of modern hotels in our time, hotels have undergone continuous industry is development throughout its history, which runs through 2000 years until it became wider industries and most complex in the world, Before the nineteenth century was the residence confined to the boxes primitive road health conditions of limited, until the Romans create places named along paved roads, and then began the emergence of HOSPITEA in the middle of Europe, which combines food and drink with service accommodation where rooms are shared by travelers Since this service is not suitable for aristocrats so luxury places have been built, In modern times, hotels are for rich customers and these majestic places were called hotels, after the French Revolution and the industrial revolution they invest capitals in hotels because its profitable industry to become at present distinct industry has its own characteristics, regulations, laws and customs began, the industry has reached its peak and named to the highest degree

of sophistication In terms of administration and management in the United States, where the first An American hotel in New York, where appeared a period known as the Golden Period of the Hotels in 1919, during 1950 the largest group of three hotels emerged ( HILTON, STATLER, SHERATON) ( Al-Taie, , 2000:20)

As one of the pivots of economic activity, hotel activity has several characteristics that distinguish it from other activities (commercial or industrial). Which should be considered when designing the entire hotel accounting system because of its impact and implications on the nature of the accounting system. (Al-Rawi, 1996:142)

### **1. ACTIVITY SEASONAL**

Seasonal fluctuations in the size of the activity that make the hotel sales unstable may be three times the size of the activity in another season in another season, in other words, it is possible that the hotel business may be at its peak in some areas during the summer and in other areas in the winter. Sales volume may increase in the first few days of the week ,Such as weekly holidays (Sunday and Friday).

### **2. THE HUMAN ELEMENT**

The human element is considered one of the most important pillars of the success of the hotel. Many of the guests distinguish the hotel from another in their residence according to its good service and fast performance of the workers. Hotel activity depends on the efficiency and well-being of its human staff with hotel guests and clients, and the satisfaction and trust of clients

### **3. INABILITY TO STORE ACTIVITIES**

Featuring hotel activity not portability production units for storage, and storage in this type of activity is limited to some raw materials used in kitchens and in quantities small because the purchase is on short periods of weekly or even daily for some materials, because most of the materials used in the production of hotel services are materials Perishable and high turnover.

### **4. THE INTENSITY AND MAGNITUDE OF THE FIXED ASSETS AND SPEED UP CAPITAL TURNOVER FACTOR**

Characterized by the hotel industry of the magnitude of fixed assets and the high rate of this percentage may reach 90% of the invested capital value, and aim at some of the

five hotels star is to provide Accommodation are comfortable and independence in addition to providing a variety of services to attract tourists, the large size of fixed assets leads to an increase in the size of the fixed costs and to higher profit margins than necessary management work to raise the occupancy rate of the hotel rooms as far as possible as those covering fixed costs and achieve an appropriate return on investment

#### **5. RAPID CASH HANDLING**

Hotels are often handled in relatively small amounts of cash, through credit cards, or in some special cases, such as dealing with commercial companies or permanent clients that's converted their accounts to a CITY LEDGER account, so must the financial staff, the hotel to review the guest bill at any moment when you leave the hotel wants, which requires the design of an accounting system is fast and accurate recording and transfer the guest accounts and operations, so that the hotel does not bear losses due to errors in the registry or download the guest most worth it accounts and therefore abuse to the hotel's reputation, errors is not allowed.

#### **6. VARIATION AND MULTIPLE ACTIVITIES**

Although the hotel activity is a service activity, but it does imply a number of other commercial activities as processes sale of food and beverages (and industrial) through the conversion of the first material of meat and vegetables to dishes and ready meals (so that some hotels are agricultural activities through vegetable farms Fruits, poultry and livestock to meet their own needs of raw materials (and then discharge the surplus from these farms commercially).

There are many opinions about the hotel departments and administrative (Al-Taie, , 2000:21)

- a. Income-generating sections: divided into rooms and food and beverages.
- b. Income-generation support Sections: Reception Section-Laundry and Ironing Section-Telephone Section
- c. Supporting Sections: Maintenance and Repair Section, Warehouse Section, Procurement Section, Accounts and Audits Section, Supervision and Cleanliness Section, Public Relations Section. (Attia, 2000:31) divide departments according to their activities as follows.

- i. Sections carrying out operational activities
- ii. Sections that carry out supportive administrative activities and functions

## **B. TRADITIONAL COSTING SYSTEM IN HOTELS**

The success of the hotel facilities on the success of its financial management and understanding of the nature and specificity of the hotel work by adopting the accounting system that fits in the stages of aspects of hotel activity by following reports of financial and accounting records that enable management to measure the result of this activity of the profit or loss and determine the true financial position of the hotel systems, the first unified accounting system for hotel accounting was published in 1926 by the Hotels Organization in New York City, which provided the necessary steps to prepare the financial statements, as well as a directory of accounts in the hotel industry containing general content sufficiently for the industry, no matter the size or process. (Al-Basly, 2006:12), the hotel costs are divided into three main sections from the beginning from making Purchase Request (PR) of raw materials through the provision of service or product until the completion of service or product and this is what we will talk about in this part of the research in detail.

### **1. Mechanism of the Cost Accounting System in the Procurement Phase of the Hotel Raw Materials**

#### **a. Characteristics of the Hotel Cost Accounting System**

Some of the special features of the hotel cost accounting system make it differentiated:

- i. Most hotel costs are fixed, and this is what we have found by studying the characteristics of the hotel activity. Therefore, most of the invested capital is fixed capital and therefore the depreciation of the assets of the hotel is relatively high.
- ii. Changing the size of the activity as a result of the seasonal activity of the hotel and the size of the operations associated with the activity throughout the year or month and up to the week and this leads to a change in hotel costs

- iii. Predictability: Hotel management can forecast periods of low or high level of activity, particularly during holiday and weekend breaks.
- iv. Orientation of hotel business and its impact on costs It is essential to distinguish at the beginning of our study of the hotel cost accounting system between its core activities, namely residence, food and beverages and health club.

### **b. The Design of the Cost Cycle in Hotel**

The relationship between the cost controller and other hotel departments, depending on the cycle of hotel service production starting from the purchase of raw materials for their production until delivery to the guest, and in the nature of the case that the cost accounting in hotels or even luxury restaurants are just beside the food and beverages competent, called the person responsible for this profession food & beverage cost controller .The importance of the Food and Beverage Section It does not mean that hotels do not care about other costs such as maintenance or cleaning costs, but their responsibilities are often confined to the financial manager or the payable accountant for easy calculation or even control.

- Management of food and beverage purchases

The Procurement Section defines in terms of cost control “to ensure that suppliers and services are available for operations in the quantities and levels required and at the appropriate price means make sure there requests of all departments in the hotel through the follow-up of the head of the procurement department for all purchase orders - food items for the kitchen, bars drinks and make sure these requests at lowest cost and high quality ,the hotel procurement process is considered one of the most important cost-effective processes, In order to control the cost of procurement, this process must be carried out from a tight documentary cycle that will take the following steps (Tawfeeq, 1997:12)

- i. The warehouse keeper shall prepare the requisition indicating the required quantity of the material in addition to the amount found in the warehouse, if any, in addition to determining the last price and then sends the purchase to the procurement department manager, but it has to be noted that the purchase request for some types of foods do not

prepare by the warehouse keeper, especially meat, but by Executive Chef, because these materials are kept in kitchen refrigerators and the responsibility of refrigerators inventory is up to the Executive Chef which, in turn, he edit the purchase order and this PR called the list of the market printed on it the names of all materials that's usually requested, the Executive Chef register quantity next to each item on list of the market and sends it to the procurement manager and thus distinguish between two types of PR in the Hotel:

Direct or daily purchases: they are purchased daily through Executive Chef in coordination with the procurement Manager, and often are perishable items that cover the daily or weekly kitchen needs, and the PR called list of the market

Purchases store: purchased on a weekly or even monthly and are subject to storage materials shall be the responsibility is up to the warehouse keeper and are disbursed to the department based on the diary withdrawn are monitored by the warehouse keeper and cost controller, the cost controller must cooperation with the chief financial officer when they reviewing the items quantity in the PR and considering following factors(James, 1993:211)

- Material utilization rate for a specified period
- Number of days from the date of PR to the date of receipt
- The minimum quantity of materials to be available in the warehouses.
- The upper limit of the stock to be available in emergency cases.
- The place where materials are stored
- Funds available for the PR.

ii. The Procurement department shall request quotations for the items requested in the PR. The Procurement Manager and Financial Department shall sign agreements cooperation with the suppliers, considering the following:

- Timely supply of all items required in the PR.
- Supply items in accordance with the specifications specified in the contract with the supplier.



- If an item is rejected due to lack of specifications, the supplier must change the item within 24 hours or purchase from the local market and he should cover the additional cost.
- If any error or negligence from the supplier is repeated in terms of the goods specifications or in terms of the delivery date, the hotel management shall have the right to terminate the contract.

However, what distinguishes the hotel raw materials, especially the materials purchased for the food department, is that they do not have to be at a lower price but must be of a certain quality when used in the food.

iii. After receiving quotations by the procurement department and often at least three prices it will be on the hands after this the financial management approved one price and start make PR for non-recurring items or are requested by telephone for daily materials that's have already contract with suppliers in advance.

Four different color versions of the PR retained.

Original for supplier / Copy of accounting (cost controller) / Copy of the Procurement Section - Copy of warehouses to match the quantity purchased in the PR with the imported quantity in the invoice / Copy of warehouse keeper

Accordingly, there should be criteria to be considered to control the cost of procurement:

- Production standard: means the quantities of goods required and the determination of the specific cost center. Special materials for the kitchen, bars or rooms.
- Purchase specifications: in conformity with the specifications agreed upon in the contract or the specifications mentioned in the invoice upon receipt in case of non-contracting.
- Types of purchase: direct purchase or by contracting suppliers and matching the invoiced price with the contract price
- Procedures: intended to validate the application of the documentary cycle and to identify the person responsible for determining the amount of purchase and the order holder (the financial manager in coordination with the cost controller)

### **c. Receiving**

The receipt is a very important element in controlling the quality of the goods agreed upon in the purchase, so the receipt must be done by expert persons to be determined by the financial management of the hotel, they are often composed of (Lutfi, 2007, p.238):

- i. The Executive Chef or his deputy to ensure the quality of the goods received
- ii. Warehouse keeper
- iii. Cost Controller The cost controller should perform the following tasks:
  - Checking the sizes and weights of the materials received, especially meat, by adopting their net weight without adding, for example, the weight of the ice.
  - Comparison of the quantities and prices contained in list of the market released by the Executive Chef with the quantities and prices mentioned in the invoice.
  - Ensure the delivery of goods to the warehouse in the case of storage purchases or direct delivery to the kitchen in the case of direct purchases in which it is possible to manipulate between the supplier and the Executive Chef or his deputy.
  - Place the good material up during the delivery process to make it easier to check and see and hide the bad type of goods at the bottom in order to sell the material in violation of the required specifications at the same price.
  - If the invoice is not sent by the supplier, the cost accountant prepares an invoice called a false or fictitious invoice so that it is subsequently reconciled with the original supplier invoice.
  - In the event of an invoice error in terms of price or quantity, no member of the Receiving Committee may correct the error within the invoice, but the cost accountant will issue a corrected error notice.
  - The cost Controller shall put his own stamp on the invoice, which will review the invoices and all the attached documents and send them to the payment accountant, to complete the recording and filing operations to Warehouse keeper under special input note for each of the item.

#### **d. Storage**

After the materials are received by the receiving committee, the warehouse purchases are kept in special shelves where the item number corresponding to the number on the item card is recorded, to make it easier for the cost controller to inventory them monthly or weekly. (Abdelkader, 2002:120)., Thus, the warehouse keeper performs a set of tasks to be directly accounted for by a cost controller.

- To write purchase orders for food and beverages and to hold him accountable for the shortage of some items if requested by the kitchen or bars, therefore, the warehouse keeper should anticipate daily or weekly consumption of all items and accordingly prepare the PR.
- Make sure to match the quantities contained in the purchase invoice with the quantity entering warehouses, in addition to making sure the quantities of goods delivered directly to the kitchens as a member receiving committee.
- Informing the cost controller about foods that will be destroyed within a short period of time, in addition to the damaged items to be excluded from the warehouse and excluded from the inventory.
- warehouse keeper shall balance Inventory on class cards and actual balance of it.
- Not to dispose of any material from the warehouse except through an authorized note with authorization signed by the requesting department and by the warehouse keeper, and the note permits usually have multiple colors for each store, for example, the red color of the ear of the food warehouse and the blue of the beverage ear.

#### **e. Order Request**

The storage purchases disbursement based on the disbursement note from department that request material explains the required, quantity, date and signed by the head of department and the warehouse keeper and frees the first three copies of the department and the warehouses to make disbursement process the third copy is sent to the cost controller. Thus, the warehouse Keeper has discharged his responsibility for what has been disbursement from the warehouses, and the disbursement note or the ordering of materials

for food is usually prepared by the Executive Chef, as for the Beverage the Head of Bars Section or Food & Beverages Manager. (Maqableh, 2000:77)

## **2. Mechanism of the Cost Accounting System in the Production Phase of the Hotel Service**

We will detail hotel service production cycle by studying the working cycle for the cost controller in hotels, starting selling prices planning in cooperation with the food and beverage and Executive Chef, and then determine the prices of sale agreement with the financial management in terms of determining profit margins for each service or category in Menu To control the production of the hotel service in bars and kitchens in order to inventory the production and sales centers, design the monthly cost lists and calculate the hotel cost.

### **a. Calculate the Food and Beverage Cost.**

The importance of accounting for food costs first emerged in the United States during the First World War. When laws were passed to prevent alcohol drinking as a result, bar profits have been reduced, which has led to a deeper study of food cost accounting systems to achieve fair profits from food sales. (Lutfi, 2007:279)

Reports submitted by the cost accountant are considered the management image to the weaknesses that must be avoided or policy, Thus, the highest possible profit from food sales is within the established policy, in terms of the quality of the food items and the size of the meals.

### **b. Menu Engineering**

The price is one of the most influential factors in hotel occupancy rates, which in turn is influenced by costs, competition, and elasticity of demand with price changes, customer type and hotel reputation. The responsibility of the cost controller that this menu design should consider certain general rules that could have a significant impact on hotel costs, including:

- Foodstuffs in the ingredients of the dishes are available on the market and easy to supply.
- Consider the cost of meals, which is in line with the class of the hotel so that it does not exceed one third of the selling price
- Considering the effort and time required in preparation each item

Therefore, it is not easy to identify and write food items in the hotel sales list, but the production and cost potential of each item of sale must be considered. In this sense, the cost controller should price the food menu in cooperation with the Director of the Food, Beverages and Executive Chef by analyzing the raw materials involved in the preparation of the items in the menu. The cost of a meal or dish is usually calculated to feed ten people and the result is then divided by 10. This is to facilitate the calculation of costs, and the following table shows example from a hotel about the calculating mechanism for a dish in the menu:

**Table 1:** Calculating Mechanism for a Dish in the Hotel Menu

Item	Quantity	Unit	Description	Price	
Veal	1800	Gram	7 JOD * 1.8 Kg	12.6	JOD
Mushroom	250	Gram	4 JOD * 0.2 Kg	0.8	JOD
Butter	150	Gram	3 JOD * 0.2 Kg	0.6	JOD
Potato	1000	Gram	1 JOD * 1.0 Kg	1.0	JOD
Carrots	500	Gram	1 JOD * 0.5 Kg	0.5	JOD
Zucchini	500	Gram	1 JOD * 0.5 Kg	0.5	JOD
Cream	1	Can	3 JOD * 1.0	3.0	JOD
Oil	150	Gram	3 JOD * 0.15 Kg	0.45	JOD
Waste			%10	1.945	JOD
Total cost				21.395	JOD
Cost per person				2.1395	JOD

The accountant should be obliged to conduct monthly food list sales analyzes that help the hotel determine the profitability and demand of each item in the food menu. These analyzes are called Menu Engineering, under which the cost accountant divides the menu items into four

- Plow Horses items: are very popular and their contribution to profit margins is low.

- Stars items: are highly popular and their contribution to profit margin is high
- Dogs items: are low popular and their contribution to profit margins is low and management should decide to cancel it from the food menu.
- Puzzles items: are low popular and their margin contribution is high, and management should decide to keep or cancel from the food menu.

### **c. Discounts from the Cost of Food and Beverages**

There is a set of accounts that should not be included in the cost of food & beverages sold:

Staff meal costs: Most large hotels allocate free meals as an in-kind benefit to their employees, These meals are considered part of their salaries, Therefore, in the theirs no kitchen for preparing employees meals, the main kitchen will transfer part of the assigned food to the workers' canteen, or if there is an independent kitchen to prepare meals then all food purchased and delivered from warehouses under disbursement permits is directly transferred to calculate the cost of Staff Meals

In terms of the procedures for determining the cost of employees' meals, they are carried out according to the following steps:

- The Director of Human Recourse agreement with the Director General Manager or the Chief Financial Officer, determine the meals of the employees over the week according to a specific program for each day individually.
- This program sends to Executive Chef and cost controller for pricing.
- The cost controller sets the monthly cost of the employees' meals by pricing the raw materials entering each meal.
- The cost a controller sends this pricing to the financial department, which in turn decides the meals according to their prices.
- A food card is allocated to each worker.

### **Hospitality**

The foods and beverages that offer to the permanent customers and top management in the hotel and to the sales & marketing team as free of charge, and this free meal approved

by the General Manager after, and all of withdrawals from restaurants and bars the cost Controller reduction this cost from the cost of Food and Beverage Department,

Inventory of food and beverage stores are difficult for several reasons.

Hotel activity is a continuous activity where it cannot be stopped for a certain period until the inventory is completed, the inventory should be conducted in such a way that the guests are not disturbed and without affecting the quality of service provided to them, kitchens and warehouses are often inventory at night

- i. Due to its specific nature and easy exposure to theft, loss or expiry of certain items, the hotel stock requires careful attention in its inventory process.
- ii. Inventory of some foods, especially Cooked or semi- Cooked foods, includes a personal assessment component of the cost controller, who, in conjunction with the Executive Chef, assesses the raw materials involved in their installation.

The food inventories are summarized in the following:

- Beginning inventory in the beginning of the month
- Purchases during the month
- Ending inventory in the ending of the month
- Deduct the Hospitality and the Staff meal costs

**Table 2:** Food & Beverage Cost Calculation the hotel

<b>Accounts</b>		
Beginning inventory	***	
(+) Purchases	***	
(-) Ending inventory	***	
(=) Total Cost		***
(-) Hospitality	***	
(-) Staff meal costs	***	
(=) Total F&B sold		***

### C. TRADITIONAL BUDGETING SYSTEM IN HOTELS

The traditional budget relies mainly on historical hotel information and the manager's estimate of expected sales volumes reflecting certain percentages of sales, it can be said that by studying the case of the hotel and the fact that his work seasonal, it depends in the estimated budget on the sales volume for the same month of the previous year and also the month before the month of the budget, and consideration the opinion of managers expectations and the general economic situation .

The way the budget process goes through the hotel is a routine process that is free of any cost audits, the overall situation and the way in which the costs are distributed:

#### 1. State all the income

They determine all the income of the company. Include all sources of income (rooms sales, food and beverage, health club sales, rent income and any other income. If money is received from somewhere not listed, create a new category of income or enter the amount under " Miscellaneous Income " and following tables shows how its work.

**Table 3:** Traditional Budget in Hotels

Products	Total Unit	Average Daily Rate	Total (JOD)
Rooms	4034	JOD 82.80	JOD 334,015.20
Food & Beverage) According rooms selling)	6857.8	JOD 12.30	JOD 84,350.94
Food & Beverage (Wedding Reservations)	13500	JOD 22.50	JOD 303,750.00
Food & Beverage (According walk in guest)	3000	JOD 7.25	JOD 21,750.00
Health Club (Leisure)	5000	JOD 12.58	JOD 62,884.00
Other Departments	According Guest in House		JOD 7,334.60
Miscellaneous Income	According Rents Contracts		JOD 2,892.00
Total Expected Income			JOD 816,976.74



## 2. Estimate Expenses

Starting from fixed expenses those that generally do not change from month to month, such as salaries and wages and Insurance payments. Variable expenses are those that may change from month to month with respect to the occupancy percentage, such as expenses on direct materials. Taxes are expenses and are shown in a separate category.

**Table 4:** Estimate Expenses in Hotels

Description	Cost	Total (JOD)
<b>Rooms</b>		
Fixed Cost		JOD 24,373.04
· Salaries & Wages	JOD 24,373.04	
Variable Cost		JOD 59,278.14
· Total P/R & Related Expenses	JOD 54,251.09	
· Commission and Fees- Group	JOD 5,027.05	
Total Rooms expenses		JOD 83,651.18
<b>Food &amp; Beverage</b>		
Fixed Cost		JOD 58,190.06
· Salaries & Wages	JOD 58,190.06	
Variable Cost		JOD 196,662.13
· Total P/R & Related Expenses	JOD 90,409.00	
· Cost of Sales Food	JOD 17,535.88	
· Cost of Sales Beverage	JOD 88,717.25	
Total Food & Beverage expenses		JOD 254,852.19
<b>Health Club (Leisure)</b>		
Fixed Cost		JOD 6,749.11
· Salaries & Wages	JOD 6,749.11	
Variable Cost		JOD 15,686.30
· Total P/R & Related Expenses	JOD 5,477.51	
· Total Cost of Sales	JOD 10,208.79	
Total Health Club expenses		JOD 22,435.41
<b>Other Departments</b>		
Fixed Cost		JOD 3,350.67
· Salaries & Wages	JOD 3,350.67	
Variable Cost		JOD 6,937.80
· Total P/R & Related Expenses	JOD 1,500.00	

Table 4: (continue) Estimate Expenses in Hotels

Allocation Inhouse Laundry	JOD	5,437.80		
Total Other Departments expenses			JOD	10,288.47
<b>Miscellaneous Income</b>				
Variable Cost			JOD	150.00
· Electricity	JOD	100.00		
· Water / Sewer	JOD	50.00		
Total Miscellaneous expenses			JOD	150.00
<b>Admin &amp; General</b>				
Fixed Cost			JOD	46,732.32
· Salaries & Wages	JOD	46,732.32		
Variable Cost			JOD	92,370.75
· Total P/R & Related Expenses	JOD	81,348.84		
· Credit Card Commission	JOD	11,021.91		
Total Admin & General expenses			JOD	139,103.07
<b>Information &amp; Telecoms</b>				
Fixed Cost			JOD	1,700.00
· Salaries & Wages	JOD	1,700.00		
Variable Cost			JOD	9,359.76
· Total P/R & Related Expenses	JOD	2,607.76		
· Total Other Expenses	JOD	6,752.00		
Total Information & Telecoms expenses			JOD	11,059.76
<b>Sales &amp; Marketing</b>				
Fixed Cost			JOD	15,142.28
· Salaries & Wages	JOD	15,142.28		
Variable Cost			JOD	40,525.04
· Total P/R & Related Expenses	JOD	23,839.30		
· Total Other Expenses	JOD	16,685.74		
Total Sales & Marketing expenses			JOD	55,667.32
<b>Property Operating &amp; Maintenance</b>				
Fixed Cost			JOD	13,645.13
· Salaries & Wages	JOD	13,645.13		
Variable Cost			JOD	44,963.66
· Total P/R & Related Expenses	JOD	21,862.66		
· Total Other Expenses	JOD	23,101.00		
Total Property Operating & Maintenance expenses			JOD	58,608.79
<b>Utilities</b>				
			JOD	64,182.00
Total Cost			JOD	699,998.19

### 3. Find the difference

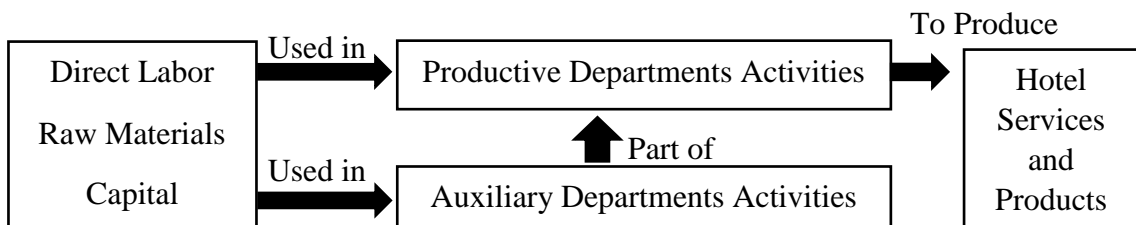
Once the monthly income and the monthly expenses are stated, the expense total is subtracted from the income total to get the difference. A positive number indicates that the spending less than the earnings. A negative number indicates that the expenses are greater than the income and the following table shows real example:

<b>Rooms</b>	<b>Actual</b>	<b>Budget</b>	<b>Actual vs Budget</b>
<b>Total Revenue</b>	<b>\$ 369,097.59</b>	<b>\$ 334,201.00</b>	<b>\$ 34,896.59</b>
Total Salaries & Wages	\$ 23,942.58	\$ 24,373.04	\$ (430.46)
Total P/R & Related Expenses	\$ 37,070.79	\$ 39,251.09	\$ (2,180.30)
Commission and Fees- Group	\$ 6,482.54	\$ 5,027.05	\$ 1,455.49
Other Expenses	\$ 13,566.88	\$ 14,494.02	\$ (927.14)
<b>Dept Profit/(Loss) Rooms</b>	<b>\$ 311,977.37</b>	<b>\$ 275,428.84</b>	<b>\$ 36,548.53</b>

**Figure 22:** The Difference Between the Actual and the Estimated Budgets

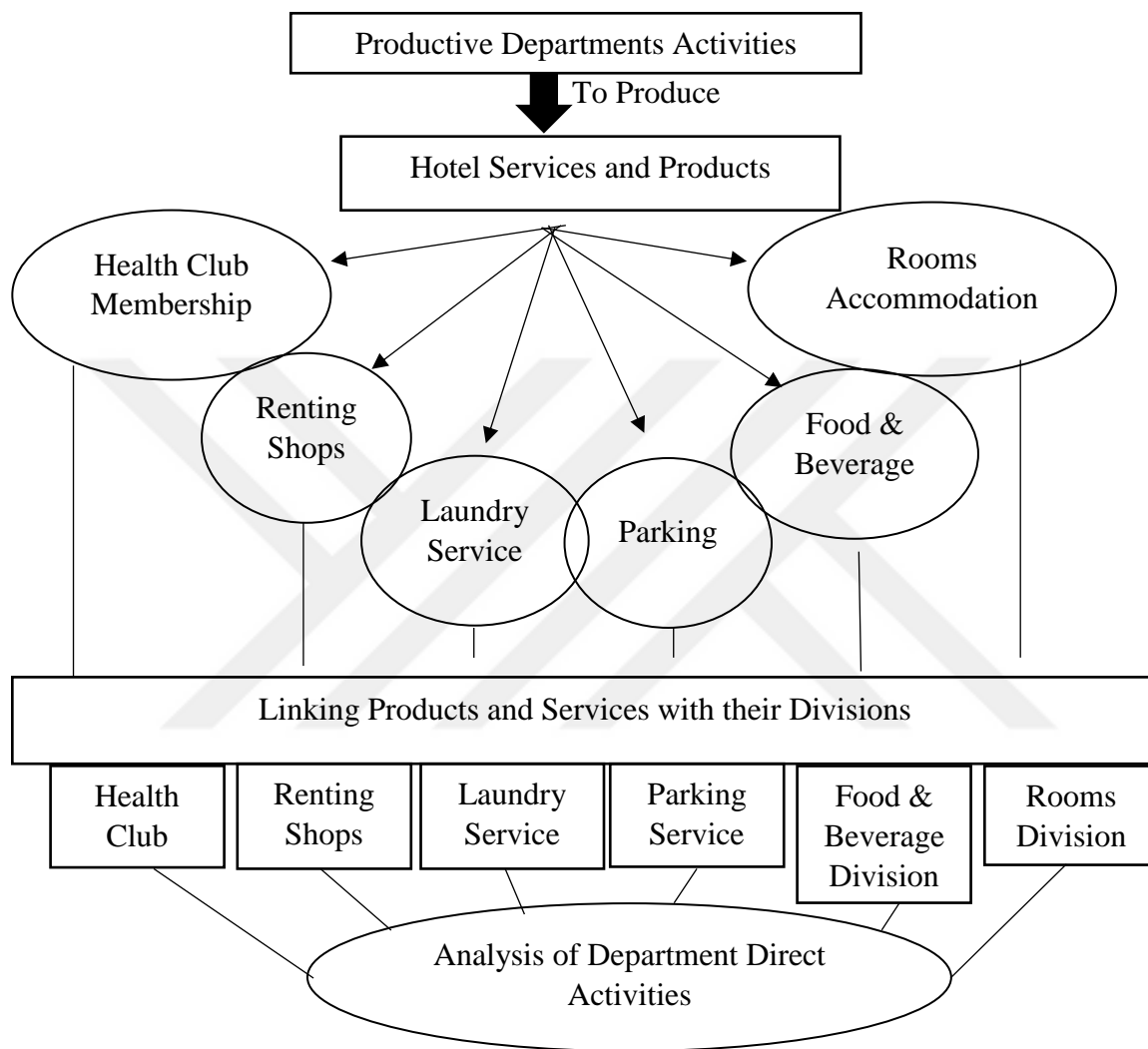
#### D. THE PROPOSAL ACTIVITY BASED MODELS IN HOTELS

The essence of the application of the Activity-Basis lies in any facility in the way of analysis of the company's operating and knowledge of cost centers in the different departments in the company, It is essential to know the main products and services provided by the institution through which it generates income to the origin and link them to the direct sections (Productive Department) that provide these services, as for the other sections, they are considered as auxiliary sections for the Productive department



**Figure 23:** Proposal Activity Based Model in Hotels

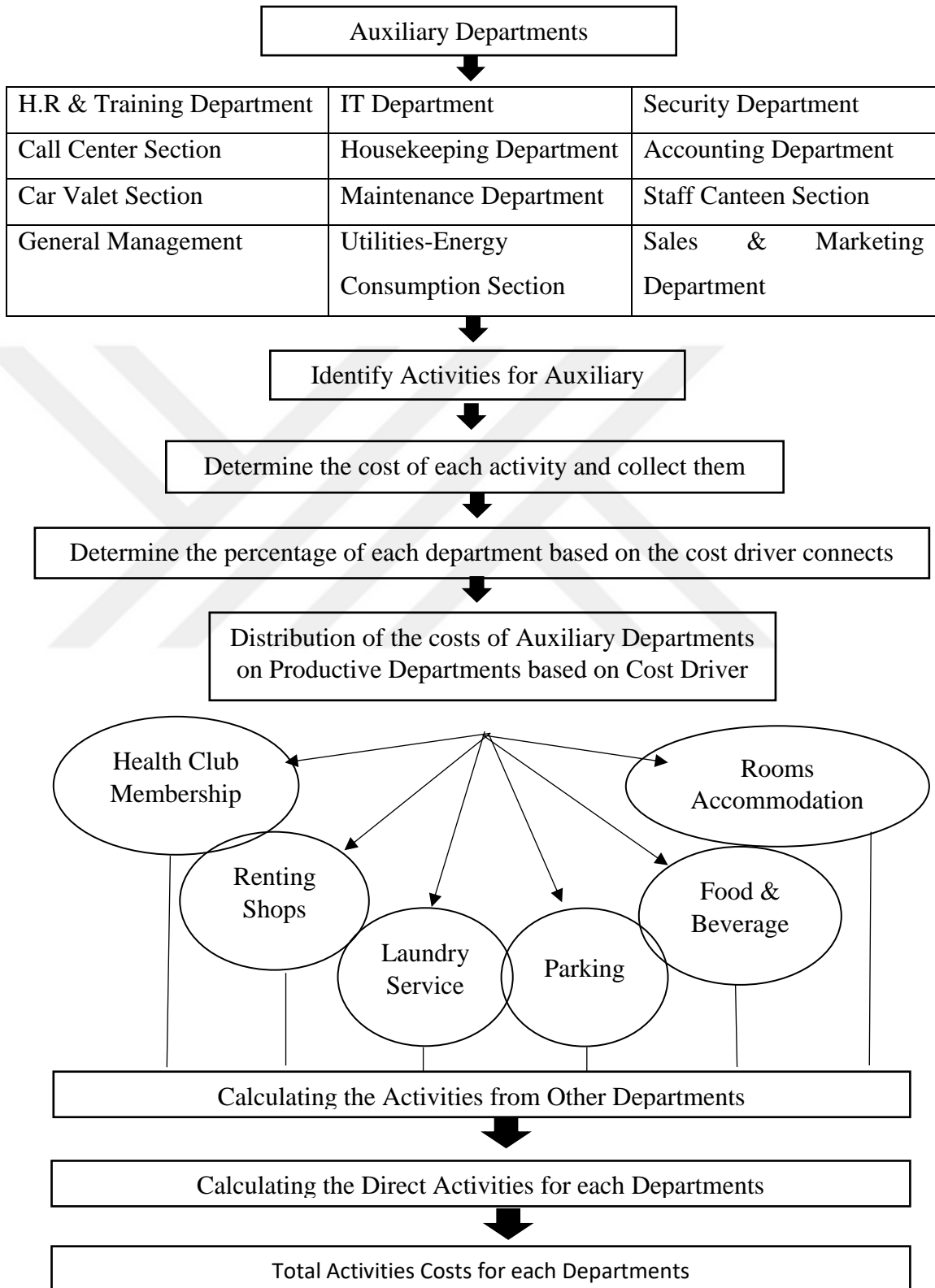
1. **Analysis the Hotel Services and Products and link them to Productive Department:**



**Figure 24:** Analysis the Hotel Services and Products and link them to Department

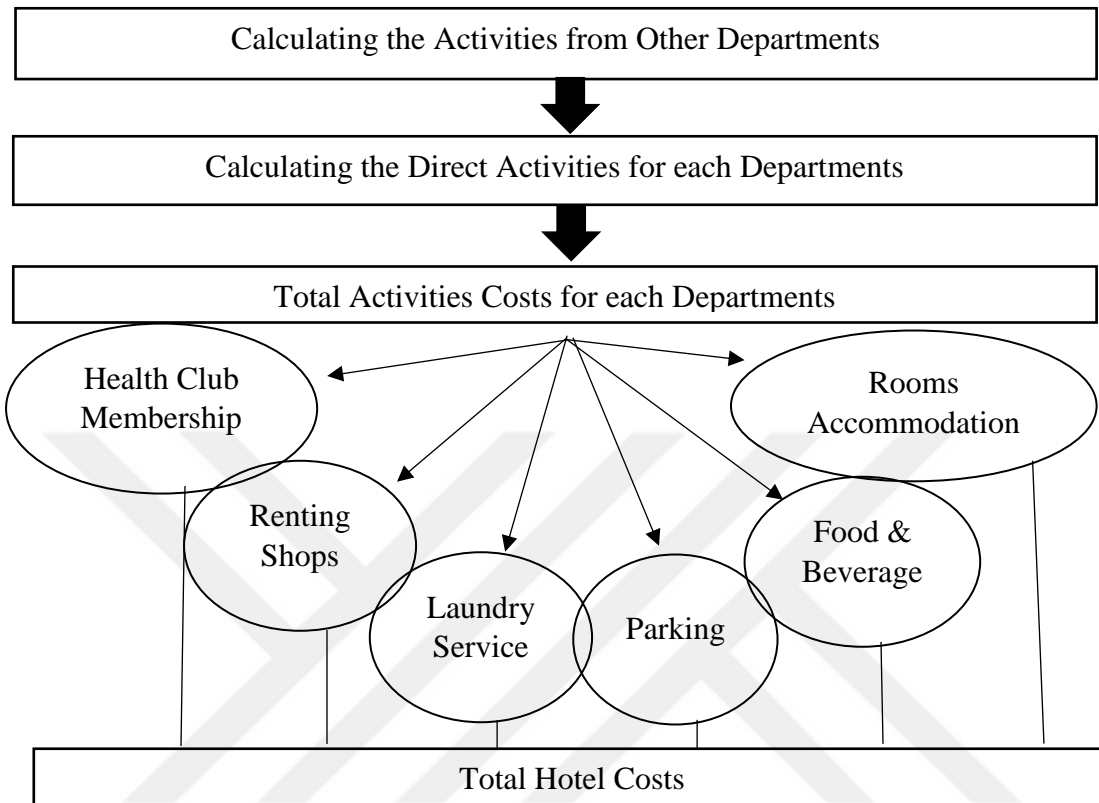
One of the most important steps that will be the main basis for the implementation of the Activity-Based Costing system is to properly define products and services means anything that a hotel provides and takes in money in return, is a paid service or product and must therefore be classified under a department that produces this service or product and needs activities that use the hotel's main resources. Any section other than these sections is a supporting section that helps the main productive departments to provide products and services as required. In the next step, the figure represents a process to explain how the proposed model for the application of the system to the auxiliary department.

2. Identify activities for auxiliary departments.



**Figure 25:** Identify Activities for Auxiliary Departments

### 3. Aggregate the Costs of Productive Departments to Get the Cost of the Hotel.



**Figure 26:** Aggregate the Costs of Productive Departments to Get the Cost of the Hotel

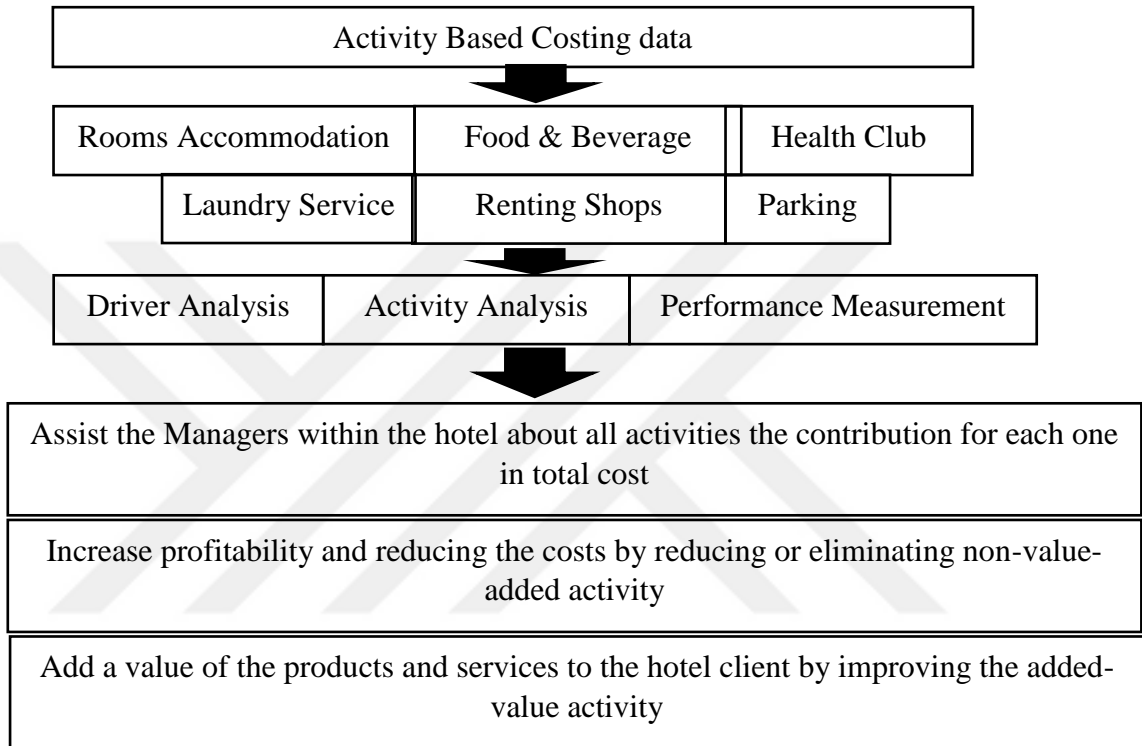
The last step combines the main activities of the productive departments with the activities that have contributed to the production of services and products from the auxiliary departments

Thus, each major department or service combines its direct activities and other activities of the auxiliary sections in proportion to the contribution of the auxiliary sections in the production of these products and services in the productive sections.

The total cost of the activities in the productive sections and the main service activities constitute the full cost of the hotel.

#### 4. Make decisions according on the outputs of the ABC system

The Activity-Based Costing process follows with the Decision-Making according the ABM system Process based on the outputs of the ABC, the following figure illustrates the process:

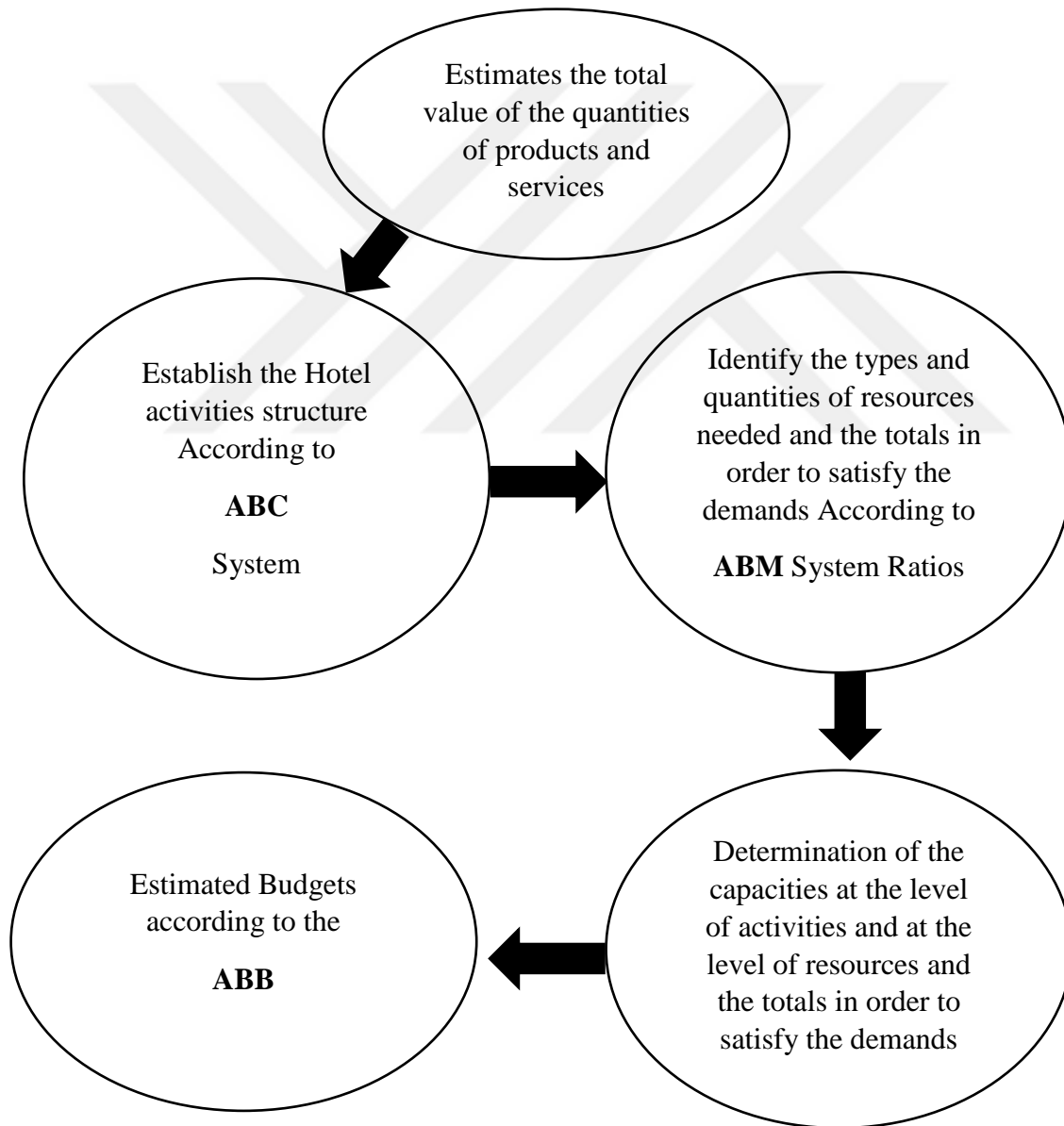


**Figure 27:** Make decisions according on the outputs of the ABC system

The Activity-Based Management system using the Activity Based Costing data as an input in order to helps the managers to makes managerial decision and improve the added value activity and eliminate the non-value-added activity, this will lead to Increase the profitability of the company and provide products with high value added to the customer, also it is a tool designed to help managers improve the performance of operations and to reduce costs by analyzing activities, and to help managers to develop more accurate methods to determine the cost of products and the implementation of the system in the hotel goes through the following basic stages

## 5. Prepare the Estimated Budgets According to the Outputs of the ABC and ABM systems

The outputs of the ABC and ABM systems constitute the inputs to the Activity-Based Budgeting system, including information about the costs of the activities of the hotel in a detailed manner and the cost of each activity and what its components in details, and whether the costs of these activities are of a fixed or variable nature depending on the size of the sale, all of the information provided by these two systems helps the ABB system in the process of preparing the budget more closely to the truth and the following figure explains the mechanism of the Activity-Based Budgeting system.



**Figure 28:** Prepare the Estimated Budgets According to the Outputs of the ABC and ABM systems



## **VI. APPLICATION**

### **A. GENERAL INFORMATION ABOUT CROWNE PLAZA AMMAN HOTEL**

Crowne Plaza Hotel Amman is one of the oldest hotels in the city, which was established in 1989. This hotel is owned by the Jordanian General Organization for Social Security as one of the profitable projects that this institution invests in, this hotel is also managed by IHG. It is one of the largest hotel groups in the world, IHG® is one of the world's leading hotel companies, with 400,000 colleagues working across more than 100 countries to deliver True Hospitality for everyone, with 5,723 Hotels globally and 855,915 Rooms available over the world.

Crowne Plaza Hotel Amman located at King Faisal Bin Abdul-Aziz Street, 6th Circle, on the capital of Jordan, Amman and the hotel has 308 luxurious rooms, including royal suites. The hotel is an acclaimed destination for business trips and family visits, including six meeting rooms and five restaurants and bars: V Lounge, Jasmine Lobby Lounge, Brasserie Oasis, Cafe' Vienna and Black Iris. Also, Crowne Plaza Hotel Amman has a huge health club facility with heated indoor and outdoor pools, Laundry Services also available in this hotel and Parking serves all the hotel.

This hotel is staffed by 348 full-time employees, in all departments and the hotel also provides a meal and laundry for employees. The management of this hotel is one of the managements that follow the modern approach in leadership and the use of technological development, the departmental structure followed in the hotel, this means that the eight main departments of the hotel work cooperatively to provide final services to the guest, and with a separate budget for each department regardless that this department is a department the expenses is offset by revenue.

## B. ANALYSIS OF COST ELEMENTS IN THE HOTEL

The Crowne Plaza Amman, in cooperation with the researcher, showed him the cost accounting mechanism and before beginning the analysis of the financial statements of the hotel, it should be noted that the hotel uses the traditional method of calculating the various hotel costs. this way, which lacks the distribution of indirect costs that contribute to the final product fairly, and the data to be analyzed are for August of 2019, the amounts to be mentioned are deaf, without giving details in order to save the confidentiality of the hotel and the researcher analyzed the data in the following steps:

### 1. ENERGY CONSUMPTION AT THE HOTEL

Through the study of the current situation of energy consumption in the hotel turned out to be charged on a separate account and this account is included in the list of profit and loss as one amount without knowing his contribution to each product or service separately the energy consumption was in August as follow:

**Table 5:** Hotel Energy Consumption in August

<b>Electricity</b>	<b>39,748</b>
Gas / Fuel	16,036
Water / Sewer	7,490
Total Energy consumption	63,274

And to divide the consumption of each productive section, and with verification it was found that the area of the hotel is distributed as follows:

**Table 6:** Hotel Departments Area

Total Space m2	Productive Section Space m2	Space %
	8624	56%
15,348.00	3494	23%
	3230	21%

The researcher found that some sections have a separate meter for the purpose of identifying the consumption rate only and reducing it

**Table 7:** Electricity Usage

Section	Electricity Usage		Water Usage		Gas Usage	
Laundry Service	JOD	914.00	JOD	455.00	JOD	-
Parking	JOD	170.00	JOD	-	JOD	-
Rent	JOD	300.00	JOD	50.00	JOD	-
	JOD	1,384.00	JOD	505.00	JOD	-

It must be deducted the Energy consumption for the sections that have separate meters, and distribute the rest of the energy consumption cost to the sections based on their area as follows:

**Table 8:** Energy Consumption Based on Section Area

Section	Space		Electricity Usage	Water Usage	Gas Usage
	%				
Rooms					JOD
Accommodation	0.6		JOD 21,556.63	JOD 8,726.83	4,208.61
Food and Beverages	0.2		JOD 8,733.63	JOD 3,535.66	JOD 1,705.11
Health Club Membership	0.2		JOD 8,073.74	JOD 3,268.51	JOD 1,576.28
Laundry Service	Separate Meter		JOD 914.00	JOD 455.00	JOD -
Parking	Separate Meter		JOD 170.00	JOD -	JOD -
Rent	Separate Meter		JOD 300.00	JOD 50.00	JOD -
			JOD 39,748.00	JOD 16,036.00	JOD 7,490.00

Now that the energy consumption has been analyzed and distributed to the production departments of the hotel based on the mechanism related to consumption, later we can exploit these amounts by linking them to the activity used directly.

## 2. MANAGEMENT CONSUMPTION IN FOOD AND BEVERAGES SECTION

One of the advantages that the hotel gives to the management to offer eating within the various restaurants of the hotel, The hotel also offers to those on duty from the management that feature as well, It also gives permission to administrators to invite people with the aim of marketing the hotel or other objectives in the interest of the hotel in general, upon verification of these granted features and linking the consumption of Management with each section manager, the following is indicated:

**Table 9:** Management Consumption in Food and Beverages Section

Department	Selling Price			
	Total FOOD		Total BEV	
Executive Office	JOD	208.70	JOD	45.50
Accounting Office	JOD	234.90	JOD	27.20
H.R & Training	JOD	86.35	JOD	10.80
Maintenance	JOD	111.70	JOD	24.00
Sales & Marketing	JOD	808.80	JOD	197.35
Housekeeping	JOD	90.00	JOD	14.30
Security Office	JOD	689.30	JOD	151.60
F&B Administration	JOD	981.05	JOD	208.00
Front office	JOD	253.10	JOD	66.70
IT	JOD	62.00	JOD	16.60
Health Club	JOD	266.05	JOD	12.20
Total Consumption	JOD	3,791.95	JOD	774.25

This Consumption should be calculated on the cost of other sections at the cost price (21% for Beverage and 28% for food) according to the cost controller in the hotel. These costs, which are calculated on the Food and Beverage Section, are considered among the costs that are considered to belong to the different departments as they are the beneficiaries, with the application of cost price on this consumption we find that:

**Table 10:** Cost Price for the Management Consumption in Food and Beverages Section

Department	Selling Price		Cost Price	
	Total FOOD	Total BEV	Total FOOD	Total BEV
Executive Office	JOD 208.70	JOD 45.50	58.436	9.555
Accounting Office	JOD 234.90	JOD 27.20	65.772	5.712
H.R & Training	JOD 86.35	JOD 10.80	24.178	2.268
Maintenance	JOD 111.70	JOD 24.00	31.276	5.04
Sales & Marketing	JOD 808.80	JOD 197.35	226.464	41.4435
Housekeeping	JOD 90.00	JOD 14.30	25.2	3.003
Security Office	JOD 689.30	JOD 151.60	193.004	31.836
F&B Administration	JOD 981.05	JOD 208.00	274.694	43.68
Front office	JOD 253.10	JOD 66.70	70.868	14.007
IT	JOD 62.00	JOD 16.60	17.36	3.486
Health Club	JOD 266.05	JOD 12.20	74.494	2.562
Total Consumption	JOD 3,791.95	JOD 774.25	1061.746	162.5925

Now that the Management consumption in Food and Beverages section has been analyzed and distributed to related departments, later we can exploit these amounts by linking them to the productive sections

### 3. ANALYSIS THE DEPARTMENTS LAUNDRY CONSUMPTION.

Laundry services are divided to cover the laundry of the various sections of the hotel, in addition to laundry workers uniforms, managers clothes and guest laundry, this must also be divided and make the necessary calculations in order to be a fair distribution of the additional costs of the laundry total cost to serve the rest of the departments and managers laundry, we will review the quantities that the laundry worked in August to wash the other section's needs.

**Table 11: Linen Washing Report**

<b>Linen Washing Report</b>	
<b>Department</b>	<b>Total Quantity KG</b>
Food & Beverage	5335
Rooms Accommodation	23595
Housekeeping	605
Guest	1860
Staff	1860
Health Club	15675
Total Consumption	48930

As we spoke earlier, the hotel is washing the uniform, as shown in the previous table that's the laundry washed 1860 kg for employees only and this number pertains to all sections, which means that we must divide the uniform laundry on all sections as shown in the following table:

**Table 12: Uniform Washing Report**

<b>Department</b>	<b>Pieces Quantity</b>
Food & Beverage	6684
Laundry	520
Maintenance	1170
Housekeeping	1320
Front office	498
Health Club	394
Security Office	426
Total Consumption	11012
Pieces in kg	6
Quantity in kg	1860

Next step we will also review the size of the administration's use of the sink in August, note that the laundry gives managers the freedom to wash with limit, the bellow table shows the managers laundry in august:

**Table 13: Managers Laundry in August**

<b>Department</b>		<b>Cost price as 25% from the selling price</b>
Executive Office	JOD	68.50
Accounting Office	JOD	69.63
H.R & Training	JOD	61.50
Maintenance Administration	JOD	18.75
Sales & Marketing	JOD	177.75
Housekeeping	JOD	46.25
Security Administration	JOD	45.50
Front office	JOD	82.00
F&B Administration	JOD	152.50
laundry Administration	JOD	16.00
Total Laundry	JOD	738.38

After analysis the departments laundry consumption we can say that each section should bear part of the burden of laundry costs since it works to meet the needs of departments, employees and managers

#### **4. ANALYSIS OF PROCUREMENT REPORT**

Orders are made through the procurement department for all other sections that the hotel needs on a daily, weekly, monthly or even annual basis (food, beverages, office supplies, maintenance parts and hotel equipment), the orders for each section is restricted to its own department account, and it should be noted that the hotel does not make orders for furniture or any assets inside the hotel because the owner manages this part, by looking at the purchases made during the month of August we find the following information:

a. Total Food & Beverage Purchases

This displayed value is the sum of the detailed values displayed in order to maintain the confidentiality of the information

**Table 14:** Total Food & Beverage Purchases

Accounts	Dr.	Cr.
Beginning inventory	JOD 65,363.18	
Purchases	JOD 113,753.13	
Ending inventory		JOD 60,743.95
Total Cost	JOD 118,372.35	
Hospitality		JOD 1,222.33
Staff Meals Cost		JOD 11,998.76
Total Food & Beverage Cost	JOD 105,151.27	

b. Purchases of other sections

**Table 15:** Purchases of other sections

Accounts	Amounts
Human Resource	JOD 1,526.676
Engineering	JOD 36,017.758
Front Office	JOD 476.620
Health Club	JOD 1,906.000
House Keeping	JOD 6,003.553
Executive Office	JOD 8.400
Accounting	JOD 222.800
I.T Department	JOD 1,527.690
Laundry	JOD 465.080
Sales & Marketing	JOD 58.000

These values are typically calculated on a separate account for each section.



## 5. EMPLOYEES' SALARIES ANALYSIS

The human element represents the most important element within the service institutions including hotels. It is worth the human element constitutes the largest weight of the fixed costs of the hotel costs, it should also be noted that the departmental structure used in the hotel divides salaries into the following sections:

**Table 16:** Employees' Salaries Analysis

Classification	Count	Average Salaries	
Front office	20	JOD	449.60
Uniformed Services	10	JOD	396.50
H.K Others	5	JOD	678.00
H.K Maids	32	JOD	259.34
Health Club	23	JOD	293.78
House Laundry	8	JOD	389.88
F&B Administration	6	JOD	1,007.67
F&B Preparation	65	JOD	335.88
F&B Services	59	JOD	287.02
Stewarding	24	JOD	346.92
Executive Office	3	JOD	1,964.33
Accounting Office	12	JOD	797.50
Materials	5	JOD	740.40
Security	29	JOD	325.76
H.R & Training	7	JOD	948.29
IT	2	JOD	850.00
Sales & Marketing	13	JOD	1,093.62
Maintenance	25	JOD	598.80

The average salary mentioned earlier does not cover other costs such as employee meals, training costs, etc. some of the major departments have staff on their budget and are generally working to serve the hotel, this gives us the need and the reason to study the distribution of costs and carry out an application that applies them more fairly

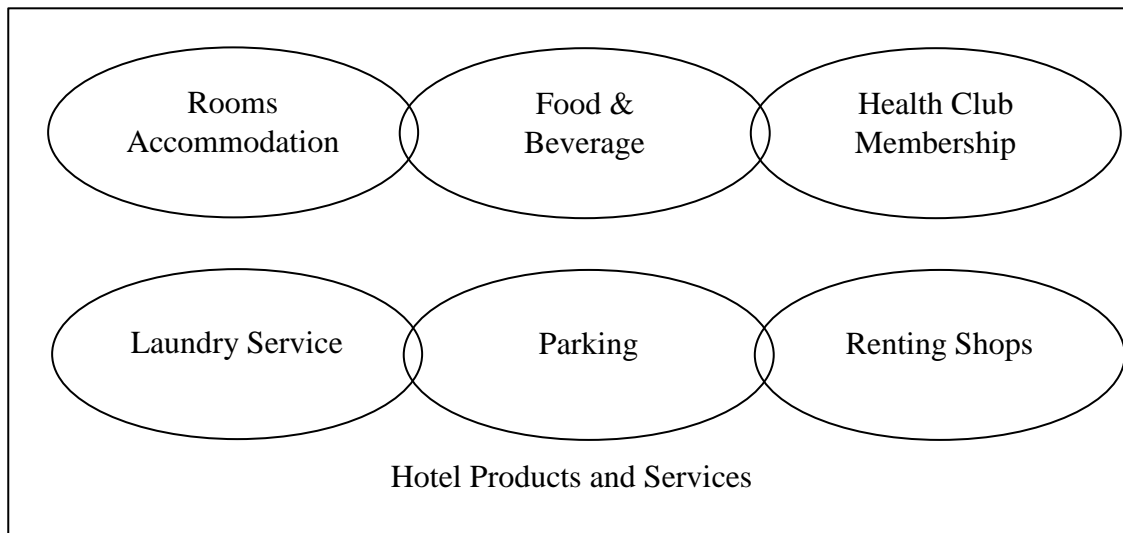
## C. IDENTIFY THE ACTIVITY AND APPLY ACTIVITY-BASED COSTING (ABC) SYSTEM IN THE HOTEL

### 1. Identify Activities

An activity is defined as “a work, effort, task or process that is undertaken and time-consuming, and requires the allocation of some resources.

Resources means "inputs of the necessary cost elements for the implementation of activities within the enterprise" can be determined by a very large number of required activities to produce a particular product, but an increase in the number of activities increases the complexity and the difficulty of the relationship between the activity and the product, which raises the cost of implementing the system. Therefore, in determining the activities, it is preferable to prepare lists showing the activity and tasks related to this activity, and the movement of flows between the activity and other activities.

Through the study of the reality of the hotel we have found that there are six products and services consuming activities and summarized in the following figure:



**Figure 29:** Hotel Products and Services

Through the search for activities of various kinds related to these products and services, and activities are divided into four types (Al-Dalahmah, 2014:292)

- Input activities: These activities are related to the preparation and readiness of the product industry such as the activity of purchasing raw materials
  - Operations Activities: These activities are related to manufacturing operations and preparation of the product to be ready for sale or use and the activity of storage the goods under operation
  - Output activities: These activities are related to the sale of the product and these activities deal with customers in relation to the completion of sales and after that the financial collection and so on
  - Administrative Activities: These are activities that assist and support the activities of the input activities, operations activities and the outputs activities and examples of them are the accounting department,
- a. Rooms Accommodation: The following table shows the activities that are consumed to produce the service and to facilitate forward to linking the activities to cost driver, we have numbered them:

**Table 17: Rooms Accommodation Activities**

Resources	Activity Number	Activities	Product or Service
RM / DL / Capital	001A	Labor Reception Activity	
	002A	Sales & Marketing Activity	Rooms
	003A	Housekeeping Activity	Accommodation
	004A	Maintenance Activity	
	005A	Commission and Fees- Group	
	006A	Human Resources & Training Activities	
	007A	Laundry Activity	
	008A	Accounting Activity	
	009A	Staff Canteen Activity	
	010A	Administrative Activity	
	011A	Utilities Activity- Energy consumption	

Table 17: (continue) Rooms Accommodation Activities

012A	Security Activity
013A	Management consumption in F&B section (A&G / A&P /M.O. D)
014A	IT Activity
015A	Amenities Activity
016A	Valet Activity
017A	Purchase Orders Activity
018A	Call Center Services Activity

b. Food & Beverage

Table 18: Food & Beverage Activities

Resources	Activity Number	Activities	Product or Service
	021A	Labor Waiters Activity	
	022A	Sales & Marketing Activity	
	023A	Housekeeping Activity	
	024A	Maintenance Activity	
	025A	Purchase other F&B Orders Activity	
	026A	Human Resources & Training Activities	
	027A	Laundry Activity	
	028A	Accounting Activity	
	029A	Staff Canteen Activity	
RM / DL / Capital	030A	Administrative Activity	Food &
	031A	Utilities Activity- Energy consumption	Beverage
	032A	Security Activity	
	033A	Management consumption in F&B section (A&G / A&P /M.O. D)	
	034A	IT Activity	
	035A	Cooking Activity	
	036A	Purchase Food Activity	
	037A	Purchase Beverage Activity	
	038A	Valet Activity	
	039A	Call Center Services Activity	

c. Laundry Service

**Table 19:** Laundry Service Activities

<b>Resources</b>	<b>Activity Number</b>	<b>Activities</b>	<b>Product or Service</b>
RM / DL / Capital	071A	Laundry Store Activity	Laundry Service
	072A	Maintenance Activity	
	073A	Human Resources & Training Activities	
	074A	Laundry Activity	
	075A	Accounting Activity	
	076A	Staff Canteen Activity	
	079A	Laundry Labor Activity	
	077A	Administrative Activity	
	078A	Utilities Activity- Energy consumption	

d. Parking

**Table 20:** Parking Activities

<b>Resources</b>	<b>Activity Number</b>	<b>Activities</b>	<b>Product or Service</b>
RM / DL / Capital	100A	Housekeeping Activity	Parking
	101A	Maintenance Activity	
	103A	Human Resources & Training Activities	
	104A	Laundry Activity	
	105A	Accounting Activity	
	106A	Staff Canteen Activity	
	107A	Labor Supervision activity	
	108A	Utilities Activity- Energy consumption	

e. Renting Shops

**Table 21 : Renting Shops Activities**

<b>Resources</b>	<b>Activity Number</b>	<b>Activities</b>	<b>Product or Service</b>
RM / DL / Capital	120A	Accounting Activity	Renting Shops
	121A	Utilities Activity- Energy consumption	

f. Health Club Membership

**Table 22: Health Club Membership Activities**

<b>Resources</b>	<b>Activity Number</b>	<b>Activities</b>	<b>Product or Service</b>
RM / DL / Capital	051A	Labor Reception Activity	Health Club Membership
	052A	Sales & Marketing Activity	
	053A	Purchase Orders Activity	
	054A	Maintenance Activity	
	056A	Human Resources & Training Activities	
	057A	Laundry Activity	
	058A	Accounting Activity	
	059A	Staff Canteen Activity	
	060A	Administrative Activity	
	061A	Utilities Activity- Energy consumption	
	062A	Security Activity	
	063A	Management consumption in F&B section (A&G / A&P /M.O. D)	
	064A	IT Activity	
	065A	Valet Activity	
066A	Call Center Services Activity		

## 2. Analysis of General Activities

By looking at the schedules of services, products and related activities, which shows that there are many activities in common between the different services and products in the hotel and this is because of the traditional departmental structure that works that departments share among themselves to reach the final service and product.

This leads us to the process of analysis (assistance departments) to reach the participation rate of each (assistance department) in the different products and services in the hotel, each of these departments have a direct and important role in helping the productive departments in the process of providing service and product as it is. The researcher in this framework work to identify and analyze (assisting departments) to reach the proportion of participation in the final products and services has concluded that each department has a Cost Driver linking them with the productive departments, which we will explain as follows:

**Table 23:** Auxiliary Departments

<b>Assisting Departments</b>	<b>Cost Driver</b>	<b>Assisting Departments</b>	<b>Cost Driver</b>
Sales & Marketing	Number of contracts	Accounting	Related Entries
Housekeeping	Hours spending	Staff Canteen	Employees Number
Maintenance	Number of orders	Administrative	Profitability
H.R & Training	Number of employees	Energy consumption	Usage in m2
Laundry	Usage in kg	IT	Related order
Valet	car parked on month	Call Center	Calls Related
Security	Number of employees		

After looking at the Cost Drive for each section, we will tailor each section separately

### 2.1. Sales & Marketing Department

The main work of this section is to manage the sales and marketing of the hotel externally and internally with tourism companies and international companies and even local companies and work to sign agreements that will generate income to the hotel, which in fact the main success factor for this section is the number of contracts and agreements

signed in a certain month to the hotel, In August, 27 agreements were signed with different companies, distributed to the productive sections of the hotel as follows:

**Table 24:** Number of Contracts and Agreements signed

Productive sections	Number of contracts and agreements signed
Rooms Accommodation	25
Food & Beverage	2
Health Club Membership	1
Total	28

After calculating the costs of the sales and marketing department, this cost will be distributed to the number of agreements signed for each production department separately, and the general cost of this section will be calculated as follows:

**Table 25:** Sales & Marketing Department Activities Cost

Staff Count	13			
Salaries	JOD			14,214.00
Staff Canteen	JOD			576.55
Management consumption in F&B	JOD			267.91
H.R & Training	JOD			313.95
Purchasing	JOD			58.00
Management Laundry	JOD			177.75
Total Cost	JOD			15,608.16
Cost drivers		Number of contracts		
Cost drivers %	89%	7%		4%
Activities Name	002A	022A		052A
	JOD	JOD		
Total cost Related Each Activity	13,935.85	1,114.87	JOD	557.43

## 2.2. Housekeeping

The housekeeping department does the major part in preparing rooms for guests. It also prepares and cleans dining rooms and meeting rooms and plays a key role in evaluating



hotels, the main component of this section is the human element, since the bulk of the hotel costs are those related to the salaries of the employees

Looking at the working hours, we see that the key element that links the costs of the housekeeping department with the rest of the productive departments is the number of working hours that the department needs to be ready, and with making the calculation of the number of employees in this section and the number of working hours of the employee we found that in August was the number of working hours for employees in the section 7770 hours, distributed to the productive sections of the hotel as follows:

**Table 26:** Number of Working Hours

Productive sections	Number of working hours
Rooms Accommodation	7100
Food & Beverage	630
Parking	40
Total	7770

After calculating the costs of the Housekeeping department, this cost will be distributed to the number of Number of working hours for each production department separately, and the general cost of this section will be calculated as follows:

**Table 27:** Housekeeping Activities Cost

Staff Count	37			
Salaries	JOD			11,689.00
Staff Canteen	JOD			1,640.95
Management consumption in F&B	JOD			28.20
H.R & Training	JOD			893.55
Purchasing	JOD			6,003.55
Management Laundry	JOD			46.25
Laundry	JOD			41.80
Total Cost	JOD			20,301.50
Cost drivers		Hours spending		
Cost drivers %	91%	8%	1%	
Activities Name	003A	023A	100A	
			JOD	
Total cost Related Each Activity	JOD	18,550.92	JOD	1,646.07
				104.51

### 2.3. Maintenance

Maintenance department is one of the important sections that work around the clock in order to provide repair service and electrical and paint work, one of the responsibilities of this section is to rationalize energy consumption in the hotel as well,

The section responds to all the commands needed by the sections produced by the requests that are recorded on a computer program up to the maintenance department in the form of orders must be done

It is possible to say that these orders are cost drivers, which must be tracked and charged for each productive section on the number of orders during the month, by checking August order, this computer program for maintenance department recorded 2700 orders and sections on the productive sections as follows:

**Table 28:** Number of Orders Done by the Maintenance Team

<b>Productive sections</b>	<b>Number of orders done by the team</b>
Rooms Accommodation	1890
Laundry Service	50
Food & Beverage	405
Parking	81
Health Club Membership	274
Total	2700

After calculating the costs of the Maintenance department, this cost will be distributed to the number of Number of orders done by the team for each production department separately, and the general cost of this section will be calculated as follows:

**Table 29:** Maintenance Activities Cost

<b>Staff Count</b>	<b>24</b>
Salaries	JOD 14,970.00
Staff Canteen	JOD 1,064.40
Management consumption in F&B	JOD 36.32

Table 29: (continue) Maintenance Activities Cost

H.R & Training	JOD				579.60
Purchasing	JOD				36,017.76
Management Laundry	JOD				18.75
Laundry	JOD				37.50
Total Cost	JOD				52,724.32
Cost drivers		Number of orders done by the team			
Cost drivers %	70%	15%	10%	2%	3%
Activities Name	004A	024A	054A	072A	101A
Total cost Related Each	JOD	JOD	JOD	JOD	JOD
Activity	36,907.03	7,908.65	5,350.54	976.38	1,581.73

#### 2.4. Human Resources and Training Department

The Human Resources and Training Department serves all departments based on the number of employees present in these departments. These can be identified as a reference for the distribution of the costs of human resources and training, and with 348 employees, the costs of the department will be distributed, and the share of the producing departments will be as follows:

Table 30: Human Resources and Training Department Activities Cost

<b>Staff Count</b>	<b>7</b>				
Salaries	JOD				6,638.00
Staff Canteen	JOD				310.45
Management consumption in F&B	JOD				24.45
H.R & Training	JOD				169.05
Purchasing	JOD				1,526.68
Management Laundry	JOD				61.50
Total Cost	JOD				8,730.12
Average Cost per employee	JOD				25.09
Cost drivers		Number of Employees Present in These Departments			
Cost drivers %	14	149	23	8	9
Activities Name	006A	026A	056A	073A	103A
Total cost Related Each Activity	JOD	JOD	JOD	JOD	JOD
	351.21	3,737.90	576.99	200.69	225.78

## 2.5. Laundry

This department, like other departments, does a laundry for the hotel guests as it works for all the other sections to wash the staff uniforms in addition to hotel linen, the cost is distributed on the sections produced based on consumption in kilograms of laundry in the whole month and the hotel consumption in that month was 4830 kg, and the share of guest sales was only 1860 kg , the costs of this department will be distributed, and the share of the productive departments will be as follows:

**Table 31: Laundry Activities Cost**

<b>Staff Count</b>		<b>8</b>				
Salaries	JOD					3,119.00
Staff Canteen	JOD					352.72
Energy consumption	JOD					1,369.00
H.R & Training	JOD					196.16
Purchasing	JOD					3,600.00
Management Laundry	JOD					16.25
Maintenance Activity	JOD					968.63
Administrative Activity	JOD					99.90
Accounting Activity	JOD					148.70
Staff Laundry	JOD					16.46
Total Cost	JOD					9,886.82
Average cost per kg	JOD					0.20206
Cost drivers				Usage in kg		
Cost drivers %	23595	6467.88	15675	76.9	158.4	
Activities Name	007A	027A	057A	074A	104A	
Management Laundry	JOD	JOD	JOD 0.00	JOD	JOD 0.00	
	82.00	152.20		16.46		
Total cost Related Each Activity	JOD	JOD	JOD	JOD	JOD	
	4,767.62	1,459.10	3,167.30	32.00	32.01	

This department works for other departments at the most cost and can be seen from the following table:

**Table 32:** Laundry for Productive Department

Laundry for Productive Department		
007A	JOD	4,767.62
027A	JOD	1,459.10
057A	JOD	3,167.30
074A	JOD	32.00
104A	JOD	32.00
Total Cost	JOD	9,458.02

The ratio of laundry work to other departments 96% of the proportion of the full laundry work

## 2.6. Car Valet

Car Valet is free in all hotels and served to all guests, whether they are coming to stay, for restaurants or even for a health club, the costs charged to this department should be divided among the departments served by this department as this department car valet for guests arriving in order to enjoy the different hotel facilities, and the number of guests is the most important factor as it is the main cost driver, the number of guests who visited the hotel during In August 19,869, this number was distributed as follows:

**Table 33:** Number of Guests Who Visited Each Department

Productive sections	Number of Guests Who Visited Each Department
Rooms Accommodation Guests	13908
Food & Beverage Guests	3973
Health Club Guests	1988
Total	19,869

the costs of the Car Valet department will be distributed to those three department according to number of guests visit the related department and the cost for this section was for august as follow:

**Table 34: Car Valet Activities Cost**

<b>Staff Count</b>		<b>6</b>			
Salaries	JOD	2,697.60			
Staff Canteen	JOD	266.10			
H.R & Training	JOD	144.90			
Staff Laundry	JOD	11.80			
Total Cost	JOD	3,120.40			
Cost drivers	Number of Guests Who Visited Each Department				
Cost drivers %	70%	20%	10%		
Activities Name	018A	039A	066A		
			JOD		
Total cost Related Each Activity	JOD	2,184.23	JOD	623.95	312.21

## 2.7. Security Department

The security department service the main sections of the hotel and protect the exits and entrances of the hotel and security shifts to maintain the safety and comfort of guests inside the hotel, since we are talking about guests, then the number of guests is the cost driver and accordingly the guest were visited the hotel during In August 19,869, this number was distributed as follows:

**Table 35: Number of Guests Who Visited Each Department Regarding Security Department**

<b>Productive sections</b>	<b>Number of Guests Who Visited Each Department</b>
Rooms Accommodation Guests	13908
Food & Beverage Guests	3973
Health Club Guests	1988
Total	19,869

The costs of this administration during the month of August are as follows, and we will also distribute these costs to other sections based on number of guests who visited each department.

**Table 36: Security Department Activities Cost**

<b>Staff Count</b>		<b>20</b>			
Salaries	JOD				6,515.17
Staff Canteen	JOD				1,286.15
Management consumption in F&B	JOD				224.84
H.R & Training	JOD				483.00
Management Laundry	JOD				45.75
Staff Laundry	JOD				13.94
<b>Total Cost</b>	<b>JOD</b>				<b>8,568.85</b>
Cost drivers		number of guests who visited each department			
Cost drivers %		70%	20%		10%
Activities Name		012A	032A		062A
Total cost Related Each	JOD	5,998.07	JOD	1,713.43	JOD
Activity					857.36

## 2.8. Accounting Department

The accounting department acts as the general controller for all other departments, the department is also responsible for all the accounting operations that are carried out for any department from tracking the ordering of materials and what the cost accountant does to the sale and after-sales process by the income accountant, and the receivable accountant as well

The principle adopted for the distribution of accounting costs must be associated with the nature of the work that the accounting departments are required to do for other departments, it can be said that the accounting department enters the accounting data and the issuance of invoices and the work of inventory and other work, and that what brings these works is the number of accounting Records and august records was 34,000 this will be our Cost Driver and the bellow tables shows the number of accounting record related to each department:

**Table 37:** Number of Accounting Record Related to Each Department

Productive sections	Number of Accounting Record Related to Each Department
Rooms Accommodation Guests	13260
Food & Beverage Guests	18360
Health Club Guests	1700
Laundry	340
Parking	306
Renting Shops	34
Total Records	34000

The costs of this administration during the month of August are as follows, and we will also distribute these costs to other sections based on number of accounting record related to each department:

**Table 38:** Accounting Departments Activities Cost

Staff Count	17						
Salaries	JOD						13,272.00
Staff Canteen	JOD						753.95
H.R & Training	JOD						71.48
Purchasing	JOD						410.55
Management Laundry	JOD						222.80
Accounting Activity	JOD						69.63
Staff Laundry	JOD						1.00
Total Cost	JOD						14,801.41
Cost drivers	Number of Accounting Record Related to Each Department						
Cost drivers %	39.0%	54.0%	5.0%	1.0%	0.9%	0.1%	
Activities Number	008A	028A	058A	075A	105A	120A	
Total cost Related Each	JOD	JOD	JOD	JOD	JOD	JOD	
Activity	5,772.55	7,992.76	740.07	148.01	133.21	14.80	



## 2.9. Staff Canteen

The staff cafeteria, which offers three meals around the clock, serves all the staff at the hotel, the costs incurred at the expense of this Section shall be distributed equally to all staff members who work in the remaining divisions, because everyone gets the same service, Accordingly, the cost Driver that links this department with the rest of the departments is the number of employees who benefit from this service, and the costs of Staff Canteen during the month of August are as follows, and we will also distribute these costs to other sections based on number of employees who benefit from this service working for each department:

**Table 39 : Staff Canteen Activities Cost**

<b>Staff Count</b>		<b>5</b>				
Salaries	JOD					2,500.00
Staff Canteen	JOD					225.80
H.R & Training	JOD					120.75
Purchasing	JOD					12,853.00
Staff Laundry	JOD					20.50
Total Cost	JOD					15,720.05
Average Cost	JOD					45.17
Cost drivers	Number of Employees Working for Each Department					
Number of Employees	14	149	23	8	9	
Activities Number	009A	029A	059A	076A	106A	
Total cost Related Each	JOD	JOD	JOD	JOD	JOD	
Activity	632.38	6,730.33	1,038.97	361.38	406.55	

## 2.10. General Management

The general management of the hotel is the core of the basis that sets the general objectives of the hotel and work hard to achieve these goals with the managers of departments in the hotel, the contribution of management in each section is an effective and tangible contribution, but the attention of the management comes in order as each department has a priority Top management and arrangement of these departments based on the proportion of this administration of the general income of the hotel, we can now build the perception

that the costs of general management should be distributed to the productive department based on the level of their contribution to the total income of the hotel.

Consequently, the contribution rates of the productive department in august to the total income were as follows:

**Table 40:** Contribution Rate in Total Income for Productive Departments

Productive sections	Contribution Rate in Total Income
Rooms Accommodation Guests	47%
Food & Beverage Guests	43%
Health Club Guests	9%
Laundry	1%

The costs of this administration during the month of August are as follows, and we will also distribute these costs to other sections based on contribution rate in total Income for each department:

**Table 41:** General Management Activities Cost

Staff Count	3			
Salaries	JOD			5,893.00
Staff Canteen	JOD			135.51
Management consumption in F&B	JOD			67.99
H.R & Training	JOD			72.45
Purchasing	JOD			8.40
Management Laundry	JOD			68.50
Total Cost	JOD			6,245.85
Cost drivers	Contribution rate of income for each department			
Profitability %	0.47	0.43	0.09	0.01
Activities Number	010A	030A	060A	077A
Total cost Related Each Activity	JOD	JOD	JOD	JOD
	2,935.55	2,685.72	562.13	62.46

## 2.11. Utilities-Energy Consumption

As we mentioned earlier in the analysis of energy consumption each productive section, and with verification it was found that the area of the hotel is distributed as follows:

**Table 42:** Utilities-Energy Consumption According Productive Section Space m2

Total Space m2	Productive Section Space m2	Space %
	8624	56%
15,348.00	3494	23%
	3230	21%

The researcher found that some sections have a separate meter for the purpose of identifying the consumption rate only and reducing it

**Table 43:** Utilities-Energy Consumption According Separate Meter

Section	Electricity Usage		Water Usage		Gas Usage	
Laundry Service	JOD	914.00	JOD	455.00	JOD	-
Parking	JOD	170.00	JOD	-	JOD	-
Rent	JOD	300.00	JOD	50.00	JOD	-
	JOD	1,384.00	JOD	505.00	JOD	-

It must be deducted the Energy consumption for the sections that have separate meters, and distribute the rest of the energy consumption cost to the sections based on their area as follows:

**Table 44: Utilities-Energy Consumption Activities Cost**

Staff Count	1					
Salaries	JOD			598.80		
Staff Canteen	JOD			45.17		
H.R & Training	JOD			25.09		
energy consumption	JOD			63,274.00		
Total Cost	JOD			63,943.06		
Separate Meter Amounts	JOD			(1,889.00)		
Net Cost	JOD			62,054.06		
Cost drivers	Based on Department Area					
Space %	0.56	0.23	0.21	Separate Meter	Separate Meter	Separate Meter
Activities Number	011A	031A	061A	078A	108A	121A
Total cost Related Each Activity	JOD 34,750.27	JOD 14,272.43	JOD 13,031.35	JOD 1,369.00	JOD 170.00	JOD 350.00

Now that the energy consumption has been distributed to the productive departments of the hotel based on the mechanism related to consumption.

## 2.12. IT Department

The Information Technology Department is working to provide continuous communication between the various sections, including the productive departments and this aims to deliver the service and product in the form and speed required

The number of technological devices used in each section is the cost driver, which will be used to allocate costs to the productive departments. Therefore, through verification, we

found that each section has a certain number of technological devices as shown in the following table:

**Table 45:** Number of Technological Devices on Productive Sections

Productive sections	Number of Technological Devices
Rooms Accommodation	7
Food & Beverage	13
Health Club Membership	2
Total number of technological devices	22

The costs of this administration during the month of August are as follows, and we will also distribute these costs to other sections based on Total number of technological devices in each department:

**Table 46:** IT Department Activities Cost

Staff Count	2		
Salaries	JOD		1,700.00
Purchasing	JOD		10,004.00
H.R & Training	JOD		50.18
Staff Canteen	JOD		90.34
Management consumption in F&B	JOD		20.84
Total Cost	JOD		11,865.36
Average Cost Per Device	JOD		539.33
Cost drivers	Total number of technological devices		
technological devices #	7	13	2
Activities Number	014A	034A	064A
Total cost Related Each Activity	JOD	JOD	JOD 1,078.67
	3,775.34	7,011.35	

## 2.13. Call Center

Call Center and customer service department works 24/7 to network the hotel network phone externally and internally, the number of calls for each section is the axis and the reason for the cost of each of the productive departments and the following table shows the number of calls in the month of August for each section

**Table 47:** Number of Calls Related Productive Sections

Productive sections	Number of Calls
Rooms Accommodation	1500
Food & Beverage	750
Health Club Membership	250
Total the number of calls	2500

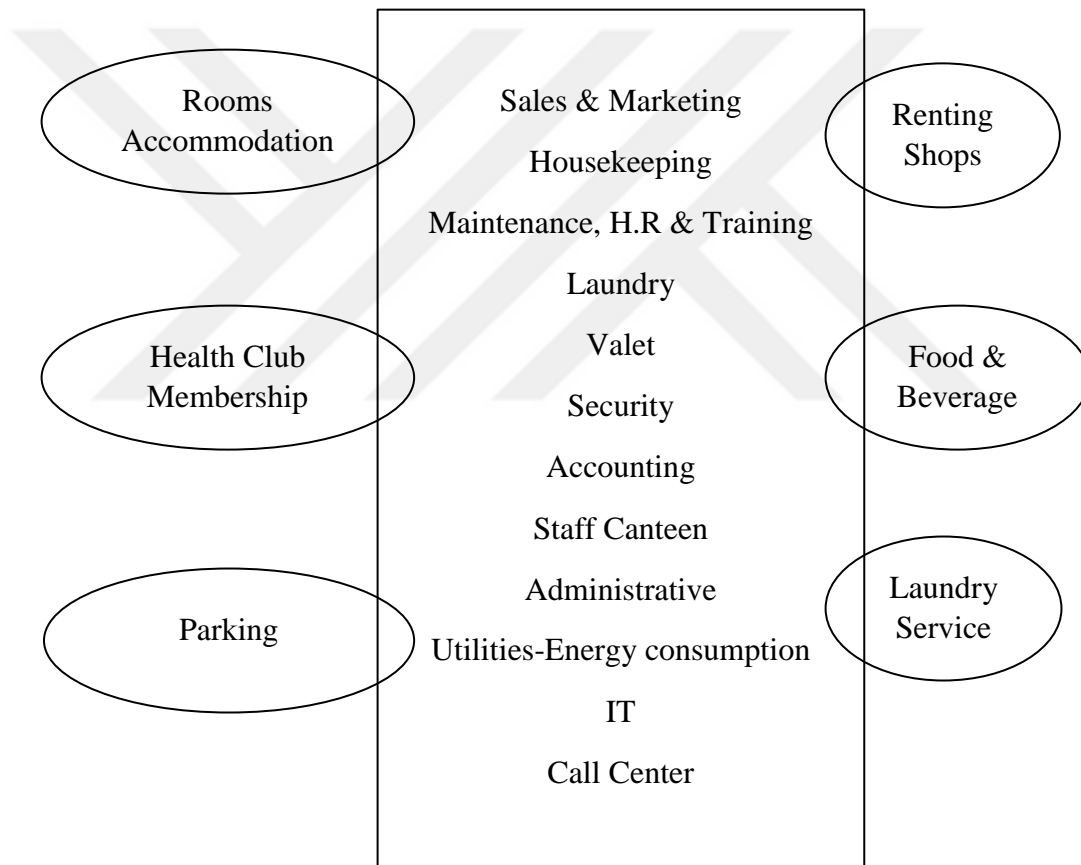
The costs of this Center during the month of August are as follows, and we will also distribute these costs to other sections based on total number of calls transferred to each department:

**Table 48:** Call Center Activities Cost

Staff Count	6			
Salaries	JOD	2,697.60		
H.R & Training	JOD	155.40		
Staff Canteen	JOD	271.02		
Staff Laundry	JOD	11.80		
Total Cost	JOD	3,135.82		
Average Cost Per call	JOD	1.25		
Cost drivers	Total Number of Calls			
Calls #	1500	750	250	
Activities Number	016A	038A	065A	
Total cost Related Each Activity	JOD	1,881.49	JOD 940.75	JOD 313.58

### 3. The Cost Pool for Productive Departments

After calculating the costs for general activities and calculating the cost of the partial activity of each productive department, but it is not the only partial activity that coming from the public departments are operating this productive departments, there are also independent activities for each productive department, in this section we will review the six departments and the costs of their full activities:



**Figure 30:** Auxiliary Departments Assist the Productive Departments

## a. Rooms Division

The rooms section is one of the most important sections that generate income for the hotel, as most of income comes from this section and is considered the final product of this section are hotel rooms, the success rate of this section is measured by the number of rooms sold in a given month, and back to the number of rooms sold during August we find that was sold 4998 nights, August costs were also as follows.

**Table 49:** Rooms Division Activities Cost

Activity Number	Activity Name	Cost driver	Quantity	Cost	Total Cost Related Each Activity
Activities from Other Departments					
002A	Sales & Marketing	Number of contracts	89%	JOD 15,608.16	JOD 13,935.85
003A	Housekeeping	number of hours worked	91%	JOD 20,301.50	JOD 18,550.92
004A	Maintenance	Number of orders done by the team	70%	JOD 52,724.32	JOD 36,907.03
008A	Accounting Service	Number of Accounting Record Related to Each Department	39%	JOD 14,801.41	JOD 5,772.55
010A	General Management Share	Contribution rate of income for each department	47%	JOD 6,245.85	JOD 2,935.55
011A	Utilities-Energy Consumption	Based on Department Area	56%	JOD 63,943.06	JOD 34,750.27
012A	Security Service	Number of Guests Who Visited Each Department	0.70	JOD 8,568.85	JOD 5,998.07
014A	IT Service	Total Number of Technological Devices	7.00	JOD 539.33	JOD 3,775.31



Table 49:(continue) Rooms Division Activities Cost

016A	Call Center	Total Number of Calls	1500.00	JOD	JOD
	Service			1.25	1,881.49
018A	Car Valet	Number of Guests	70%	JOD	JOD
	Service	Who Visited Each		3,120.40	2,184.23
		Department			
006A	Human	Number of Employees	14.00	JOD	JOD
	Resources and	Present in These		25.09	351.26
	Training	Departments			
007A	Laundry	Usage in kg	23595.00	JOD	JOD
	Service			0.20	4,767.62
009A	Staff Canteen	Number of Employees	14.00	JOD	JOD
		Working for Each		45.17	632.38
		Department			
		Direct Activities Costs			
013A	Management	Team Usage in	1.00	JOD	JOD
	consumption in	Restaurant		84.88	84.88
	F&B				
015A	Amenities	Cost of Amenities	0.28	JOD	JOD
	Activity			2,424.85	678.96
001A	Reception	Average Employees	14.00	JOD	JOD
	Labor Activity	Salary		1,228.57	17,200.00
005A	Commission	Rooms Sold by	1.00	JOD	JOD
	and Fees-	Agents		6,483.00	6,483.00
	Group				
017A	Purchase	Cost of Purchasing	1.00	JOD	JOD
	Orders Activity			476.62	476.62
		Total Cost			JOD
					157,365.98
		Total Rooms Sold			4998
		Average Room Cost			JOD
					31.49

## b. Food & Beverage Division

The Food & Beverage Division is one of the most important sections in the hotel, it is also proportional to the occupancy rate of the hotel, which is considered the number of meals sold and the number of customers are the most important element of this service, as the number of customers increases, the number of meals sold will increase and this will directly increase sales, below are the costs of this section for August.

**Table 50:** Food & Beverage Division Activities Cost

Activity Number	Activity Name	Cost driver	Quantity	Cost	Total Cost Related Each Activity
Activities from Other Departments					
022A	Sales & Marketing	Number of contracts	7%	JOD 15,608.16	JOD 1,114.87
023A	Housekeeping	Hours spending	8%	JOD 20,301.50	JOD 1,646.07
024A	Maintenance	Number of orders done by the team	0.15	JOD 52,724.32	JOD 7,908.65
026A	Human Resources and Training	Number of Employees Present in These Departments	149.00	JOD 25.09	JOD 3,738.41
027A	Laundry Service	Usage in kg	6467.88	JOD 0.20	JOD 1,459.10
028A	Accounting Service	Number of Accounting Record Related to Each Department	54%	JOD 14,801.41	JOD 7,992.76
029A	Staff Canteen	Number of Employees Working for Each Department	149.00	JOD 45.17	JOD 6,730.33
030A	General Management Share	Contribution rate of income for each department	43%	JOD 6,245.85	JOD 2,685.72
031A	Utilities-Energy Consumption	Based on Department Area	23%	JOD 63,943.06	JOD 14,272.43

Table 50: (continues) Food & Beverage Division Activities Cost

032A	Security Service	Number of Guests	0.20	JOD	JOD
		Who Visited Each		8,568.85	1,713.43
		Department			
034A	IT Service	Total Number of	13.00	JOD	JOD
		Technological		539.33	7,011.29
		Devices			
038A	Call Center Service	Total Number of	750.00	JOD	JOD
		Calls		1.25	940.75
039A	Car Valet Service	Number of Guests	20%	JOD	JOD
		Who Visited Each		3,120.40	623.95
		Department			
		Direct Activities Costs			
021A	Waiters Labor Activity	Average Employees	65.00	JOD	JOD
		Salary		364.19	23,672.66
025A	Purchase other F&B	Cost of Purchasing	1.00	JOD	JOD
	Orders Activity			5,134.00	5,134.00
033A	Management	Team Usage in	1.00	JOD	JOD
	consumption in F&B	Restaurant		318.37	318.37
035A	Cooking Labor Activity	Average Employees	89.00	JOD	JOD
		Salary		364.19	32,413.34
036A	Purchase Food Activity	Cost of Purchasing	1.00	JOD	JOD
				71,043.00	71,043.00
037A	Purchase Beverage	Cost of Purchasing	1.00	JOD	JOD
	Activity			19,072.00	19,072.00
		Total Cost			JOD
					209,491.13
		Total PAX Sold			32000
		Average PAX Cost			JOD
					6.55

### c. Health Club Department

The health club section includes several services that will attract customers to come to the hotel from other hotels, the number of customers who use the health club is the main factor to increase income, the costs of this section are detailed below:

**Table 51: Health Club Department Activities Cost**

Activity Number	Activity Name	Cost driver	Quantity	Cost	Total Cost Related Each Activity
Activities from Other Departments					
052A	Sales & Marketing	Number of contracts	4%	JOD 15,608.16	JOD 557.43
054A	Maintenance	Number of orders done by the team	0.100	JOD 52,724.32	JOD 5,350.54
056A	Human Resources and Training	Number of Employees Present in These Departments	23.00	JOD 25.09	JOD 577.07
057A	Laundry Service	Usage in kg	15675.00	JOD 0.20	JOD 3,167.30
058A	Accounting Service	Number of Accounting Record Related to Each Department	5%	JOD 14,801.41	JOD 740.07
059A	Staff Canteen	Number of Employees Working for Each Department	23.00	JOD 45.17	JOD 1,038.91
060A	General Management Share	Contribution rate of income for each department	9%	JOD 6,245.85	JOD 562.13
061A	Energy Consumption	Based on Department Area	21%	JOD 63,943.0	JOD 13,031.35
062A	Security Service	Number of Guests Who Visited Each Department	0.10	JOD 8,568.85	JOD 857.36
064A	IT Service	Total Number of Technological Devices	2.00	JOD 539.33	JOD 1,078.66
065A	Call Center Service	Total Number of Calls	250.00	JOD 1.25	JOD 313.58
066A	Car Valet Service	Number of Guests Who Visited Each Department	10%	JOD 3,120.40	JOD 312.21
Direct Activities Costs					
051A	Reception Labor Activity	Average Employees Salary	23.000	JOD 313.30	JOD 7,206.00

Table 51: (continues)Health Club Department Activities Cost

053A	Purchase Orders	Cost of Purchase	1.000	JOD	JOD
	Activity			1,731.00	1,731.00
063A	Management	Team Usage in	1.000	JOD	JOD
	consumption in	Restaurant		77.05	77.05
	F&B				
		Total Cost			JOD
					36,600.66
		Number of Guests			5000
		Cost of Guest			JOD
					7.32

#### d. Laundry Service

As we talked about the laundry service, it provides service to customers and at the same time to the rest of the sections and we will show in the following table related to these costs:

Table 52: Laundry Service Activities Cost

Activity Number	Activity Name	Cost driver	Quantity	Cost	Total Cost Related Each Activity
Activities from Other Departments					
072A	Maintenance	Number of orders done by the team	0.02	JOD	JOD
				52,724.32	976.38
073A	H.R and Training	Number of Employees Present in These Departments	8.00	JOD	JOD
				25.09	200.72
074A	Laundry Service	Usage in kg	76.90	JOD	JOD
				0.20	32.00
075A	Accounting Service	Number of Accounting Record Related to Each Department	1%	JOD	JOD
				14,801.41	148.01
076A	Staff Canteen	Number of Employees Working for Each Department	8.00	JOD	JOD
				45.17	361.36
077A	General Management Share	Contribution rate of income for each department	1%	JOD	JOD
				6,245.85	62.46

Table 52: (continue) Laundry Service Activities Cost

078A	Utilities- Energy Consumption	Based on Department Area	Separate Meter	JOD 63,943.06	JOD 1,369.00
Direct Activities Costs					
071A	Purchase Orders Activity	Cost of Purchase	30.00	JOD 120.00	JOD 3,600.00
079A	Laundry Labor Activity	Average Employees Salary	8.00	JOD 389.88	JOD 3,119.00
Total Cost					JOD 9,868.93
Cost Another Department					JOD 9,458.02
Guest Laundry Cost					JOD 410.9085

Table 53: Laundry for Productive Department

Laundry for Productive Department		
007A	JOD	4,767.62
027A	JOD	1,459.10
057A	JOD	3,167.30
074A	JOD	32.00
104A	JOD	32.00
Total Cost	JOD	9,458.02

### e. Parking Service

The hotel offers free parking for the hotel guests but also provide this service for a fee, and perhaps the lack of parking spaces in the hotel area make it a destination for customers, we will show in the following table related to these costs:

**Table 54:** Parking Service Activities Cost

Activity Number	Activity Name	Cost driver	Quantity	Cost	Total Cost Related Each Activity
Activities from Other Departments					
100A	Housekeeping	Hours spending	1%	JOD 20,301.50	JOD 104.51
101A	Maintenance	Number of orders done by the team	3%	JOD 52,724.32	JOD 1,581.73
103A	Human Resources and Training	Number of Employees in These Departments	9.00	JOD 25.09	JOD 225.81
104A	Laundry Service	Usage in kg	158.400	JOD 0.20	JOD 32.01
105A	Accounting Service	Number of Accounting Record Related	0.9%	JOD 14,801.41	JOD 133.21
106A	Staff Canteen	Number of Employees Working for Each Department	9.00	JOD 45.17	JOD 406.53
108A	Utilities-Energy Consumption	Based on Department Area	Separate Meter	JOD 63,943.06	JOD 170.00
Direct Activities Costs					
107A	Supervision Activity	Average Employees Salary	9.00	JOD 325.00	JOD 2,925.00
Total Cost					JOD 5,578.80

## f. Renting Shops

With the presence of additional spaces in the hotel, the principle of the exploitation of these spaces the hotel leases these spaces to other companies for a monthly rent and these shops costs shown in the following table:

**Table 55:** Renting Shops Activities Cost

Activity Number	Activity Name	Cost driver	Quantity	Cost	Total Cost Related Each Activity
Activities from Other Departments					
120A	Accounting Service	Number of Accounting Record Related to Each Department	0.1%	JOD 14,801.41	JOD 14.80
121A	Utilities-Energy Consumption	Based on Department Area	Separate Meter	JOD 63,943.06	JOD 350.00
Total Cost					364.80

## 4. Full Hotel Cost Calculation

After calculating the costs of the sub-departments in the hotel and the costs of which were used to calculate the Productive Departments in the hotel it's the time to collect the full hotel costs and the following table shows the hotel costs:

**Table 56:** Full Hotel Cost Calculation

Productive Departments	Total Cost
Rooms Division	JOD 157,365.98
Food & Beverage Division	JOD 209,491.13
Health Club Department	JOD 36,600.66
Laundry Service	JOD 410.91
Parking Service	JOD 5,578.80
Renting Shops	JOD 364.80
Hotel Costs	JOD 409,812.28



**D. COMPARISON BETWEEN TCS SYSTEM AND THE ABC SYSTEM IN THE HOTEL**

Those familiar with the TCS and ABC believe that the ABC system helps to understand and clarify the cost behavior, so that products do not directly consume resources but the products directly consume activities., Therefore, the ABC system is a means by which we can calculate the indirect costs in an objective and more accurate way, unlike TCS, which is based on one way to calculate the indirect costs and the following figure shows the ABC for the Rooms division vs the TCS for the same department

Activity Number	Activity Name	Cost	Total Cost Related Each Activity
Activities from Other Departments			
002A	Sales & Marketing	JOD 15,608.16	JOD 13,935.85
003A	Housekeeping	JOD 20,301.50	JOD 18,550.92
004A	Maintenance	JOD 52,724.32	JOD 36,907.03
008A	Accounting Service	JOD 14,801.41	JOD 5,772.55
010A	General Management Share	JOD 6,245.85	JOD 2,935.55
011A	Utilities-Energy Consumption	JOD 63,943.06	JOD 34,750.27
012A	Security Service	JOD 8,568.85	JOD 5,998.07
014A	IT Service	JOD 539.33	JOD 3,775.31
016A	Call Center Service	JOD 1.25	JOD 1,881.49
018A	Car Valet Service	JOD 3,120.40	JOD 2,184.23
006A	Human Resources and Training	JOD 25.09	JOD 351.26
007A	Laundry Service	JOD 0.20	JOD 4,767.62
009A	Staff Canteen	JOD 45.17	JOD 632.38
Direct Activities Costs			
013A	Management consumption in F&B	JOD 84.88	JOD 84.88
015A	Amenities Activity	JOD 2,424.85	JOD 678.96
001A	Reception Labor Activity	JOD 1,228.57	JOD 17,200.00
005A	Commission and Fees- Group	JOD 6,483.00	JOD 6,483.00
017A	Purchase Orders Activity	JOD 476.62	JOD 476.62
Total Cost			JOD 157,365.98
Total Rooms Sold			4998
Average Room Cost			JOD 31.49

**Figure 31:ABC for the Rooms division**

Rooms	Actual
Total Salaries & Wages	JOD 23,942.58
Total P/R & Related Expenses	JOD 37,070.79
Commission and Fees- Group	JOD 6,482.54
Other Expenses	JOD 13,566.88
Total Cost	JOD 81,062.79
Total Rooms Sold	4998
Average Room Cost	JOD 16.22

**Figure 32:TCS for the Rooms division**

And the following figure shows the ABC vs TCS for the hotel.

**Table 57:** ABC for CPA

<b>Productive Departments</b>	<b>Total Cost</b>
Rooms Division Activities	JOD 157,365.98
Food & Beverage Division Activities	JOD 209,491.13
Health Club Department Activities	JOD 36,600.66
Laundry Service Activities	JOD 410.91
Parking Service Activities	JOD 5,578.80
Renting Shops Activities	JOD 364.80
Hotel Costs	JOD 409,812.28

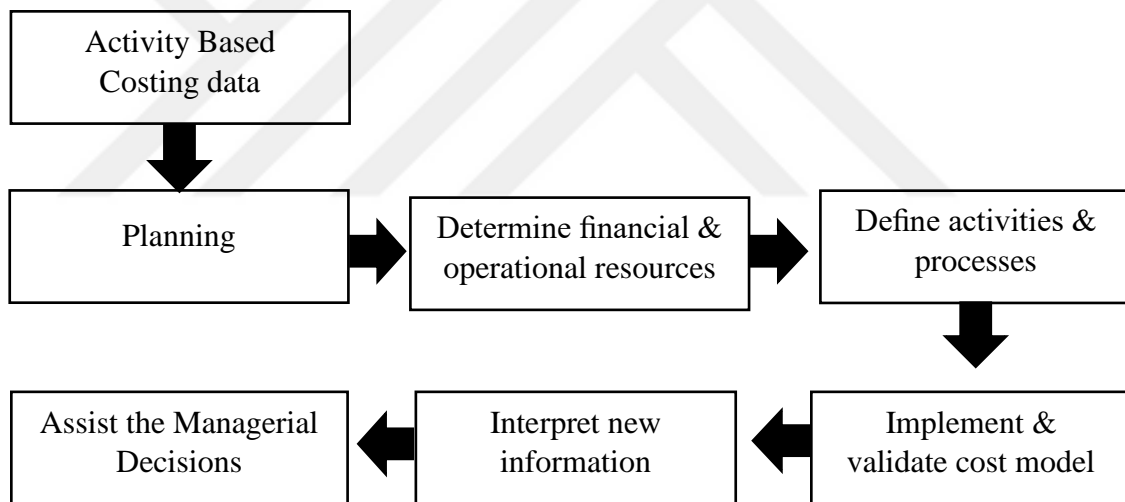
**Table 58:** TCS for CPA

<b>Productive Departments</b>	<b>Total Cost</b>
Total Rooms Cost	JOD 81,065.52
Total Food & Beverage Cost	JOD 162,162.07
Total Health Club Cost	JOD 28,157.78
Total Other Departments Cost	JOD 9,247.91
Total Admin & General Cost	JOD 5,901.00
Total Information & Telecoms Cost	JOD 10,004.00
Total Sales & Marketing Cost	JOD 14,281.00
Total Property Operating & Maintenance Cost	JOD 35,719.00
Total Utilities Cost	JOD 63,274.00
Hotel Costs	JOD 409,812.28

This difference in the final list of costs in the hotel lies in the fact that some of these sections have distributed their costs to the activities associated with the production of services and final products provided by the hotel and that some of the sections that did not exist in the foregoing has appeared mainly because of the costs

## E. APPLY ACTIVITY-BASED MANAGEMENT (ABM) SYSTEM IN THE HOTEL

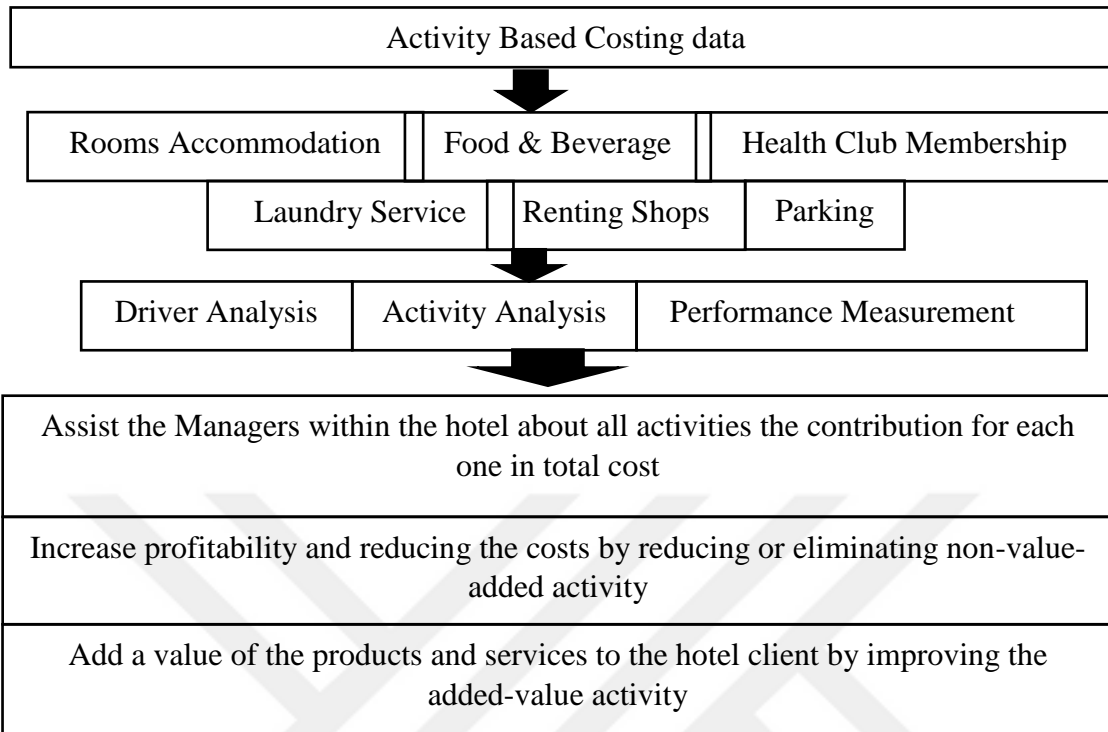
The Activity-Based Management system using the Activity Based Costing data as an input in order to improve the added value activity and eliminate the non-value-added activity, this will lead to Increase the profitability of the company and provide products with high value added to the customer, also it is a tool designed to help managers improve the performance of operations and to reduce costs by analyzing activities, and to help managers to develop more accurate methods to determine the cost of products and the implementation of the system in the hotel goes through the following basic stages and the following figure illustrates it:



**Figure 33:** ABM Implementation Mechanical

### 1. PLANNING THE PROJECT

We will start from where the Activity Based Costing system ended which provided full cost information, the planning stage it will create an organizational structure to analyze the data outside of the Activity Based Costing system, so the outcoming information will be ready for decision makers to help them to achieve the overall objectives of the hotel and the following structure shows the ABM stages in the hotel:



**Figure 34:** ABM Planning

**2. IDENTIFY FINANCIAL AND OPERATIONAL RESOURCES AND ACTIVITIES THAT CONSUME THESE RESOURCES**

The hotel Activity costs are calculated by determining the cost of the resources consumed by the performance of the activity, therefore, is to understand and define the operational and financial resources consumed by an activity and therefore, the main sections should be analyzed as follows:

**a. Rooms Division**

The Rooms Division uses the main financial and operational resources of the various activities that lead to the end of up with prepare and sale of rooms and all related to these activities of costs and costs were as follows:

**Table 59:** The Activities Utilization for the Financial and Operational Resources in the Rooms Division

Activity Number	Activity Name	Direct labor	Direct Materials	Manufacturing overhead	Total Activity Cost
002A	Sales & Marketing	JOD 13,486.16 96.77%	JOD 51.79 0.37%	JOD 397.91 2.86%	JOD 13,935.85 8.86%
003A	Housekeeping	JOD 12,997.02 70.06%	JOD 5,485.87 29.57%	JOD 106.23 0.57%	JOD 18,550.92 11.79%
004A	Maintenance	JOD 11,629.80 31.51%	JOD 25,212.43 68.31%	JOD 64.80 0.18%	JOD 36,907.03 23.45%
008A	Accounting Service	JOD 5,630.24 97.53%	JOD 86.89 1.51%	JOD 55.42 0.96%	JOD 5,772.55 3.67%
010A	General Management	JOD 2,867.45 97.68%	JOD 3.95 0.13%	JOD 64.15 2.19%	JOD 2,935.55 1.87%
011A	Energy Consumption	JOD 362.63 1.04%	JOD 34,384.92 98.95%	JOD 2.72 0.01%	JOD 34,750.27 22.08%
012A	Security Service	JOD 5,798.90 96.68%	JOD - 0.00%	JOD 199.17 3.32%	JOD 5,998.07 3.81%
014A	IT Service	JOD 585.61 15.51%	JOD 3,183.06 84.31%	JOD 6.63 0.18%	JOD 3,775.31 2.40%
016A	Call Center Service	JOD 1,874.38 99.62%	JOD - 0.00%	JOD 7.11 0.38%	JOD 1,881.49 1.20%
018A	Car Valet Service	JOD 3,255.00 99.66%	JOD - 0.00%	JOD 11.04 0.34%	JOD 3,266.04 2.08%
006A	H.R and Training	JOD 286.38	JOD 61.43	JOD 3.46	JOD 351.26

Table 59: (continue) The Activities Utilization for the Financial and Operational Resources in the Rooms Division

		81.53%	17.49%	0.98%	0.22%
007A	Laundry Service	JOD	JOD	JOD	JOD
		1,942.71	1,588.96	1,235.94	4,767.62
		40.75%	33.33%	25.92%	3.03%
009A	Staff Canteen	JOD	JOD	JOD	JOD
		114.38	517.18	0.82	632.38
		18.09%	81.78%	0.13%	0.40%
013A	Consumption in	JOD	JOD	JOD	JOD
	F&B	-	-	84.88	84.88
		0.00%	0.00%	100.01%	0.05%
015A	Amenities	JOD	JOD	JOD	JOD
	Activity	-	678.96	-	678.96
		0.00%	100.00%	0.00%	0.43%
001A	Reception Labor	JOD	JOD	JOD	JOD
	Activity	17,200.00	-	-	17,200.00
		100.00%	0.00%	0.00%	10.93%
005A	Commission and	JOD	JOD	JOD	JOD
	Fees- Group	-	-	6,483.00	6,483.00
		0.00%	0.00%	100.00%	4.12%
017A	Purchase Orders	JOD	JOD	JOD	JOD
	Activity	-	476.62	-	476.62
		0.00%	100.00%	0.00%	0.30%
	Total Cost	JOD	JOD	JOD	JOD
		78,030.65	71,732.07	8,723.28	158,447.79
		49.24%	45.26%	5.50%	100%

The following activities represent more than 77% of the total costs of the rooms department through tracked and analyzed those activities they can directly affect the average cost per room. These activities are:

- The reception staff activity (001A) represents about 11% of the total cost of the rooms section, this activity is one of the activities that add value to the customer and must therefore take full advantage of this activity
- The activity of energy consumption (011A) represents 22% of the costs of the activities of the department in a way that forces officials to consider alternative

energy allowance and carefully choose the systems operating energy and rationalize its consumption and get rid of wasted use.

- The maintenance activity (004A) is one of the activities that must be followed with caution due to the presence of large labor costs and the costs of different equipment and raw materials, this activity constituted a very large percentage of the costs of the section by 24% and compared to this ratio with the proportion of the hotel sector, we find somewhat high
- The cleaning activity (003A) is one of the activities of high value, which depends in large part on the working hours of the housekeeping employee and this is something that gives this activity important to reduce the lost time and give this proportion of time to take care of the rooms more, this activity recorded 12% of the total costs of the section
- The marketing and sales activity (002A) practiced on the rooms to sell is one of the largest values as it is the main axis of sales and 9% of the total cost also enter under the presence of cost tracking this activity and reduce the sub-activities that do not add value to this activity.

Room costs accounted for 38% of the total hotel costs. The bulk of these costs were workers' wages and materials costs. The following table summarizes these costs.

**Table 60:** The Distribution of the Costs of the Rooms Division of the Total Hotel Costs

Description		Total cost	The % of hotel cost
Rooms Division	JOD	158,447.79	38.56%
Direct labor	JOD	78,030.65	18.99%
Direct Materials	JOD	71,732.07	17.46%
Manufacturing overhead	JOD	8,723.28	2.12%
Hotel Costs	JOD	410,894.09	

While referring to sales for this section and comparing them with the actual costs for the same month we find the following

**Table 61:** Sales, Cost and Profit Performance for the Rooms Division from the Full Hotel Amounts

Description	Amount	Full Hotel Amounts	Full Hotel Percentage
Rooms Division Total	JOD	JOD	39%
Cost	158,447.79	410,894.09	
Rooms Division Total	JOD	JOD	47%
Sales	369,097.59	779,941.21	
Rooms Division Profit	JOD	JOD	57%
Performance	210,649.80	369,047.12	

Back to the previous facts and with sales volume 4998 rooms for this month we find the following regarding the room's division

**Table 62:** Rooms Division Performance

Ratio	Description	Result
Gross profit	Total rooms sales - Total rooms cost	JOD 210,649.80
Gross profit margin	(Gross profit / Total rooms sales) * 100%	57%
Price per room sold	Total rooms sales / sales volume	JOD 73.85
Direct material cost per unit	Total materials cost / sales volume	JOD 14.35
Direct labor cost per unit	Total labor cost / sales volume	JOD 15.61
Overhead cost per unit	Total overhead cost / sales volume	JOD 1.75

## b. Food and Beverages Division

The Food and Beverages Division uses the main financial and operational resources of the various activities that lead to the end of the coking and sale food and beverages and all related activities costs were as follows:



**Table 63:** The Activities Utilization for the Financial and Operational Resources in the Food and Beverages Division

Activity Number	Activity Name	Direct labor	Direct Materials	Manufacturing overhead	Total Activity Cost
022A	Sales & Marketing	JOD 1,078.89 96.77%	JOD 4.14 0.37%	JOD 31.83 2.86%	JOD 1,114.87 0.53%
023A	Housekeeping	JOD 1,153.26 70.06%	JOD 486.78 29.57%	JOD 9.43 0.57%	JOD 1,646.07 0.79%
024A	Maintenance	JOD 2,492.10 31.51%	JOD 5,402.66 68.31%	JOD 13.88 0.18%	JOD 7,908.65 3.78%
026A	Human Resources and Training	JOD 3,047.85 81.53%	JOD 653.75 17.49%	JOD 36.80 0.98%	JOD 3,738.41 1.78%
027A	Laundry Service	JOD 594.55 40.75%	JOD 486.29 33.33%	JOD 378.25 25.92%	JOD 1,459.10 0.70%
028A	Accounting Service	JOD 7,795.71 97.53%	JOD 120.31 1.51%	JOD 76.74 0.96%	JOD 7,992.76 3.82%
029A	Staff Canteen	JOD 1,217.29 18.09%	JOD 5,504.26 81.78%	JOD 8.78 0.13%	JOD 6,730.33 3.21%
030A	General Management Share	JOD 2,623.41 97.68%	JOD 3.61 0.13%	JOD 58.69 2.19%	JOD 2,685.72 1.28%
031A	Utilities-Energy Consumption	JOD 148.94 1.04%	JOD 14,122.38 98.95%	JOD 1.12 0.01%	JOD 14,272.43 6.81%
032A	Security Service	JOD 1,656.54	JOD -	JOD 56.89	JOD 1,713.43

Table 64: (continue) The Activities Utilization for the Financial and Operational Resources in the Food and Beverages Division

		96.68%	0.00%	3.32%	0.82%
034A	IT Service	JOD	JOD	JOD	JOD
		1,087.57	5,911.40	12.32	7,011.29
		15.51%	84.31%	0.18%	3.35%
038A	Call Center	JOD	JOD	JOD	JOD
	Service	937.19	-	3.56	940.75
		99.62%	0.00%	0.38%	0.45%
039A	Car Valet	JOD	JOD	JOD	JOD
	Service	621.84	-	2.11	623.95
		99.66%	0.00%	0.34%	0.30%
021A	Waiters Labor	JOD	JOD	JOD	JOD
	Activity	23,672.66	-	-	23,672.66
		100.00%	0.00%	0.00%	11.30%
025A	Purchase other	JOD	JOD	JOD	JOD
	F&B Orders	-	5,134.00	-	5,134.00
	Activity				
		0.00%	100.00%	0.00%	2.45%
033A	Management	JOD	JOD	JOD	JOD
	consumption in	-	-	318.37	318.37
	F&B				
		0.00%	0.00%	100.00%	0.15%
035A	Cooking Labor	JOD	JOD	JOD	JOD
	Activity	-	32,413.34	-	32,413.34
		0.00%	100.00%	0.00%	15.47%
036A	Purchase Food	JOD	JOD	JOD	JOD
	Activity	-	71,043.00	-	71,043.00
		0.00%	100.00%	0.00%	33.91%
037A	Purchase	JOD	JOD	JOD	JOD
	Beverage	-	19,072.00	-	19,072.00
	Activity				
		0.00%	100.00%	0.00%	9.10%
	Total Cost	JOD	JOD	JOD	JOD
		48,127.81	160,357.93	1,008.77	209,491.13
		22.97%	76.55%	0.48%	100%

The following activities represent more than 76% of the total costs of the food and beverages department through tracked and analyzed those activities they can directly affect the cost for the department. These activities are:

- The activity of energy consumption (031A) represents 6.81% of the costs of the activities of the department in a way that forces officials to consider alternative energy allowance and carefully choose the systems operating energy and rationalize its consumption and get rid of wasted use.
- The Direct Labor Activates (021A,035A) represents about 27% of the total cost of the food and beverages section, this activities is one of the activities that add value to the customer and must therefore take full advantage of this activities also enter under the presence of cost tracking this activities and reduce the sub-activities that do not add value to this activities .
- The materials (036A,037A) used in the preparation of meals and drinks provided to the guests must be of high quality and this is a source of challenge to buy them at the right price. Whatever the prices of these raw materials appropriate reduced the costs of this administration significantly because it represents 43% of the total cost of this section

Food & Beverages costs accounted for 51.3% of the total hotel costs. The bulk of these costs were workers' wages and materials costs. The following table summarizes these costs.

**Table 65:** The Distribution of the Costs of the Food and Beverages Division of the Total Hotel Costs

<b>Description</b>	<b>Total cost</b>	<b>The % of the full hotel cost</b>
F&B Division	JOD 209,491.13	51.3%
Direct labor	JOD 48,127.81	11.7%
Direct Materials	JOD 160,357.93	39.0%
Manufacturing overhead	JOD 1,008.77	0.2%
Hotel Costs	JOD 410,894.09	

While referring to sales for this section and comparing them with the actual costs for the same month we find the following

**Table 66:** Sales, Cost and Profit Performance for the Food and Beverages Division from the Full Hotel Amounts

Description		Amount	Full Amount	Performance Percentage
Food & Beverages	JOD	209,491.13	JOD 410,894.09	51.3%
Division Total Cost				
Food & Beverages	JOD	332,405.236	JOD 779,941.21	42.6%
Division Total Sales				
Food & Beverages	JOD	122,914.11	JOD 369,047.12	33.3%
Division Profit Performance				

Back to the previous facts and with sales volume 32000 portion for this month we find the following regarding the Food and Beverages division

**Table 67:** Food and Beverages Division Performance

Ratio	Description	result
Gross profit	Total Food and Beverages sales - Total Food and Beverages cost	JOD 122,914.11
Gross profit margin	(Gross profit / Total Food and Beverages sales) * 100%	37%
Price per portion sold	Total Food and Beverages sales / sales volume	JOD 10.39
Direct material cost per unit	Total materials cost / sales volume	JOD 5.01
Direct labor cost per unit	Total labor cost / sales volume	JOD 1.50
Overhead cost per unit	Total overhead cost / sales volume	JOD 0.03

### c. Health Club Department

The Health Club department uses the main financial and operational resources to the various activities to provide the services in the health club and swimming pool and the cost of these activities of costs were as follows:

**Table 68:** The Activities Utilization for the Financial and Operational Resources in the Health Club department

Activity Number	Activity Name	Direct labor	Direct Materials	Manufacturing overhead	Total Activity Cost
052A	Sales & Marketing	JOD 539.44 96.77%	JOD 2.07 0.37%	JOD 15.92 2.86%	JOD 557.43 1.52%
054A	Maintenance	JOD 1,686.01 31.51%	JOD 3,655.13 68.31%	JOD 9.39 0.18%	JOD 5,350.54 14.62%
056A	Human Resources and Training	JOD 470.47 81.53%	JOD 100.91 17.49%	JOD 5.68 0.98%	JOD 577.07 1.58%
057A	Laundry Service	JOD 1,290.61 40.75%	JOD 1,055.61 33.33%	JOD 821.08 25.92%	JOD 3,167.30 8.65%
058A	Accounting Service	JOD 721.82 97.53%	JOD 11.14 1.51%	JOD 7.11 0.96%	JOD 740.07 2.02%
059A	Staff Canteen	JOD 187.90 18.09%	JOD 849.65 81.78%	JOD 1.36 0.13%	JOD 1,038.91 2.84%
060A	General Management Share	JOD 549.09 97.68%	JOD 0.76 0.13%	JOD 12.28 2.19%	JOD 562.13 1.54%
061A	Utilities-Energy Consumption	JOD 135.99 1.04%	JOD 12,894.34 98.95%	JOD 1.02 0.01%	JOD 13,031.35 35.60%
062A	Security Service	JOD 828.89	JOD -	JOD 28.47	JOD 857.36

Table 68: (continue)The Activities Utilization for the Financial and Operational Resources in the Health Club department

		96.68%	0.00%	3.32%	2.34%
064A	IT Service	JOD	JOD	JOD	JOD
		167.32	909.45	1.89	1,078.66
		15.51%	84.31%	0.18%	2.95%
065A	Call Center Service	JOD	JOD	JOD	JOD
		312.39	-	1.19	313.58
		99.62%	0.00%	0.38%	0.86%
066A	Car Valet Service	JOD	JOD	JOD	JOD
		311.15	-	1.06	312.21
		99.66%	0.00%	0.34%	0.85%
051A	Reception Labor Activity	JOD	JOD	JOD	JOD
		7,206.00	-	28.47	7,206.00
		100.00%	0.00%	0.40%	19.69%
053A	Purchase Orders Activity	JOD	JOD	JOD	JOD
		-	1,731.00	-	1,731.00
		0.00%	100.00%	0.00%	4.73%
063A	Management	JOD	JOD	JOD	JOD
	consumption in F&B	-	-	77.05	77.05
		0.00%	0.00%	100.00%	0.21%
	Total Cost	JOD	JOD	JOD	JOD
		14,407.10	21,210.06	1,011.96	36,600.66
		39.36%	57.95%	2.76%	100.00%

The following activities represent more than 78% of the total costs of the Health Club department through tracked and analyzed those activities they can directly affect the cost for the department. These activities are:

- The maintenance activity (054A) is one of the activities that must be followed with caution due to the presence of large labor costs and the costs of different equipment and raw materials, this activity constituted a very large percentage of the costs of the section by 14.62% and compared to this ratio with the proportion of the hotel sector, we find somewhat high
- The laundry activity (057A),8.65% seems to be one of the biggest costs for the health club because of the multiple use of materials that need to be washed on a daily basis it seems possible to track and reduce the number of kilograms to be

washed in a way that does not reduce the quality of service provided to the customer

- The activity of energy consumption (061A) represents 35.60% of the costs of the activities of the department in a way that forces officials to consider alternative energy allowance and carefully choose the systems operating energy and rationalize its consumption and get rid of wasted use.
- The Direct Labor Activates (051A) represents about 19.69% of the total cost of the Health Club department, this activities is one of the activities that add value to the customer and must therefore take full advantage of this activities also enter under the presence of cost tracking this activities and reduce the sub-activities that do not add value to this activities .

Health Club department accounted for 8.91% of the total hotel costs. The bulk of these costs were workers' wages and materials costs. The following table summarizes these costs.

**Table 69:** The Distribution of the Costs of the Health Club department of the Total Hotel Costs

Description	Total cost	The Percentage of the full hotel cost
Health Club department	JOD 36,600.66	8.91%
Direct labor	JOD 14,407.10	3.5%
Direct Materials	JOD 21,210.06	5.2%
Manufacturing overhead	JOD 1,011.96	0.2%
Hotel Costs	JOD 410,894.09	

While referring to sales for this section and comparing them with the actual costs for the same month we find the following

**Table 70:** Sales, Cost and Profit Performance for the Health Club department from the Full Hotel

Amounts

Description	Amount	Full Amount	Performance %
Health Club Total Cost	JOD 36,600.66	JOD 410,894.09	8.91%
Health Club Total Sales	JOD 69,205.11	JOD 779,941.21	8.9%
Health Club Profit	JOD 32,604.45	JOD 369,047.12	8.8%
Performance			

Back to the previous facts and with sales volume 5000 visit for this month we find the following regarding the room's division

**Table 71:** Health Club department Performance

Ratio	Description	Result
Gross profit	Total Health Club sales - Total Health Club cost	JOD 32,604.45
Gross profit margin	(Gross profit / Total Health Club sales) * 100%	47%
Price per visit sold	Total Health Club sales / sales volume	JOD 13.84
Direct material cost per visit	Total materials cost / sales volume	JOD 4.24
Direct labor cost per visit	Total labor cost / sales volume	JOD 2.88
Overhead cost per visit	Total overhead cost / sales volume	JOD 0.20

#### **d. Parking Service**

The Parking Service uses the main financial and operational resources to the various activities to provide the services in the Parking, the cost of these activities of costs were as follows:



**Table 72:** The Activities Utilization for the Financial and Operational Resources in the Parking Service

Activity Number	Activity Name	Direct labor	Direct Materials	Manufacturing overhead	Total Activity Cost
100A	Housekeeping	JOD 73.22 70.06%	JOD 30.91 29.57%	JOD 0.60 0.57%	JOD 104.51 1.9%
101A	Maintenance	JOD 498.42 31.51%	JOD 1,080.53 68.31%	JOD 2.78 0.18%	JOD 1,581.73 28.4%
103A	Human Resources and Training	JOD 184.10 81.53%	JOD 39.49 17.49%	JOD 2.22 0.98%	JOD 225.81 4.0%
104A	Laundry Service	JOD 13.04 40.75%	JOD 10.67 33.33%	JOD 8.30 25.92%	JOD 32.01 0.6%
105A	Accounting Service	JOD 129.93 97.53%	JOD 2.01 1.51%	JOD 1.28 0.96%	JOD 133.21 2.4%
106A	Staff Canteen	JOD 73.53 18.09%	JOD 332.47 81.78%	JOD 0.53 0.13%	JOD 406.53 7.3%
108A	Utilities-Energy Consumption	JOD - 0.00%	JOD - 0.00%	JOD 170.00 100.00%	JOD 170.00 3.0%
107A	Supervision Activity	JOD 2,925.00 100.00%	JOD - 0.00%	JOD - 0.00%	JOD 2,925.00 52.4%
	Total Cost	JOD 3,897.24 69.9%	JOD 1,496.07 26.8%	JOD 185.71 3.3%	JOD 5,578.80 100%

The Direct labor activities represent more than 69% of the total costs of the Parking Service through analyzed those activities they can directly affect the cost for the Parking

Service, Here we can rely on the machine in the charging the customers and control their entrance and exit or we can find solutions that enhance the income of the department so as to ensure more returns to enable a quarter of its effectiveness

Parking Service accounted for 1.36% of the total hotel costs. The bulk of these costs were workers' wages and materials costs. The following table summarizes these costs.

**Table 73:** The Distribution of the Costs of the Parking Service of the Total Hotel Costs

Description	Total cost		The % of the full hotel cost
Parking Service	JOD	5,578.80	1.358%
Direct labor	JOD	3,897.24	0.948%
Direct Materials	JOD	1,496.07	0.364%
Manufacturing overhead	JOD	185.71	0.045%
Hotel Costs	JOD	410,894.09	

While referring to sales for this section and comparing them with the actual costs for the same month we find the following

**Table 74:** Sales, Cost and Profit Performance for the Parking Service from the Full Hotel Amounts

Description	Amount		Full Amount		Performance %
Parking Service Total Cost	JOD	5,578.80	JOD	410,894.09	1.36%
Parking Service Total Sales	JOD	3,585.38	JOD	779,941.21	0.460%
Parking Service Profit	JOD	(1,993.42)	JOD	369,047.12	-0.5%
Performance					

Back to the previous facts and by expecting that 32,000 cars were served for this month we find the following regarding the parking service

**Table 75:** Parking Service Performance

Ratio	Description	result
Gross profit	Total Parking Service sales - Total Parking Service cost	JOD (1,993.42)
Gross profit margin	(Gross profit / Total Parking sales) * 100%	-56%
Price per car parked	Total Parking Service sales / sales volume	JOD 0.11
Direct material cost per unit	Total materials cost / sales volume	JOD 0.05
Direct labor cost per unit	Total labor cost / sales volume	JOD 0.12
Overhead cost per unit	Total overhead cost / sales volume	JOD 0.01

### e. Laundry Service

The Laundry Service uses the main financial and operational resources to the various activities to provide the services for the guest and different department in the hotel, the costs of these activities as follows:

**Table 76:** The Activities Utilization for the Financial and Operational Resources in the Laundry Service

Activity Number	Activity Name	Direct labor	Direct Materials	Manufacturing overhead	Total Cost
072A	Maintenance	JOD	JOD	JOD	JOD
		307.67	667.00	1.71	976.38
		31.51%	68.31%	0.18%	9.89%
073A	Human Resources and Training	JOD	JOD	JOD	JOD
		163.64	35.10	1.98	200.72
		81.53%	17.49%	0.98%	2.03%
074A	Laundry Service	JOD	JOD	JOD	JOD
		13.04	10.67	8.30	32.00
		40.75%	33.33%	25.92%	0.32%
075A	Accounting Service	JOD	JOD	JOD	JOD
		144.36	2.23	1.42	148.01
		97.53%	1.51%	0.96%	1.50%
076A	Staff Canteen	JOD	JOD	JOD	JOD
		65.36	295.53	0.47	361.36
		18.09%	81.78%	0.13%	3.66%

**Table 76: (continue)The Activities Utilization for the Financial and Operational Resources in the Laundry Service**

077A	General	JOD	JOD	JOD	JOD
	Management	61.01	0.08	1.36	62.46
	Share	97.68%	0.13%	2.19%	0.63%
078A	Utilities-Energy	JOD	JOD	JOD	JOD
	Consumption	-	-	1,369.00	1,369.00
		0.00%	0.00%	100.00%	13.87%
071A	Purchase Orders		JOD		JOD
	Activity		3,600.00		3,600.00
		0.00%	100.00%	0.00%	36.48%
079A	Laundry Labor	JOD			JOD
	Activity	3,119.00			3,119.00
		100.00%	0.00%	0.00%	31.60%
Total Cost		JOD	JOD	JOD	JOD
		3,874.08	4,610.61	1,384.24	9,869.61
		39.3%	46.7%	14.0%	100%
Total Cost for the guest		JOD 161.29	JOD 191.96	JOD 57.63	JOD
Laundry only					410.91
		39.3%	46.7%	14.0%	4.1634%

**Table 77: Laundry for Productive Department Ratio**

<b>Laundry for Productive Department</b>	
Laundry services	JOD 4,767.62
	50.4%
Food and Beverages Division	JOD 1,459.10
	15.4%
Health Club Department	JOD 3,167.30
	33.5%
Laundry Service	JOD 32.00
	0.3%
Parking Service	JOD 32.00
	0.3%
Total Cost	JOD 9,458.02
	95.8%

Laundry Service costs accounted for 0.1% of the total hotel costs. The bulk of these costs were workers' wages and materials costs. The following table summarizes these costs.

**Table 78:** The Distribution of the Costs of the Laundry Service of the Total Hotel Costs

Description	Total cost	The Percentage of the full hotel cost
Laundry Service	JOD 410.91	0.100%
Direct labor	JOD 161.29	0.039%
Direct Materials	JOD 191.96	0.047%
Manufacturing overhead	JOD 57.63	0.014%
Hotel Costs	JOD 410,894.09	

While referring to sales for this section and comparing them with the actual costs for the same month we find the following

**Table 79:** Sales, Cost and Profit Performance for the Laundry Service from the Full Hotel Amounts

Description	Amount	Full Amount	Performance Percentage
Laundry Service Total Cost	JOD 410.91	JOD 410,894.09	0.1%
Laundry Service Total Sales	JOD 3,585.38	JOD 779,941.21	0.460%
Laundry Service Profit	JOD 3,174.47	JOD 369,047.12	0.9%
Performance			

Back to the previous facts and with sales volume 1860 kg for this month we find the following regarding the Laundry Service

**Table 80:** Laundry Service Performance

<b>Ratio</b>	<b>Description</b>	<b>Result</b>
Gross profit	Total Laundry Service sales - Total Laundry Service cost	JOD 3,174.47
Gross profit margin	(Gross profit / Total Laundry sales) * 100%	89%
Price per kg	Total Laundry Service sales / sales volume	JOD 1.93
Direct material cost per kg	Total materials cost / sales volume	JOD 0.10
Direct labor cost per kg	Total labor cost / sales volume	JOD 0.09
Overhead cost per kg	Total overhead cost / sales volume	JOD 0.03

#### f. Renting Shops

The Renting Shops have two activities and the costs as follows:

**Table 81:** The Activities Utilization for the Financial and Operational Resources in the Renting Shops

<b>Activity Number</b>	<b>Activity Name</b>	<b>Direct labor</b>	<b>Direct Materials</b>	<b>Manufacturing overhead</b>	<b>Total Activity Cost</b>
100A	Accounting Service	JOD -	JOD -	JOD 14.80	JOD 14.80
		0.00%	0.00%	100.00%	4.1%
101A	Utilities-Energy Consumption	JOD -	JOD -	JOD 350.00	JOD 350.00
		0.00%	0.00%	100.00%	95.9%
	Total Cost	JOD -	JOD -	JOD 364.80	JOD 364.80
		0.0%	0.0%	100.0%	100%

Renting Shops costs accounted for 0.089% of the total hotel costs. The bulk of these costs were workers' wages and materials costs. The following table summarizes these costs.

**Table 82 :**The Distribution of the Costs of the Renting Shops of the Total Hotel Costs

Description	Total cost		The Percentage of the full hotel cost
Renting Shops	JOD	364.8	0.089%
Manufacturing overhead	JOD	364.8	0.089%
Hotel Costs	JOD	410,894.09	

While referring to sales for this section and comparing them with the actual costs for the same month we find the following

**Table 83:** Sales, Cost and Profit Performance for the Renting Shops from the Full Hotel Amounts

Description	Amount		Full Amount		Performance Percentage
Renting Shops Total Cost	JOD	364.8	JOD	410,894.09	0.089%
Renting Shops Total Sales	JOD	2,063.0	JOD	779,941.21	0.264%
Renting Shops Profit Performance	JOD	1,697.70	JOD	369,047.12	0.460%

Back to the previous facts and with the following Ratio regarding the Renting Shops

**Table 84:** Renting Shops Performance

Ratio	Description	result
Gross profit	Total Rent received - Total shops cost	1,697.70
Gross profit margin	(Gross profit / Total Rent received) * 100%	82%

### 3. INTERPRET NEW INFORMATION FOR THE HOTEL IN GENERAL

#### a. Hotel Cost based on Activity-Based Model

We can summarize that the Activity-Based Management system based on the Activity-Based Costing system analyzed all the activities of the departments and services within CROWNE PLAZA AMMAN HOTEL and found that the arrangement of the costs of the activities of the departments and services took a different curve from the traditional costing system and found that the Food & Beverage Division Ranked first, followed by Rooms Division and Health Club Department in third stage, this system has determined that although other services may have low costs but it is also a cost that must be taken into account and must measure the actual cost driver of each activity and compare with the cost driver that already measured and find the difference, which is the part that does not add any value to the product and the final service and work to get rid of it.

Looking at the following figure, we can see that each department and service has taken part of this division in a way that makes the work to reduce the costs of activities in the hotel, even if a little, affects the total final costs of the hotel to make a difference

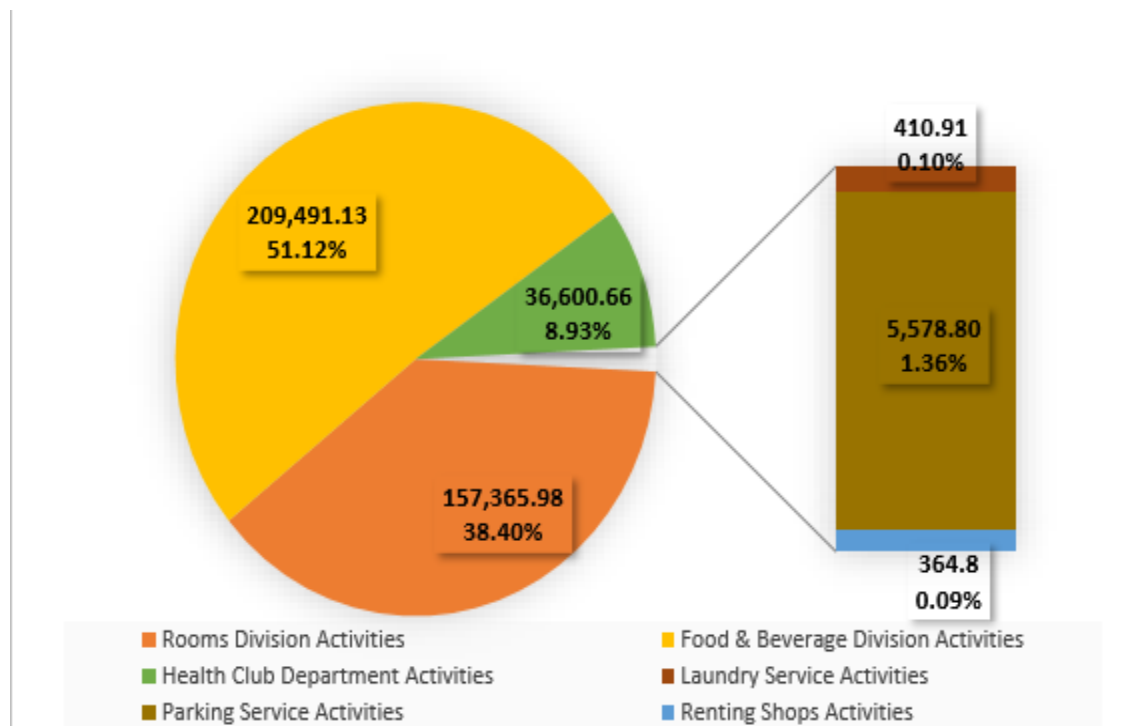


Figure 35: Hotel Costs



b. Classify costs for each department based on Activity-Based Model

The analysis of each department shows us whether this department is using its financial and operational resources in the activities related to employees or in the activities related to the raw materials. In accordance, each administration should be dealt with in particular according to the direction of its activities, for example, the activities of the Rooms Division have been close to the costs of its staff-related activities and the costs of its activities related to raw materials, In terms of staff-related activities, they are focused on performance measures related to employee effectiveness, adherence to working hours and employee effectiveness by adding value to their activities, As for the activities related to raw materials, we can also track the costs of its sub-activities related to storage, for example, inventory management, minimizing damage and purchasing at the most appropriate prices.

Looking at the following figure, we can see that each department and service has contains a different distribution of the costs of its activities in a way that makes the work to reduce the costs of activities different for each department than the other

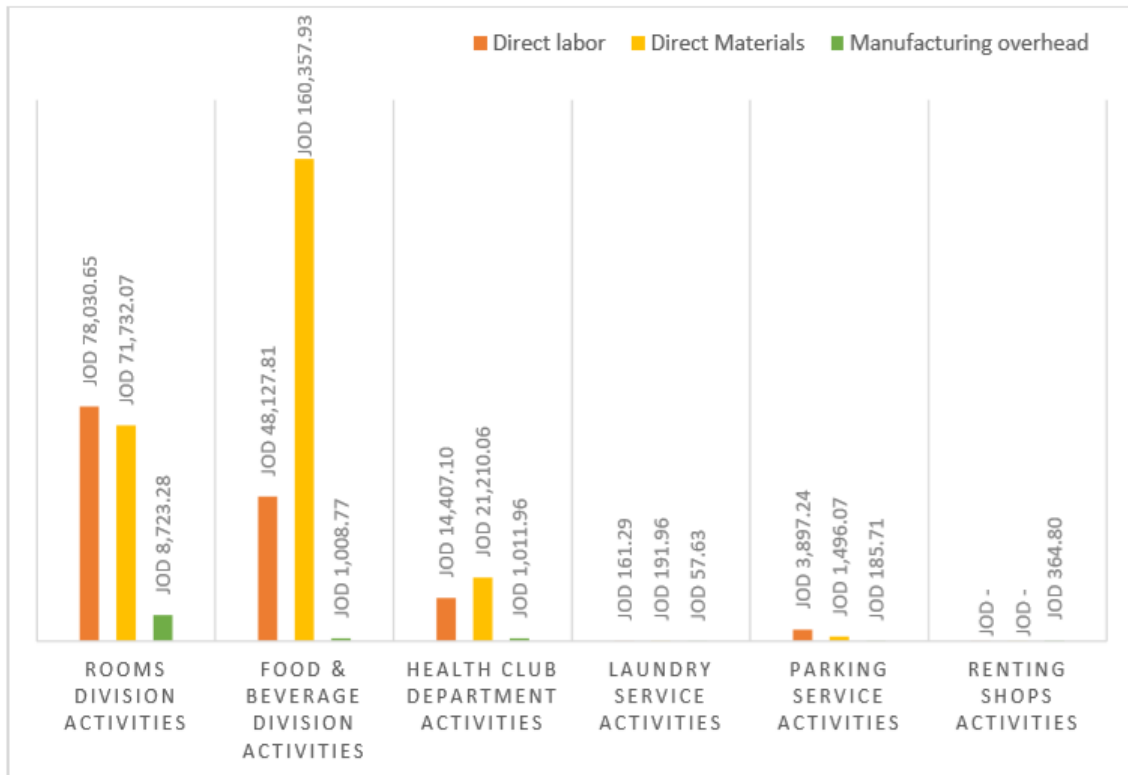
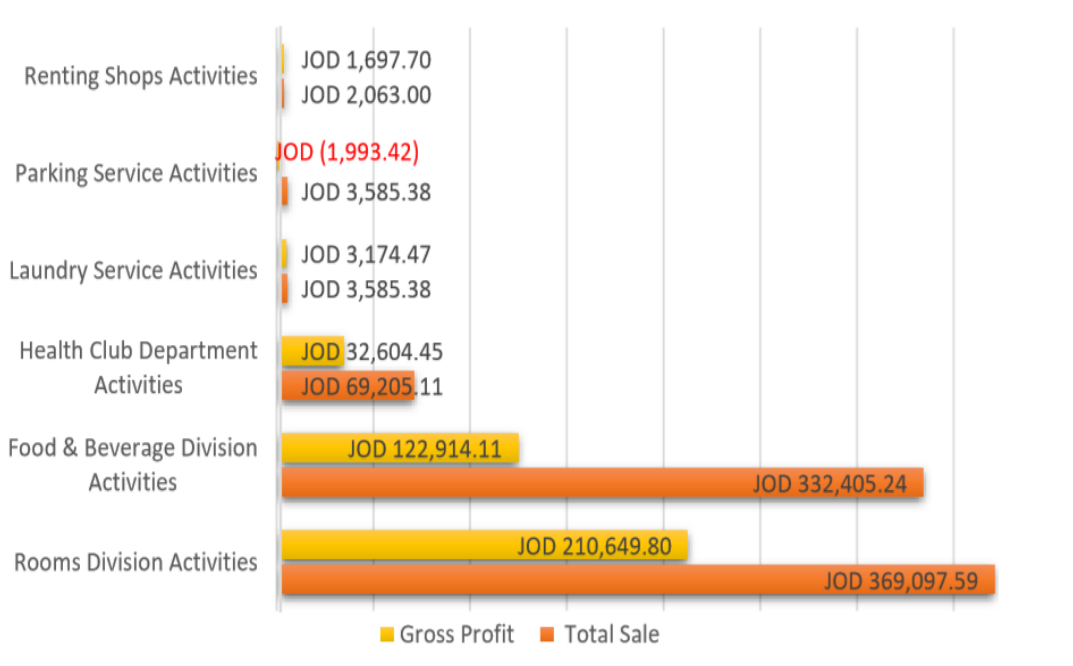


Figure 36: Cost Breakdown

c. Clarification the Sales and Gross Profit based on Activity-Based Model

Back to the traditional system that maximizes the profits of certain sections and does not link other sections with the income of the hotel, the activity-based management system when distributing the hotel's activities in such a way as to give us that each activity will be paid in return for financial returns, revenues and net profits, the revenue has been divided into six main divisions and services and these divisions and services were associated with multiple activities that consumed hotel resources, accordance, each department or service had taken a share of the revenue and therefore had a gross profit, Helps to evaluates the performance of this service or department in a way that gives importance to focus and work on continuous improvement individually for each department or service

Each department and service had taken a fraction of the total revenue and had his profits, for example the parking service achieved a loss and this loss can be addressed individually from the top management to allow the continuation of the service and make profits from this service in one way or another, for example, replacing the staff crew by parking machine or hair outsourced company fir parking services, and looking at the following figure clarify the sales of each department and the gross profit for it.

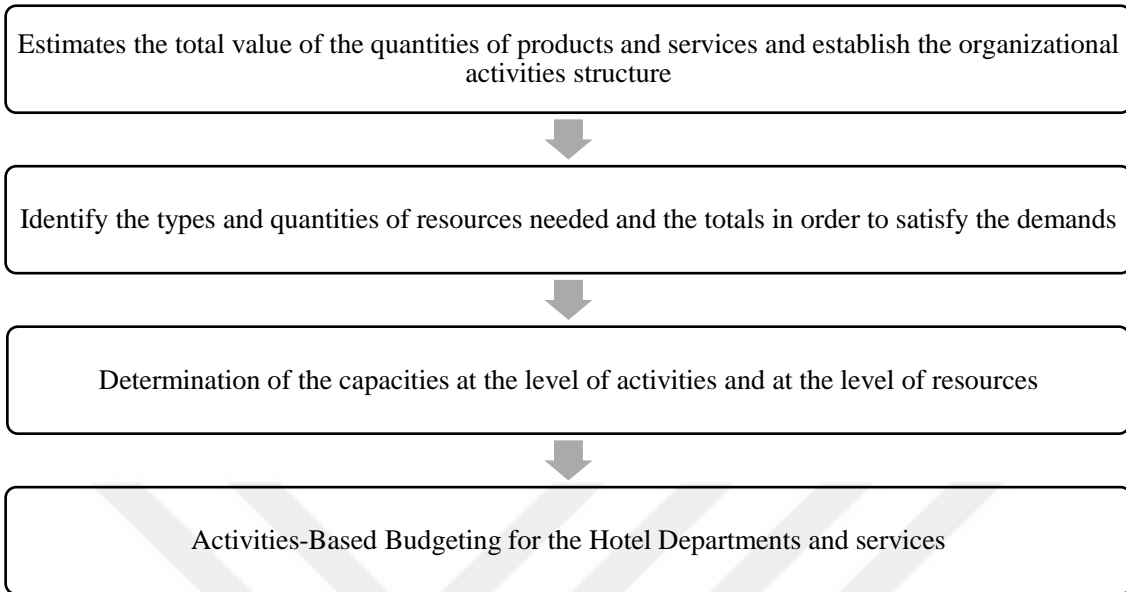


**Figure 37:** Gross Profit with Related Revenue

## **F. APPLY ACTIVITY BASED BUDGETING (ABB) SYSTEM IN THE HOTEL**

Activity Based Budgeting is also used the Activity Based Costing data based on the philosophy of activities and are the general criterion for budget performance, they are allocated to Activity Based Costing and do not include any costs not allocated to specific activities or activities that do not add value to the product, it's a financial plan that starts with determining the size of the products and then determining the level of activity required to perform the work for a certain period, the implementation of the AB system in the Crowne Plaza Hotel will be sequenced within several key steps to ensure its implementation error-free, the following figure shows the steps to implement the system:

- Estimation of key-factors of the budget (Estimates on the total value of the quantities of products and services that will be obtained by checking the reservations of rooms, restaurants and parties and looking at the previous year for the same period and taking the opinion of managers and to understand the general economic situation
- Establish the organizational activities structure by knowing all the products and services in the hotel and knowing all the activities related to the production of these products and services
- Identify the types and quantities of resources needed in order to perform the organizational activities Check all prices for resources needed and re-evaluate some of them and get new offers at reasonable prices if it is necessary and Identification of the total of necessary resources in order to satisfy the demands
- Determination of the capacities at the level of activities and at the level of resources this also helps Activity-Based Management on their verification processes about the evaluation of the non-value-added activities



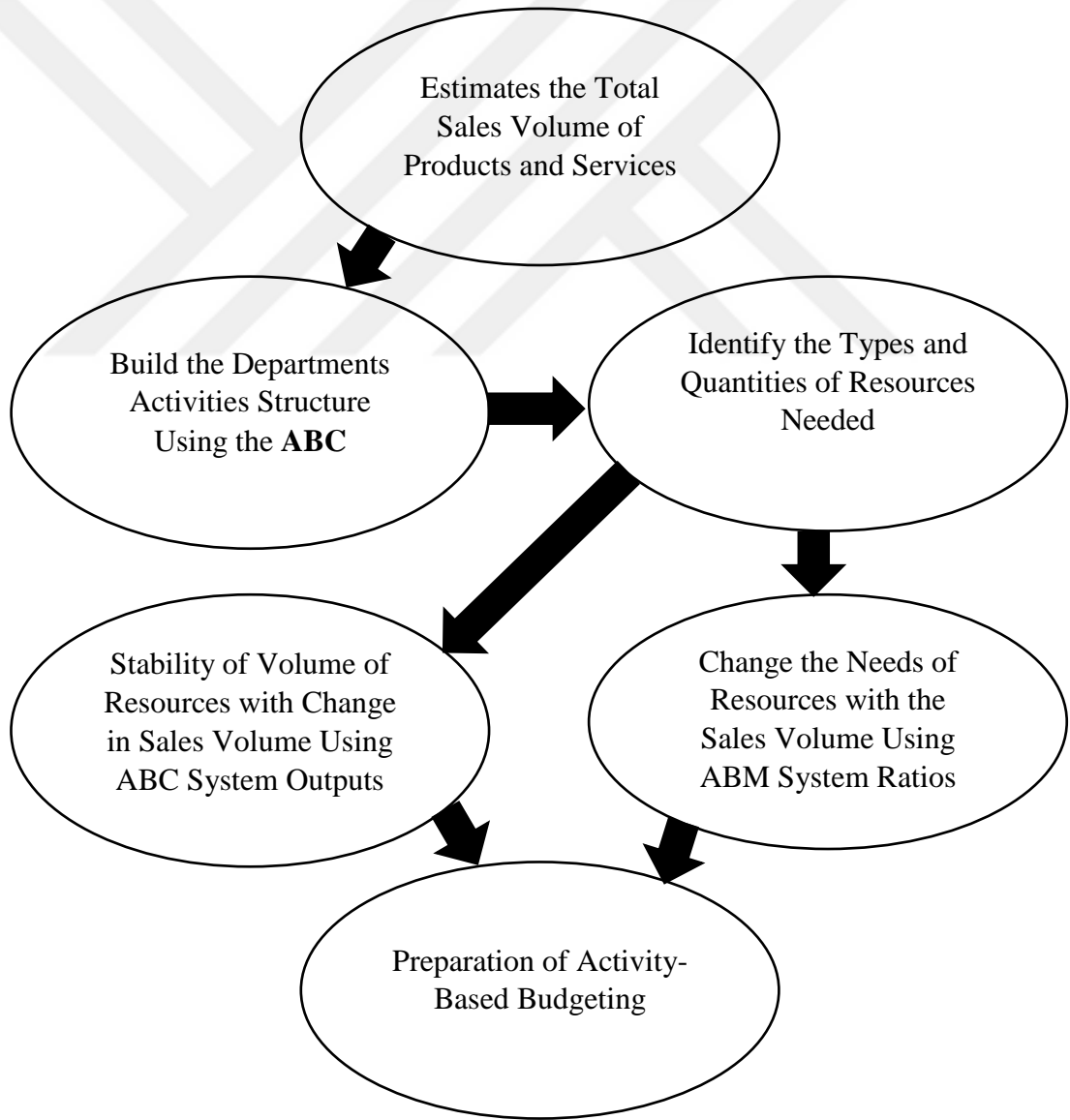
**Figure 38:** Applying steps of the ABB System in The Hotel

1. Going through the above-mentioned stages, the total value of the products and services quantities obtained and the estimated sales volume for each department and services for September 2019 for Crowne plaza Amman shown as follows:

**Table 85:** The Estimated Sales Volume for Each Department and Services

<b>Services or Departments</b>	<b>Sales Volume</b>	<b>Units</b>	<b>Price</b>	<b>Total Sales</b>
Rooms Division	5,500	Room	JOD 72.20	JOD 397,100.00
Food & Beverage Division	28,000	Portion	JOD 9.75	JOD 273,000.00
Health Club Department	3,500	Visitor	JOD 10.50	JOD 36,750.00
Laundry Service	1,500	Kg	JOD 1.93	JOD 2,895.00
Parking Service	25,000	Car	JOD 0.11	JOD 2,750.00
Renting Shops	2,062.503	JOD	JOD 1.00	JOD 2,062.50
			<b>Total Hotel Sales</b>	<b>JOD 714,557.50</b>

The outputs of the ABC and ABM systems constitute the inputs to the Activity-Based Budgeting system, after identifying the types and quantities of resources needed the two systems work together in the process of preparing the base on which the ABB system works. That is, if we find change in needs of resources with the sales volume, we will use the ABM system ratios in order to know the amount of resources required to produce the required sales volume if there is stability of volume of resources with change in sales volume we will back to ABC outputs to recognize the required activities cost as shown in the following figure:



**Figure 39:** ABB Implementation Mechanism

2. Then comes the role of building the organizational structure of the different activities of each department and serve it individually, the activities required to produce service and products in different departments were as follows:

a. Rooms Division

**Table 86:** Rooms Division Activities Structure

<b>Main activities</b>	<b>Type of expense and specific cost inductor</b>
002A Sales & Marketing	002A Sales & Marketing Cost Driver (Number of contracts)
003A Housekeeping	003A Housekeeping Cost Driver (number of hours worked)
004A Maintenance	004A Maintenance Cost Driver (Number of orders done by the team)
008A Accounting Service	008A Accounting Service Cost Driver (Number of Accounting Record Related to Each Department)
010A General Management Share	010A General Management Share Cost Driver (Contribution rate of income for each department)
011A Utilities-Energy Consumption	011A Utilities-Energy Consumption Cost Driver (consumption of kilowatts hour)
012A Security Service	012A Security Service Cost Driver (Number of Guests Who Visited Each Department)
014A IT Service	014A IT Service Cost Driver (Total Number of Technological Devices)
016A Call Center Service	016A Call Center Service Cost Driver (Total Number of Calls)
018A Car Valet Service	018A Car Valet Service Cost Driver (Number of Guests Who Visited Each Department)
006A Human Resources and Training	006A Human Resources and Training Cost Driver (Number of Employees)
007A Laundry Service	007A Laundry Service Cost Driver (Usage in kg)
009A Staff Canteen	009A Staff Canteen Cost Driver (Number of Employees Working for Each Department)
013A Management consumption in F&B	013A Management consumption in F&B Cost Driver (Team Usage in Restaurant)
015A Amenities Activity	015A Amenities Activity Cost Driver (Cost of Amenities)
001A Reception Labor Activity	001A Reception Labor Activity Cost Driver (Employee's Salary)
005A Commission and Fees- Group	005A Commission and Fees- Group Cost Driver (Rooms Sold by Agents)
017A Purchase Orders Activity	017A Purchase Orders Activity Cost Driver (Cost of Purchasing)

## b. Food & Beverage Division

**Table 87:** Food & Beverage Division Activities Structure

<b>Main activities</b>	<b>Type of expense and specific cost inductor</b>
022A Sales & Marketing	022A Sales & Marketing Cost Driver (Number of contracts)
023A Housekeeping	023A Housekeeping Cost Driver (Hours spending)
024A Maintenance	024A Maintenance Cost Driver (Number of orders done by the team)
026A Human Resources and Training	026A Human Resources and Training Cost Driver (Number of Employees Present in These Departments)
027A Laundry Service	027A Laundry Service Cost Driver (Usage in kg)
028A Accounting Service	028A Accounting Service Cost Driver (Number of Accounting Record Related to Each Department)
029A Staff Canteen	029A Staff Canteen Cost Driver (Number of Employees Working for Each Department)
030A General Management Share	030A General Management Share Cost Driver (Contribution rate of income for each department)
031A Utilities-Energy Consumption	031A Utilities-Energy Consumption Cost Driver (consumption of kilowatts hour)
032A Security Service	032A Security Service Cost Driver (Number of Guests Who Visited Each Department)
034A IT Service	034A IT Service Cost Driver (Total Number of Technological Devices)
038A Call Center Service	038A Call Center Service Cost Driver (Total Number of Calls)
039A Car Valet Service	039A Car Valet Service Cost Driver (Number of Guests Who Visited Each Department)
021A Waiters Labor Activity	021A Waiters Labor Activity Cost Driver (Average Employees Salary)
025A Purchase other F&B Orders Activity	025A Purchase other F&B Orders Activity Cost Driver (Cost of Purchasing)
033A Management consumption in F&B	033A Management consumption in F&B Cost Driver (Team Usage in Restaurant)
035A Cooking Labor Activity	035A Cooking Labor Activity Cost Driver (Average Employees Salary)
036A Purchase Food Activity	036A Purchase Food Activity Cost Driver (Cost of Purchasing)
037A Purchase Beverage Activity	037A Purchase Beverage Activity Cost Driver (Cost of Purchasing)

c. Health Club Department

**Table 88:** Health Club Department Activities Structure

<b>Main activities</b>	<b>Type of expense and specific cost inductor</b>
052A Sales & Marketing	052A Sales & Marketing Cost Driver (Number of contracts)
056A Human Resources and Training	056A Human Resources and Training Cost Driver (Number of Employees Present in These Departments)
054A Maintenance	054A Maintenance Cost Driver (Number of orders done by team)
057A Laundry Service	057A Laundry Service Cost Driver (Usage in kg)
058A Accounting Service	058A Accounting Service Cost Driver (Number of Accounting Record Related to Each Department)
059A Staff Canteen	059A Staff Canteen Cost Driver (Number of Employees Working for Each Department)
060A General Management Share	060A General Management Share Cost Driver (Contribution rate of income for each department)
061A Utilities-Energy Consumption	061A Utilities-Energy Consumption Cost Driver (consumption of kilowatts hour)
062A Security Service	062A Security Service Cost Driver (Number of Guests Who Visited Each Department)
064A IT Service	064A IT Service Cost Driver ( Numbers of Technological Devices)
065A Call Center Service	065A Call Center Service Cost Driver (Total Number of Calls)
066A Car Valet Service	066A Car Valet Service Cost Driver (Number of Guests Who Visited Each Department)
051A Reception Labor Activity	051A Reception Labor Activity Cost Driver (Employees Salary)
053A Purchase Orders Activity	053A Purchase Orders Activity Cost Driver (Cost of Purchase)
063A Management consumption in F&B	063A Management consumption in F&B Cost Driver (Team Usage in Restaurant)

d. Renting Shops

**Table 89:** Renting Shops Activities Structure

<b>Main activities</b>	<b>Type of expense and specific cost inductor</b>
120A Accounting Service	120A Accounting Service Cost Driver (Number of Accounting Record Related to Each Department)
121A Utilities-Energy Consumption	121A Utilities-Energy Consumption Cost Driver (consumption of kilowatts hour)



## e. Laundry Service

**Table 90:** Laundry Service Activities Structure

Main activities	Type of expense and specific cost inductor
072A Maintenance	072A Maintenance Cost Driver (Number of orders done by the team)
074A Laundry Service	074A Laundry Service Cost Driver (Usage in kg)
073A Human Resources and Training	073A Human Resources and Training Cost Driver (Number of Employees Present in These Departments)
075A Accounting Service	075A Accounting Service Cost Driver (Number of Accounting Record Related to Each Department)
076A Staff Canteen	076A Staff Canteen Cost Driver (Number of Employees Working for Each Department)
077A General Management Share	077A General Management Share Cost Driver (Contribution rate of income for each department)
078A Utilities-Energy Consumption	078A Utilities-Energy Consumption Cost Driver (consumption of kilowatts hour)
071A Purchase Orders Activity	071A Purchase Orders Activity Cost Driver (Cost of Purchase)
079A Laundry Labor Activity	079A Laundry Labor Activity Cost Driver (Average Employees Salary)

## f. Parking Service

**Table 91:** Parking Service Activities Structure

Main activities	Type of expense and specific cost inductor
100A Housekeeping	100A Housekeeping Cost Driver (Hours spending)
103A Human Resources and Training	103A Human Resources and Training Cost Driver (Number of Employees Present in These Departments)
101A Maintenance	101A Maintenance Cost Driver (Number of orders done by the team)
104A Laundry Service	104A Laundry Service Cost Driver (Usage in kg)
105A Accounting Service	105A Accounting Service Cost Driver (Number of Accounting Record Related to Each Department)
106A Staff Canteen	106A Staff Canteen Cost Driver (Number of Employees Working for Each Department)
108A Utilities-Energy Consumption	108A Utilities-Energy Consumption Cost Driver (consumption of kilowatts hour)
107A Supervision Activity	107A Supervision Activity Cost Driver (Average Employees Salary)

3. The two systems work together in the process of preparing the base on which the ABB system works.

2.1. Use the ABM system ratios if there is change in needs of resources with the sales volume as shown in the following tables:

a. Rooms Division

By using the ABM systems, the cost of this division close 43% of Sales that's mean by calculate the estimated activities cost for the division will be close to JOD 171,685.22 and by calculating the needed of activities variable resources as follow

**Table 92 : Total Variable Room Division Activities Cost**

Activity Number	Activity Name	Expected Materials	Direct	Expected overhead	Total	Expected Activity Cost
		0.03%		0.25%		
002A	Sales & Marketing	JOD	55.88	JOD	431.96	JOD 487.84
		3.46%		0.07%		
003A	Housekeeping	JOD	5,943.06	JOD	114.56	JOD 6,057.62
		15.91%		0.04%		
004A	Maintenance	JOD	27,306.87	JOD	71.95	JOD 27,378.82
		0.06%		0.03%		
008A	Accounting Service	JOD	94.47	JOD	60.06	JOD 154.53
		0.00%		0.04%		
010A	General Management	JOD	4.14	JOD	69.81	JOD 73.95
		21.69%		0.00%		
011A	Energy Consumption	JOD	37,244.29	JOD	3.76	JOD 37,248.05
		0.00%		0.13%		
012A	Security Service	JOD	-	JOD	215.63	JOD 215.63
		2.01%		0.00%		
014A	IT Service	JOD	3,449.33	JOD	7.36	JOD 3,456.69
		0.00%		0.00%		
016A	Call Center Service	JOD	-	JOD	7.77	JOD 7.77
		0.00%		0.01%		
018A	Car Valet Service	JOD	-	JOD	12.06	JOD 12.06
		0%		0%		
006A	H.R and Training	JOD	65.59	JOD	3.68	JOD 69.27
		1.00%		0.78%		

Table 92 : (continue) Total Variable Room Division Activities Cost

007A	Laundry Service	JOD	1,721.56	JOD	1,338.82	JOD	3,060.38
			0.32%		0.00%		
009A	Staff Canteen	JOD	557.64	JOD	0.89	JOD	558.53
			0.00%		0.05%		
013A	Consumption in F&B	JOD	-	JOD	85.24	JOD	85.24
			0.43%		0.00%		
015A	Amenities Activity	JOD	733.02	JOD	-	JOD	733.02
			0.00%		4.09%		
005A	Commission and Fees- Group	JOD	-	JOD	7,023.31	JOD	7,023.31
			0.30%		0.00%		
017A	Purchase Orders Activity	JOD	511.41	JOD	-	JOD	511.41
	Total Variable Room Division Activities Cost					JOD	87,134.12

2.2.Back to ABC outputs if there is stability of volume of resources with change in sales volume as shown in the following tables:

a. Rooms Division: By using the ABC systems, the direct labor cost will be as follow:

**Table 93:** Total Fixed Room Division Activities Cost

Activity Number	Activity Name	Expected Direct labor
002A	Sales & Marketing	JOD 14,615.69
003A	Housekeeping	JOD 14,080.85
004A	Maintenance	JOD 12,596.10
008A	Accounting Service	JOD 6,101.68
010A	General Management	JOD 3,113.81
011A	Energy Consumption	JOD 391.45
012A	Security Service	JOD 6,279.23
014A	IT Service	JOD 634.55
016A	Call Center Service	JOD 2,037.85
018A	Car Valet Service	JOD 3,533.70
006A	H.R and Training	JOD 305.76
007A	Laundry Service	JOD 2,104.82
009A	Staff Canteen	JOD 123.35
001A	Reception Labor Activity	JOD 18,632.24
Total Fixed Room Division Activities Cost		JOD 84,551.08

4. after Identify the types and quantities of resources needed in order to perform the hotel activities by combining the total fixed activities cost expected by using ABM and total variable activities cost that's depending ABC we will have the following result:

4.1. Rooms Division by expecting the sales volume 5,500 Rooms, according to this volume we need the following cost for the room division activities:

**Table 94:** Total Expected Activities Cost for Rooms Division

<b>Activity Number</b>	<b>Activity Name</b>	<b>Expected Direct labor</b>	<b>Expected Direct Materials</b>	<b>Expected overhead</b>	<b>Total Expected Activity Cost</b>
002A	Sales & Marketing	JOD 14,615.69	JOD 55.88	JOD 431.96	JOD 15,103.53
003A	Housekeeping	JOD 14,080.85	JOD 5,943.06	JOD 114.56	JOD 20,138.47
004A	Maintenance	JOD 12,596.10	JOD 27,306.87	JOD 71.95	JOD 39,974.93
008A	Accounting Service	JOD 6,101.68	JOD 94.47	JOD 60.06	JOD 6,256.20
010A	General Management	JOD 3,113.81	JOD 4.14	JOD 69.81	JOD 3,187.77
011A	Energy Consumption	JOD 391.45	JOD 37,244.29	JOD 3.76	JOD 37,639.51
012A	Security Service	JOD 6,279.23	JOD -	JOD 215.63	JOD 6,494.86
014A	IT Service	JOD 634.55	JOD 3,449.33	JOD 7.36	JOD 4,091.25
016A	Call Center Service	JOD 2,037.85	JOD -	JOD 7.77	JOD 2,045.63
018A	Car Valet Service	JOD 3,533.70	JOD -	JOD 12.06	JOD 3,545.75
006A	H.R and Training	JOD 305.76	JOD 65.59	JOD 3.68	JOD 375.03
007A	Laundry Service	JOD 2,104.82	JOD 1,721.56	JOD 1,338.82	JOD 5,165.20

Table 94: (continue) Total Expected Activities Cost for Rooms Division

009A	Staff Canteen	JOD	JOD	JOD	JOD
		123.35	557.64	0.89	681.88
013A	Consumption in F&B	JOD	JOD	JOD	JOD
		-	-	85.24	85.24
015A	Amenities Activity	JOD	JOD	JOD	JOD
		-	733.02	-	733.02
001A	Reception Labor	JOD	JOD	JOD	JOD
	Activity	18,632.24	-	-	18,632.24
005A	Commission and Fees-	JOD	JOD	JOD	JOD
	Group	-	-	7,023.31	7,023.31
017A	Purchase Orders	JOD	JOD	JOD	JOD
	Activity	-	511.41	-	511.41
	Total Expected Room Division Activities Cost				JOD
					171,685.22

4.2. Food & Beverage Division by expecting the sales volume 28,000 Portion, according to weddings reservation and expected guest in house this volume needs the following cost for different activities:

**Table 95:** Total Expected Activities Cost for Food & Beverage Division

Activity Number	Activity Name	Expected Direct labor	Expected Direct Materials	Expected overhead	Total Expected Activity Cost
022A	Sales & Marketing	JOD	JOD	JOD	JOD
		882.42	3.37	26.08	911.88
023A	Housekeeping	JOD	JOD	JOD	JOD
		952.26	401.92	5.03	1,359.21
024A	Maintenance	JOD	JOD	JOD	JOD
		2,049.28	4,442.59	11.71	6,503.58
026A	Human Resources and Training	JOD	JOD	JOD	JOD
		2,496.88	535.64	30.01	3,062.53
027A	Laundry Service	JOD	JOD	JOD	JOD
		490.78	401.42	312.17	1,204.37
028A	Accounting Service	JOD	JOD	JOD	JOD
		6,410.06	99.24	63.10	6,572.40

Table 95: (continue) Total Expected Activities Cost for Food & Beverage Division

029A	Staff Canteen	JOD	JOD	JOD	JOD
		999.09	4,516.61	7.18	5,522.88
030A	General Management	JOD	JOD	JOD	JOD
	Share	2,151.18	2.86	48.23	2,202.27
031A	Utilities-Energy	JOD	JOD	JOD	JOD
	Consumption	121.85	11,593.73	1.17	11,716.76
032A	Security Service	JOD	JOD	JOD	JOD
		1,363.99	-	46.84	1,410.83
034A	IT Service	JOD	JOD	JOD	JOD
		893.96	4,859.42	10.37	5,763.75
038A	Call Center Service	JOD	JOD	JOD	JOD
		771.29	-	2.94	774.24
039A	Car Valet Service	JOD	JOD	JOD	JOD
		514.40	-	1.75	516.16
021A	Waiters Labor Activity	JOD	JOD	JOD	JOD
		19,441.91	-	-	19,441.91
025A	Purchase other F&B	JOD	JOD	JOD	JOD
	Orders Activity	-	4,215.28	-	4,215.28
033A	Management	JOD	JOD	JOD	JOD
	consumption in F&B	-	-	258.08	258.08
035A	Cooking Labor Activity	JOD	JOD	JOD	JOD
		-	26,616.49	-	26,616.49
036A	Purchase Food Activity	JOD	JOD	JOD	JOD
		-	58,342.93	-	58,342.93
037A	Purchase Beverage	JOD	JOD	JOD	JOD
	Activity	-	15,656.76	-	15,656.76
	Total Expected Activities Cost				JOD
					172,052.28

4.3. Health Club Department by expecting the sales volume 3,500 Visitor, according to membership selling and expected guest in house this volume needs the following cost for different activities:

**Table 96:** Total Expected Activities Cost for Health Club Department

<b>Activity Number</b>	<b>Activity Name</b>	<b>Expected Direct labor</b>	<b>Expected Direct Materials</b>	<b>Expected overhead</b>	<b>Total Expected Activity Cost</b>
052A	Sales & Marketing	JOD 285.89	JOD 1.09	JOD 8.45	JOD 295.43
054A	Maintenance	JOD 895.37	JOD 1,941.06	JOD 5.11	JOD 2,841.55
056A	Human Resources and Training	JOD 250.37	JOD 53.71	JOD 3.01	JOD 307.09
057A	Laundry Service	JOD 685.10	JOD 560.35	JOD 435.77	JOD 1,681.22
058A	Accounting Service	JOD 382.91	JOD 5.93	JOD 3.77	JOD 392.61
059A	Staff Canteen	JOD 99.85	JOD 451.41	JOD 0.72	JOD 551.98
060A	General Management Share	JOD 292.37	JOD 0.39	JOD 6.56	JOD 299.32
061A	Utilities-Energy Consumption	JOD 71.96	JOD 6,846.58	JOD 0.69	JOD 6,919.24
062A	Security Service	JOD 439.70	JOD -	JOD 15.10	JOD 454.80
064A	IT Service	JOD 88.93	JOD 483.40	JOD 1.03	JOD 573.36
065A	Call Center Service	JOD 166.51	JOD -	JOD 0.64	JOD 167.15
066A	Car Valet Service	JOD 164.64	JOD -	JOD 0.56	JOD 165.21
051A	Reception Labor Activity	JOD 3,826.96	JOD -	JOD 15.31	JOD 3,826.96
053A	Purchase Orders Activity	JOD -	JOD 919.33	JOD -	JOD 919.33
063A	Management consumption in F&B	JOD -	JOD -	JOD 40.82	JOD 40.82
Total Expected Activities Cost					JOD 19,436.05

4.4. Laundry Service by expecting the sales volume 1,500 Kg, according to guest in house and the expected guest outhouse demand this volume needs the following cost for different activities:

**Table 97:** Total Expected Activities Cost for Laundry Service

Activity Number	Activity Name	Expected Direct labor	Expected Direct Materials	Expected overhead	Total Expected Activity Cost
072A	Maintenance	JOD 10.34	JOD 22.41	JOD 0.06	JOD 32.81
073A	Human Resources and Training	JOD 5.49	JOD 1.18	JOD 0.07	JOD 6.74
074A	Laundry Service	JOD 0.43	JOD 0.35	JOD 0.28	JOD 1.06
075A	Accounting Service	JOD 4.85	JOD 0.08	JOD 0.05	JOD 4.98
076A	Staff Canteen	JOD 2.20	JOD 9.93	JOD 0.02	JOD 12.14
077A	General Management Share	JOD 2.04	JOD 0.00	JOD 0.05	JOD 2.09
078A	Utilities-Energy Consumption	JOD -	JOD -	JOD 46.02	JOD 46.02
071A	Purchase Orders Activity	JOD -	JOD 121.04	JOD -	JOD 121.04
079A	Laundry Labor Activity	JOD 104.84	JOD -	JOD -	JOD 104.84
Total Expected Activities Cost					JOD 331.72

4.5. Parking Service by expecting the using for the parking by 25,000 cars, according to expected sales volume for the rooms, restaurants guests and health club visitors this service needs the following cost for different activities:



**Table 98:** Total Expected Activities Cost for Parking Service

<b>Activity Number</b>	<b>Activity Name</b>	<b>Expected Direct labor</b>	<b>Expected Direct Materials</b>	<b>Expected overhead</b>	<b>Total Expected Activity Cost</b>
100A	Housekeeping	JOD 73.22	JOD 30.91	JOD 0.60	JOD 104.51
101A	Maintenance	JOD 498.42	JOD 1,080.53	JOD 2.78	JOD 1,581.73
103A	Human Resources and Training	JOD 184.10	JOD 39.49	JOD 2.22	JOD 225.81
104A	Laundry Service	JOD 13.04	JOD 10.67	JOD 8.30	JOD 32.01
105A	Accounting Service	JOD 129.93	JOD 2.01	JOD 1.28	JOD 133.21
106A	Staff Canteen	JOD 73.53	JOD 332.47	JOD 0.53	JOD 406.53
108A	Utilities-Energy Consumption	-	JOD -	JOD 170.00	JOD 170.00
107A	Supervision Activity	JOD 2,925.00	JOD -	JOD -	JOD 2,925.00
Total Expected Activities Cost					JOD 5,578.80

4.6. Renting Shops by expecting the rent amount that's will paid from the lessee, according to the rent contract the following cost for different activities:

**Table 99:** Total Expected Activities Cost for Renting Shops

<b>Activity Number</b>	<b>Activity Name</b>	<b>Expected overhead</b>	<b>Total Expected Activity Cost</b>
120A	Accounting Service	JOD 14.80	JOD 14.80
121A	Utilities-Energy Consumption	JOD 350.80	JOD 350.00
Total Expected Activities Cost			JOD 364.80

After budgeting all the costs of the different activities in all departments and for all services we can collect the costs of these activities for the hotel in full and then find the unit cost and expected profits as follow:

**Table 100:** Full Hotel Summary According the ABB

Services or Departments	Sales Volume		Total Cost	Units Cost	Total Sales	Units Price	Cross Profit (Loss)	Profit (Loss) per Unit
Rooms Division Activities	5,500	Room	JOD 171,685	JOD 31.22	JOD 397,100	JOD 72.20	JOD 225,414	JOD 40.98
Food & Beverage Division Activities	28,000	Portion	JOD 172,052.2	JOD 6.14	JOD 273,000.0	JOD 9.75	JOD 100,947.7	JOD 3.61
Health Club Department Activities	3,500	Visitor	JOD 19,436.0	JOD 5.55	JOD 36,750.0	JOD 10.5	JOD 17,313.9	JOD 4.95
Laundry Service Activities	1,500	Kg	JOD 331.72	JOD 0.22	JOD 2,895.00	JOD 1.93	JOD 2,563.28	JOD 1.71
Parking Service Activities	25,000	Car	JOD 5,578.80	JOD 0.22	JOD 2,750.00	JOD 0.11	JOD (2,828.8)	JOD (0.1)
Renting Shops Activities	2,062	JOD	JOD 364.80	JOD 0.18	JOD 2,062.50	JOD 1.00	JOD 1,697.70	JOD 0.82
Totals			JOD 369,448		JOD 714,557		JOD 345,108	

## **VII. RESULTS AND ANALYSIS**

### **A. ACTIVITY-BASED COSTING RESULTS**

Through the analysis prior to the application of the Activity-Based Costing system which analyzed all costs in the production of products and services within the hotel, it was found that the shortage of the traditional cost system, which never calculated some indirect costs or was calculated in an unfair way as it distributes these costs to non-productive departments do not reach the end of the cost of the product and service to the correct way, after analyzing all these activities, the following is indicated:

- Calculate the energy consumption and equitably distribute it to the productive department and services on the hotel by linking this consumption to the departments and services based on its cost driver ensures the accuracy of the distribution of this cost and distributed this cost across six departments and services in a way that reflects the fair consumption of energy.
- The traditional method that involves calculating employees' salaries only and including them within the cost of the final products and services is a way that does not reflect the real labor costs, rather, it must calculate both the cost of meals served at the staff canteen and the costs of the HR department, all these cost reflect the labor costs.
- it's unfair to add additional cost to Food and beverage departments from other departments within the hotel that consume food and beverages in restaurants through administrative features given to those department managers.
- The laundry department was also analyzed, which includes the costs of other departments by charging the laundry cost of uniforms washing and linen washing for these departments.

Following the results of the previous analysis, the implementation of the Activity-Based Costing system was initiated, which included the following results:

1. Based on the ABC system, the costs of the activities of the Human Resources Department and training were distributed to all departments according to the number of their employees. The cost per employee was JOD 25.09.
2. The costs of the activities of the staff canteen were also distributed according to the ABC system, the cost of meals of the staff member during the study month amounted to JOD 45.17.
3. According to the ABC system, the costs of the activities of the sales and marketing department have been calculated and these activities costs have been distributed to the three beneficiaries' productive departments of the activities of the sales and marketing department, the cost driver was the number of contracts and agreements signed for each department.
4. According to the ABC system, the costs of the activities of the housekeeping department were also collected, the activities of this department were distributed to two departments and one service based on cost driver, which is the number of working hours used in each section.
5. The costs of the activities of the maintenance department were collected according to the ABC system, which is one of the most difficult activities to track, the costs driver of the activities of this section were allocated based on the number of orders made for each section.
6. In view of the housekeeping department, it also serves three different sectors and must also distribute the costs of its activities on these products and services based on cost driver, which in this case is the number of hours spent by housekeeping staff to complete the cleaning of these services and products
7. According to the ABC system, the cost of the laundering activities was distributed to the sections that use this service based on the number of kilograms per section and the cost per kilogram was calculated as approximately 20 piasters.
8. Valet service not only serves the rooms, but it serves several sections based on the number of visitors to these sections and this makes us, based on the ABC system to allocate the costs of the activities of this service to the sections based on the cost driver which is the number of visitors.

9. The security section works on the safety of all visitors to the hotel and according to the ABC system the costs of the activities of this section were distributed to the sections visited and the cost driver was the number of visitors
10. The accounting department serves all departments and arranges their daily and monthly accounts and a lot of accounting entries, with the ABC system, the costs of the activities of the accounting department should be distributed to the rest of the productive departments and services successively on the number of accounting entries for each department.
11. The hotel's top management is paying attention to the producing departments based on their revenues from the general revenues of the hotel, so the ABC system distributed the general management activities cost to the productive department and services based on their revenue portion from the total hotel revenue
12. The costs of the activities of the Information Technology Department were distributed to the productive departments and services based on the cost driver which is the number of technology devices that serve each section separately.
13. Call Center activities cost based on the ABC system was distributed according to the number of calls related to each productive department, unlike the traditional costing system, the whole cost was charged to the division of rooms which lacked a fair distribution.

After applying the ABC system to the auxiliary sections of the productive departments and services, the ABC system has calculated the costs of the activities of each section and the related percentage of the auxiliary sections in the productive departments and services based on the cost drivers of each section separately. The results are summarized as follows:

- a. After applying the ABC system to the room division, it was found that this division lacks accuracy in calculating the cost of per room based on the traditional cost system, the new system calculates the average cost per room, considering all the costs of activities that contribute to the processing and sale of the room, the activities cost for this division during the month of study was JOD (157,365.98) and the average cost per room JOD (31.49)
- b. The food and beverage division contents a large part of the resources that enter into the manufacture of meals and drinks and after the application of the ABC system

appears that many indirect costs was not enter to the calculations of the costs of meals and final drinks, and according the ABC the activities cost for this division during the month of study was JOD (209,491.13) And the average cost of one meal JOD (6.55)

- c. After the application of the ABC system on the health club department it was found that this department does not have an idea about the average cost per visitor accurately and therefore the activities cost of the health club during the month of study was JOD (36,600.66) and the cost per visitor (7.32)
- d. It is possible that one of the most services that proved to be very successful after the application of the ABC was the laundry service and the laundry for other departments was 96% and 4% only for guests in and out house and this service achieves the largest proportion of profits level of the costs in the hotel, therefore the activities cost this service during the month of study was JOD (410.9).
- e. The car parking service provided to the hotel guests as a free service and paid for others car use. The application of the ABC drew attention to the fact that's the activities cost of this service more than its revenue, which forces management to think carefully how to provide this service or include a percentage of the other revenue Sections to this service, the activities cost for this service during the month of study was JOD (5,578.80)
- f. The hotel leases some areas to other companies, after the application of the ABC system some of the activities cost was charge to these areas, when renewing contracts managements should think about these activities costs to be added on the tenant contract, the activities cost for this service during the month of study was JOD (364.80)

Based on the above, these departments and services have contained all the hotel costs in the form of participating activities from other departments that use resources to produce products and services.

## **B. ACTIVITY-BASED MANAGEMENT RESULTS**

After applying the ABC system, the Activity-Based Management system was applied to the hotel, the results of which were summarized by the following points

1. After the implementation of the ABM system, it was found that the rooms division uses most of its resources in materials and labor, and also there are five activities consuming more than 77% of the total costs of the activities of the rooms division, and the costs of room activities accounted for 38% of the total costs of hotel activities as a whole, This division achieved a gross profit of 57%, and this proportion of these gross profits from the total hotel gross profits also 57%.
2. In the process of implementation of the ABM system, it was found that the Food and Beverage division uses most of its resources in the materials in a manner that puts the main management function of this division well be control this part. Also, there are five activities that consume more than 76% of the total costs of the activities of the Food and Beverage division. Food and Beverage division activities accounted 51% of the total cost of the hotel activities, and this management achieved a gross profit of 37%, and the percentage of these gross profits from the total profits of the hotel only 33%.
3. The health club department uses most of its resources in the materials and labor, also, there are four activities that consume more than 78% of the total costs of the activities of the health club department, this department activities accounted 8.91% of the total cost of the hotel activities, and this department achieved a gross profit of 47%, and the percentage of these gross profits from the total profits of the hotel only 8.8%.
4. laundry service uses most of its resources in the materials and labor, also, there are three activities that consume more than 86% of the total costs of the activities of the laundry service, this service activities accounted 0.1% of the total cost of the hotel activities, and this service achieved a gross profit of 89%, and the percentage of these gross profits from the total profits of the hotel only 0.9%.
5. The Parking Service uses most of its resources in the direct labor, also, there are two activities that consume more than 80% of the total costs of the activities of the Parking Service , this Service activities accounted 1.4% of the total cost of the hotel activities,

and this department achieved a loss of 56%, and the percentage of these loss decrease the total profits of the hotel by 0.5%.

6. the main cost activity of the Renting Shops is the Utilities-Energy Consumption, the Renting Shops activities accounted 0.089% of the total cost of the hotel activities, and achieved a gross profit of 82%, and the percentage of these gross profits from the total profits of the hotel only 0.460%.





### **C. ACTIVITY-BASED BUDGETING RESULTS**

Finally, the Activity-Based Budgeting system has been implemented on the hotel, which avoided many of the shortcomings of the old traditional budget systems, which started from the activities needs to produce products and services and after this the resources needs for run these activities. Here is the main result of the ABB system:

1. Rooms Division expected to sell 5,500 Room by average room selling rate of 72.2 JOD, according to ABB the total activities cost needed to prepare and sale this rooms will be 171,685 JOD and by average room cost of 31.22 JOD and the expected Gross profit according to the new system will be 225,414 JOD
2. Food & Beverage Division expected to sell 28,000 Portion by average portion selling rate of 9.75 JOD, based on the ABB the total activities cost needed to prepare and sale this number of portions will be 172,052 JOD and the average portion cost 6.14 JOD and the expected Gross profit according to the new system will be 100,947 JOD
3. Health Club Department to be visited by 3,500 Visitor by average selling rate for each visitor of 10.5 JOD, based on the ABB the total activities cost needed to welcome this number of visitors will be 19,436 JOD and the average cost per visitor 5.55 JOD and the expected Gross profit according to the new system will be 17,313 JOD
4. Laundry Service expected to wash 1,500 Kg by average selling rate of 1.93 JOD for one Kg, based on the ABB the total activities cost needed to wash this weight will be 331,72 JOD and the average cost per kg 0.22 JOD and the expected Gross profit according to the new system will be 2,563 JOD
5. Parking Service expected to serve 25,000 Car by average service rate of 0.11 JOD for each car, based on the ABB the total activities cost needed to serve this number of cars will be 5,578.8 JOD and the average cost per car 0.11 JOD and the expected loss according to the new system will be 2,828 JOD
6. Renting Shops expected to receive 2,062.5 JOD, based on the ABB the total activities cost needed will be 364.8 JOD and the expected Gross profit according to the new system will be 1,697.7 JOD



## VIII. CONCLUSIONS AND FUTURE RESEARCH

The aim of this thesis was to identify the Activity Basis Model and explain the details of its three main programs that start with the Activity-Based Costing that's specifically redefines the costs of production, the main rule of this system is that all products consume activities within the organization and therefore these activities consume the main resources of the organization, and by applying the ABC system of this model to the hotel sector we find that the ABC starts from the products and services of the hotel and then links all the activities of the hotel with these products depending on the cost driver of each activity separately, finally, the system analyzes the activities and calculates all the costs of the resources involved in the operation of these activities that contribute to the processing of the product or services in the hotel in a fairly and accurately way.

Next comes the role of the second system in the Activity-Based Model it is the Activity-Based Management (ABM) system, which began from the outputs of the Activity-Based Costing system, It analyzes the outputs of the ABC system and builds a complete information base on activities that includes production cost ratios, these cost percentages of total hotel costs, profitability of products and services, and comparisons of profitability with total hotel profit, all Activity-Based Information that helps managers in decision-making processes .

Finally, the Activity-Based Budgeting (ABB) system comes to applied in this model which uses the previous systems (ABM, ABC). This system uses all the information and outputs of the previous systems that help in the planning process in building the estimated budget and determining the objectives, start by redefining the products and services of the hotel and then linking these products to the activities they need to produce a certain quantity, and then the system measures the need for each activity of the main resources of the hotel and determine the costs of these activities and thus determine the costs of products and services cost of the hotel in general, In view of the sequence of these three systems within this model, which achieves integration within the hotel and achieves many of the benefits that are lacking in traditional models in a way that helps the management within the hotel to identify the costs of its products and services accurately and fairly and

provide management information based on the activity serve them in making multiple decisions within The hotel therefore has an estimated budget based on accurate and multiple information that will build a budget closer to actual than traditional budgets.

The results of this research push us to several **future research** such as:

- A. The effectiveness of the cost drivers used to accurately measure the costs of activities.
- B. The impact of not-value-added activities on the cost of final products and services in the five stars hotels in Jordan
- C. The extent of the impact of technological systems in assisting the application of Activity-Based Model

## REFERENCES

- Abdelkader, Sami. (2002), **Financial Management in the Hotel Industry**, Cairo:Dar Hala.
- Abdullatif, Nasser Nour El-Din, (2003), **Cost Measurement Systems**, Alexandria: University House for Publishing and Distribution.
- Abu Hashish, Khalil Awwad, (2011), **Cost Accounting: Planning and Control**, Amman: Wael Publishing House.
- Abu Rahma, Mohammed Abdullah Mahmoud, (2008), “**the availability of the elements of the application Activity – Based Budgeting**”, Published Master Thesis, Gaza:Islamic University.
- Aho, M.P., (2006), **Implementation of an integrated activity-based costing in a holistic database management system and its implications for operations management**, The council of the Department of Information Technology, Finland.
- Al-Bashiti, Abdel-Rahim Essam, (2009), “**the possibility of applying the Activity-Based Budget on the in the Palestinian national banks operating in the Gaza Strip**”, Gaza:Islamic University.
- Al-Basly, Makram Abdul-Masih, (2006), **Accounting in Hotel Establishments**, Amman: Modern Library in Mansourieh,.
- Al-Bazrang, Haider Shaker, Al-Hawasi, Mahmoud Hussein, (2014), **Principles of Modern Management Science**, Iraq: Diyala University.
- Al-Dalahmah, Sulaiman Mustafa, (2014), **Management Accounting**, Amman: Al-Warraq for Publishing and Distribution.
- Al-Fadl, Mu'ayyed M. Al-Fadl et al. (2007), **Management Accounting**, Amman,:Al-Masirah for Publishing and Distribution.
- Al-Haj, Aref, (2006), **Estimated budgets and their role in planning**, Yemen :Al-mutaqbal University.
- Al-Jakhlub, Darwish Mustafa, (2007), “**the role of modern management accounting methods in the development of financial performance, applied study in the Islamic University according to the ABC system**”, Published Master Thesis, Gaza:Islamic University.

- Al-Maqaseed, Mahmoud Mohammed, (2012), **Cost Accounting**, An Applied Approach, Amman: Haneen Publishing House and Distribution.
- Al-Mashal, Amir, (2005), “**a proposal for the application of the Activity-based Costing (ABC) in the Palestinian industrial companies**”, Published Master Thesis, applied study on the Middle East Pharmaceutical Industry in the Gaza: Islamic University.
- Al-Mousawi, Abbas Nawar Al-Mousawi, et al. (2010), “Integration between Total Quality Management and Activity Based Costing Method”, **Journal of Management and Economics**, 9(80), (16-22)
- Al-Najjar, Mohammed, (2006), “**Factors Affecting the Efficiency of Using Estimated Budgets as a Planning and Control Tool in Palestinian Universities in Gaza Strip**”, Master Thesis Published, Gaza: Islamic University.
- Al-Qabbani, Thanaa Ali, (2009), Cost Management and Profitability Analysis, Safaa Publishing House and Distribution, Amman, Jordan.
- Al-Rawi, Hikmat Ahmad, (1996), **Accounting in Private Establishments**, Amman: Future House for Publishing and Distribution.
- Al-Rubaie, Kamal Hassan, (2008), **Industrial Cost Accounting**, Amman: Ethraa for Publishing and Distribution.
- Al-Taie, Hamid Abdulnabi, (2000), **Human Resources Management in Hospitality Industries**, Amman : Zahran Publishing & Distribution House.
- Al-Tikriti, Ismail Yahya, (2007), **Advanced Cost Accounting - Contemporary Issues**, Amman : Al-Hamed Publishing House and Distribution.
- Al-Yamour, Ali Hazem Younis, (2010), “Using Activity-based Management in Determining Cost Reduction Opportunities - Case Study in Mosul Dairy Factory, College of Administration and Economics - Mosul University”, **Al-Rafidain Development Journal**, 32(98)(132-141)
- Attia, Hashim Ahmed, (2000), **Cost Accounting in Applied Fields**, Alexandria: University House for Publishing and Distribution.
- Awad, Fatima Roshdy, (2009), **The Effect of Linkage and Integration between Balanced Performance Scale and Activity-based Costing (ABC) in Developing the Performance of Palestinian Banks**, Published Master Thesis, Applied Study Bank of Palestine, Gaza: Islamic University.

- Azadvar, I., Alizadeh, E. and Bozorgmehrian, S., (2012). “Implications of activity-based costing/management for decision-making in order management”, **International Journal of Natural and Engineering Sciences** (IJNES) E-ISSN: 2146-0086, 3(1)(43-58)
- Azzi, Siham, (2012), “**the study of the quantitative approach in administrative decision-making**”, Published Master Thesis, Algeria: University of Algiers.
- Bahnub, B.J., (2010), **Activity-based Management for Financial Institutions: Driving Bottom Line Results**, USA:John Wiley & Sons, Inc,
- Bentien, John, (2011), **The Requirements for Activity Based Management: the value of process**, USA: lulucom,
- Blocher, E.J., Chen, K.H, Cokins, G. and Stout, D.E, (2008), **Cost management**, 4<sup>th</sup> edition, USA:The McGraw-Hill,.
- Blocher, Edward J., Chen, Jung H., and Lin, Thomas W. (2002). **Cost Management: A Strategic Emphasis** (2nd ed.), USA:The McGraw-Hill.
- Brewer, P.C., Garrison, R.H. and Noreen, E.W., (2011), **Introduction to managerial accounting**, 5 Education, USA:John Wiley & Sons, Inc,
- Brimson, J., and Fraser, R., (1991), “The Key Features of ABB”, **Management Accounting**, 69(1), (42–43)
- Brinson, Jones, (1991), **Activity Accounting**, An Activity Based Costing Approach, New York: The McGraw-Hill.
- Bugabah, Kawther, (2012), **The Role of Budget Estimates in Improving the Performance of the Economic Institution**, Published Master Thesis, Algeria: University Kasdi Merbah Ouargla,.
- CĂPUȘNEANU, S., Boca, I.S.R., Barbu, C.M., Letiția-Maria, R.O.F. and Topor, D., (2013). “Implementation of Activity-Based Budgeting method in the economic entities from mining industry of Romania”. **Romanian Journal of Economics**, 32(1), (151-168)
- Cardos, I.R. and Pete, S., (2011). “Activity-based Costing (ABC) and Activity-based Management (ABM) Implementation–Is This the Solution for Organizations to Gain Profitability?” **Romanian Journal of Economics**, 32(1), (151-168)
- CIMA – “Activity based management – An overview”, Technical briefing, April 2001

- Cokins, G. and Căpușeanu, S., (2011). “Sustaining an effective ABC/ABM system”. **Theoretical & Applied Economics**, 18(2).(26-48)
- Coller, Paul, M., (2003), **Accounting for Managers-Interpreting accounting information for decision-making**, England: John Wiley & Sons Ltd.,
- Connolly, T., and Showrth A., (1994), “An Integrated Activity Based Approach to Budgeting”, **Management Accounting**, 48(7)(32-37).
- Cooper, Robin, and Slagmulder Regine, (2000), “Activity- Based Budgeting–Part 1”, **Strategic Finance**, 82(3) (85–86).
- Crosson, S.V. and Needles, B.E., (2011), **Managerial accounting, 9<sup>th</sup> edition**, South-Western USA: Cengage Learning,
- Derek, S., Hansen, S., and Robert G., T., (2003), “Activity- Based Planning and Budgeting: A New Approach From CAM-I **Cost Management**”, 17(2), (16–22)
- Drury, C., (2001), **Management accounting for business Decisions, 2<sup>nd</sup> Edition**, London, UK: Thomson Learning.
- Edwards Stephanie and Technical Information Service, (2008), **Activity-based costing, The Chartered Institute of management accountants**, London:Thomson Learning
- Essa, Hussein Mohamed, (1995), **Activity Based Costing System (Applied Systematic Vision)**, Damascus: Ain Shams University.
- Garrison, R.H., Brewer, P.C. and Noreen, E.W., (2012). **managerial accounting, 14 editions**, USA:Thw McGraw-Hill Companies.
- Garrison, R.H., Noreen, E.W., Brewer, P.C. and McGowan, A., (2010). Managerial accounting. **Issues in Accounting Education**, 25(4).
- Hammad, Tarek Abdel Aal, (2005), **Estimating Budgets an Integrated View**, Egypt: University House.
- Hansen, D., Mowen, M. and Guan, L., (2007). **Cost management: accounting and control**. : South-Western USA: Cengage Learning.
- Helles, Salem Abdullah, (2007), Activity Based Costing System on the Basis of Measuring the Cost of University Educational Services, **Islamic University Journal**, 15 (1).



- Hijazi, Ismail, (2012), **Accounting of Modern Costs through Activities**, Amman: Osama Publishing House and Distribution.
- Hornsgren C. T., Harrison W. T., Oliver M. S., (2012), **Accounting, 9<sup>th</sup> Edition**, USA: Prentice Hall.
- Hornsgren, C.T., Datar, S.M. and Rajan, M.V., (2015). **Cost Accounting a Managerial Emphasis**, USA:Edisi 15.
- Hornsgren, C.T., Sundem, G.L., Stratton, W.O., (2005). **Introduction to management accounting. 13<sup>TH</sup>. ed.**, Upper Saddle River: NJ, Prentice-Hall.
- Hujair, Isma'il, (2003), "The Cost System by Activities", **Journal of Banks in Jordan**,. 22(3)(18-32).
- Huynh, T., Gong, G. and Huynh, H., (2013). "Integration of activity-based budgeting and activity-based management",. **International Journal of Economics, Finance and Management Sciences**, 1(4), (181-187).
- Institute of Management Accountant, (1998), **Implementing Activity-Based Management: Avoiding the Pitfalls**, USA .
- James keisre –Fredericke J.demicco, (1993), **Controlling and analyzing costs in Foodservice Operations**, New York: Prentice-Hall.
- Kaplan, R.S.; Cooper, R. (1998), "Cost & Effect. Using Integrated Cost Systems to Drive Profitability and Performance", **Harvard Business School Press**.
- Kaplan, R.S.; Cooper, R. (1998), "Cost & Effect. Using Integrated Cost Systems to Drive Profitability and Performance", **Harvard Business School Press**.
- Khalil, Bassem Khalil Mohammed, (2016), **The Role of Implementation of Advanced Administrative and Costs Systems (ABC, ABM and ABB) to Reduce Product Costs in the Jordanian Public Shareholding Industrial Companies**, Published Master Thesis, Amman:Isra University.
- Kourdi, J., (2015). "Business Strategy: A guide to effective decision-making", **The Economist**. 7(2), (141-158).
- Lana, Y., J., John, J., Robinson, and John M., (2003), "An Application of Activity-Based Budgeting: A UK Experience", **Cost Management**;7(3) ((30–36)
- Lutfi, Amin Sayyed Ahmed, 2007, **Accounting and Financial Analysis in Hotels**, Alexandria: Al-Dar University.

- Maddox, D. (1999). **Budgeting for Not-for-Profit Organizations**, New York: John Wiley and Sons.
- Maqableh, Khalid, (2000), Accounting for Hotels and Restaurants, Wa'el Printing and Publishing House, Amman .
- Miller, J.A. (1996), **Implementing Activity-Based Management in Daily Operations**, USA: John Wiley & Sons Inc.
- Morin, J.H., Kobel, C. and Konstantas, D., (2000), “Active business objects (ABO): When agents meet ABC/ABM based management”. **In Proceedings of the 33rd Annual Hawaii International Conference on System Sciences**, IEEE.
- Muras, A.D., Calhoun, D.D. and Stripling, W.S., (2000). “The ABC's of activity-based management (ABM) in the petroleum industry”. **Petroleum Accounting and Financial Management Journal**, 19(2)
- Pietrzak, Ź., (2013). “Traditional versus activity-based budgeting in non-manufacturing companies”. **Social sciences**, 82(4), (26-37).
- Player, S., Andersen's A. and Keys, D.E., (1999). **Activity-based management: lessons from the ABM battlefield, Second Edition**, USA: John Wiley & Sons, Inc.,
- Riley, S. L and Peter W. Colby. (1991), **Practical Government Budgeting: A Workbook for Public Managers**, Albany: State University of New York Press.
- Roberts, M., Muras, A. and Paschall, D., (2000), Planning and budgeting for quality: an activity-based approach. **In ANNUAL QUALITY CONGRESS PROCEEDINGS-AMERICAN SOCIETY FOR QUALITY CONTROL** (618-626).
- Ross, Louise, and technical information services, (2008), **Budgeting, the chartered institution of management accountant**, London, UK: CIMA.
- Roztock, N., (2010). Activity-based management for electronic commerce: a structured implementation procedure. **Journal of theoretical and applied electronic commerce research**, 5(1), (1-10)
- Segovia, J.J., (2014). “INCORPORATING Activity-Based Costing/Management into the Results-Based Budgeting Technique: A Bulletproof anti-corruption Management Control Tool: A Case Study”, **Journal of WEI Business and Economics**-December 3(3), (63-79) .

- Shams al-Din, Shams al-Din Abdullah, (2005), **Introduction to the theory of problem analysis and management decision-making**, Damascus: Center for Development of Production Capacity.
- Shane, J.M., (2005). **Activity-based budgeting: Creating a nexus between workload and costs**. FBI L. Enforcement Bull.74,
- Tawfeeq, Maher Abdul Aziz, (1997), **Purchasing and Storage Management in Hotels**, Amman: Dar Zahran, .
- The Chartered Institute of Management Accountant, (2001), **Activity-Based Management an Overview**, London, UK
- Walker, D., (2008), “Improving Profitability and Reducing Cost in Retailers, Using Activity-Based Costing”, **Business Objects and SAP Company**, White Paper, WP3111-A 1-32.
- Webster William H., (2009), **Accounting for Managers**, , New York: McGraw-Hill Education.
- Wegmann, G., (2011). Activity-based Management in France: A focus on the information systems department of a bank. **In Proceedings of the EBMM 2011 international conference**.



# RESUME

## **PERSONAL INFORMATION:**

### **MESHAL ALI AMEIN ALSORKHEE**

Date & Place of Birth: August 1, 1992

Nationality: Jordanian

Marital Status: Single

Mobile Number: 00 90 538 947 0320

Immediate Address: Istanbul-Turkey

E-mail: meshal.alsorkhee@gmail.com

## **PROFESSIONAL EXPERIENCES:**

### **Senior Project Accountant**

Loyalty Support Services Ltd / Amman-JORDAN

Nov 2015 – Jan 2018

The project is to provide Logistics Support, Food Service, Interpreters, Transportation And housekeeping and Laundry Services for one of the US Department of State Regional programs.

- Report on project profitability to management.
- Report to management on any opportunities for additional billings.
- Investigate project variances and submit variance reports to management.
- Investigate all project expenses not billed to the client.
- Maintain project-related records, including contracts, purchase orders and change orders.
- Confer with receivables staff regarding unpaid contract billings.
- Review and approve supplier invoices related to the project.
- Review and approve time sheets for work related to the project.  
Report to the management and the customer regarding the remaining funding available for the project.
- Create all project-related billings.
- Respond to requests and inquiries from the customer.
- Prepare the manpower and automobiles utilization schedules for the upcoming Projects.

## **Chief Accountant**

5 All International FZE / Dubai-United Arab Emirates

April 2015 – October 2015

- Compiles and analyzes financial information to prepare entries to book of accounts, such as general ledger accounts,
- Documenting business transactions Standard journal entries
- Analyze daily banking transactions and journal entries Reconcile sub-ledger accounts (such as inventory)
- Payroll reconciliation
- Prepare monthly sales reports into excel spread sheet for analysis Verify and reconcile contracts, orders, and vouchers, and prepares reports to substantiate individual transactions prior to settlement.
- Monitor compliance with generally accepted accounting principles and company procedures.
- Reviews, investigates, and corrects errors and inconsistencies in financial entries, documents, and reports.
- Provide advice and assistance and early warning of such problems as cost over-runs, excessive charges, and potential penalties.
- Develop models to depict financial and related activities tailored for specific operations

## **Account Receivable Clerk**

Marriott Amman Hotel / Amman-JORDAN

July 2014 - March 2015

- Check figures, postings, and documents for correct entry, mathematical accuracy, and proper codes.
- Organize, secure, and maintain all files, records, cash and cash equivalents in accordance with policies and procedures. Record, store, access, and/or analyze computerized financial information.
- Maintain accurate electronic spreadsheets for financial and accounting data.
- Classify, code, and summarize numerical and financial data to compile and keep financial records, using journals, ledgers, and/or computers.
- Prepare, maintain, and distribute statistical, financial, accounting, auditing, or payroll reports and tables.
- Complete period-end closing procedures and reports as specified.

- Prepare, review, reconcile, and issue bills, invoices, and account statements according to company procedures.

### **Night Auditor**

Crowne Plaza Amman / Amman-JORDAN

October 2010 - December 2013

- Complete end-of-day activities including posting charges to accounts, running night audit backup, and roll the date.
- Process all payment types such as room charges, cash, checks, debit, or credit.
- Process adjustment vouchers, paid-outs, correction vouchers, and miscellaneous charges. Print contingency lists to have a record of all guests in case of emergency.
- Complete the Room Rate Variance Report. Process all guest check-ins and assign room. Activate or reissue room keys using electronic key machine.
- Count bank at end of shift and secure bank.
- Balance and drop receipts according to Accounting specifications. Report accidents, injuries, and unsafe work conditions to manager.

### **ACADEMIC BACKGROUND:**

- MASTER OF BUSINESS ADMINISTRATION (2019)  
İstanbul Aydın University / Küçükçekmece, Istanbul-TURKYE
- B. S.C. In Accounting in English (2014)  
Applied Science University / Amman-JORDAN
- School Education (2010)  
Completed high school from Al Farooq School / Amman -JORDAN

### **OTHER SKILLS:**

Languages:

- Arabic: Mother tongue
- English: Excellent

Job-related skills:

- Excellent command of Opera Software.
- Excellent command of Microsoft Office tools (Word, Excel, PowerPoint and Outlook).
- A university course in QuickBooks Business Accounting Software.
- A university course in Preparing Financial Statement
- Analytical skills.